LEGACIES IN THE LANDSCAPE: BORDERLAND PROCESSES IN THE UPPER MOCHE VALLEY CHAUPIYUNGA OF PERU

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This dissertation is a study of the Moche Valley *chaupiyunga* as a borderland over three millennia (~1600 BCE – ~1700 CE) with a focus on (1) settlement patterns and (2) how different polities interacted with the region over time. Nestled between the Andean highlands and the wide Pacific coastline, the *chaupiyungas* of the western Andes are geographic boundaries that often became demographic, political, cultural, and economic boundaries between peoples and polities in the past. The Moche Valley of Peru was the cradle of two influential political traditions – The Southern Moche and the Kingdom of Chimor – and a study of its *chaupiyunga* provides a lens into borderland processes at the edges of early polities. This dissertation combined a full-coverage pedestrian survey with legacy and historical data to model settlement patterns and understand how demographic, political, cultural, and economic boundaries transformed in the Upper Moche Valley *chaupiyunga* from 1600 BCE and up to the late 1700s CE.

These data revealed deep pasts of settlement in the Upper Moche Valley *chaupiyunga* in which communities, polities, and places became bound together in the landscape over time. Moche political expansion into the *chaupiyunga* had a lasting impact on these borderlands as the *huaca*-colony of Katuay was established and canals were expanded up-valley. The later Kingdom of Chimor built off of Moche nodes of authority but generally had a more indirect approach to the more densely settled and conflict-ridden landscape of its *chaupiyunga* frontier. Generally, the many communities who navigated these borderlands could find continuity through binding themselves to previous settlements or to canalized lands. Political expansion into this borderland was thus a negotiation between existing landscapes and political traditions themselves. Similarly, both local communities and incoming polities could build or call upon older legacies to help secure their place in this often-contested landscape.

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PREFACE AND ACKNOWLEDGEMENTS

At 4 AM on the first night of my dissertation research in February 2017, I found myself sitting on my roof in Casa Blanca outside of Poroto. After 6 hours of torrential downpours that had flooded my fieldhouse, I was exhausted from bailing rainwater but wired from adrenaline and unable to sleep. Many of my neighbors were trying to get sleep after bailing out their houses and waiting for the *huaicos* (flash floods) that would only later roar through the adjacent *río seco* on the nights that followed. Delirious, I looked up at the mountains that surrounded me. Many I knew by name. In the years prior they had let me climb their peaks and allowed me to search for remnants left by those that had seen them as homes, protectors, or even gods. They had accepted my offerings of *coca*, coins, cigarettes, and – during the occasional accident – blood: granting me passage to detangle the complex memories that others had shared with them centuries or millennia prior. Some of the mountains I considered friends, while others… were a bit more complicated. Many I had yet to meet, but would get to know in the two years of dissertation work that would follow. At that moment – as they peaked out from a shroud of rainy mist illuminated in the early dawn – it seemed that they all were watching. Looming above, they were preparing to play their part in a familiar drama that they had seen play out a thousand times before. Patiently, they watched with anticipation of what new stories would unfold.

Around a month after that night in Casa Blanca, the torrential rains that had been frequenting the *chaupiyunga* returned with a fury in a phenomenon described as an "El Nino Costero". March brought dark clouds that unleashed walls of water upon the rooftops and streets of Trujillo and much of the north coast of Peru. Emboldened by the anger of the clouds, the mountains sent their *huaicos* to destroy or bury anything and anyone unfortunate enough to stand in their path. Spurred on by these emissaries of the mountains and sky, the Moche River became unhinged and lashed out upon its banks to join the destruction. I will never forget the many times we narrowly evaded the wrath of the *huaicos* nor the moment we watched the way to Casa Blanca close behind us as we fled to the coast. I can't speak for the mountains, but during those months I saw stories of courage and selflessness that showed me how humanity had earned its place on this landscape: both in those who lived, adapted, and kept hope and in those who dropped everything

to help. Emma Freedman didn't think twice before organizing the first aid run, Neil Alvarado McCallum and his family didn't think twice about donating every container able to carry fresh water, and Kyle Elliot didn't think twice about helping. Emni Flor Olivares Gutiérrez and the other members of the emergency brigade from the municipality of Laredo worked long hours for weeks on end to make sure people in need had food and potable water. Those from Trujillo fortunate not to have lost all in the floods mobilized to help in any way they could. Those not so fortunate persisted having lived through terrors and fear unimaginable by most. After witnessing all of this, it was clear that my dissertation research was a minor act in a much larger play. This didn't make the work any less difficult and there are many people and organizations to thank for their support.

The dissertation work in 2017 was funded through a National Science Foundation Doctoral Dissertation Grant (Award #1719283) and an extension granted due to the ENSO event and subsequent delays. I would like to thank Dr. John Yellen for his assistance throughout the application process and his understanding with the extension that I was permitted. The tail end of the 2017 research was funded by a Social Science Doctoral Dissertation (SSDD) Fellowship awarded by the University of Pittsburgh. The 2018 field season was made possible through a Mobilizing Opportunity through Community Heritage Empowerment (MOCHE) Inc. Rapid Response Crew Internship (RRC) Program that I led in my fieldhouse in Casa Blanca. My work with MOCHE Inc. for Dr. Brian Billman provided the necessary background financial support and logistic infrastructure I needed to have a safe and productive field season. Previous RRC Program field seasons spanning from 2013 to 2016 were also essential for obtaining much of the background data that made my dissertation research possible. A combination of several Small Grants from the University of Pittsburgh Department of Anthropology helped with travel costs in 2013 and 2014. I am also grateful to the Dumbarton Oaks Research Library and Collections for awarding me a Junior Fellowship from 2018 to 2019, which was vital for key parts of my data analysis and archival research.

Every one of my committee members has been formative for my career and provided excellent feedback over the course of my dissertation project. Dr. Elizabeth Arkush has been my advisor, mentor, and friend throughout my graduate studies and I will forever be indebted to her for her wisdom, generosity, and kindness over the past 10 years. In an academic community that can be filled with challenging personalities, Liz has always proved to be a shining example of how

to be a fantastic scholar and a great person. Our discipline would be better if there were more people like her and I surely could not have completed my dissertation without her support. Dr. Brian Billman has been a friend and mentor of mine since my undergraduate years at the University of North Carolina at Chapel Hill. He first introduced me to the Moche Valley, and the world of Andean Archaeology more generally, and has always been generous with his time, expertise, and resources. His academic work served as a vital base for my own dissertation research and his dedication to community work through MOCHE Inc. was also an inspiration for how I implemented my own dissertation project and plan to design projects in the future. From my earliest years of graduate school, Dr. Dick Drennan was an invaluable and generous mentor who, along with Liz, introduced me to the wonderful world of data analysis and database management/creation. His devotion to comparative archaeology will always be an inspiration for my work and it was his early comments on my dissertation proposal were what led me to look at the entire sequence of Moche Valley instead of just focusing on the Chimú Phase. Dr. Marc Bermann has an enviable depth of knowledge in Andean archaeology and his comments and courses have always been insightful and inspiring for my own thinking and teaching.

Though I was previously familiar with his work on borderlands, I first met Dr. Bradley Parker in 2016 and immediately knew I had gained a new good friend and colleague. Over the next two years we worked together mapping a wide range of archaeological sites from Nazca to Zaña and had big plans for future projects before his sudden passing. He had a heart and mind that will be sorely missed by his family, friends, and the greater archaeological community. I will always miss our conversations and the passion with which he approached his work and friendships. The theoretical approach that guides this dissertation was chosen as an homage to Bradley and I hope that others can be as inspired by his work as I have been.

My journey through my graduate studies was also enriched by the knowledge and friendship of a variety of faculty, staff, and graduate student colleagues in the Department of Anthropology at the University of Pittsburgh. Dr. Kathleen Allen, Dr. Loukas Barton, Dr. Bryan Hanks, Dr. Olivier de Montmollin, Dr. Dušan Borić, Dr. Jose Capriles, Dr. Claire Ebert, and Dr. Margaret Judd were all faculty – or visiting faculty – who made my time at Pitt informative and enjoyable. Phyllis Deasy and Lynn Lantz were always as charming as they were helpful in helping me navigate the dense labyrinth of Pitt's bureaucracy. John Walden was a constant help with

editing and brainstorming many parts of this dissertation and I will always be grateful for his friendship and impressive intellect. The perils of graduate school seem far more navigable when you have a friend and colleague like John and I am very glad our paths crossed. Many graduate student colleagues helped me grow as an academic while still having fun along the way. Many thanks to Adam Berrey, Matt Kesterke, Allison Gremba, Gabriela Cervantes, Hugo Ikehara, Graham Dearien, James Johnson, James Williams, Julie Hoggarth, Rory McCarthy, Lauren Herckis, Ryan Smith, Amanda Suarez Calderon, Miroslav Kocic, Michael Mlyniec, Resa Nelson, Rachel Chamberlin, Sarah Kennedy, Camilla Sturm, Yan Ng, Jessica Phelps, Gligor Dakovic, Igor Chechuskov, Alejandra Sejas Portillo, Jennifer Farquhar, Ljiljana Pantovic, Francisco Garrido, Can Yan, Manuel Calongos Curotto, and many others whose names evade my terrible memory. I will always cherish having had such a great group of scholars with whom I was able to share so many stories, ideas, and laughs. I hope to see y'all at Pitt gatherings in the future. To Sarah Jolly, thanks for being a good friend to all of us. We all miss you dearly.

I have been fortunate to meet and work with many fantastic people during my tenure at MOCHE, Inc. in the Moche Valley. Dr. Jesús Briceño taught me how to excavate and has always been generous with his time and his unmatched knowledge of the region. He and Belsy Gutiérrez have been like family to me and I will always appreciate their advice, company, and kindness. Their early work with MOCHE, Inc. is a shining example of what community archaeology could achieve with a small and devoted group of people. Elvis Monzon and I became quick friends when he was the director of my dissertation project and I appreciated his patience and expertise as I fumbled through the bureaucratic cogs of the Peruvian Ministry of Culture. Evan Surridge, Rafael Ruiz, Kevin Kohler, and Julio Rucabado-Yong all made my earliest years at MOCHE, Inc. fun enough that I caught whatever illness drove me to become an Andean Archaeologist. My dissertation would not have been possible without the endless fountain of support who is Emma Freedman. She is a truly remarkable and selfless woman who kept me afloat through some of the darkest months I have experienced. I will never live down ignoring her in a University of Pittsburgh hallway years ago but I am happy to say that I wouldn't dare walk past her or Neil without giving them the big hugs they deserve.

I have several colleagues who I would like to specifically thank for their help along the way during my work in the Moche Valley and during my rather extended dissertation writing

phase. Dr. Dana Bardolph has been a great friend and colleague for many years whose company I always have enjoyed. I am grateful for her help with many parts of my dissertation work and look forward to future collaborations. Similarly, my dissertation would not have been possible without the groundwork set by Dr. Alicia Boswell, who has always been kind and generous with her time and expertise. Alicia's work at Cerro Huancha helped open my eyes to the dazzling variety of arrangements possible in *chaupiyunga* contexts. The work of Dr. Michele Koons provided a vital starting point for my own perspectives on the Moche. I am grateful to Michele for her openness about her fascinating research and for our many great conversations that helped my dissertation considerably. Even throughout his many fascinating discoveries and busy schedule, Dr. Gabriel Prieto has been kind and generous with his time and expertise and has always treated me as a fellow *huanchaquero*. Denis Correa-Trigoso is fellow student of Chimor and I am grateful for our many conversations and future collaborations. From emergency visits to the mall to co-chairing a session on the Salinar, it has always been fun working with the brilliant and tenacious Jordi Rivero Prince. I am excited for our future projects together and to see her work on the ever-elusive Salinar. I only met Dr. Amedeo Sghinolfi in the final years of my dissertation work but he has proven to be a great scholar and a good friend. Working on the session on Andean borderlands with Amedeo and Ryan Smith was a blast and helped me see a much wider applicability for Bradley's theoretical framework. Along these lines, I am grateful that I have been able to get to know Ryan during my time at Pitt and am delighted that we ended up having such similar theoretical interests. I look forward to collaborating in the future with each and every one of these stellar Andean archaeologists and I am grateful for their friendship and advice throughout my career.

The various staff and students who have worked on the MOCHE Inc. Rapid Response Crew (RRC) Program made my dissertation pilot work, fieldwork, and lab work possible. Kyle Elliot helped me begin my dissertation fieldwork and braved the floods with me up until it had gotten bad enough where we decided he should evacuate. I wish we could have found a way to bring him back but a kind and smart person like him will always be welcome on any project I manage. Brendon Murray and Isabel Barbosa were friends and crew chiefs who helped me keep what little of my sanity remained throughout my dissertation fieldwork. Both of you are as patient as you are brilliant, I was lucky to have you both on my project and am positive you will excel in wherever your futures take you. I do hope your futures end up near the Moche Valley so we can work together again. Neil Alvarado McCallum is a great friend, photographer, and hiker and I am lucky he agreed

to be a part of the project. Robby Valderrama is my Peruvian brother and I am grateful he took the time to work with me on my dissertation work and go on so many adventures with me throughout the Moche Valley. Alex Castro is the best neighbor a *gringo* like me could ask for and I am glad we were able to work together and become friends over the years. Along these lines, I'd like to thank Francisco Horna and his family for renting me their beautiful home. I'd also like to thank my countless neighbors and friends in Casa Blanca and Poroto who were always welcoming and kind to the foreigner living in their midst. Many thanks to Corey Hoover, Julia Longo, and Dr. Guy Duke for being staff during various stages of the RRC Program. I am grateful for the help of all of my previous interns: Will Feltz, Matthew Ballance, Jonny Farley, Donna Weybret, Denise Ruzicka, Cyrus Banikazemi, Eric Ricks, Christine Halling, Nicole Kusnierz, Rachael Lew, Cristina Freiberger, Gabriella Healy, Rachel Johnson, Alex Veasey, Morgan Welch, among many others. I'd also like to thank Dr. Nikki Payntar, Charlotte Williams, Khrystyne Tschinkel, Gabriella Wellons, Dr. Robyn Cutright, Dr. Jerry Moore, and Dr. Stephen Berquist for their help on certain parts of my fieldwork or through helpful conversations and the insights those conversations lent.

During my year at Dumbarton Oaks, I was lucky to have a cohort of kind and brilliant scholars as my fellow fellows. We had a fantastic group of amazing scholars and wonderful people who made my stay at Dumbarton Oaks all the more enjoyable: Dr. Jim Zeidler, Dr. Alexandre Tokovinine, Dr. Erin Walsh, Dr. Angel Huitzilin, Dr. Anna Kelley, Dr. Reyhan Durmaz, Dr. Sarah Klassen, Dr. Traci Ardren, Dr. Sarah Leonard, Dr. Vera Klontza-Jaklova, and Dr. Christine Griffiths, among others. To Dr. Scotti Norman, Dr. Carla Hernández Garavito, and Dr. Trent Barnes, I will always cherish our friendships and miss our late-night conversations. Thirsty Thursday with Dr. Colin McEwan and the other Pre-Columbian folks was always as fun as it was informative. Colin was a generous scholar and a gentle soul who will be greatly missed. Dr. Ari Caramanica and Solsiré Cusicanqui Marsano were kind in welcoming me to Harvard and making my visit both fun and productive. Similarly, Dr. Jeffrey Quilter was generous with his time and expertise. Our numerous conversations helped clarify several parts of my dissertation.

This dissertation would not have been possible without the unwavering support of my family: old and new, Estadounidense y Peruano. In Peru, I have been lucky to have many kind folks in my life whom I consider family: the Bracamontes (Carlos, Coco, Carlitos, Yuri, and Juan-Julio), the McCallums (Manuel, Patricia, Barbara, Tania, and Stefany), the Valderramas (Eloisa,

Leopoldo, Julia, and Matteo), and Alejandro Camino. You have all helped make Trujillo feel like my home-away-from-home and I am grateful for your kindness and warmth. In the United States, my family has always been supportive and loving despite my career taking me off to distant lands. Thank you to my siblings – Andrew, Katrina, and Jennifer – for your constant love and support. Over the course of my graduate studies, my family doubled in size. I am happy that all of my siblings found such amazing partners – Nora, Julien, and Steve – and am grateful for the support all of them have shown their errant brother-in-law. I would also like to thank my niece and nephews – Una, Ashley, Rémy, and Axel – for all of the smiles and joy they have brought me. I hope they never have any reason to read the monstrosity their crazy uncle devoted a decade of his life to writing. Finally, my parents – Jim and Nancy Mullins – have been a never-ending source of strength and support throughout my graduate career and my dissertation. This dissertation would have never been possible without their love and kindness: they encouraged me throughout my studies, came to stay with and help me during my dissertation fieldwork, have helped me recognize, treat, and manage my PTSD, and have supported me throughout the writing process. I love you both and will always be inspired by your generosity and kindness.

There is still so much left to be written and refined, but it has always been a humbling and inspiring thought that I was left alive to tell the stories embedded in those mountains I looked up at on my first night in Casa Blanca. They are not my stories to tell, and they have been shaped by those living and those long passed, but I hope I have told the stories well. More importantly, I hope my work can help enable others to tell their own stories about these people and landscapes I have grown to love.

1.0 INTRODUCTION

In this dissertation, I investigate over three millennia of borderland processes wound into the Upper Moche Valley *chaupiyunga* landscape of northern Peru. Following Parker (2006; 2022), I see borderlands as landscapes in which different boundaries – whether porous frontiers or more static borders – between peoples, polities, and/or ways of life are wound together to create unique settlement patterns, political arrangements, and community identities. It is the interaction between different boundary sets that is the heart of borderland dynamics and the key to understanding some of the processes that can shape borderlands. Nestled between the Andean highlands and the wide Pacific coastline, the *chaupiyungas* of the western Andes are geographic boundaries that often became demographic, political, cultural, and economic boundaries between peoples and polities in the past. Given these qualities, Andean *chaupiyungas* present ideal settings for any study of borderland processes and dynamics. The Moche Valley of Peru was the cradle of two influential political traditions – The Southern Moche and the Kingdom of Chimor – and a study of its *chaupiyunga* provides and even more specific lens into borderland processes at the edges of two different early polities. This dissertation combines a full-coverage pedestrian survey with legacy and historical data to model settlement patterns and understand how demographic, political, cultural, and economic boundaries transformed in the Upper Moche Valley *chaupiyunga* from 1600 BCE and up to the late 1700s CE.

The theoretical framework that guides this dissertation is one aimed at understanding borderlands and borderland processes through modeling different boundary sets to understand the mechanisms behind how these boundaries interact and change over time (Parker 2006). Some approaches to frontiers and borders see them as peripheral to more influential cores, with the cores often being political centers that imposed their will upon peripheries (Wallerstein 1974). Though such asymmetry is not uncommon in borderlands, other approaches place far more agency and attention to frontier communities and the unique arrangements that can emerge in borderlands (Ferris 2009; Lightfoot et al 1998; Lightfoot and Martinez 1995; Schortman and Urban 1994; Stein 2002; Van Gijseghem 2006). Building from these approaches, Parker presented a broader theoretical framework for understanding a wider variety of boundaries by dividing them into

different types: political, demographic, cultural, economic, and geographic (Parker 2006). These boundaries could be categorized on a continuum between frontiers and borders depending on how porous or static they were, respectively. It is the interaction between these boundary sets over time that are the key to understanding the many borderland processes that lead to certain boundary arrangements in different case-studies (Parker 2006). The goal of the researcher is then to identify and describe such boundary sets and then trace how they interacted over time within a specific landscape.

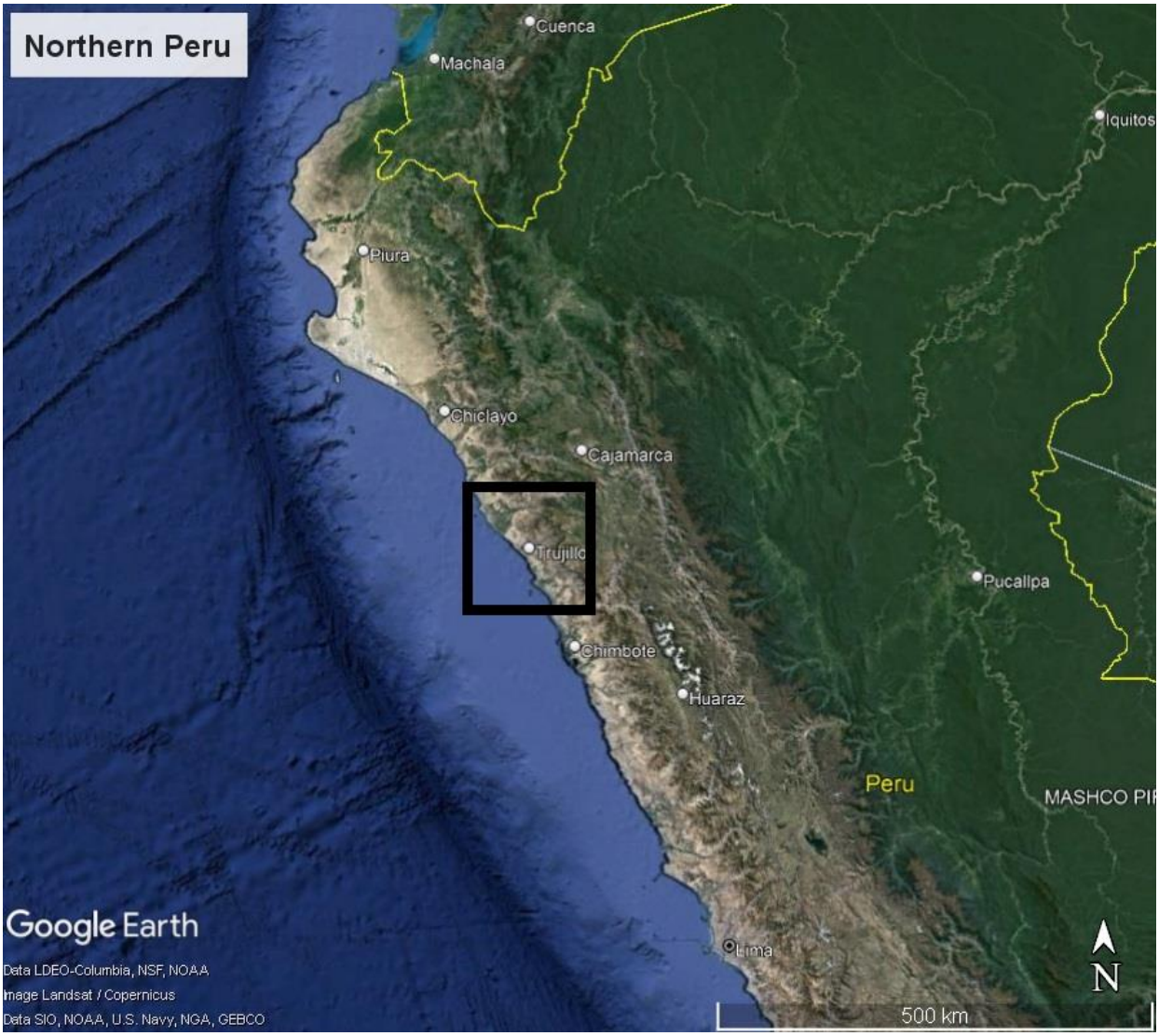


Figure 1.1 Map of Northern Peru and the Moche Valley
The Moche Valley is bracketed within the black square.

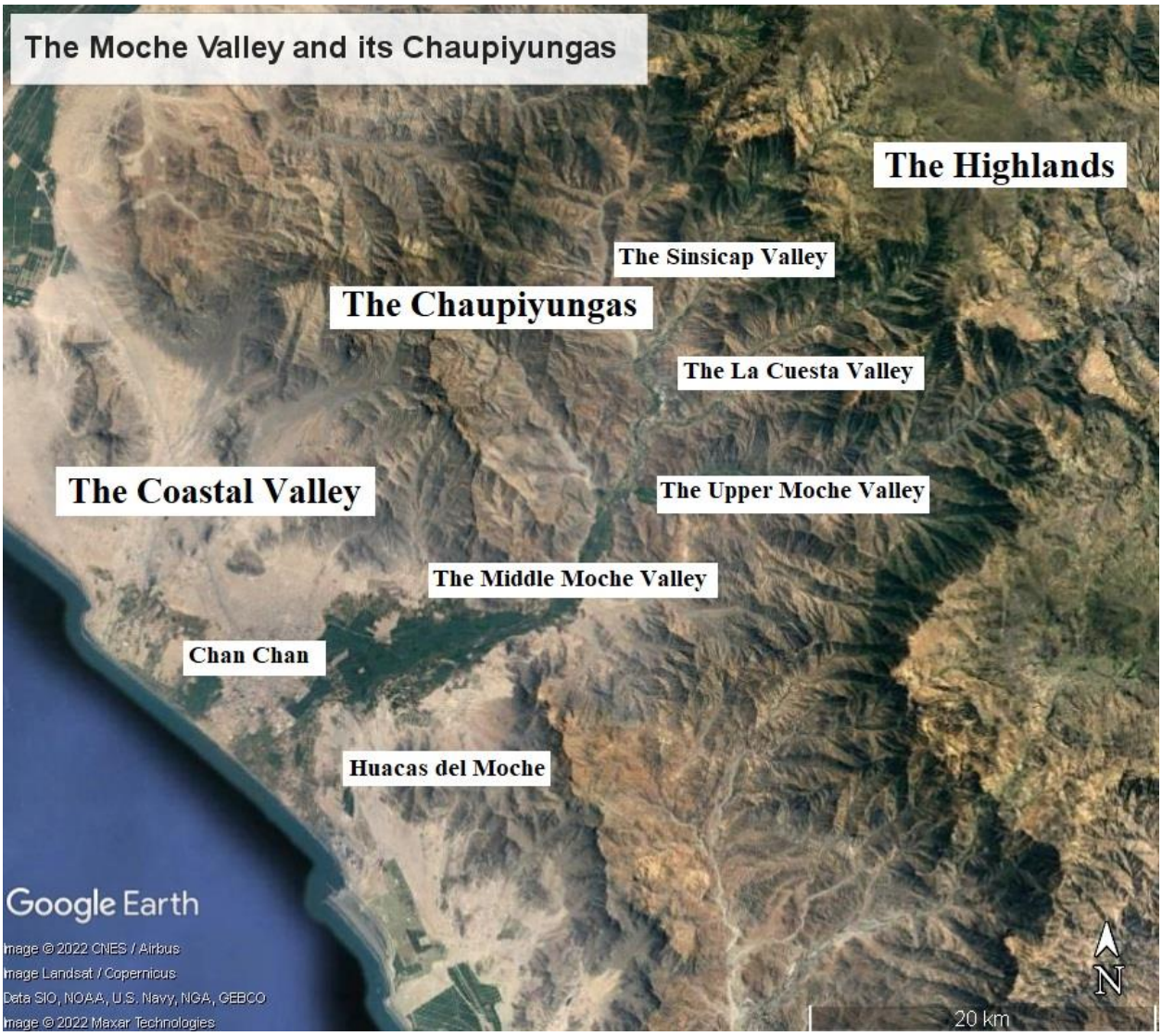


Figure 1.2 Map of the Moche Valley and its *Chaupiyungas*
Areas of interest are labeled within the map.

The starting point for investigating the *chaupiyunga* as a borderland is identifying and describing how the *chaupiyunga* landscape, and the Upper Moche Valley *chaupiyunga* in particular, is a geographic boundary. Located in northern Peru, the Moche Valley is one of a series of river valleys that have been carved out by rivers that empty into the Pacific Ocean but have headwaters in the adjacent Andean highlands (Figure 1.1; Figure 1.2). Positioned between the wide lower coastal valley and the rugged highlands, the *chaupiyunga* of the Moche Valley can be described as a geographic boundary through its intermediate positioning alone. This positioning also puts it in an advantageous position in controlling the movement of both water and people:

with vital rivers flowing through the *chaupiyunga* while long *chaupiyunga* ridges were common corridors of coastal-highland movement (Boswell 2016). Moreover, the unique geography of the *chaupiyunga* provided a climate in which the widely valued *coca* plant could thrive and it was the preferred region where coca was grown on the western slopes of the Andes. This was particularly true for the Moche Valley chaupiyungas, which were known in prehistory for having *coca dulce* – sweet *coca* – that was highly valued by peasants and lords alike (Netherly 1977; Boswell 2016). Thus, we can already see that the same qualities that made the *chaupiyunga* a geographic boundary likely had bearing on its economic value and strategic importance in the past.

Table 1.1 The Chronological Sequence of the Moche Valley

Time Period/Phase	***Date Range***
Colonial/Viceroyalty Period	1530s - 1824 CE
Chimú-Inka Phase	1450s - 1530s CE
Chimú Phase	~900 - 1450s CE
Moche Phase	~400 - 900 CE
Gallinazo Phase	~1 - 400 CE
Salinar Phase	~500 - 1 BCE
Guañape Phase	~1600 - 500 BCE
Late Preceramic Phase	~2500 - 1600 BCE
Paiján Phase	~11000 BCE - 5000 BCE

The available information on the prehistory and history of the Moche Valley and its *chaupiyungas* is helpful for understanding the different political, demographic, cultural, and economic boundaries that may have been interacting on the Upper Moche Valley *chaupiyunga* landscape. The chronological sequence for the Moche Valley stretches from some of the earliest hunter-gatherer populations to colonize the Andes all the way up to the arrival of the Spanish on the beaches of Huanchaco in the 1530s (Table 1.1). This sequence recounts a number of regionally important political developments that began in the Moche Valley: the construction of some of the earliest mound centers and architecture during the Guañape Phase, the florescence of the Southern Moche political tradition at the massive ceremonial center of Huacas del Moche during the Moche Phase, and the rise and fall of the Kingdom of Chimor in its coastal center of Chan Chan during the Chimú Phase (Topic and Topic 1982; Billman 2002; Boswell 2016; Mullins 2019). Additionally, canal expansions and transformations of the economic landscape of the Moche Valley – including some into the *chaupiyungas* – have been linked to the expansion of the Moche

polities and the Kingdom of Chimor in the region (Billman 2002). Throughout these developments, the *chaupiyunga* would have served as an eastern-most boundary for these powerful and wide-reaching polities seated on the coastal plains to the west. The Moche Valley sequence has also shown there was demographic and cultural dynamism within the region as influxes of highland colonization in the *chaupiyungas* have been recorded during the Gallinazo and Chimú Phases (Billman 2002; Ringberg 2012; Bardolph 2017; Billman, et al. 2022; Boswell 2016; Mullins 2019). This background information suggests that the *chaupiyungas* of the Moche Valley were likely political, demographic, and cultural boundaries between the highlands and coast at certain times and places throughout the sequence. Though previous work has expanded such understandings to the Middle Moche Valley and Sinsicap Valley *chaupiyungas*, the Upper Moche Valley *chaupiyunga* remained relatively unexplored and was ripe for a research project like that conducted for this dissertation.

The explorations of borderland theory and the geography, prehistory, and history of the Moche Valley and its *chaupiyungas* in this dissertation are guided by a host of research questions specifically aimed towards understanding the borderland processes that shaped the Upper Moche Valley *chaupiyunga* landscape. The broadest questions I ask are: **(1) When and how could the *chaupiyunga* be classified as a demographic, political, economic, and/or cultural boundary? (2) How did these boundaries change over time? (3) What boundary interactions may account for these changes?** These questions are ultimately aimed at building the sort of narrative approach to describing borderland processes as that used by Parker in his analysis of the Tigris borderlands of the Assyrian Empire (Parker 2006). Within the context of the *chaupiyunga*, such a narrative can address the myriad more regionally specific questions that this dissertation also endeavored to address: **(a) When and how did this region become a true coastal-highland demographic or cultural boundary as opposed to just a periphery of either? (b) How did the expanding political authority of the Moche or Chimú regimes transform or adapt to existing boundaries in the *chaupiyunga*? (c) How did these regimes differ in their approach to the *chaupiyunga* and/or how different were the *chaupiyunga* landscapes they contended with? (d) At what points did this region become contested and were any of the likely flash-points for conflict directly related to any boundary interactions?** As will be seen, these questions are interrogated throughout this dissertation in a variety of ways: geographic and landscape analyses, in-depth syntheses of legacy archaeological survey and excavation datasets, analyses of historical

accounts and documentation, among others. This being said, it is the settlement pattern analyses of the results of a full-coverage pedestrian survey I conducted in 2017 that are able to tackle these questions in a more detailed and regionally-specific manner. Ultimately, the insights lent from these analyses can also speak to much broader questions about the formation and transformation of borderlands, the structure and dynamics of early polities, and even the genesis of some of the pan-Andean identities that came to dominate the highlands and coast of Peru.

The structure of this dissertation was built around addressing these questions through analyzing a combination of geographic, archaeological, and historical data on the Moche Valley, its *chaupiyungas*, and the Andes more broadly. In Chapter 2, I provide a broad theoretical background on my approach to understanding borderlands, borderland processes, and boundaries with a specific focus on demographic and political boundaries. Chapter 3 explores the geography of the Moche Valley and its *chaupiyungas* to (1) outline several ways in which the Upper Moche Valley *chaupiyunga* was a geographic boundary and (2) propose several possible boundary interactions – specifically regarding conflict – that were embedded in the geography of the region. Chapter 4 presents an in-depth discussion of the prehistory and history of the Moche Valley and its *chaupiyungas* in order to provide the broader context needed to understand the nature and transformations of the Upper Moche Valley *chaupiyunga* as a demographic, political, cultural, and economic boundary over time. This chapter also provides several insights into the political traditions and settlement patterning in the Moche Valley that are vital in interpreting the survey data collection during my fieldwork. In Chapter 5, I outline the methodology which guided my full-coverage pedestrian survey of the Upper Moche Valley *chaupiyunga* as well the analyses that were applied to that dataset in order to model how the region changed as a borderland over time. Chapters 6 through 9 then discuss the results of these data and analyses by phase – Guañape Phase (~1600 – 500 BCE), Salinar Phase (~500 – 1 BCE), Moche/Gallinazo Phase (~1 – 900 CE), and Chimú/Chimú-Inka Phase (~900 – 1500s CE) – with specific attention to understanding changes in settlement patterns and political authority within the Upper Moche Valley *chaupiyunga* over time. Finally, Chapter 10 provides a broader discussion that ties the information from Chapters 3 and 4 to the results of Chapters 6 through 9 while addressing the research questions outlined above. I conclude Chapter 10 by providing commentary on my work and outlining some fruitful directions for future research in the *chaupiyungas* and borderlands more generally.

2.0 BORDERLANDS AND BORDERLAND PROCESSES

2.1 Introduction

The goal of the following chapter is to outline a theoretical framework for understanding borderlands and begin to articulate and problematize some of the processes that may have shaped the *chaupiyunga* borderland of the Upper Moche Valley of Peru during its prehistory. I begin with a brief literature review of some of the different lenses through which archaeologists have studied "areas between", with a special emphasis on the approach of Bradley Parker (Parker 2006: 77). I move from this review into clarifying several key terms: boundaries, borders, frontiers, and borderlands. These all provide the important lexicon for my interpretation of Parker's framework for understanding borderlands and borderland processes. Finally, I describe some of the interactions between geographic, political, demographic, economic, and cultural boundaries that can shape borderlands. The interactions I describe are by no means exhaustive and my general discussion disproportionally treats subject matter, namely political boundaries and Andean perspectives, that are relevant to this dissertation. The framework I build through my discussion of borderlands in this chapter guides my analyses in the chapters to follow.

2.2 Approaches to the "Areas Between"

An important goal of this dissertation is to make sense of what happens in what Bradley Parker most broadly described as the "areas between" (Parker 2006: 77). In this most broad of phrases lie the two most important qualities of what students of frontiers study: difference and how difference manifests in space. In archaeology, theoretical models explaining such areas between have often focused on those areas on the edge of or between polities or cultural groups. The study of ancient polities has often been intertwined with that of frontiers, and for good reason: most domains within a political system are incorporated former frontiers. As such, a discussion of political frontiers is arguably inseparable from a discussion of ancient polities. To this end, one

widely utilized model for understanding ancient polities is the heuristic continuum of direct-indirect control, also referred to as the territorial-hegemonic model (Alconini 2005, 2007; D'Altroy 1992; Hassig 1992; Luttwak 1976; Menzel 1959; Schreiber 1992). This model is originally based in Luttwak's study of Roman frontiers (1976) and subsequent expansions by several Andean scholars have continued this trend in focusing on frontier areas to understand polities themselves (Alconini 2005, 2007; D'Altroy 1992).

Hegemonic rule is characterized by indirect authority over frontier or provincial populations, with less external political investment and more local autonomy. Local elites or royalty would have retained their local positions of power as they were co-opted into larger political systems, and were generally left to their own devices outside of obligations of tribute or allegiance in times of conflict (Alconini 2010; Casanovas 2010). Often the authority vested in local elites manifests in possession and use of prestige goods or politically charged materials that were gifts signaling affiliation with a neighboring hegemon. This is contrasted with territorial rule in which more direct methods of incorporating subject populations and spaces were employed and external political investment was much higher. Such investment took a wide variety of forms, from the construction of local administrative centers to whole-sale regional re-settlement (Hyslop 1976; Wachtel 1982; Van Buren and Presta 2010). While no doubt a simplification of the array of strategies employed by ancient states, this continuum has led to many fruitful advances in our ability to describe the variety of expression of power within and between ancient states.

But how exactly may understanding ancient polities help archaeologists understand their frontiers? Direct or indirect rule has been seen as explaining ancient polities in various ways. Luttwak argued the hegemonic rule characteristic of the early Roman Republic was slowly replaced by a later phase of more direct and territorial rule employed by the late Republic and Roman Empire (1976). Avoiding the idea that territorial polities evolve out of hegemonic ones, Hassig used an analysis of Mesoamerican polities to argue that certain political systems fall at either end of the indirect-direct continuum and have fundamentally different trajectories (1985). Thus, we can say that though ancient polities often consolidated their power over time, each polity had unique methods of ruling. Research on the Inka Empire has shown that political strategies of incorporation could vary across space along the indirect-direct continuum within a single imperial system (D'Altroy 2015, Malpass 1993; Malpass and Alconini 2010). Thus, it seems less fruitful to

simply classify a frontier as being directly or indirectly incorporated and instead important to identify political involvement when it appears and theorize on why this may be the case. Identifying and understanding such interactions essentially leads us to geopolitics.

The core-periphery model, adapted from Wallerstein's more economically-focused World Systems Theory (1974), represents an early and influential approach to understanding geopolitics. In this model, core nations extract wealth from and dominate peripheral nations: creating a dynamic in which political power is asymmetrically distributed across political frontiers in the favor of the core. The underlying logic to this is quite widespread, even if World Systems Theory itself is not evoked: political involvement in a region (frontier or otherwise) is always motivated by some manner of resource extraction. The role of researcher is then to identify these core-periphery interactions in which a core can always be expected to be extracting something from a periphery. Such a perspective benefits in that it looks outside of an individual polity in order to understand the world-system as a whole and the frontiers between the polities within such systems. However, the nature of these interactions is always the same: a core exploits a periphery.

The primacy placed on core influence has since been critiqued with culture contact and post-colonial approaches that highlight how frontier communities actively negotiated or resisted interactions with impinging political entities (Ferris 2009; Lightfoot et al 1998; Lightfoot and Martinez 1995; Schortman and Urban 1994; Stein 2002; Van Gijseghem 2006). This is not to say that core involvement is not usually motivated by extracting resources from peripheries, but that peripheries are neither passive nor completely powerless in such interactions. These critiques are also useful in understanding internal variability in political strategies. It is clear that, on frontiers, indirect control and strong frontier agency are two sides of the same coin. Indirect rule is not a political strategy that exists in a vacuum – it results from negotiations on a frontier with existing groups and interests who express considerable leverage in shaping incoming or bordering political regimes. The agenda(s) of an incoming polity can be stymied by powerful local frontier actors and interests, forcing indirect strategies or halting expansion. In fact, such critiques lead us to question whether polities have grand 'strategies' at all: instead suggesting that polities use a general framework of what political authority represents to react to local political realities.

Interestingly, such a focus on interactions between political entities and the people living in the areas between echoes some of the earliest cultural theories surrounding frontiers. At the turn of the century, American historian Frederick Jackson Turner (1893; 1920) outlined his frontier thesis and was arguably the first to bring the idea of frontiers into the forefront of American thought and identity. For Turner, the frontier was a constantly moving and dynamic place between early American civilization and the vast unconquered wilderness of the west. He argued that it was on this ever-westward, dynamic, and fluid edge of early Euro-American colonization that a distinct American identity of individualism and freedom was formed out of necessity. Just as we may see frontier or peripheral polities shaping incoming and expanding core polities, Turner suggested American culture itself was shaped by frontier life itself.

It may not be surprising that Turner's work has since been widely critiqued. Specifically, his ignorance of indigenous perspectives is now seen as ethnocentric: the "wilderness" he described was, in fact, full of many indigenous groups. Such critiques are important both ethically and conceptually. Erasing or ignoring the indigenous voices of the past perpetuates a tradition of seeing "American" history as something that was only shaped by white, Anglo European, males (Grandin 2019). The dangers of not correcting such narratives can be seen in recent nationalist and revivalist movements, many of which strive to return to a past that never truly existed. Conceptually, building theoretical models from things that exist only in idealized narratives of the past is just bad science. Simplifying concepts into heuristics is one thing, but ignoring reality is quite another. The multitude of frontier studies that followed Turner's work identified a myriad of interactions between indigenous groups and the diverse array of colonists, their families, slaves, servants, and so forth (Grandin 2019). Suffice it to say: frontiers were far more complex than his uni-lateral model could ever hope to capture.

A recent model that explicitly works to understand and embrace such complexity in areas between is the Cross-Cultural Interaction Model, or CCIM, as proposed by Green and Costion (2018). The CCIM, as its name suggests, is focused on the interactions that occur between groups in areas between, characterizing such interactions by their intensity and directionality. This model is meant to be visually represented: with concentric circles representing different intensities of interactions, different slices representing different subject groups, and arrows representing the direction of interactions between groups (Figure 2.1). As it was built specifically for understanding

spaces between, this model improves on many of the critiques I have mentioned before with its focus on articulating interactions instead of assuming their dynamics. Though the original model can only represent snapshots of interaction arrangements, it can be modified to illustrate change over time (Smith and Buzon 2018) but struggles in its ability to then characterize why and how these changes occur. In short, this model is excellent in its ability to model the various interactions that happen in areas between but has difficulty in explaining why such interactions occur.

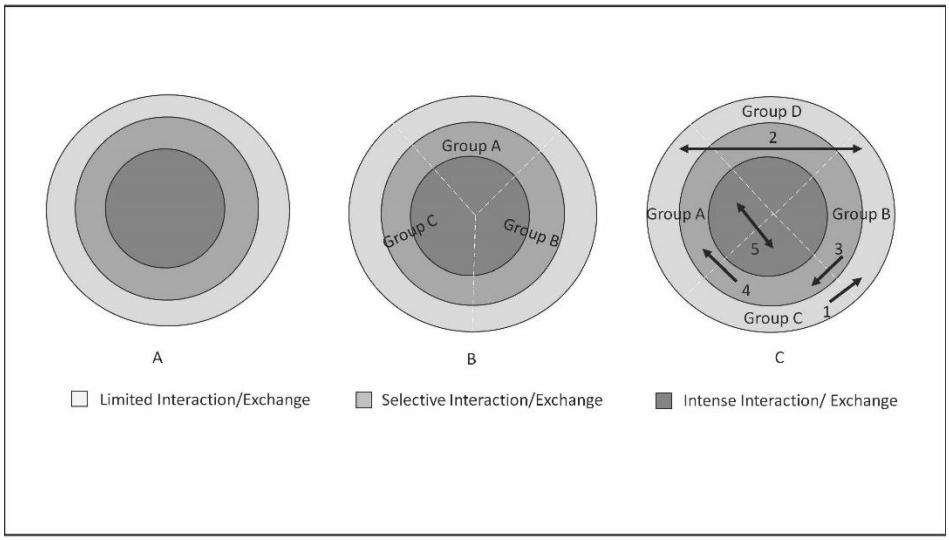


Figure 2.1 The CCIM as Illustrated by Green and Costion (2018:5)

Where we are left at the end of this brief overview is with a range of approaches to understanding the aforementioned "areas between" but few that have withstood significant critique or that can embrace and truly explain the wide variety of arrangements that can exist in reality. Some tools have been developed, like the CCIM or direct-indirect continuum, to help better describe this variability but struggle in characterizing why this variability occurs in the first place. I would argue that this is the mainly the result of what the actual focus of these investigations have been. Most "big theories" have usually been trying to describe other phenomena like political complexity or the formation of American identity. Scholars specifically interested in areas between have then constructed critiques to these broad and sweeping theories or, like the CCIM, have focused on the important job of finding ways to describe the complexity they see. It is in this vein that the work of Bradley Parker on Borderland Processes presents a promising avenue for moving past describing the complexity of "areas between" and towards understanding what shapes the deeper histories of these areas.

2.2.1 Boundaries, Borders, Frontiers, and Borderlands

In order to build a framework for understanding these "areas between" in their own right, we first must clarify a few terms. Boundary, border, frontier, and borderland are commonly used terms that, though they seem interchangeable, grapple with difference and space in notably unique ways (Parker 2002: 373-375; Rodseth and Parker 2005: 9-10). If "areas between" represents the broadest definition of my subject of study, then the term *boundary* represents the broadest of terms used to describe it. Parker describes boundaries as "unspecific divides or separators that indicate limits of various kinds" (2006: 79). The general nature of this term gives it utility: a boundary can be used to describe a wide variety of frontiers and borders without accruing any of the descriptive baggage associated with those words (Parker 2002: 373). However, the word boundary is insufficient on its own and requires the addition of a descriptor that speaks to either difference or space to gain meaning. For example: a political boundary is characterized by differences between political entities while a porous boundary is characterized by a fluid or blended manifestation of difference in space. In sum, boundary proves to be a flexible and neutral term that can be used in a variety of circumstances but requires some degree of description in order to gain meaning.

All too familiar in the current political discourse of the United States, the term *border* refers to a specific type of boundary that is static and well-defined. Parker describes borders as "linear dividing lines, fixed in a particular space, meant to mark the division between political and/or administrative units." (2002: 373) As Parker and others allude, borders are most often encountered within the context of the political boundaries established and maintained by modern nation-states (Wendl and Rosler 1998; Hamilton 1999; Kopytoff 1999; Wilson and Donnan 1998; Rothman 2004). Important here is that a border can be seen as a specific spatial manifestation of difference, and a specific type of boundary, one that is well-defined and circumscribed. As such, the term *border* can prove a useful heuristic for describing a type of boundary that is imperceptibly thin and in which difference is clearly visible.

Conceptually, borders are exact and linear in a way that can help expose the variety of different boundaries that may co-exist in one given area. For example: the US-Mexico border is a political boundary that, legally, is a well-defined, demarcated, and even walled, line between the countries. Though the border itself may remain static, people and goods flow across it in a way

that contrasts the black-and-white political reality that border walls and checkpoints try to enforce. Even if one focuses on the border's role in defining the political boundary between the two countries and the spatial limits of US authority, the concept can often appear more ideology than reality. The long list of wars and interventions conducted over the past few decades well outside the border show it does little to spatially limit projections of US political power abroad. The takeaway here is that boundaries are multivalent: differences can be seen between not only categories of boundaries (e.g., demographics, economics, cuisine) but also within categories themselves (e.g., politics). The exceptionality of borders as rigid lines in otherwise organic and fluid landscapes of human activity makes this multivalence even more apparent than in other boundary scenarios and helps us appreciate the complexity of arrangements in areas between.

Frontier is a commonly used term to describe more fluid and organic boundary areas that, though useful, has a problematic history embedded in Turner's work. Generally, however, frontiers are best understood as blurry zones as opposed to 'lines in the sand'. Like borders, frontiers are boundaries defined by the spatial manifestation of difference. Unlike borders, this spatial manifestation of difference is drawn out to create a gradient in which different things may become ambiguous and blended together. Returning to the US-Mexico border, if one were to remove any trace of the political installations defining it, many commonalities between the inhabitants of either side of the Rio Grande would be readily apparent. Towns on both sides exhibit a blend of US and Mexican products, culinary traditions, and language that would make it quite difficult to predict where a political boundary may be drawn. It is on this blurry edge that frontiers can be defined and contrasted with borders.

Presented by Parker as a bridging term between borders, frontiers, and boundaries, the term *borderlands* is not without its complications (2006: 80). In the field of history, borderlands represented a clarification following the critiques of Turner's concept of frontiers. Borderlands were "the contested boundaries between colonial domains" (Adelman and Aron 1999:816) while frontiers were used as a more general term for diffuse geographic or cultural boundaries (Aron 2005; Parker 2006:80). In anthropology, borderlands took on a life of its own and is used for more modern studies of border regions and the processes that shape communities and identities within them (Alvarez 1999, 1995). This term can thus be seen as encapsulating frontiers, borders, and all of the other types of boundaries.

Though Parker argues the theme between these uses of borderlands is that they represent and define "a geopolitical space" (2006:80), I argue that the term need not be limited to such domains. He defines borderlands as the "regions around or between political or cultural entities—the geographic space in which frontiers and borders are likely to exist" (Parker 2006: 80; Wendl and Rosler 1999:8-10). This definition aptly captures how borderlands encapsulates multiple boundaries, whether they be characterized as frontiers or borders. Though his focus is on political or cultural differences, I believe that our notion of borderlands need not be limited to such categories. For example, geography can often create boundaries between populations or economic practices that are not necessarily associated with political or cultural divides. In fact, understanding borderlands in such scenarios would likely prove helpful to those studying political or cultural boundaries that may occur in similar geographic scenarios. As such I would modify my definition of a borderland as any area where multiple boundaries interact or co-exist.

A final notable element of the term borderlands lies in its explicit association with land and thus landscapes. Not only does such association fit well with the inherently spatial endeavor we are on when studying areas between, it also evokes and calls upon the use of a landscape perspective. I see landscapes as the spatially oriented dialectic built between people and places over time (Knapp and Ashmore 199; Tilley 1994; Smith 2003). The focus of a landscape study is articulating these spatial relationships as they play out over time to build histories of how places shape people and people shape places. By adding the dimension of time, a landscape perspective elevates a study of borderlands to be positioned to interrogate processes as opposed to just characterizing different boundary scenarios (e.g., borders vs. frontiers). This allows us to ask why some boundaries may be more porous than others by modeling how such boundaries are formed. More specifically it encourages us to understand what places in a place between may be important in such landscape histories. If seen as representing the landscapes between, the term *borderlands* offers the most robust way of understanding the areas between that are the subject of study. Just before his sudden passing, Parker was well on his way towards integrating borderlands and landscape studies into what he called "borderlandscapes" (Parker 2022; Boswell and Knabb 2022). As he insightfully stated: we must "not lose sight of the fact that borderlands are places and that the processes that shape borderland communities and propel borderland histories are conditioned by geography." (Parker 2022) By grounding the borderlands within the landscapes in which they

were negotiated and created, we can anchor their meaning and context in place. Put simply, in borderlands the "where" is vital to everything that follows.

To reiterate: a boundary refers to "all categories of limits or divides", a border describes a "linear static dividing line", a frontier describes "a dynamic, fluid zone" (Parker 2006: 80). Encompassing all of these, borderlands are composites of many different types of boundaries that may be characterized as borders or frontiers.

2.3 Borderland Arrangements and Borderland Processes

Marshalling this concept of borderlands and the preceding lexicon for describing these "areas between", Parker built a framework for characterizing borderlands and modeling borderland processes. Parker's "Continuum of Boundary Dynamics" is a useful tool in characterizing the boundary sets that compose borderlands. As alluded earlier, it is immediately apparent that frontiers and borders can represent two ends of a spectrum describing how difference may manifest itself in space. Representing this spectrum graphically (Figure 2.2), Parker presents his model as a way for scholars to characterize different boundaries as static or fluid (2006: 81, 2002: 374). Within this framework we may think of the US-Mexico political border as generally static, while the economic boundary in the same location would seem far more fluid. However, this distinction reveals a need for another way of classifying boundaries.

If we recall that boundaries are often multivalent and intertwined, categorizing boundaries into different types (political, geographic, etc.) allows for a bit more nuance in understanding borderlands. Parker proposed five general categories of boundary types: geographic, political, demographic, cultural, and economic (2002). I forgo a discussion of Parker's categories here in favor of my more detailed treatment of boundary interactions that will follow. Returning to the discussion of the US-Mexico border: a political border may be differentiated from a more porous economic or cultural boundary. However, as we previously recognized, even different boundary types can be multivalent and should be thought of as being bundled together in what Parker refers to as "boundary sets" (2006:81). One could continue identifying and modeling such boundaries

and boundary sets in this way to eventually arrive at a representation of how these different boundary types behave in the larger US-Mexico borderlands.

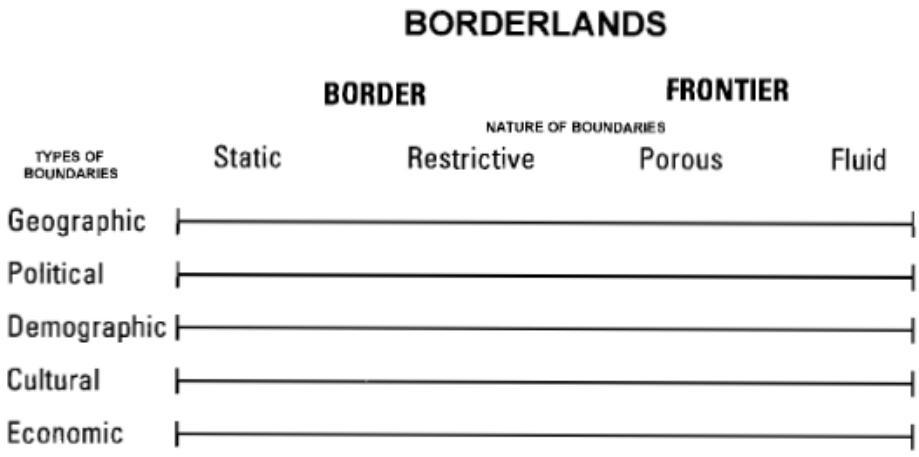


Figure 2.2 The Continuum of Boundary Dynamics (Parker 2006: 82)

Though useful, modeling borderlands in such a way makes it difficult to advance our understanding of boundary interactions or articulate why certain borderland arrangements may occur. Separating boundary types as heuristics is an important step in simplifying the complexity of borderlands, but it is important to remember that such categories are interrelated. For example: a set of more economically liberal political policies may assist the movement of goods across the static political border. Though useful in identifying the differences between boundary types, this model is not suited to address the interactions between them. Similarly, the continuum only represents snapshots of borderland arrangements, making it difficult to help in understanding how borderlands change over time. Following from the last example, a change in political policies and a hardening of a political border could limit the movement of goods. Conversely, new and mutually beneficial economic opportunities may motivate the loosening of a political boundary. Interactions over time need space in order to be articulated, and the continuum model does not make such space readily available.

Recognizing these limitations, Parker developed the "Borderland Matrix Model" (2006) as a tool for modeling boundary interactions and, eventually, borderland processes. Represented graphically (Figure 2.3), this model prioritizes understanding boundary interactions as they play out over time. As Parker states "it is in this interaction–the interaction that takes place within and

between boundary sets through time–that is… the essence of boundary dynamics" (2006: 91). To this end, the model captures the interrelatedness of boundary sets quite well while also allowing them to be portrayed as dynamic. The end goal of using this model is to analyze boundary interactions and how they produce "variation both through time and within and between specific borderland situations" (Parker 2006: 90). Such interactions are still situated on the continuum of boundary dynamics: boundary sets are seen as becoming more fluid or restrictive depending on the interactions taking place. Thus, by identifying what interactions between boundary sets may lead to them being more fluid or restrictive, we can understand the processes behind how borders and frontiers come to be.

As the model transitioned from characterizing boundary types to instead focusing on interactions, it seems important to think about how such interactions themselves can be characterized. This being said, Parker is somewhat vague on this, adopting a more narrative approach to describing his case-study and the boundary interactions that he identifies on Assyria's Tigris borderlands (2006: 91-94). Building off of his work and pushing it further, here I identify two dimensions on which it may be useful to characterize boundary interactions and thus identify possible borderland processes.

If an interaction does lead to some manner of change, two of the many possible outcomes are: (1) the boundary sets synchronize and become more similar or (2) they differentiate and drift apart. Returning again to the US-Mexico example, if political tensions continue to escalate and the border hardens, one may expect, as is already becoming the case, the economic boundary between the two countries would also become more restrictive. The result would be a relative synchronization of characteristics between political and economic boundary sets on the US-Mexico borderlands. Looking to the past, some may argue that the area's relative demographic porosity could be one factor that initially drove the political tensions and recent hardening of the US-Mexico border. In this case, such an interaction would show a relative differentiation between these boundary sets as they became more distinct and the porosity of one became difficult to reconcile with the rigidity of the other. Interestingly, one can see that even the processes of synchronization and differentiation themselves may be linked into a broader chain of borderland processes. At the very least, it is clear that certain interactions are nested within, and can have very real consequences for, others. In sum, characterizing boundary interactions as being synchronous

or differentiating provides one possible fruitful path towards describing the borderland processes that were the goal of Parker's work.

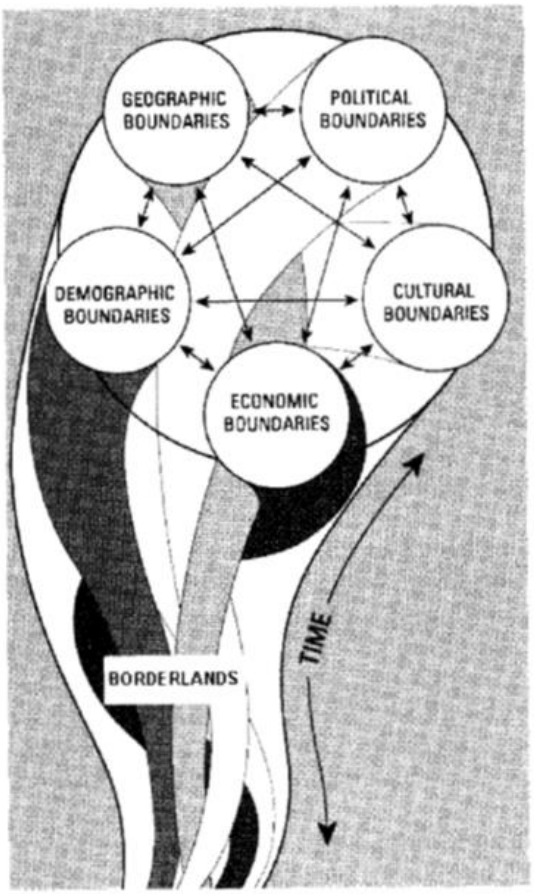


Figure 2.3 Parker's Borderland Matrix Model (2006: 90)

While some boundaries may interact to simply change others, it is also possible that interactions may result in the creation of a new boundary set or, conversely, the dissolution of an old boundary set. For example, though it seems unlikely, a future may exist in which political tensions escalate at the US-Mexico border to the point where war is declared and an invasion conducted. In the event that a victor conquers and controls the defeated, the border between the two previously sovereign countries would likely either dissolve or drastically change to more of an administrative boundary than an international border. In such a case, the previous political boundary would have imploded and been replaced by either a new type of political boundary or none at all: either creation or dissolution. It is important to note that such a process would by no means be immediate: though much of the Berlin Wall may have been torn down in a matter of months, it took decades of political re-integration to unite the two halves of Germany in a process

that is still unfolding. As decades could be compared to minutes in archaeological time, what may appear to us as a quick shift would likely have been a drawn-out process that is merely not visible with the datasets we usually can access. In any case, boundary set creation and dissolution are boundary interactions that do not easily fit within the synchronization-differentiation dimension but can be expected as possible borderland processes nonetheless.

As can be seen, it is through analyzing the interactions between different boundary sets over time that we can identify the borderland processes that lead to differing borderland arrangements. Parker illustrated that it is useful to think of borderlands as composites of many boundary sets, each of which can be characterized on a spectrum between being a frontier or a border. Additionally, he outlined the general logic behind why studying the interactions between these boundary sets as they develop over time should be the focus of a study of borderlands. Finally, the preceding discussion presented several possible ways in which we may categorize such interactions. However, what is now necessary and now follows is an engagement with specific case-studies to provide a more detailed, archaeologically-focused, exploration of how to define different boundary sets and how they may interact.

2.3.1 Geographic Boundaries and their Interactions

Geographic boundaries are defined by the physical landscape itself and, though arguably the easiest to identify, are not always as straightforward as they may seem. Parker defines such boundaries as "the natural divisions, physical character and climate, in or around a borderland" (2006:83). Geographic boundaries can then be thought of as encapsulating a host of different landscape features and qualities. Landscape features could include things like rivers, mountains, deserts, ridges or any other localized element of geography. Qualities of the landscape may include its climate, soil quality, water accessibility, types of flora or fauna, or even the distribution of natural resources.

Certain types of landscape features or qualities can often provide obstacles that shape other boundary types. Rivers and mountain ranges, for example, are frequently invoked as physical obstacles that serve as borders to the expansion of ancient polities (Parker 2006:83). Notable examples like the Rhine, Danube, and Tigris rivers were important in defining Roman imperial

boundaries (Whittaker 1994), centuries earlier the Tigris served as a boundary for the Assyrian Empire (Parker 2001), and even the modern US-Mexico boundary is partly defined by the Rio Grande. In ancient Egypt, the cataracts of the Nile presented natural boundaries that were obstacles to political expansion to the south (Smith 2005). Mountain ranges have served similar roles in limiting political or demographic expansion, as traversing or inhabiting them comes at a larger logistical cost than most groups are willing to pay. Deserts, tundra, and other large and generally inhospitable areas can similarly pose obstacles, creating demographic and political boundaries that are all but impermeable to certain groups.

Some of the features or qualities that may make political or demographic boundaries more impermeable can simultaneously lead to the development of fluid economic or cultural boundaries. Navigable rivers, like the Tigris, served as corridors of exchange that actually accelerated the movement of people and goods, even if the direction of that movement was constrained by the river itself (Parker 2006). Traversable ridges in mountainous zones could serve a similar role of simultaneously being political barriers while also being economic corridors of opportunity. Moreover, mountainous or inhospitable zones presented opportunities for religious proselytizers to spread their practices in ways that political entities could not (Rodseth 2005). The spread of Buddhism through isolated Himalayan kingdoms and Muslim holy heroes into the wild Bengali forests are historical examples of such cultural fluidity in geographic borders (Rodseth 2005; Eaton 2005). Importantly, for any of these dynamics to emerge some movement must be possible. Also, it is interesting that such a dynamic seems to begin with economic or cultural boundaries which can then be co-opted by political entities or incite demographic expansion. The initial differentiation of cultural or economic frontiers in what would otherwise be a static border could possibly be thought of as a necessary 'cornerstone' onto which demographic and political boundaries could synchronize and overcome geographic constraints.

While many geographic boundaries inherently act as borders for other boundary types, some inherently seem to create more fluid, but considerably ambiguous, arrangements. Cross-culturally, river confluences seem to play such a role: the meeting of two or more rivers often echoes the meeting of peoples, polities, economic systems, and cultural practices. Taking a deep historical approach to the confluence of the Mississipi and Missouri Rivers, Aron describes the persistence of fluidity in the movement of people, cultural practices, and goods within this region

from the rise of Cahokia through European colonialism (2005). The meeting of the rivers played a key role in facilitating this movement and fluidity, but interestingly such fluidity came with political ambiguity and frequent conflict. Confluences also have special significance in the Andes and are often associated with the concept of *tinku* or the joining of two halves to create a whole (Koons 2022). These were auspicious places that are often associated with shrines or monumental centers serving as seats of political power and/or nodes of exchange and human movement. Thus, confluences can be seen as often forcing boundary types into fluidity and porosity in ways that can create great economic opportunity but also political ambiguity and conflict.

It is abundantly clear that geography has the power to create and destroy boundaries: as the climate and landscape changes, so does its habitability. Rivers are an excellent example of how the dynamism of geography can create new boundaries while destroying old ones. As the Ganghes River steadily flooded and expanded eastward, it created a new geographic frontier to be tamed and transformed into a productive economic zone by religious pioneers that brought demographic growth and new political systems (Eaton 2005). At the same time, the river's movement left behind a trail of abandoned settlements, depopulated due to stagnant waters and less fertile land (Eaton 2005). On one side a de-populated and static border was created while on the other a fluid demographic frontier was opened up. This frontier was only possible after economic expansion, but the changing course of the river was the impetus for the expansion of that borderland. A similar dynamic has been observed in the coastal river valleys of the Andes after El Niño events (Sandweiss and Quilter 2008; Billman and Huckleberry 2008). Particularly in middle and upper valley areas, catastrophic floods can rip out topsoil and destroy canal systems, greatly reducing the agricultural productivity of zones unless new fields and canals are constantly built (Billman and Huckleberry 2008). Along this vein, volcanoes and other natural disasters can have similar de-populating effects as a result of the destruction of the economic, mainly agricultural, potential of a certain landscape (Sheets 2008).

The distribution of natural resources can also influence the 'where' of how boundaries may form in borderlands. Parker documented that the Assyrian Empire's expansion into the Anatolian highlands was partially motivated by the need to attain timber and other resources that could not be procured in the core of the polity (2001:206-208). If political entities are motivated by resource extraction, then geographic areas with unique and desirable resources should be expected to exhibit

evidence for attempts at such extraction. Recalling the critiques of core-periphery assumptions, we may also expect resistance to such extraction as local populations could use their geographic position as leverage to curtail incoming political domination. Thus, valuable natural resources should be expected to be areas of political contention and contestation and are then places that deserve particularly close attention as being influential in borderland dynamics, particularly in regards to political boundaries.

Finally, though not a natural resource or landscape feature in a strictly western sense, the Andean concepts of *apus* and *huacas* are often embedded in geography in a way that warrants further discussion. *Apu* is a specific term for a venerated deity or ancestor that itself is inseparable from the landscape and may quite literally be a specific mountain, peak, or other notable or unique geographic feature (Williams and Nash 2006). This is a subset of the broader Andean concept of *huaca*: an amorphous term used to describe the sacred places, objects, or beings that served intimate and important roles as ancestors, deities, or simply persons living as objects or things that western eyes may think of as inanimate or unliving. Recent work has begun to explore how archaeologists, anthropologists, and historians may identify *huacas* and have illustrated how incredibly important they were in daily household rituals, large-scale state rituals, and even settlement patterns (see contributions in Bray 2015). These rituals are often carried out through *pagos*, or payments, of *spondylus* shell, *coca*, llamas or alpacas, or even humans to the *huaca* itself. *Pagos* need not always be on or around the *huaca*, and can instead be made on or around something representing the *huaca* or perhaps even within sight of the *huaca* or something representing it (Williams and Nash 2006; Allen 2002). Visual ties seem particularly important for these relationships, as the huaca, or something representing it, need to be seen during the process of the *pago*. Thus, we may ask how such beings may have shaped Andean borderlands.

The focus here in the "geographic boundary" section on *apus* and *huacas* is mainly because of their explicit ties to the landscape itself and geographic features that may be considered inherent to the landscape (rivers, mountains, etc.). This being said, it is important to note that many *huacas* were embedded in human constructions (mounds, cities, etc.) and/or objects. In any case, if an *apu* or *huaca* was considered a venerated ancestor one may expect that such ancestry could be inclusive to a wide variety of people from disparate backgrounds or exclusive to a specific group. In this way, these beings could possibly promote the presence of a fluid frontier or a static border,

depending on who considered them to be ancestors and who did not. Recalling the fluidity inherent at confluences as being places of *tinku*, perhaps we may expect that an *apu* or *huaca* identified at a *tinku* would be more inclusive than those encountered elsewhere and we would thus expect a wider variety of devotees. This could be seen in a wide array of visual linkages between specific mountain peaks and settlements or temples across political or cultural borders (Williams and Nash 2006). Additionally, a wide array of offerings could be representative of far-reaching economic networks. Even though I am engaging with *apus* and *huacas* here as geographic features, it is very important for scholars to also see these entities as persons that themselves must be conquered and tamed by polities. Though geographic features like mountains are no doubt excellent locations for military installations and fortresses, we also should include them as places that themselves need to be defended, contested, or conquered. Thus, the nature of an *apu* or *huaca* itself could have the potential to greatly shape a borderland: whether it be a shared place promoting cooperation between many people, or a volatile node for political contestation.

In sum, it is apparent that geographic boundaries can interact in a variety of ways with other boundaries to cause synchronization, differentiation, creation, and destruction. Generally, it seems that geographic borders often cause political and demographic borders to synchronize with them: geography that constrains or limits movement or habitability often provides challenges for political expansion or population growth. However, this effect does not consistently translate to economic or cultural realms, which appear to interact in ways that are less constrained by geography unless it prohibits movement altogether. Those geographic boundaries that are more fluid, like confluences, seem to espouse fluidity in most other boundary types. But such fluidity appears to come at a cost for political boundaries: political ambiguity seems to go hand in hand with contestation and conflict. Natural disasters and dynamic geography can create and destroy boundaries, as the physical landscape often directly influences the economic potential, and thus demographic viability, of any region. Important geographic places that provide unique resources can serve as contested areas that shape where in borderlands people and polities vie for control. Finally, in the Andes, living geography in the form of *apus* and *huacas* present an interesting new avenue through which Andeanists may further explore borderland dynamics.

2.3.2 Political Boundaries and their Interactions

Political boundaries are those areas that exist between or on the edge of polities or their internal divisions, and have long been documented as being able to profoundly influence other boundary sets. Parker defined this category as encompassing "political, administrative, and military boundaries" but acknowledged that such subdivisions were "deeply intertwined and thus it may be difficult, or in some cases impossible, to distinguish between them." (2006:83) In my interpretation of his model, I clarify political boundaries as geo-political boundaries at the edge of or between sovereign political entities. These could range from the example of the US-Mexico border to southeastern Inka frontier with the lowland Chiriguano chiefdoms (Alconini 2006, 2016). Administrative boundaries are located between those areas under any manner of administration, whether direct or indirect, by one or more political systems. Such a boundary could range from a client-kingdom at the edge of a larger empire, to administrative borders within a larger polity itself. Finally, military boundaries are those areas in which a polity may use military force, through the construction of fortresses, outposts, or barracks, through which to dominate or defend a landscape. Military boundaries can range from coordinated systems of defense like the limes of the Roman Empire to the no-mans-land between mutually defensive *pukara* networks in the Titicaca Basin (Wells 2018; Arkush 2011).

When incoming polities are more invasive in expressing their authority, the result can be a transformation of borderlands to fit better with a political ideal of manageability or productivity. The royal palaces and administrative centers of the Inka Empire were often invasive constructions that correlated with nearby economic expansion through terrace construction or local resettlement (Malpass 1993; Malpass and Alconini 2010; Alconini 2016). Such agricultural expansion can be seen as political creation or synchronization of economic or even geographic boundaries: the landscape is altered or rebuilt to fit the level of resource extraction desired by foreign political actors. Resettlement can demographically represent a similar synchronization, as old settlement patterns are disassembled, consolidated, and synchronized with the static location of local administrative centers and the demographic needs of state infrastructure. Such imperial resettlement projects often are done using diverse populations from across the polity. In their agricultural colonization of the Upper Tigris River valley, the Assyrian Empire resettled or

encouraged the movement of a variety of subjects: changing the cultural composition of the region from exclusively indigenous to a more diverse array of subjects (Parker 2001, 2006). Thus, the more direct and invasive a polity may be in expressing their authority over borderlands, the more profound effects political boundaries may have on other boundary sets.

Some types of political boundaries can profoundly limit the permeability of other boundary sets. In a commonly observed archaeological phenomenon, the military boundary that emerges when multiple polities claim the same area can lead to consistent conflict and create what are called "buffer zones" (Arkush 2011). Due to their dangerous position, such zones are often depopulated and feature economic resources, like fields, that remain relatively untouched. Thus, if military boundaries feature persistent conflict over contested territory, then demographic and economic boundaries should be expected to become similarly polarized and static. Though some projects of resettlement and colonization may lead to more diversity, others can transform boundaries from fluid to static. Following its incorporation as a United States territory after 1800, the Mississippi Valley was flooded with American colonists as the diverse indigenous groups that had inhabited the frontier for centuries were forced out (Aron 2006). What was once a thriving and fluid frontier along the confluence of several key rivers was transformed into a more-or-less culturally homogenous zone due to political expansion and influence.

Still acknowledging these general patterns, exceptions exist that can speak both to some of the limits of external political impositions and the power of borderland polities. As noted earlier, more indirect political involvement in regions goes hand-in-hand with stronger local power. Instead of incoming polities always shaping borderlands to fit their own political ideal, we should also expect them to themselves to be shaped to fit into more localized or established political ideals. On the Mississippian frontier, many European political actors practiced non-western gift-giving traditions in order to win over the Osage and other indigenous groups as local allies and trading partners (Aron 2006). Aron argues that it was the military power, embeddedness in exchange routes, and general positioning at a confluence frontier that gave such indigenous groups this advantageous position (Aron 2006). Interestingly, it was in such groups' interest to keep economic boundaries porous and uninfluenced by external imperial control in order to maintain their position as exchange intermediaries. It also seems a common pattern for incoming polities to avoid directly managing particularly volatile military boundaries. The client kings and alliances that rose across

Roman Empire's military boundary at the Danube and Rhine illustrate such a dynamic (Wells 2006). Roman political actors created alliances with warlike neighbors through gift-giving and favorable exchange, essentially creating an inhabited 'buffer zone' between the imperial border and hostile unincorporated polities (Wells 2018). However, the multiple allegiances of client polities put them positions are simultaneously powerful and tenuous: they must know when to honor their imperial alliances and when to side with their neighbors to avoid destruction by either. In sum: we must not forget that frontier polities themselves can be quite powerful in shaping borderland dynamics in ways that stymie or even completely halt the expansion of impinging political entities.

Political impositions can also fall short in enacting the changes which were intended and this is often the result of stronger local political power. As their frontier with the steppe became more tumultuous, actors of the Ming Dynasty invested heavily into their Great Wall as a defensive border, ultimately to their own peril (Perdue 2006). The power of the Mongols was too great and Ming were too weak to be able to make the idealized border wall have any reflection in the political reality of the borderland itself (Perdue 2006). On their southeastern frontier, elements of the Inka Empire constructed a series of outposts and a large complex in Oroncota that had all of the architectural hallmarks of being a major local administrative center (Alconini 2006, 2016). However, this center did not show material evidence of intensive Inka or local occupations, and local Yampara settlement patterns did not shift in the ways that usually correlate with the construction of such centers (Alconini 2006, 2016). Even the outposts themselves seem to have been manned by local troops (Alconini 2016), illustrating that the true military power in these borderlands were not the Inka but instead were local Yampara groups. Thus, though the façade of the frontier may have seemed Inka, the political power on this military boundary indeed rested with the Yampara.

Political actions can often have consequences for boundaries that are neither straightforward nor intended. As the Assyrian Empire expanded into the Tigris borderlands, its insatiable appetite for lumber eventually led to the depletion of local forests that led to riskier logging expeditions outside of the frontier (Parker 2006). In this case, the expanding political boundary caused the destruction and expansion of a geographic and economic boundary that itself led to more geopolitical tensions (Parker 2006). At the northeastern Roman frontier, outposts and

forts were initially manned by Roman legionaries from southern Europe but, due to intermarriage and depleted imperial resources, eventually became manned by auxiliaries recruited across the frontier (Wells 2018). This case is not uncommon: politically motivated colonization leads to cultural entanglements that blur the lines between newer colonists and indigenous populations. Moreover, such entanglements complicate military boundaries since the same people responsible for maintaining the boundary could have local allegiances that would run contrary to imperial interests. As such, polities may manage their geopolitical boundaries in ways that are expedient and cheap in the short-term but eventually lead to dissolution and fracturing in the long-term.

As can be seen, political boundaries can be influential in shaping borderlands in a wide variety of ways. Often, incoming imperial systems attempt to synchronize or create new demographic, cultural, economic, and even geographic boundaries to fit with their own ideals of how the political landscape must be structured. However, such attempts are not always successful, and sometimes even have unintended consequences that weaken imperial power in the long-term. Local political actors can have power in shaping borderlands and often serve as foils to incoming political regimes that work to keep boundary dynamics in their favor. However, such a position is tenuous, as multiple allegiances must be weighed with sovereignty and survival in the balance.

2.3.3 Demographic Boundaries and their Interactions

Demographic boundaries can be defined as those areas where we observe transitions between population densities, ethnic backgrounds, gender, and health (Parker 2006). As Parker puts quite simply: demographic boundaries concern "anything having to do with people" (2006:84). Since this dissertation is investigating borderland processes through the lens of settlement patterns, population density proves to be the most accessible avenue to be discussed. Specifically, I focus on how we may characterize population densities and in what ways migration and settlement continuity can serve as processes through which demographic boundaries may influence other boundary sets.

Population densities play a vital role in identifying demographic boundaries but alone prove too intertwined with other boundary sets to make identifying interactions feasible. Though far from the uninhabited wildernesses described by Turner, many demographic boundaries can be

most simply understood as differences in population densities over space. Sometimes these differences can be determined by the comparing the sheer size of populations: distinguishing highly populated areas from lightly populated zones (Parker 2006). More nuanced approaches may favor comparing population dispersal and aggregation: distinguishing densely packed urban settlements vs. more spread-out patches of rural settlements (Drennan, Berrey, and Peterson 2015). In the American west, areas that were lightly occupied by disease-ravaged indigenous communities presented enticing targets for American demographic, political, economic, and cultural expansion (Aron 2006). Such a dynamic need not only apply to massive boundary shifts: the llama caravans of the Altiplano often traverse sparsely populated areas in order to avoid confrontations while grazing their herds (Neilsen 2000). Quite simply: fewer people often can mean less opposition for movement and expansion.

Though lightly occupied areas can allow for rapid expansions in boundaries, large and densely populated areas can be equally enticing. The demographic hubs of southeast Asia were focal points for western political expansion, religious conversion, and the opening of new markets. This being said, such hubs are often so entangled with political, cultural, and economic spheres it would be dubious to say that demography alone is shaping such interactions. In fact, these entanglements between demography and every other boundary type make it quite difficult to describe interactions solely from a demographic perspective: if demography is "anything having to do with people" then any and all human activity fall under this category (Parker 2006: 84). As such, I focus the rest of this sub-section on two demographic processes that, though intertwined with other boundary sets, show relevant examples of the power of people in borderlands: migration and continuity.

Migrations are seen here as demographic movements that settle within, move through, or emigrate out of borderlands and can produce substantial disruptions and changes in economic, political, and cultural boundaries. As we have already seen, many migrations can be forced or spurred forward by political boundaries: polities have been recorded as clearing out indigenous populations and moving in their own subjects, sometimes recently displaced from distant provinces themselves. However, such migration need not be politically forced: American colonization efforts were often encouraged by the federal government but many frontier settlers came on their own accord to find economic opportunity or even escape the watchful eye of the more established

political authorities of the east (Aron 2006). The influx of Muslim migrants into Bengal was organic and not centrally organized by any specific polity, yet was still more than able to clear forests for agriculture, build mosques, and bring a tradition of strong-men as political leaders (Eaton 2006). Such demographic movements are important because it is often the people, not the polity, who bring and enact their own established economic systems, cultural practices, and political traditions.

Migrations, however, are seldom one-dimensional in their composition or unidirectional in their influence: migrating populations can themselves be diverse and the complex interactions between such diverse incoming populations and indigenous groups can have considerable impacts on borderland interactions. During the Middle Horizon (550-950 CE), the Osmore Drainage of Peru featured a complex set of demographic movements involving the in-migration of three different groups associated with two competing polities (Costion and Green 2018). The Omo and Chen Chen came as ethnic groups affiliated with the Tiwanaku polity, bringing with them their pastoral and agriculturalist traditions, respectively (Costion and Green 2018). The Wari brought a unique tradition of chica brewing and a network of exchange routes, while the Huaracane were a local population with distinct ceramic tradition. The intermingling of such a diverse array of groups most often seems to result in very selective and economically or politically motivated exchanges. The Huaracane selectively adopted Wari brewing traditions, consumed Wari obsidian goods, lived spatially close to Wari settlements, and even participated in Wari feasts but are still distinguishable from Wari in ceramic and architectural traditions (Costion and Green 2018). In some cases, the fluidity of a demographic boundary between several groups may result in ethnogenesis: the creation of a new group altogether. Carthaginian colonization of Sardinia led to a blending with indigenous Sardinian peoples that resulted in hybridity and ethnogenesis into a new group that was neither yet both simultaneously (Parker 2006: 86; van Dommelen 1997). Thus, more fluid demographic boundaries can lead to more opportunities and instances for change.

Though frontier studies can often focus on change, continuity can be just as important in shaping boundaries and borderland processes. Representing the static opposite of the more dynamic process of migration, demographic continuity can influence cultural, political, and economic boundaries to be similarly static. Looking at settlement patterns in Mesa Verde region, Varien argued that continuous settlement in and around certain areas of the landscape tied

demography to place, solidified land claims of community members, and even promoted cohesion (Varien 1999). These "persistent communities" proved incredibly resilient, had considerably larger populations, and some even had occupational histories spanning half a millennium (Varien 1999). Thus, continuity in the location of settlements themselves can be seen as a source of power and resistance to change: communities may tie themselves to past landscapes to reinforce their position in the present. On borderlands we may expect this demographic tethering to certain places as a possible mechanism through which communities may resist incoming political regimes or migrations. In fact, I would argue that the imperial practice of upending and resettling particularly troublesome groups is an excellent illustration of the power that can reside in the connection between people and place. Forced resettlement relocates communities onto distant landscapes, making them dependent on imperial power for land access since their newcomer status does not afford them any legitimacy for such claims (Parker 2001). Simultaneously, the settlement continuity that structured land tenure in the homelands of upended communities is fundamentally altered in order to make space for imperial land grabs (Parker 2001). Thus, what I call "demographic tethering" proves to be an important tool through which demography can shape interactions in borderland scenarios.

In sum, demographic boundaries can influence other boundary sets in a variety of ways. The density of demography can prove an important factor that can encourage, dissuade, and shape the nature of boundary expansion. Given they are inhabitable, more lightly occupied areas can encourage movement and porosity. Densely occupied areas provide challenges for demographic movement, as space is often at a premium, but presents opportunities for the expansion of other boundary types. Migrations, politically forced or otherwise, bring diverse arrays of people and practices in contact that can have the effect of radically altering boundaries or result in more targeted exchanges. Generally, the porosity of such migrations and the more interactions occur, the more likely that cultural, economic, and political boundaries between groups will become similarly porous or even result in ethnogenesis. However, this is not always the case, and sometime demographic boundaries can become static and result in few exchanges and thus less chances for other boundary types to overlap. Finally, contrasting with the dynamism of migration, demographic tethering to certain places can provide an avenue through which communities may weather through change and is a common obstacle that some polities address through forced resettlement.

2.3.4 Economic Boundaries and their Interactions

Economic boundaries include a wide variety of different economic activities occurring in borderlands that can essentially be distilled into (1) the process of resource extraction and (2) the exchange of goods from, into, and across borderlands. Resource extraction includes anything from mining of precious metals or minerals to building and maintaining agricultural fields and canals for staple goods. Exchange can have a wide variety of manifestations: goods can be imported into boundary economies, resources could be extracted from boundaries to be consumed or distributed elsewhere, or boundary groups may serve as intermediaries as goods travel across borderlands. Here I focus on how the location and nature of such extractions and exchanges can influence other boundary sets to create unique borderland arrangements.

The location and nature of resource extraction in borderlands can often influence other boundary sets as they develop. In particular, valuable resources can be attractive determinants in settlement patterns and political expansion. Though their European clients lived in and around the nearby fort, the Alutiiq settlers associated with Fort Ross positioned their houses close to their most vital natural resource: The Pacific Ocean (Lightfoot and Martinez 1995). For the Alutiiq hunters, the draw of being as close as possible to marine resources overcame any political gravity towards the fort itself and demographic boundaries were thus shaped by economic interests. Multiple studies of settlement patterns have illustrated that, generally speaking, demographic clustering often maps directly onto agriculturally productive zones in the landscape. Conversely, when groups take advantage of a wider array of resources or mobile resources that may be spread out upon a landscape, settlement can be similarly dispersed and populations mobile. In essence, more fluid economic arrangements can often lead to more fluid demographic boundaries. Resource extraction can frequently be a motivating factor for political involvement in a borderland and shapes political boundaries considerably. The American fur trade drove some of the earlier instances of the United States' westward political expansion as the resource itself was depleted and moved further westward (Aron 2006). Conversely, mining and drilling rights of specific areas are the relatively static flashpoints of constant territorial disputes between sovereign tribes and the federal government. Thus, where resources can be extracted often shapes where political

boundaries appear: mobile or easily depleted resources can lead to more mobile political boundaries while stationary resources result in mores static boundary disputes.

Other boundary sets can also be influenced by the location and nature of exchange from, into, and across borderlands. Existing trade routes across landscapes can often create enticing targets for foreign political expansion or even become a source of local political power itself. Egyptian outposts and settlements along the southern frontier were often explicitly located to take advantage of and control the movement of goods up and down the Nile River (Smith 2005; Smith and Buzon 2018). The Qhapaq Ñan, or Inka Road system, was a collection of older roads and exchange routes that were expanded and controlled by the Inka Empire in order to move goods and people across their vast territory (D'Altroy 2015). Thus, the nature and location of foreign political involvement in a region can often be shaped by existing exchange routes, used to assist in logistics or serve as sources economic gain. For the Osage, their position along exchange routes afforded them considerable political leverage which, as previously discussed, gave them unique positions of power in the face of their larger imperial neighbors (Aron 2006). Thus, whether co-opted by an incoming empire or controlled locally, latching onto exchange routes can then be seen as an excellent political strategy for maintaining a powerful place in a borderland. Although we can see how influential they can be in political boundaries, exchange routes can often operate on planes that evade and frustrate political actors. The illicit exchange of Assyrian prestige goods across the political boundary with the Urartian Empire was a constant irritation to Assyrian elite (Parker 2006). Border kings were even asked to curb such smuggling operations (Parker 2001; 2006). Thus, we can see that the fluidity of economic exchange often operates independent of political boundaries, much to the dismay of imperial tax collectors.

Though not the principal foci of this dissertation, economic boundaries can influence other boundary sets in several relevant ways. The spatial distribution and location of economic boundaries is often echoed by demographic and political boundaries, which themselves synchronize with the resources that people and polities need to survive. Exchange routes can influence political boundaries in a wide variety of ways: acting as targets and tools of both local and foreign political power while just as easily operating outside of political reach.

2.3.5 Cultural Boundaries and their Interactions

Cultural boundaries are the final boundary type to be discussed and "encompass linguistic, religious, and material culture boundaries" (Parker 2006:87). Languages play a key role in group identity and defining cultural boundaries but they are quite difficult to interrogate using solely archaeological data. Accordingly, I sidestep their discussion for more cultural boundary types more accessible to archaeologists. Material culture is vital to archaeological research and, though often problematic, is a key tool in our descriptions of group identity, modeling cultural boundaries, and articulating interactions. Religious boundaries are also archaeologically visible, and have been identified as particularly important element of the expansion of political boundaries.

Archaeologists commonly use material culture as a tool through which to identify differences and similarities between groups of people and how their actions and movements on the landscape may affect borderlands. Material culture is often identified through differences in ceramic styles, architectural traditions, lithic techniques, settlement organizations, burial canons, and so forth. Sometimes this material culture comes in 'packages' that can be considered as belonging to certain cultural groups, overlapping with ethnic identity to the extent where demographic and cultural boundaries could be thought of as being synchronized. In the central Petén lakes region, Rice and Rice were able to identify distinct material culture packages that made up the competing ethnic groups of the Itza and Kowoj (Rice and Rice 2005). The act of "maintaining a conspicuously distinct identity" was a tool of competition, as cultural, demographic, and political boundaries synchronized to be equally restrictive between these two groups (Rice and Rice 2005: 168). However, borderlands also commonly result in blending traditions of material culture that can often co-exist with otherwise impermeable political boundaries. The militarized and fortified Roman border featured a notable blend of material culture from across both sides of the frontier (Wells 2018). As such, the boundaries of material culture can quite easily transcend those of polities, as people move and intermarry to leave behind mixed assemblages reflective of their diverse backgrounds. As alluded in the earlier discussion of demography, it is at these "middle ground" points of interaction that Richard White argued that several distinct cultures can blend into a new culture altogether (1991). Thus, porous cultural

boundaries are areas in which ethnogenesis and the creation of novel forms of material culture thrives while static cultural boundaries leave little room for such interactions.

Very often operating across political, demographic, and economic boundaries, religious boundaries have been shown as incredibly important in laying groundwork for the expansion of other boundaries. Recalling the Muslim pioneers of Bengal, religious missionaries were the driving force behind the taming of the landscape and the movement of the agricultural and demographic frontier to the east (Eaton 2006). Thus, religion can play an important role as the front vanguard that precedes larger shifts in borderlands.

Though often touted as tools of empire, religiously powerful places can also be used to resist change and serve as bastions of local power. The Huarochiri worked hard to integrate their principal ancestor-deity or *huaca*, Pariacaca, as a part of the larger pantheon of the Inka (Hernández Garavito 2019). Through continuing their veneration of Pariacaca, the Huarochiri were able to express the distinctness of their own identity even in the face of political domination (Hernández Garavito 2019). This power associated with religious places also makes them targets for the expansion of political, economic, and demographic boundaries. Oracle centers of the Andes, like Pachacamac or Chavin de Huantar, were often the hubs of long-distance exchange routes that were structured through pilgrimage routes and demographic movements (Burger 1995; Makowski 2015). The oracle and *huaca* of Pachacamac, though conquered by the Inka, was afforded relatively more political autonomy than other conquered areas (Makowski 2015). Thus, powerful religious places illustrate how religious boundaries can transcend other boundary types in ways that make them highly influential in economic and political realms.

In sum, cultural boundaries can be influential in synchronizing and even creating other boundary types. Material culture can be a tool for differentiation between people in borderlands: leading to more static boundaries in which cultural interaction appears minimal. Simultaneously, material cultural can be quite fluid, transcending static political boundaries and even leading to creation of new boundaries through ethnogenesis. Religious boundaries can serve as important forerunners for political expansion, and the porosity or restrictiveness of religious systems themselves can often have a bearing on how such expansion is enacted. Finally, religious places

can be important hubs of local power that encourage the emergence of other boundary sets while also attracting political expansion and domination to co-opt or destroy this power.

2.4 Towards Modeling Borderland Processes in the *Chaupiyungas*

Concluding this overview aimed at classifying different boundary sets and the ways in which they interacted, we can pick out some important themes that may have bearing on the case-study area at hand: the *chaupiyunga*. Here I focus on the three most important boundary sets for the purposes of this dissertation: geographic boundaries, political boundaries, and demographic boundaries. Beginning with geography, it is clear that geographic boundaries can often be influential, though not insurmountable, determinants in how other boundaries develop within a borderland. Everything from the location of a river confluence to the frequency of natural disasters can be drivers for boundary interactions causing synchronization, differentiation, creation, and destruction. Thus, a deep dive into the geographic qualities of the Moche Valley *chaupiyungas* is required to begin to understand the immense effect this boundary could have had on borderland processes in the region. Similarly, the expansion and nature of political boundaries can often bend other boundary sets to the will of powerful people or political entities but the consequences for such changes are not always permanent nor are they straightforward. Thus, a more detailed understanding of the specific political traditions that emerged from and around the Moche Valley chaupiyungas emerges as a necessary element to this borderland study. Though often at the mercy of other boundary sets, the nature and composition of demographic boundaries can disrupt other boundaries through processes of migration and re-settlement but can also promote stability through "tethering" to certain places. Thus, understanding the settlement histories and population movements within the *chaupiyunga* emerge as two essential goals in any borderland study of the region. Armed with these insights we can now explore the particularities of the many boundaries wound within the Moche Valley *chaupiyungas*.

3.0 THE LANDSCAPE: THE GEOGRAPHY OF THE MOCHE VALLEY AND ITS *CHAUPIYUNGA*

3.1 Introduction

The *chaupiyunga* is an area between. With the peaks of the western cordillera on one side and wide river deltas emptying into the Pacific Ocean on the other, the *chaupiyunga*'s positioning alone begs its description as a geographic boundary between the highlands and coast of the Peruvian Andes. In fact, investigating the particularities of the *chaupiyunga* landscape itself is the necessary first step to articulating how geography helped shape it as a borderland. Intermediate positioning in coastal-highland movement and exchange routes, control of river headwaters, and ideal growing conditions for a variety of crops, including *coca*, have all been argued to be elements of geography that made the *chaupiyunga* a valuable landscape in the past (Topic, J. 2013; Boswell 2016). However, some of these same geographic qualities presented treacherous obstacles to any that dared live in the *chaupiyunga*: placing them in a landscape often marred by coastal-highland political competition, increased flood risks, and more limited irrigable land (Mullins 2019; Billman and Huckleberry 2008). Thus, geography should be seen as a double-edged sword: a set of conditions that could mold the lived experience of those inhabiting the *chaupiyunga* landscape into one replete with both opportunity and danger.

This chapter begins with a broad discussion of Andean geography that touches on Andean verticality, some general qualities of the *chaupiyunga*, and a brief treatment of ENSO events. This transitions into a narrative discussion of the geography of the Moche Valley as one moves through the Lower, Middle, and Upper Moche Valley to finally arrive in the adjacent Carabamba and Otuzco Highlands. After this, I use more formal geo-spatial analyses to investigate patterns of topography, movement, vision, mineral wealth, canals, cultivation, water, *coca*, and ENSO-related risks in and around the *chaupiyunga*. The objective of these analyses is to build meaningful and data-driven comparisons between the Moche Valley chaupiyunga and its neighboring regions. Marshalling the results of these analyses, I conclude this chapter with a discussion of how

geography likely shaped, and still shapes, the *chaupiyunga* borderlands of the Upper Moche Valley.

3.2 Geography of the Andes

Generally, the geography of the Andes can be divided into three zones: coastal, highland, and jungle. However, subtle variability within these zones have led to more nuanced models of landscape categorization that are commonly used by geographers and archaeologists alike. Acknowledging this variability, and its effect on indigenous land-use patterns, the Peruvian geographer Javier Pulgar Vidal developed a widely used model that divided the Peruvian Andes into eight regions (Pulgar Vidal 1972). These regions are mainly defined by their climate and elevation; however, their indigenous names reflect the consequences that geography and environment have on how landscapes shape local life-ways and economies. Altitude has a profound effect on defining these zones and creates what is referred to as a 'vertical ecology' of the Andes, in which certain crops, animals, and agricultural methods are usually exploited at certain elevations and, thus, certain regions (Pulgar Vidal 1972; Montoya Zavaleta 2004). As the Upper Moche Valley is situated in the western Andes, only four of Vidal's regions are relevant to discuss for the purposes of this dissertation: the *chala* (0-500 masl), *yunga*/*chaupiyunga* (500-2,300 masl), *quechua* (2,300-3,500 masl), and the *jalca*/*suni* (3,500-4,000 masl).

Bordering the Pacific Ocean, the *chala* is an arid desert region punctuated by river deltas that serve as the main sources of land-based plant and animal life. The Humboldt Current along the coastline brings cold, nutrient-rich water from the Antarctic to create rich fisheries and abundant marine life but also contributes to a rain shadow that leaves the same coastline with little to no precipitation. This absence of precipitation means that the main source of freshwater for terrestrial plant and animal life comes from rivers with headwaters far up into the highlands where precipitation from the east is trapped by the Andes. These rivers can be canalized to open large tracts of former desert into rich agricultural land ideal for growing cotton, squash, maize, and a variety of fruits. The climate is temperate, with minimal seasonal temperature fluctuations, but rivers are heavily reduced or even dry up during the dry winter season of the highlands. Coastal

winters feature dense fog banks that can provide enough moisture in elevated areas like hills or mountains to support unique ecosystems referred to as *lomas*. Thus, life in the *chala* is highly dependent on marine resources and irrigation agriculture but limited by the lack of precipitation and the arid desert landscape that the scarcity of rain produces.

Perched at 2,300 and 4,000 meters above and eastward from the *chala*, the *quechua* and *jalca*/*suni* zones are situated in the Andean highlands where altitude and precipitation create radically different landscapes than the coast below. The *quechua* features seasonal variability in rainfall, with a wet summer rainy season and a dry winter. Due to the altitude, temperature fluctuates with the time of the day and the season with hot summer and daytime temperatures and colder, sometimes freezing, winters and nighttime temperatures. This being said, precipitation allows for naturally occurring grasses, scrubs, and forests in addition to both rain-fed and irrigation agriculture with a variety of crops including potatoes, olluco, maize, squash, and chenopods (Vidal 1972). Many parts of the highland landscape are 'vertically dynamic', meaning that sheer drops in elevation can create slopes on which all but grasses may have difficulty growing. Slope can then be seen as a limiting factor to the agricultural viability of certain parts of the *quechua*, although terracing can often be used to mitigate its effect. Resting above the quechua, the *jalca*/*suni* zone is considerably colder due to elevation. Additionally, fewer plant species are able to grow in the *jalca*/*suni* due to nightly frosts and thinner atmosphere. Most agriculture is from using rainwater or reservoirs to support a mix of tubers and chenopods that are able to survive, although not necessarily thrive, in these harsher conditions. Grasslands provide ideal grazing for camelids, meaning pastoral or agro-pastoral adaptations are popular solutions to exploiting this landscape on a seasonal basis. Thus, life in the highlands of the *quechua* and *jalca*/*suni* zones allows for a variety of food-ways ranging from rain and irrigation agriculture to camelid herding but is limited mainly by colder temperatures and some areas of extreme topography.

3.2.1 The *Chaupiyunga*

Situated between the *quechua* and the *chala* at between 500 and 2,000masl, the *yunga*, or *chaupiyunga*, has an etymology that emphasizes it climate and liminal positioning. The word *yungas* can be translated from Quechua as meaning hot or warm lands and aptly describes the

sunny disposition of the region as defined by Vidal. A more specific term, *chaupiyunga*, is led by the Quechua prefix '*chaupi*' which can be translated as meaning 'between' or 'middle', emphasizing the liminality of the region. Some authors have used *chaupiyunga* to describe the upper yungas bordering the *quechua* and highlands while *yunga* is used to describe the warm lands of the *chala* and coastal plain (Marcus and Silva 1988). In order to avoid confusion, I use *chaupiyunga* to describe Vidal's category of *yunga*, as the word *yunga* has a wider variety of translations and meanings in the historic record (Boswell 2016).

The *chaupiyunga* combines a mixture of the qualities of its neighboring zones to produce a uniquely valuable yet treacherous region. This region is located in the steep river valleys that were cut into the western Andean foothills by the same rivers that eventually empty into the *chala* and the Pacific. Like the *chala*, the *chaupiyunga* is far enough west of the main Andean cordillera to be mostly devoid of rainfall, save a few errant showers that break through during the rainy season in the highlands. These showers provide enough moisture for grasses, desert scrubs, and scattered trees in areas where topography permits, allowing some of the upper parts of the chaupiyunga to be used as pasturage. This being said, rivers and springs are the main source of freshwater necessary for agriculture in *chaupiyunga*, especially in the lower valley floors. Unlike the flat expanse of the *chala*, the *chaupiyungas* are much more 'vertically dynamic' with small, flat, river valleys flanked by steep foothills and mountains. Canalizing the flanks of these valleys can be challenging due to topography, and the resulting fields often require terracing to function effectively. However, if canalized, the location of the chaupiyunga as closer than the chala to river headwaters importantly gave such areas first access to water. Movement to and from the highlands before modern road networks was likely conscribed to long sets of ridges that served as 'bridges' through the canyons and steep river valleys of the *chaupiyunga*. In fact, walking such ridge routes can, in some areas, be more time efficient than the treacherous switchbacks built for modern automobile access. Thus, in a similar way that that *chaupiyunga* is located at a 'bottleneck' for water access, movement between the highlands and coast often has to pass through the *chaupiyunga*. In terms of general geography, the *chaupiyunga* can be seen as a region replete with topographical challenges but gifted with first access to water and key positioning at important ridge routes connecting the *chala* with the highlands above.

Its sunny and temperate climate makes the *chaupiyunga* ideal for growing a dazzling variety of fruits, maize, aji peppers, and, most importantly, *coca*. Due to the right combination of stable temperatures, water availability, and mountain shade, the *chaupiyunga* is the only area where *coca* will truly thrive on the western side of the Andes. The importance of the *coca* plant in the Andes cannot be overstated. In a practical sense, most who have worked in the Andes can see that *coca* is often used as a stimulant and appetite suppressant by farmers while they work in their fields. However, a host of modern ethnographic studies have documented the integral role that coca plays in rituals ranging from these quotidian lives of farmers to larger scale obligations to venerated ancestors and landscape deities (Allen 2002). Such rituals often involve offering coca as part of *pagos*, or payments, to such ancestors and deities and are complex and frequently enacted partially through acknowledging visual connections with such ancestors or deities (Allen 2002). Historical documents corroborate the antiquity of the general importance of *coca* as a ritual medium through which obligations of reciprocity between subjects and lords, ancestors, or deities (Salomon 1991; Rostworkowski de Diez Canseco 1988). Iconographic evidence in depictions on Moche vessels showing *coca*-chewing priests pushes this general importance and use even further back and specifically links *coca* to offerings related to water or rain (Donnan and McClelland 1999:124). Suffice it to say, the antiquity and importance of *coca* use in the Andes is rarely questioned although specific details about ritual or significance may be debated. As the favored area where *coca* can be grown on the western cordillera, the *chaupiyunga* would be expected to play an important role in *coca* cultivation and, possibly, dispersal throughout the western Andes.

3.2.2 ENSO Events

The El Niño Southern Oscillation (ENSO) or El Niño, is a periodic and hazardous reality for life in the Peruvian Andes that causes draught, flooding, and resource short falls from the highlands to the coast. An El Niño is triggered by an increase of surface water temperatures on the Pacific Coast, disrupting the rain shadow caused by the frigid waters of the Humboldt Current. On the coast, warmer waters cause pelagic fish and shellfish species to leave or die off, disrupting the marine food chain and prompting starvation or migrations of other species. Meanwhile, the warmer waters lead to weeks, or sometimes months, of heavy precipitation on the normally arid landscapes of the coast and *chaupiyunga*. Rainwater collects and gains momentum on the steep slopes of the

Andean foothills, causing land- and mud-slides, locally referred to as *huaicos*, that destroy or bury most settlements, fields, and canals in their path. Coastal rivers are engorged by the resulting runoff, doubling or tripling in size to flood or change course and cause further destruction. Insect populations explode as vegetation springs up in formally arid land, causing plagues that consume crops even after the flooding subsides. Meanwhile, the highlands suffer draughts and water shortfalls that lead to failed crops and bare pasturage. Weaker El Niño events are more common, occurring every 2-8.5 years, and are considerably less disruptive with only a few days or a week of light rains (Billman and Huckleberry 2008). More catastrophic events occur every 15-20 years, the most recent being 1982-3, 1998-99, and 2016-17, and result in demographic displacement and turmoil even in modern contexts.

The catastrophic potential of strong El Niño events has understandably led to considerable scholarly debate over how they may have been disruptive for ancient peoples and polities. There is no doubt that prehistoric El Niños would have likely caused some demographic displacement (Moore 1991), and several strong El Niños or periods of more frequent ENSO events have been identified as 'boogeymen' of sorts that are implicated in the collapse of political traditions like the Moche and Tiwanaku (Kolata et al. 2000; Moseley et al. 2008). This being said, the extent to which these events would have disrupted political systems is still poorly understood. If strong El Niños occurred every 15-20 years in prehistory (Billman and Huckleberry 2008) one would expect that indigenous populations of the chaupiyunga and chala would have selected areas with low flood-risk in which to settle. In fact, many of the modern settlements destroyed by the *huaicos* and river overflows of the 2016-17 El Niño in the Moche Valley *chaupiyunga* were newly founded by poor migrant communities that were either not familiar with the severity of such events or were in an economic position that precluded them settling other areas. One may run with this anecdotal evidence to propose that ancient communities inhabiting flood-prone areas could have been immigrants or from lower economic standing as well. An understanding of ancient settlement patterns and flood-prone areas could then theoretically be informative to migrant/poor vs. indigenous/wealthy population dispersal. However, the strength and the amount of sediment deposited by *huaicos* and overflows can easily rip up or deeply bury settlements unfortunate enough to be built in at-risk areas, biasing surface evidence towards those that were founded in safer areas. As such, surface remains can often only tell us of the settlements and political centers

that have more-or-less survived the ENSO events of the intervening centuries or millennia since abandonment.

Outside of demographic displacement, the destructions of fields, insect plagues, and crop failures brought on by El Niños could have had dire consequences for local populations and the political systems that tied them together. Starvation and plague caused by El Niño events may have eroded popular faith in existing political and religious structures, inciting revolution and upheaval (Billman and Huckleberry 2008). The archaeological identification of some ritual practices associated with El Niños may illustrate political strategies that would have worked to quell such uncertainty (Bourget 2001; Prieto et al. 2019). Additionally, economic shortfalls could also be mitigated by storage at the community level or in larger political centers. Recent work in the Chicama Valley has revealed the possibility that several ancient canal systems in the chala were likely built solely to take advantage of the increased water available directly after ENSO events (Caramanica 2018). Thus, ancient peoples and polities were clearly aware of the potential benefits bestowed by ENSO events in the past.

In fact, where some see disaster others may see ideal opportunities to strengthen political ties through gift-giving and exchange. El Niños could have been excellent opportunities for political expansion, integration, and consolidation: chances to prove the advantages of certain political traditions over others and strengthen relationships of authority and reciprocity. My own experience of the 2017 El Niño was rife with examples of this from local to federal politics. Local municipalities and police forces strengthened community ties by providing aid, while federal aid served a similar purpose of broader country-wide re-assurance. In areas where no help was provided, local community members instead helped themselves: eroding their faith in larger political networks and undermining such networks with their own self-sufficiency. In conclusion, the effects of ENSO events on ancient peoples and polities could be best described as a mixed bag, as catastrophe and opportunity appear to easily go hand-in-hand during such events. What is clear is that these events were a persistent element of life in the *chala* and *chaupiyunga* alike, and thus their effects should be considered in any landscape study of the regions.

3.3 Geography of the Moche Valley

There are few better ways to begin to understand a landscape than walking through it. Every December in the Moche Valley, hundreds of *peregrino/as*, or pilgrims, walk from the coastal city of Trujillo to the highland town of Otuzco to celebrate and pay homage to the Virgen de la Puerta. The local legend behind this trek, and the Marian devotion for which it is named, lies in the early colonial era sometime during the mid-17th century. One year, news reached Trujillo of pirates that had raided the northern cities of Guayaquil and Zaña and their surrounding countryside. These raids could possibly refer to those conducted by the pirate "Eduardo David" who sacked Guayaquil, Pisco, Paita, and Zaña between 1685-1687 (Lynch 1973:64). At the time, the assumed trajectory of these attacks would have placed the fortified town of Trujillo as an obvious next target. As nearby communities braced for an attack, the highland town of Otuzco, some 80 kilometers up-valley, erected a statue of the Virgin Mary at its entrance as a symbol of devotion and a plea to the divine to fend off the marauders. The pirates never came, skipping over Trujillo on their rampage southward. Many attributed this to protection provided by the divine, whose power was embodied in the Virgin Mary as she stood her vigil at the gates of Otuzco. In the intervening centuries, a tradition emerged in which people from surrounding communities walked from afar to arrive in Otuzco and pay homage to the Virgin de la Puerta. The journey itself is seen as an act of devotion, and some of the more devout *peregrino/as* carry depictions of the Virgen, or even crosses, as they walk to Otuzco, many coming from the coast. Upon arriving in Otuzco at 2600masl, devotees are greeted not only by the Virgen herself but also by days of festivities in which dancers and processions line the streets of the small highland town. Following the steps of the *peregrino/as* leaving Trujillo, my discussion of the geography of the Moche Valley begins with this 20-hour trek from the coast to the highlands. This is a journey that can illuminate some of the particularities of the geography, settlement, and natural resources found in the region while also highlighting important landmarks as one moves up the valley.

Figure 3.1 The Lower Moche Valley

3.3.1 The Lower Moche Valley (~ 0 – 200 masl)

The *chala* of the Moche Valley, like most other coastal valleys, is characterized by a wide cultivated river delta with deserts to the north and south, while beaches and periodic bluffs define the coastline (Figure 3.1). The Moche Valley coastline has two small bays: one at Huanchaco to the north and one at Salaverry to the south. The Pacific Ocean provides rich fisheries to those with the means to venture into the frigid water. The waters off the coast and deeper into the Pacific are currently fished both by local fishermen communities and a few larger industrial operations. If one lacks ocean-craft, the coastline is somewhat more accessible: in knee-deep water one can easily harvest octopi and a variety of shellfish, including the bean clams (*donax peruvianus*) prolifically found in the middens of many coastal archaeological sites. Between the beach and the bluffs, sunken fields are used to tap into fresh groundwater as it floats above the denser saltwater, supporting some small gardens but mostly stands of *totora* reeds. These reeds can be used for thatch but are more famously used to build the local, and ancestral, fishing vessels called *caballitos del totora*.

The landscape as one moves past the bluffs and into the delta is extremely flat with wide expanses of agricultural fields divided by the Moche River. This part of the *chala* up to the foothills of the Andes is often referred to as the Lower Valley. The valley floor sits just above sea level and,

with an average slope of less than 1%, the views are quite wide. Vistas are only punctuated by a handful of mountains, smaller hills, modern settlements, and the occasional adobe mound that poke above the vast fields of sugarcane. Modern settlement is mostly focused in several large towns that blend into the wide urban sprawl of the city of Trujillo. This being said, smaller towns and isolated residences or compounds can be found along the main highways. Modern fields of sugarcane are fed by an intricate network of canals, many of which have clear prehistoric corollaries or, in some cases, appear built atop ancient canals. Sugarcane was a Spanish introduction and most of the fields in the Lower Valley now are owned by large corporations. These fields are industrially farmed but nonetheless rely on day laborers from surrounding rural communities for some of the stages of the harvest. In prehistory, maize was likely the dominant crop in the Moche Valley and would have no doubt dominated the landscape much as sugarcane does today. However, recent work has illustrated maize likely shared the landscape with a far broader mosaic of legumes, peppers, squash, cotton, arboreal fruits, and possibly even some weedy pasturage (Bardolph 2019; Billman et al. 2020). Feeding the canals that feed the fields, the Moche River itself is relatively tame and usually fordable in the Lower Valley. This is especially true in the dry winter when one can swim, or even walk, through it with relative ease.

Looking up from the fields and river, several mountains define the landscape. The lone mountain of Co. Campana stands vigil at around 900masl above the desert to the north. This peak dominates the vista if one looks towards the neighboring Chicama Valley and overlooks the modern and ancient roads that connect the valleys. To the south, Co. Chiputur sits at over 1000masl but is further inland and blends into a larger cluster of mountains and ridges that connect the Moche and Virú Valleys. Both Co. Chiputur and Co. Campana support thriving *lomas* ecosystems fed water by the dense fog that often blankets much of the Lower Valley until midday. On a clear day, the two formidable peaks are dwarfed by the looming face of the Carabamba Plateau in the distance. This enormous feature lies 40 kilometers away and over 3 kilometers up, deep in the highlands to the east. Just below Co. Chiputur and adjacent to the current path of the Moche River, the small mountain of Co. Blanco sits much lower at a little under 400masl. Though small, this mountain is visibly unique, with a distinctly darker band of andesite that contrasts the lighter color of the rest of the mountain and the sand dunes that encroach upon it. No more than two kilometers up-valley from Co. Blanco but also beneath Co. Chiputur, the 200masl small ridge of Co. Arena

sits in a similar position adjacent to the Moche River. As the name implies, Co. Arena is almost completely covered by sand dunes, but is far less striking a landscape feature as Co. Blanco.

At the edge of the Lower Valley and about 4 hours on foot inland (20km), the delta narrows as the valley floor slowly rises to around 200masl. By this point, agricultural land has visibly begun to diminish and is increasingly bracketed by the Andean foothills. The southern 450masl peak of Co. Oreja stands apart from the surrounding foothills, jutting out 250 meters above the valley floor within a stone's throw from the Moche River. To the north, the lower peak of Co. Galindo sits at around 400masl as one end of a massive ridge network that eventually joins the Moche and Chicama Valleys. These two peaks stand as the "gates" that mark the east-most edge of the wide delta of the Lower Valley and the *chala* proper. Towering above Co. Oreja to the south at 1400masl, the twin peak of Co. Santo Domingo is one of the most prominent landscape features of the Moche Valley. In my experience it can be seen from most high places in the chala, chaupiyunga, and even from the southwestern edge of the Carabamba Plateau above. Radiating from Co. Santo Domingo, a series of tall peaks continue south to join the same mountain chain as Co. Chiputur. When viewed from the valley floor, these peaks appear to take the profile of a lying figure, a feature that has bestowed them the local name of Co. Los Momias (the official name is Co. Colorados).

Figure 3.2 The Middle Moche Valley

3.3.2 The Middle Moche Valley (~200 – 350 masl)

Beyond the "gates" of Co. Oreja and Co. Galindo lies the Middle Valley: an area which is seemingly both *chala* and *chaupiyunga* (Figure 3.2). It is past this point in the Moche Valley that the valley itself is often called the Santa Catalina Valley by locals. I mainly use "Moche Valley" in reference to the entire drainage just because the naming convention has not caught on with many Andeanists and they are the only people who will read this. However, I would argue that any area past the "gates" of the Moche Valley should be called the Santa Catalina Valley in the future since that is what the folks that liver there call it. At between 200 and 350masl, the valley floor of the Middle Valley seems a bit low to be considered *chaupiyunga* but has many of the qualities that would help categorize it as such. The average slope of the Middle Valley floor is still quite flat but is a bit higher than the Lower Valley, averaging at just under 2%. However, the landscape itself is a bit more *chaupiyunga* than *chala*: the valley floor is constricted to only 1 to 2 kilometers wide and is flanked by far more mountainous terrain. Modern settlement is mainly focused in the large town of Bello Horizonte, but a handful of smaller towns, hamlets, and farmsteads are commonly found along the highway to Otuzco or above cultivated land. In terms of cultivation, the vast majority of the fields are still sugarcane, but smaller plots are commonly found on the fringes. In these smaller fields, local landowners grow a wide array of fruits, vegetables, and occasionally even *coca*, that are harvested and then sold in the markets of Trujillo. The mountains that flank the Middle Valley are quite arid, very similar to the desert slopes of the Lower Valley *chala* but notably lacking in any substantial *lomas* ecosystems. These hills are also far too arid to support pasturage at any point in the year but still are home to a limited array of desert flora and fauna.

Since mountains, ridges, and dry quebradas dominate the vistas in the Middle Valley, only a few landscape features stand out from the rugged landscape. To the east, the lone mountain of Co. Leon sits a little more than 200 meters above the valley floor (400masl) emerging between two massive dry quebradas. The northern quebrada, Quebrada los Chinos – Leon, continues east but abruptly turns north to eventually lead to the Upper Moche Valley *chaupiyunga*. Along this quebrada is the *carretera antiguo*, the old road, that was used to get to the Upper Valley and Otuzco highlands before the modern paved highway was installed. The southern quebrada, Quebrada Alto de Guitarras, leads deep into the arid mountain landscape to the east on a path that eventually leads

to the Virú Valley. Across the valley from Co. Leon, the peak of Co. La Compañía towers at twice the height, 400 meters above the valley floor (600masl). This peak is one of several of the same name that eventually connect with the same ridge network of which Co. Galindo is also a part. Just up-valley and below Co. Compañía, the large dry quebrada of Quebrada La Portada leads deep into the northern mountain ranges that separate the Chicama and Moche Valleys but, to my knowledge, does not provide an easy passage north.

Two hours inland from the "gates" of the Middle Valley and at about 350masl lies the next major landmark: the final confluence. It is here that the Moche River is joined with the La Cuesta River, and the landscape begins its transformation into the chaupiyunga proper. Three mountains with peaks of similar elevations (~700masl) bracket and define the landscape of this confluence. The twin peaked mountain of Co. Jesus Maria stands closest to the confluence itself and its steep slopes make it an unavoidable landmark for anyone traveling through the area. Across the river and to the north, the peak of Co. Katuay stands at a similar height as Co. Jesus Maria but appears somewhat shorter as it is part of a larger ridge set leading northwest. Just below Co. Katuay is the dry riverbed of Quebrada de Katuay that leads deep into the mountains between the Moche and Chicama Valleys. Unlike Quebrada La Portada, this quebrada provides somewhat easier passage to the Chicama Valley and the route passes by the *bosque seca*, or dry forest, of Avendaño. Though running water is scarcely found that deep in the desert mountains, the Avendaño forest supports a wide variety of plants and animals, possibly even the elusive Andean spectacled bear (*Tremarctos ornatus*). Finally, on the opposite side of the confluence, and sandwiched between the Moche and La Cuesta Rivers, is Co. Pedregal. This mountain sits at the end of a long ridge that eventually leads to the Otuzco highlands and provides relatively easy passage between the Upper Moche and La Cuesta *chaupiyungas*. Co. Pedregal is also distinctive due to a large boulder field on a slope of its southwest side, a feature that is only visible if one is approaching the mountain from the coast.

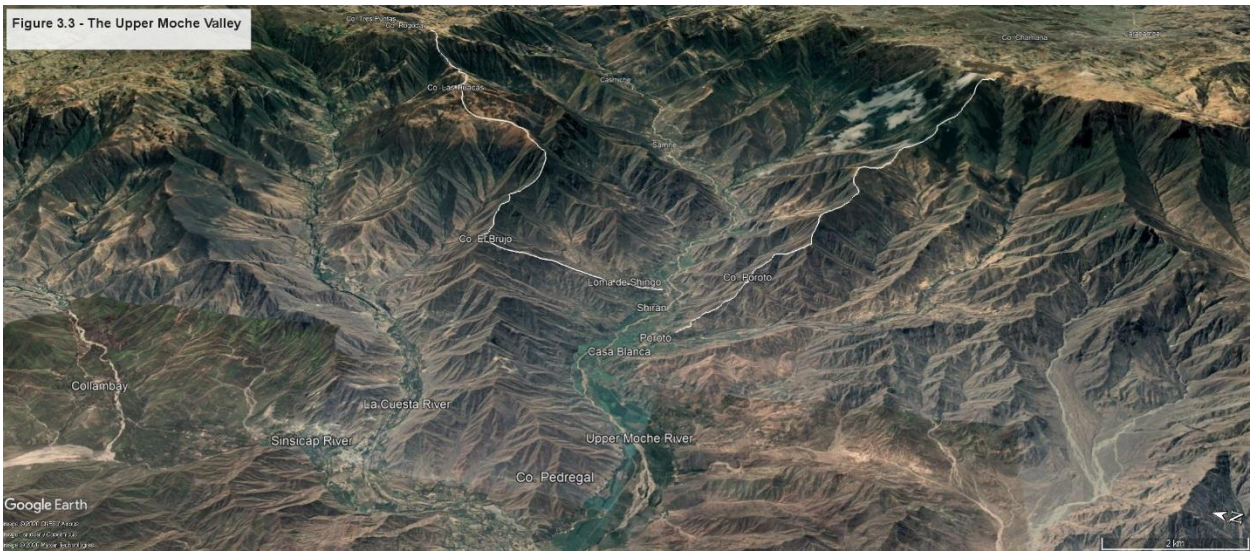


Figure 3.3 The Upper Moche Valley

The Co. El Brujo Path can be seen to the North while the Co. Poroto path can be seen to the South

3.3.3 The Upper Moche Valley (~350 – 2000 masl)

Beyond the confluence lies the formal *chaupiyunga* of the Moche Valley, an area also referred to as the Upper Valley (Figure 3.3). There are three main tributaries that feed the Moche River: the La Cuesta River, the Sinsicap River, and the Upper Moche River. Of these, only the Upper Moche River consistently flows year-round, with the other two often being dry riverbeds during the winter months. These three rivers have their own respective valleys and, as it is the subject of this dissertation, here I focus on the journey through the Upper Moche Valley. Modern settlement in the Upper Moche Valley is somewhat aggregated in several small towns but is also relatively dispersed among a handful of hamlets and isolated farmsteads located along main roads and above fields. The valley floor itself slowly disappears as one moves up the river and towards the highlands, shrinking from about a kilometer wide at the confluence to less than half of that after only a 6-hour walk up-valley to the small *chaupiyunga* town of Samne (1400masl). In fact, after one passes Samne, cultivated land and any trace of a valley floor is scarce. Another hour further and the minimal fields of the final *chaupiyunga* settlement of Casmiche (1900masl) are almost entirely built into the surrounding slopes. With the shrinking valley floor also comes a rapid rise in elevation: the slope doubles to over 5% during the walk to Samne. Thus, a traveler walking along the valley floor will consistently find themselves at or above the same elevation of peaks

that would have towered above only an hour or two before. This grade only increases as one gets closer to the Otuzco and Carabamba highlands above, and is obviously much steeper if one ventures away from traveling besides the river.

Unlike the Middle Moche Valley, cultivation in the Upper Moche Valley is not restricted to the valley floor. High canals feed fields situated on steep slopes that are often terraced, but the continued lack of sufficient rain precludes any non-irrigated agriculture. A transition does occur in what is cultivated on the valley floor as one moves up-valley: at between 700 to 1000masl large fields of sugarcane give way to mixed fields of maize, yuca, and legumes. Like in the Middle Valley, this more mixed array of cultigens is common throughout the Upper Valley in the higher fields above the valley floor, fields that are mostly owned by local families. At lower elevations (~350-700masl) around the largest chaupiyunga town of Poroto, the main crop grown in the hillside fields above the sugarcane is pineapple. Many of my neighbors in the small hamlet of Casa Blanca, just outside of Poroto, would work in the sugarcane fields on the valley floor but also tended locally owned pineapple fields in the hills above. A common feature among, and more often directly above, these fields were small field houses or camps. Those that I encountered during my 2017 survey ranged from simple woven mat structures to tiny brick-and-mortar huts. On the off chance that I would run into a farmer nearby, I found they were most often using these houses as daytime shelters or places to leave tools during multi-day harvests. Given that fields can be a hike of several hours from a farmer's home, erecting these structures is a simple solution to not having to spend hours walking between field and house for lunch. Though *coca* is grown in larger quantities near the *chaupiyunga* town of Collambay in the Sinsicap Valley, *coca* cultivation in the Upper Moche Valley is far less organized and mostly found in smaller scale gardens rather than formal fields. This being said, local *coca* is sold on the highway to and from Otuzco and in some of the *bodegas* around the road.

Above the high fields is area referred to as *monte*, a mixture of desert and semi-arid scrubland fed by the inconsistent and light rains that occasionally grace the *chaupiyunga* hills. The motley assortment of brush and occasional tree found among the *chaupiyunga* hills support a variety of insects, rodents, snakes, birds of prey, foxes, and, more rarely, deer. The *monte* also provides limited grazing for herds of sheep, goats, and cows belonging to locals and those brought down from the Carabamba and Otuzco highlands above on a seasonal basis. While surveying in

the hills above Poroto, I occasionally would come across *chaupiyunganos* (sometimes even neighbors) that were clearly using the *monte* and vegetation above high canals as pasturage for their family goats and burros. This was obviously more common after the 2017 ENSO rains turned the normally sparser *monte* of these hills into verdant grasslands rich with pasturage. It is also not uncommon to find cleared areas with animal droppings, discarded water bottles, and canned food during any hike through the hills of the *chaupiyunga*. At least some of these were likely traces of the use of the *monte* as pasturage, though the weekend looting treks of *huaqueros* also result in similar modern artifact assemblages.

As the elevation rapidly increases, the winding river is flanked by mountains that impede any wide views of the surrounding landscape. Thus, few landscape features stand out during the trek through the Upper Valley along the modern road. Looking back at the confluence, the mountain of Co. Jesus Maria is highly visible for the first few hours but disappears quickly behind the foothills of the Otuzco and Carabamba Highlands. This being said, if one takes other routes that follow the high ridges that stretch from the *chaupiyunga* into the Otuzco and Carabamba Highlands, the views are spectacular and include many of the higher features previously mentioned in the Middle and Lower Valley.

Two such paths are sparingly used today but likely saw more frequent use in the past: the Co. Poroto path and the Co. El Brujo path. The Co. Poroto path begins at the town of Poroto and runs about 15km southeast up a long ridge with an altitude gain of nearly 3000 meters. A traveler eventually finds themselves at the eastern edge of the Carabamba Plateau looking up at the dispersed peaks of Co. Chamana and rock forest that borders them. The Co. El Brujo path begins across the river at the town of Shiran and runs about 4km north up a long ridge named Loma del Shingo to the peak of Co. El Brujo at 1600masl. This peak is technically named Co. California in official documents but locals often call it either Co. El Brujo or Co. Las Cabras. After this, one follows an even longer ridge, through the conspicuously named Co. Las Huacas, about 13km in length and another 2000 meters up. A traveler on this path ultimately arrives at the western edge of the Otuzco Highlands and is greeted by the peaks of Co. Rogoday and Co. Tres Puntas. These are only two of many paths that follow the handful of ridges that radiate from the Carabamba and Otuzco highlands. However, they are particularly relevant to this dissertation in that they are the only two located in the survey zone. It is important to note that both of these routes are considerably

longer than those that one could take further up-valley and thus are less than ideal if the goal is simply to reach the highlands from the *chaupiyunga* or vis-a-versa. The Co. El Brujo route is particularly treacherous and seems a poor route to take to the Otuzco Highlands, unless a traveler intentionally wants to pass through Co. Las Huacas or by the La Cuesta Valley *chaupiyungas*.

Figure 3.4 The Otuzco and Carabamba Highlands

3.3.4 The Otuzco and Carabamba Highlands (~2000 – 4300 masl)

Past Casmiche lie the highlands and another 8-hour trek rewards our weary *peregrino/a* with a well-deserved arrival to the town of Otuzco (Figure 3.4). Just to the south of the Otuzco Highlands and across a deep ravine cut into the Andes by the upper reaches of the Moche River, the Carabamba Highlands are the other main highland region bordering the Moche Valley. Both of these regions solidly align with the general *quechua* zone, though there are some limited *jalca*/*suni* areas that emerge at higher elevations. Modern highland settlement is focused in two large towns that are the demographic centers of each highland region discussed here: Carabamba and Otuzco. Outside of these larger settlements are a wide dispersal of smaller towns and farmsteads that dot the landscape. This wide dispersal of demography is starkly different from the valley-focused settlement patterns characteristic in the Lower, Middle, and Upper Valley areas. Such dispersal is enabled by one simple environmental difference: seasonal rains. Seasonal precipitation means that vegetation is ubiquitous and the highland hills support everything from

patches of forest to wide grasslands. Rain-fed fields are common features of the highlands and are used to grow a variety of highland crops including maize, chenopods, grains, and tubers. This being said, purely rain-fed fields can only be supported in the wet summer months. In many areas, large reservoirs are constructed in order to store rainwater and feed canal systems to support smaller crops during dry winters or times of drought. Canals are also used year-round to feed fields along the small river valleys that punctuate the hilly landscape. Though obviously limited by season, the result of consistent rains is that settlement can disperse quite widely to take advantage of the wider dispersal of farmland and pasturage.

These highland regions are far more similar to each other than the *chaupiyungas* and *chala* below, but differences do exist between the landscapes of the Otuzco and Carabamba Highlands. The Carabamba Highlands are mainly defined by the titanic landscape feature upon which they sit: the Carabamba Plateau. This large plateau juts out into the inter-valley landscape between the Moche and Virú Valleys and, at around 35km as the crow flies, is actually closer to the Pacific Ocean than any other highland region in Peru. At the edges of this plateau are a series of ridges that cut through enormous cliff faces that often have harrowing drops of hundreds of meters. The previously described Co. Poroto ridge is one of such ridges. Inside the plateau is a slightly concave and hilly landscape that somewhat resembles a bowl: with higher hills at around 3500masl lining the plateau edge and wider flatlands at around 3000masl in the middle. This produces an effect in which cold air sinks to the base of the "bowl" to create comparatively colder temperatures in the center of the plateau (Haley 1979). Interestingly, this means that the flat and lower land at the center of the Carabamba Plateau is more often used as pasturage since nightly freezes make more substantial cultivation too difficult. This essentially makes the lower parts of the Carabamba Plateau a *jalca*/*suni* zone even though they lie a kilometer lower than would be typical of other *jalca*/*suni* zones. On the Carabamba's northern edge is the one landscape feature that is visible from most parts of the plateau: the 4100masl peak of Co. Quinga. The Otuzco Highlands are a bit more typical of the northern Andean highlands and are composed of a series of short river valleys carved into rolling hills. These rolling hills mostly sit at between 3000 and 3500masl but a few higher areas do poke out at over 4000masl. One such area, the 4300masl peak of Co. Urpillao, towers above the lower peaks of Co. Rogoday and Co. Tres Puntas while overlooking the east-most edge of the Co. El Brujo ridge route. The area surrounding Co. Urpillao is one of the few *jalca*/*suni* areas in the Otuzco Highlands, which are more-or-less dominated by *quechua*.

3.3.5 Insights from the Journey

What can this 20-hour trek tell us about some of the particularities of the Moche Valley that warrant further investigation? First, the topography of the regions within and adjacent to the Moche Valley are vastly different and these differences, in part, create unique landscapes. The wide flat land in the *chala* narrows into a valley floor that is bracketed by hills in the *chaupiyunga* and eventually gives way to rolling hills in the *quechua*. As the *chaupiyunga* is surely the 'area between' in this dynamic, a more detailed investigation of topography may help better articulate this point. Following a path itself, this journey passed by a number of paths and routes that connected parts of the Moche Valley with adjacent valleys and highland areas. Thus, movement seems another important element to articulate in regards to the 'betweeness' the *chaupiyunga* may enjoy. Vision of features like mountain peaks, quebradas, and the river itself guided much of the journey and thus visibility emerges as another element of the landscape to investigate further. At the beginning of this journey, we could easily have spotted a *huanchaquero* hunting octopus on the Pacific Coast. By the end of the journey, we could have run across a shepherd guiding goats around the hills of Co. Urpillao. The availability and quantity of natural resources can guide many aspects of human behavior and the differences between the resources available in the regions discussed seems another key element of the landscape to articulate in more detail. Equipped with these guiding lines of inquiry, in addition to those raised regarding ENSO events in the previous section, we can then conduct a more thorough investigation of the geography of the Moche Valley and its *chaupiyunga*.

3.4 Topography

As was clear in the last section, topography noticeably changes depending on what region you are in. Outside of the more anecdotal descriptions that preceded this section, in what more data-focused ways can such differences in topography can be articulated? More specifically: what can such differences tell us about the ways in which the *chaupiyunga* can be considered an inherent geographic boundary between the highlands and coast? One common tool used to classify the landscape in order to understand geography is a Topographic Position Index or TPI. TPIs can be

built to model relative changes in elevation and slope and then combined in order to classify the landscape topography into meaningful zones (e.g., cliffs, hills, mountain tops, valley floors, etc.). Building such classificatory schemes for the regions under investigation in a necessary first step to understanding the fundamental differences in topography between the Lower Moche Valley, Middle Moche Valley, Upper Moche Valley, Carabamba Highlands, and Otuzco Highlands.

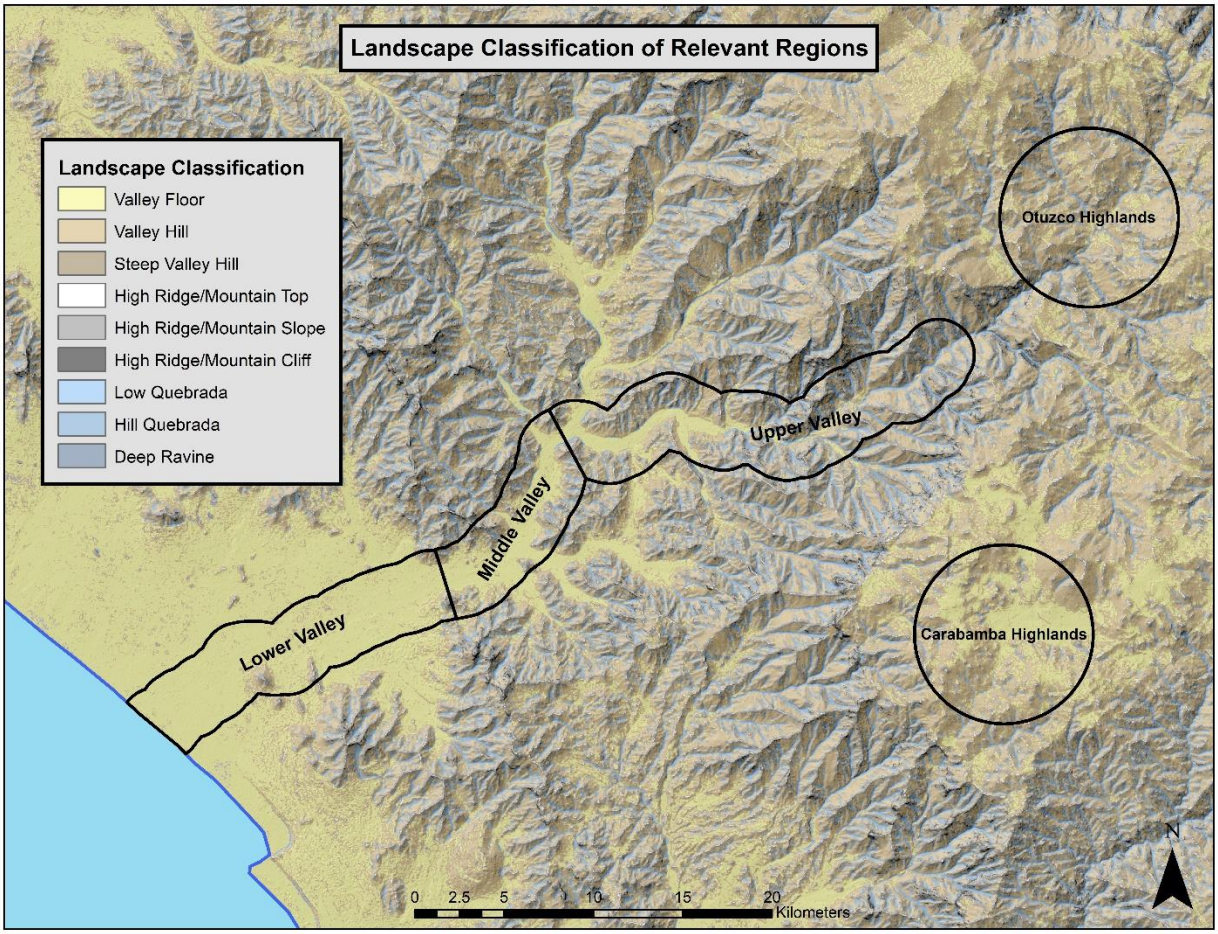


Figure 3.5 Landscape Classification of Relevant Regions

3.4.1 Classifying the Landscape

Elsewhere I have outlined a classificatory scheme specifically for the Middle and Upper Valley (Mullins 2016:351-352), but in order to include the Lower Valley, Carabamba Highlands, and Otuzco Highlands, a somewhat new one had to be developed to allow for broader comparisons. The main difference was in the size of the starting raster: for these analyses I used a 110km-by-

110km square that included the Moche, Chicama, and Virú Valleys in addition to the Otuzco and Carabamba Highlands. The inclusion of these neighboring valleys was mainly because the same parent raster file was used for later analyses of movement that included the Virú and Chicama Valleys. The resulting landscape classification is necessarily coarse and meant for broader regional comparisons, and a specially tailored one was developed for later analyses focused on the specific study region. Similar to my previous elevation TPI (eTPI), I found that a 250m catchment provided the resolution desired when applied to the 30m raster cells of the Digital Elevation Model (DEM) that was at my disposal. Beginning with relative elevation, cells were classified as being above, below, or within one standard deviation of the mean cell value within each 250m catchment (Mean = .00004masl, σ = 18.8 meters). The result was a raster of the eTPI that classified elevation change into three categories: relatively little change in elevation, relative increase in elevation, and relative decrease in elevation. Following this, the slope TPI (sTPI) was calculated from average slope per 30m raster cell which was then classified as being less than 10°, between 10° and 45°, and higher than 45°. The result was a raster of the sTPI that classified relative slope into three categories: relatively flat, moderately steep, and exceptionally steep. The eTPI and sTPI were then combined to classify the landscape into categories that were seen as having meaningful correlates in topography (Table 3.1).

Using this classificatory scheme, the next step was sampling the different regions discussed in the previous section in order to begin to make comparisons (Figure 3.5). The three sections of the Moche Valley proved relatively simple: the Moche River itself served as an excellent guiding line through which to extract my sample. Most modern, and ancient, settlement in the Middle and Upper Moche Valley is located within 2km of the river, so this seemed like a logical starting point. Although this catchment does not capture the extent of modern and prehistoric landscape use in the Lower Valley, the flat *chala* landscape doesn't considerably vary in terms of topography as one moves away from the river. Thus, I concluded that a 2km buffer more-or-less accurately captures the Lower Valley landscape. The Otuzco and Carabamba Highlands were a bit more difficult because they lacked a central defining line like the Moche River to use as a guide. In its stead, I chose the modern towns of Otuzco and Carabamba because they are the central hubs of demography in either region. A 5km buffer was chosen around both of these towns and was considered to be a relatively good representation of the surrounding highland landscape. In order to then allow for meaningful comparisons between these regions, each region was standardized by

the total cells recorded in each sample. The resulting tables show proportions of each landscape category by region (Table 3.2).

Before going into my discussion of the *chaupiyungas*, it is important to briefly confront the odd results that came from the sample of the Carabamba Highland landscape. When compared to the Otuzco Highlands, the Carabamba Highlands look somewhat different: though a large proportion of the landscape is predictably "hilly" there is far more "flat" land. Recalling that the Carabamba Highlands are located on a large plateau with a relatively flat bowl-like center, this is the most likely explanation for these results. However interesting, the exceptional nature of the Carabamba Plateau makes it difficult to compare with the other regions discussed and it is thus left out of the rest of the discussion of topography.

Table 3.1 Landscape Classification Criterion and Descriptions

Landscape Class	eTPI (mean TPI/σ)	sTPI (degrees°)	Description
Valley Floor or Flat Area	-1 < eTPI < 1	sTPI < 10°	Relatively flat area within an area of relatively little change in elevation
Hill Slopes	-1 < eTPI < 1	10°< sTPI < 45°	Moderately steep area within an area of relatively little change in elevation
Hill Cliffs	-1 < eTPI < 1	sTPI > 45°	Exceptionally steep area within an area with little change in elevation
High Ridge, Mountain, or Hill Top	eTPI > 1	sTPI < 10°	Relatively flat area within an area that is relatively higher in elevation
High Ridge, Mountain, or Hill Slopes	eTPI > 1	10°< sTPI < 45°	Moderately steep area within an area that is relatively higher in elevation
High Ridge, Mountain, or Hill Cliff	eTPI > 1	sTPI > 45°	Exceptionally steep area within an area that is relatively higher in elevation
Quebrada Bottom	eTPI < -1	sTPI < 10°	Relatively flat area within an area that is relatively lower in elevation
Steep Quebrada	eTPI < -1	10°< sTPI < 45°	Moderately steep area within an area that is relatively lower in elevation
Ravine Cliffs	eTPI < -1	sTPI > 45°	Exceptionally steep area within an area that is relatively lower in elevation

Table 3.2 Landscape Classification Results by Region

	Total Area (HA)	Proportions

Landscape Zone	Lower Valley	Middle Valley	Upper Valley	Otuzco Highlands	Carabamba Highlands	Lower Valley	Middle Valley	Upper Valley	Otuzco Highlands	Carabamba Highlands
Valley Floor or Flat Area	7029	2767	1578	666	2805	86.0%	47.3%	14.3%	8.5%	35.7%
Hill Slopes	930	1957	4930	5218	4312	11.4%	33.4%	44.7%	66.4%	54.9%
Hill Cliffs	6	17	169	24	0	0.1%	0.3%	1.5%	0.3%	0.0%
High Ridge, Mountain, or Hill Top	16	39	83	123	91	0.2%	0.7%	0.8%	1.6%	1.2%
High Ridge, Mountain, or Hill Slopes	117	552	2058	835	304	1.4%	9.4%	18.7%	10.6%	3.9%
High Ridge, Mountain, or Hill Cliff	7	14	70	5	0	0.1%	0.2%	0.6%	0.1%	0.0%
Quebrada Bottom	16	85	228	153	90	0.2%	1.5%	2.1%	2.0%	1.1%
Steep Quebrada	54	420	1843	821	252	0.7%	7.2%	16.7%	10.5%	3.2%
Ravine Cliffs	0	3	60	7	0	0.0%	0.1%	0.5%	0.1%	0.0%
ALL	8176	5854	11020	7854	7854	100.0%	100.0%	100.0%	100.0%	100.0%

3.4.2 Differences in Topography

Comparisons between the main regions of focus show that the Upper Moche Valley chaupiyunga may be relatively easily categorized as a geographic boundary in terms of its topography. If one follows the Lower Valley up to the Otuzco Highlands, it is clear that the general trend is that the landscape transitions from one dominated by "Valley Floor or Flat Areas" to one dominated by "Hillslopes". This is not remotely surprising: any casual observer would no doubt describe the Lower Valley landscape as "flat" and the Otuzco Highlands landscape as "hilly". The Middle and Upper Valley, as *chaupiyungas*, predictably sit between the Lower Valley and Otuzco Highlands with respect to this general trend towards more hilly landscapes as one moves up-valley.

Thus, from these analyses alone it is clear that the chaupiyungas are geographic 'areas between' as they are positioned at the transition between two fundamentally different landscapes. In simpler terms: the chaupiyungas are less hilly than the quechua but hillier than the chala. As previously mentioned, this is not a surprising finding and is merely a data-driven confirmation of a point that is rather intuitive.

A closer look at the Middle Valley and Upper Valley does illustrate a moderately less intuitive point: these *chaupiyunga* regions themselves are somewhat different. A little less than 50% of the Middle Valley is considered "flat" (sTPI < 10°) while almost 80% of the Upper Valley can be considered "moderately steep" (10° < sTPI < 45°). The dynamic that emerges is one in which the Middle Valley is a bit more like the Lower Valley (which is almost 90% "flat" land) while the Upper Valley is much more like the Otuzco Highlands (which is almost 90% "moderately steep" land). Why is this dynamic relevant to understanding the chaupiyunga as a geographic boundary? It shows that, though they both occupy 'areas between', not all *chaupiyungas* are created equal. Some have landscapes far more similar to the *chala* while others appear much more akin to the *quechua*. The Moche Valley has both.

3.5 Movement

Recalling the trek from coast to highlands, the *chaupiyunga* is conveniently located in the middle of at least one route between these regions. But in what other ways could movement have been funneled through the *chaupiyunga* landscape of the Moche Valley in particular? Were there specific areas that could have been "cross-roads" for multiple corridors of movement? In what cases could the Upper Moche *chaupiyunga* be circumvented altogether? Answering these questions is somewhat challenging because movement itself is notoriously difficult to model. However, a few exploratory analyses can be used to get a vague idea of how movement may have been channeled through the Moche Valley *chaupiyunga*.

3.5.1 Least-cost Paths

The most straightforward method used to model human movement is to calculate a least-cost path route. Delineating such a route begins by identifying a starting point and choosing a way to assign some manner of cost (e.g., minutes) to the action of traversing a certain grade of slope. You then apply this cost to raster cells radiating from the starting point to build a raster that represents the aggregative cost associated with moving from the starting point to anywhere else within the raster. Finding the quickest route from the starting point to somewhere else is then as simple as highlighting the line of raster cells that can be linked together to result in the least aggregative cost. Though costs are based on actual human movement, like the widely cited Tobler hiking function, the resulting paths must be approached with caution.

Humans generally follow paths that offer the least resistance but a number of other factors shape human decision-making in finding their way through a landscape. One common issue I have found with least-cost paths is that routes up and down quebradas are consistently favored over those that follow ridges. This is understandable if one recalls how such paths are being calculated: the grade is usually more forgiving along quebradas than along high ridges. The unfortunate outcome is that modeled paths can often running parallel and below the ridge routes that were more likely being used. Though this could possibly be offset by making quebradas cost "more", I didn't see such nuance as worth the time required to refine it for the purposes of the task at hand. In any case, one should approach such paths with these limitations in mind and think of them as representing possible, not definite, routes that often follow quebradas when they should be following ridges.

In order to get a general idea of how human movement may, or may not, have funneled through the Moche Valley *chaupiyunga* I took a blunderbuss approach. This essentially means that I used a high number of starting and ending points in order to identify as many paths as possible with the hope of seeing as many routes as possible. Much like a blunderbuss cannon, the goal is less to hit a specific target and more to hit as wide an array of targets as possible.

3.5.2 Coastal-Highland Movement Corridors

To model possible highland-coastal movement routes in the Moche Valley, I traced the edge of the Otuzco Highlands, Carabamba Highlands, and Pacific Coast and then generated points at 5km intervals along each of these features. The resulting 15 points were seen as representing possible starting/ending points at either end of the coast-highland spectrum and were then used to generate three sets of 50 possible paths that connected these regions. The resulting webs of paths were, by themselves, relatively difficult to interpret. Namely, repeatedly used routes were more-or-less invisible because they overlapped. To solve this, I created a kernel density raster that calculated the density of paths (via polyline features) within a 1km radius. This would make common corridors more visible, as they would have higher values from the multiple routes that followed them. The result was three maps that display a number of possible movement corridors and their relative frequency of use (Figure 3.6.1; Figure 3.6.2; Figure 3.6.3).

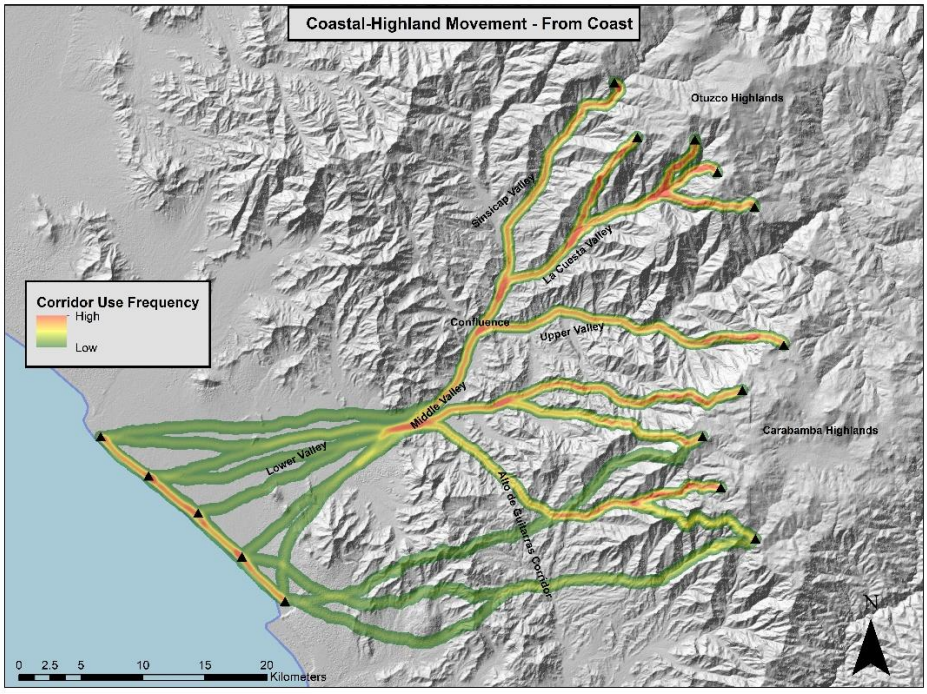


Figure 3.6.1 Modeled Coastal-Highland Movement Corridors From the Coast

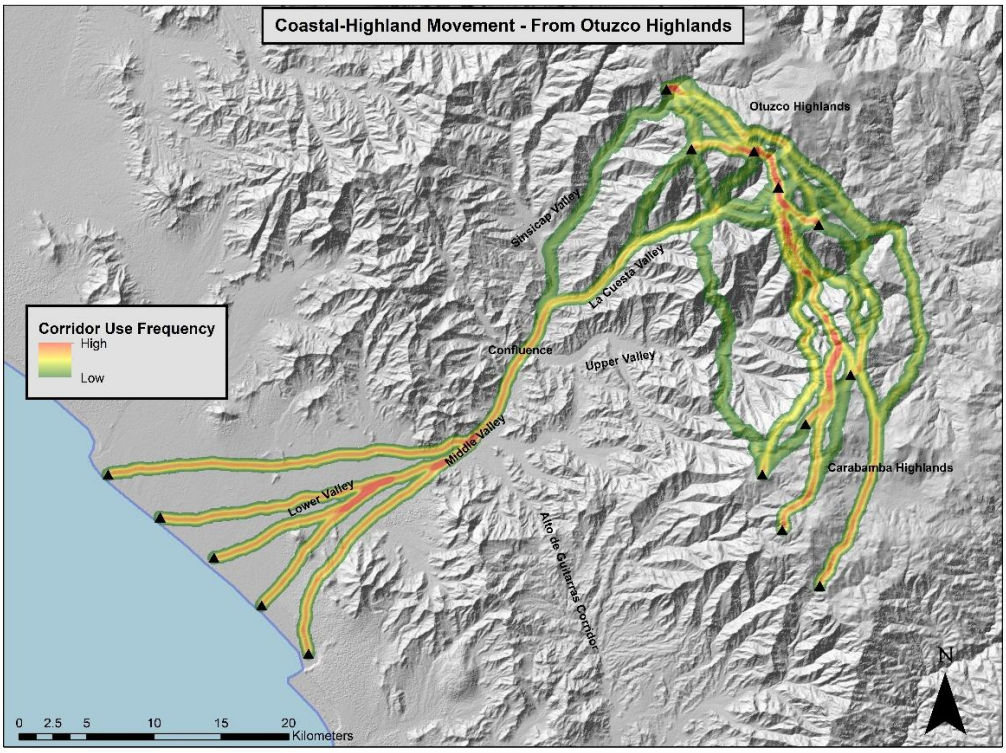


Figure 3.6.2 Modeled Coastal-Highland Movement Corridors From the Otuzco Highlands

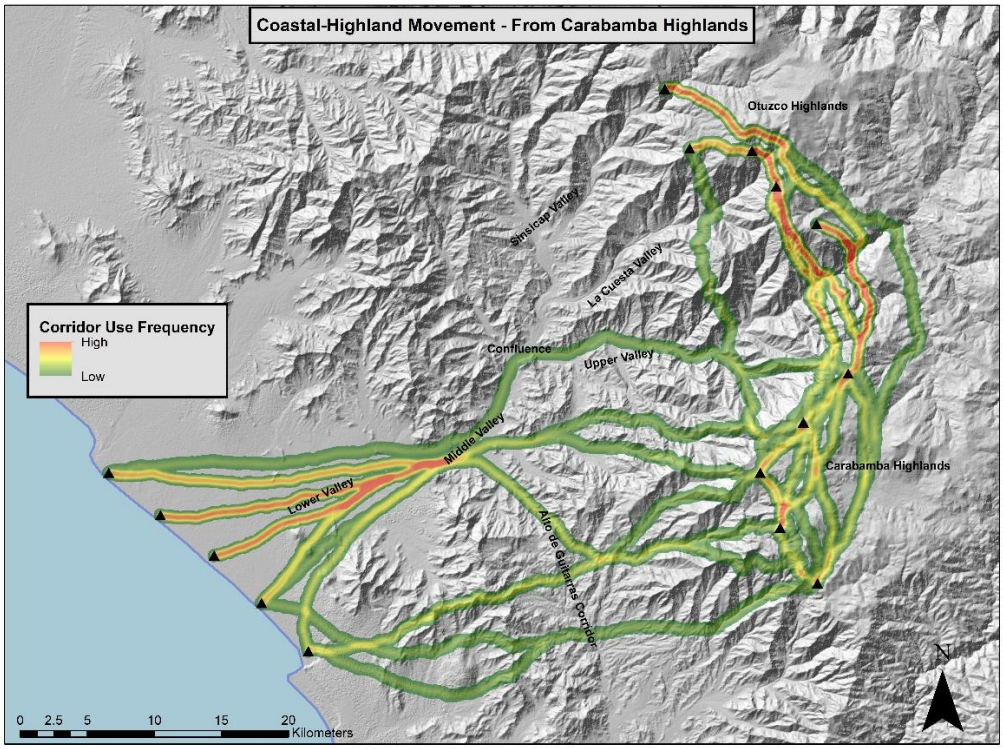


Figure 3.6.3 Modeled Coastal-Highland Movement Corridors From the Carabamba Highlands

What can these maps tell us about where the *chaupiyunga* lies in a number of possible movement routes? A few interesting possible corridors are immediately apparent. If one starts at the coast, the best way to get to the Otuzco Highlands and most of the Carabamba Highlands is consistently found to be through the Moche Valley chaupiyunga. The details of such a journey are obviously dependent on where one is going: with the routes to the Otuzco Highlands consistently pathing through the Sinsicap and La Cuesta *chaupiyungas* while those to the northern parts of the Carabamba Highlands pathing through the Upper Moche *chaupiyunga*. Most of these paths go through the confluence although several of those going to the Carabamba bypass the confluence for Quebrada los Chinos – Leon. Surprisingly, the southeastern face of the Carabamba Highlands actually appears to be easier to access through the Quebrada Alto de Guitarras route from the Middle Moche *chaupiyunga* or even parts of the Virú Valley *chaupiyunga*. It is worth noting that water would likely be a concern if one followed such route, but knowledge of springs at key points would make this trek possible. It is interesting, however, that one can actually bypass the Upper Moche *chaupiyunga* altogether to get to the Carabamba Highlands from the coast.

The possible routes from the highlands are essentially mirror images of those patterns observed from the coast but do offer some additional insights. The routes from the Otuzco Highlands always go through the Sinsicap and La Cuesta chaupiyungas and skip the Upper Moche but pass through the confluence. On the other hand, those from the Carabamba Highlands sometimes go through the Upper Moche and sometimes bypass it for routes through Quebrada los Chinos – Leon or Quebrada Alto de Guitarras. Though not an intended target of observation, one additional and highly visible outcome is that most of the routes between the Carabamba and Otuzco Highland areas skip over the Upper Moche *chaupiyungas* altogether. This isn't surprising but is worth noting: there seems to be no reason to pass through the *chaupiyunga* for travel between the highland regions of the Moche Valley.

In sum, the broadest statement we can confidently make is that coastal-highland movement mostly appears to be channeled through the *chaupiyungas* of the Moche Valley. Only a few routes, all to and from the Carabamba, bypass the *chaupiyungas* altogether. Thus, we can confirm that the *chaupiyunga*, in general, is well-positioned between some projected coastal-highland movement

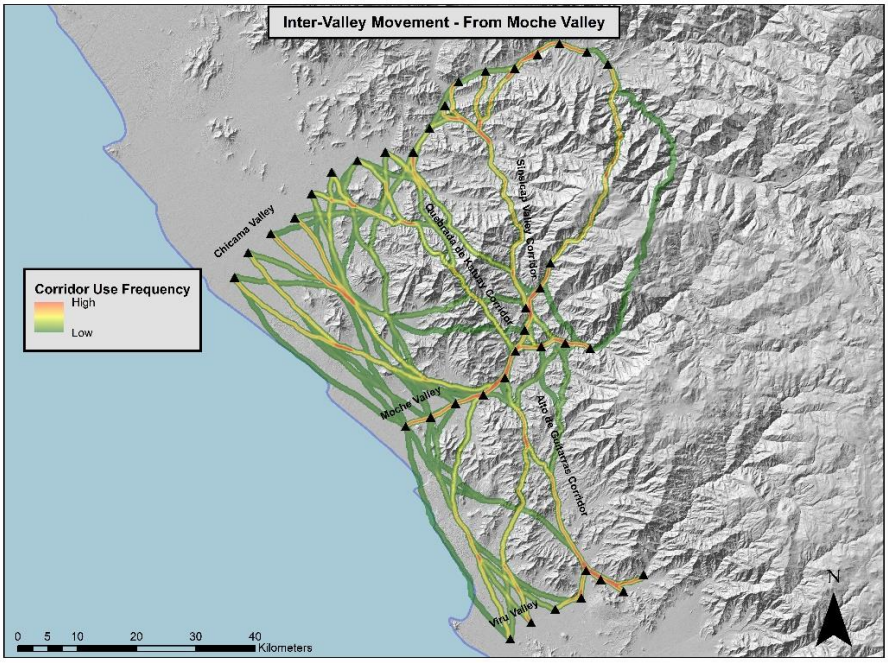
corridors. However, when one zooms in on the Upper Moche *chaupiyunga* in particular, the area does appear to be ignored as a corridor of movement. In fact, the only time it is modeled as being used is when the objective is to arrive at the northern parts of the Carabamba Highlands. I suspect this is partially a product of the least-cost paths favoring quebradas. Recalling the routes through the La Cuesta *chaupiyunga* and into the highlands, the long ridge between the La Cuesta and Upper Moche is a more likely candidate for such a route. Such a route would essentially follow the Co. El Brujo ridge route I previously outlined. However, I do think the data also emphasizes an important point that any overzealous proponent of *chaupiyunga* control of highland-coastal movement should hear: you can always go around.

3.5.3 Inter-Valley Movement Corridors

I repeated a similar process to help understand inter-valley movement between the Chicama, Moche, and Virú Valleys. For these routes, I generated points at 5km increments along each river and attempted to capture a good portion of the *chala* and *chaupiyunga* of each. This resulted in 8 points for the Virú Valley, 14 points for the Moche Valley, and 18 for the Chicama Valley which I then used to generate least-cost paths between the regions. Similar to before, the result was three maps of paths from each valley: 158 paths from the Virú Valley, 364 paths from the Moche Valley, and 396 paths from the Chicama Valley. Just as before, I used a 1km kernel density raster to produce three maps that simulated possible movement corridors between the Chicama, Moche, and Virú Valleys (Figure 3.7.1; Figure 3.7.2; Figure 3.7.3).

The results of these maps are a bit more difficult to interpret but a few notable corridors do emerge. The most consistent, yet predictable, pattern that emerges across all three maps is that the movement between Lower Valley *chala* areas usually stays along the coast. The trends get considerably messier the further one moves up-valley but, by looking at the paths from the Chicama and Virú Valleys, we can see some interesting patterns emerge in how movement was channeled through the Moche Valley *chaupiyunga*. Beginning with the Virú Valley, the Quebrada Alto de Guitarras route immediately resurfaces and is the most commonly used corridor in routes to the *chaupiyungas* of the Moche and Chicama Valleys alike. After emptying into Middle Moche Valley, those routes that continue to the Chicama Valley pass through the Moche Valley

confluence and go up either Quebrada de Katuay or the Sinsicap Valley (depending on where the final destination is).



3.7.1 Modeled Inter-Valley Movement Corridors From the Moche Valley

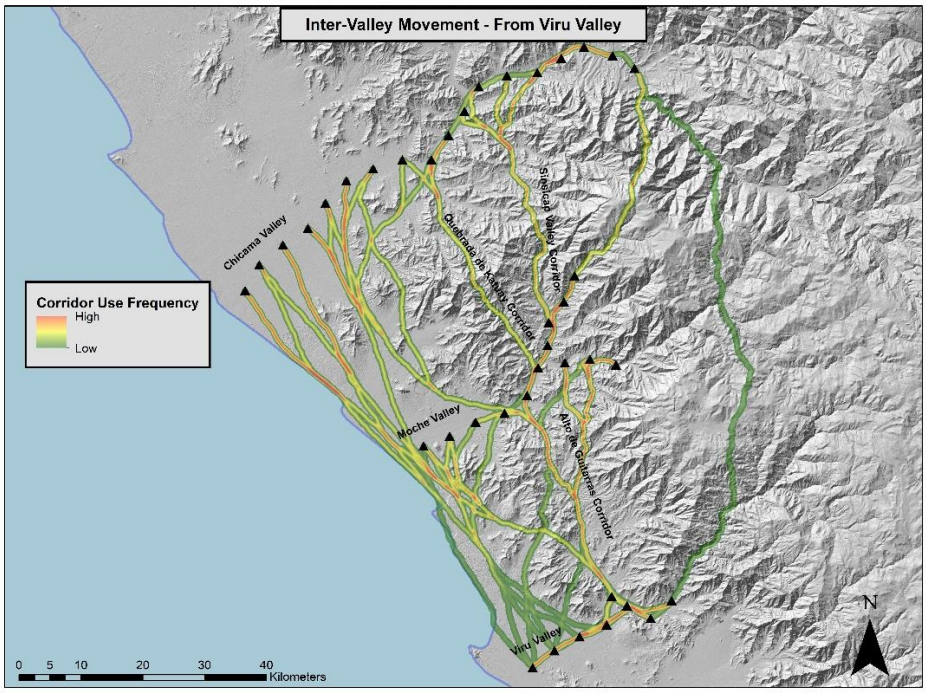


Figure 3.7.2 Modeled Inter-Valley Movement Corridors From the Virú Valley

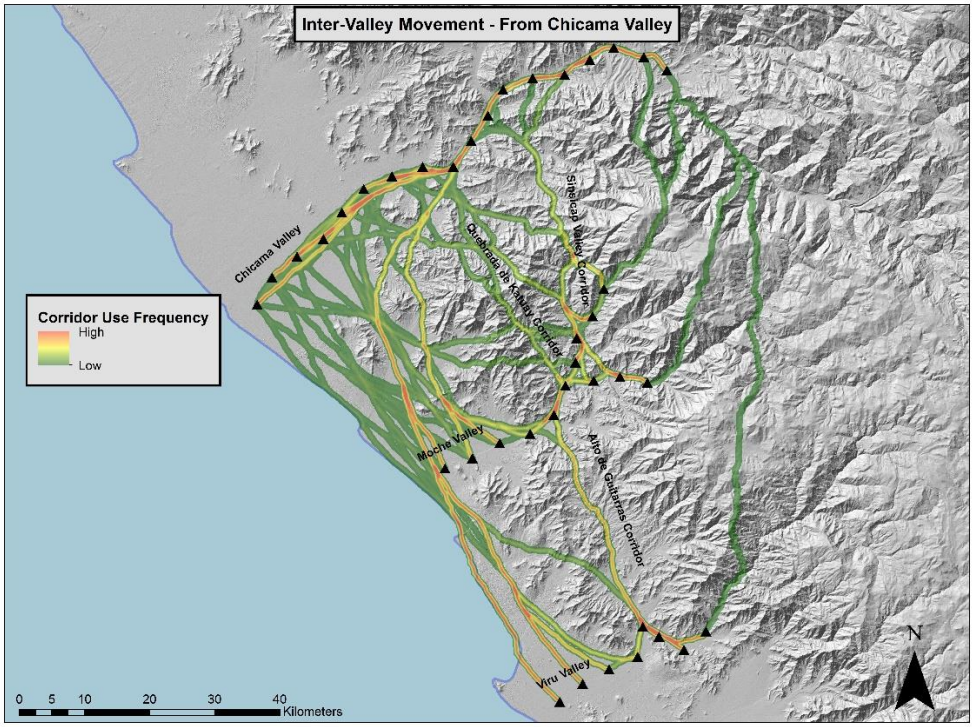


Figure 3.7.3 Modeled Inter-Valley Movement Corridors From the Chicama Valley

Moving to the Chicama Valley, a mirror image of the previous patterns emerges but with a wider variety of paths through the mountains leading to the Moche Valley. Several paths go through Quebrada de Katuay while others go through the Sinsicap Valley and still others follow less used paths between. The Moche Valley confluence and the Middle Moche Valley are again common places on those corridors that continue on to the Virú Valley, which itself is principally accessed through Quebrada Alto de Guitarras.

Finally, the paths from the Moche Valley are far more varied but similar corridors emerge: Quebrada Alto de Guitarras is used to get to the Virú Valley, Quebrada de Katuay and the Sinsicap Valley are used to get to the Chicama Valley, and the confluence sits between them all. The use of quebradas for inter-valley movement does have some precedent in regional pre-history: namely Quebrada Alto de Guitarras which shows human use in the form of petroglyph construction at least as far back as 800 BCE. This could indicate that these simpler least-cost paths are a bit more appropriate for modeling inter-valley movement than they were for coastal-highland movement.

In sum, the broadest statement we can confidently make from these models is that the Moche Valley *chaupiyunga* was well-positioned to be at the nexus of at least some inter-valley

movement between the *chaupiyungas* of the Virú and Chicama Valleys. To the south, Quebrada Alto de Guitarras is one possible important movement corridor for accessing the Virú Valley. To the north, Quebrada de Katuay and the Sinsicap Valley are similar such possible movement corridors for accessing the Chicama Valley. Directly between these two likely movement corridors sits the confluence of the Moche Valley, which itself is directly in the middle of the Moche Valley *chaupiyungas*: an area between areas between.

3.6 Vision

More often than not, sight guides movement. Unsurprisingly then, an unavoidable feature of our journey up the Moche Valley was the importance of vision. Many mountains served as important landmarks along that journey and different regions offered views of different landscapes. Though truly testing the inherent prominence of landscape features requires a complex set of analyses (Llobera 2003:37-39) that are outside the scope of this dissertation, simple viewsheds can let us answer more general questions of how vision may have differed between the regions in question. Namely: what areas emerge as being "more" visible as one moves up the Moche River and which regions offer consistently wider views?

3.6.1 Differences in Viewsheds

To address these questions, I began by building a cumulative viewshed of each of the regions under investigation. The cumulative viewsheds for the Lower, Middle, and Upper Moche Valley were built by assigning viewpoints at 5km intervals along the Moche River in each zone (Lower Valley = 19 points, Middle Valley = 11 points, Upper Valley = 25 points). In an attempt to correct for the fact that the river flows along generally lower parts of the valley floor, I added a 5m offset to these points. This was meant to simulate any casual observation of the surrounding landscape by anyone traveling along the valley floor. The cumulative viewsheds built for the Otuzco and Carabamba Highlands re-used the 5km catchments from the previous analyses of topography. A total of 19 points were then randomly selected on those areas classified as "Valley

Floor or Flat Areas" and given offsets of 5m to make them a bit more comparable to the viewer points used for the Moche Valley. All of these viewsheds were then given a 20km buffer to limit vision to features that were relatively nearby (Figure 3.8.1; Figure 3.8.2; Figure 3.8.3; Figure 3.8.4; Figure 3.8.5). To compare vision between regions it was necessary to standardize them by the number of observer points. Doing so produced values that represent the average square kilometers seen per observer point in each region and thus were vague proxies for how visible the surrounding landscape is in each region (Table 3.3).

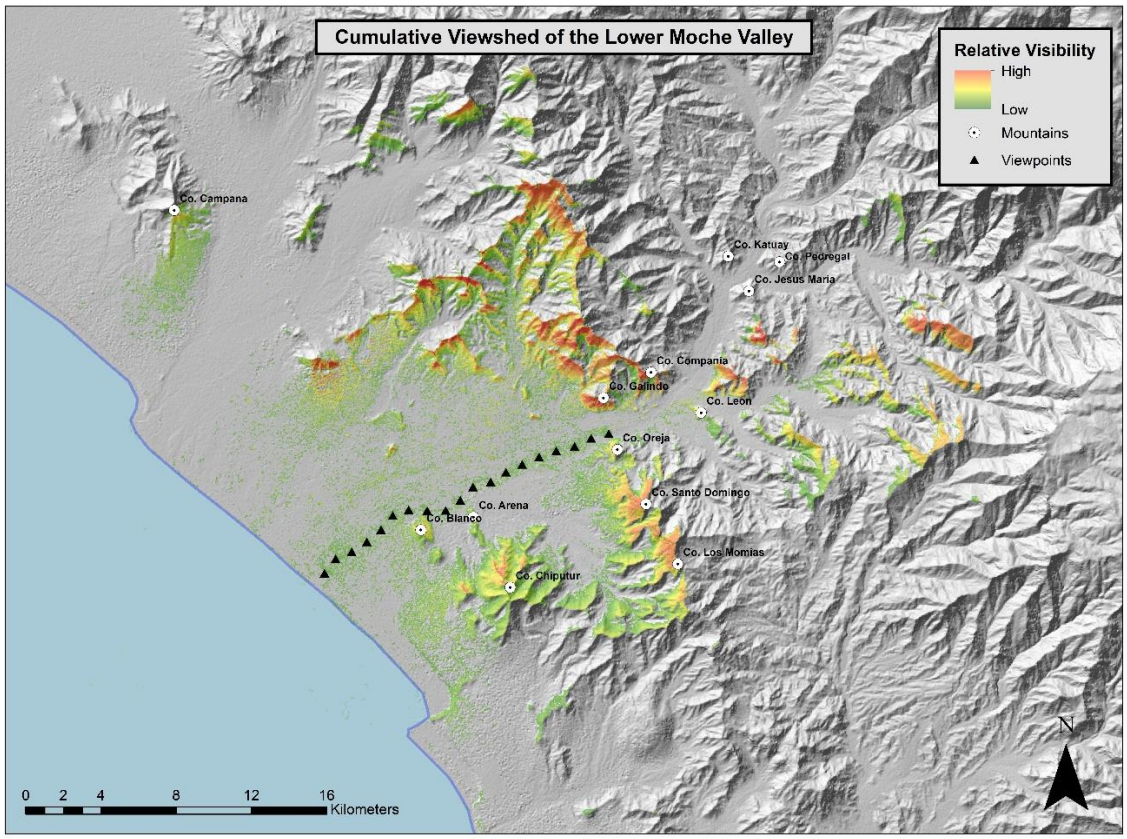


Figure 3.8.1 Cumulative Viewshed of the Lower Moche Valley

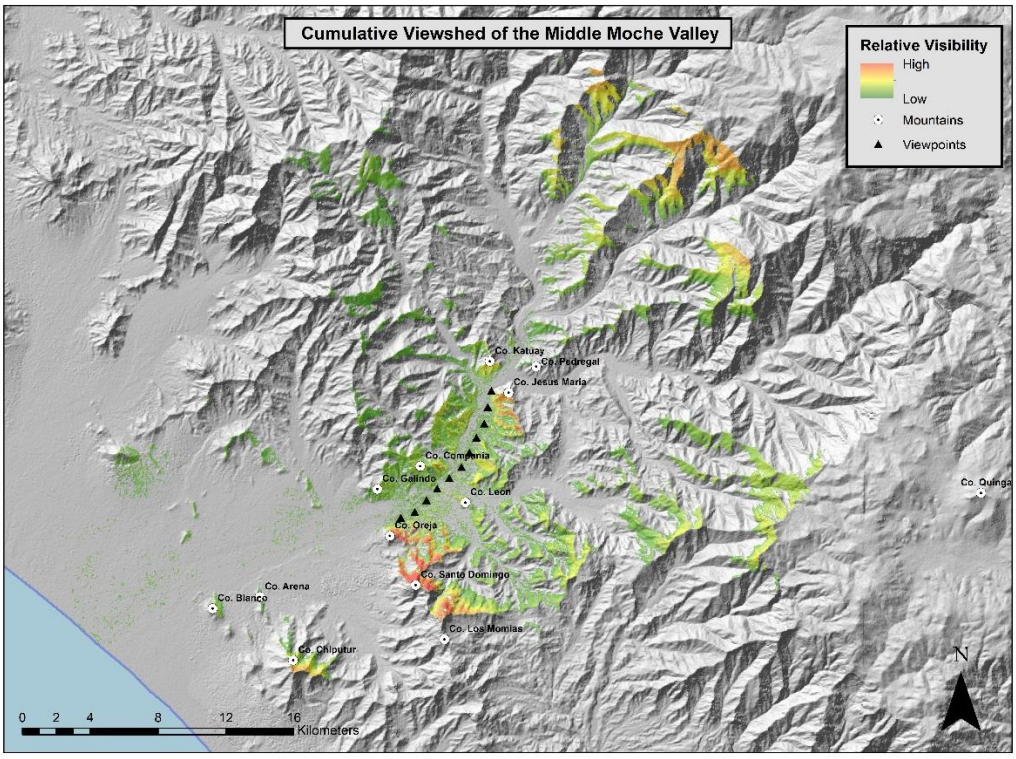


Figure 3.8.2 Cumulative Viewshed of the Middle Moche Valley

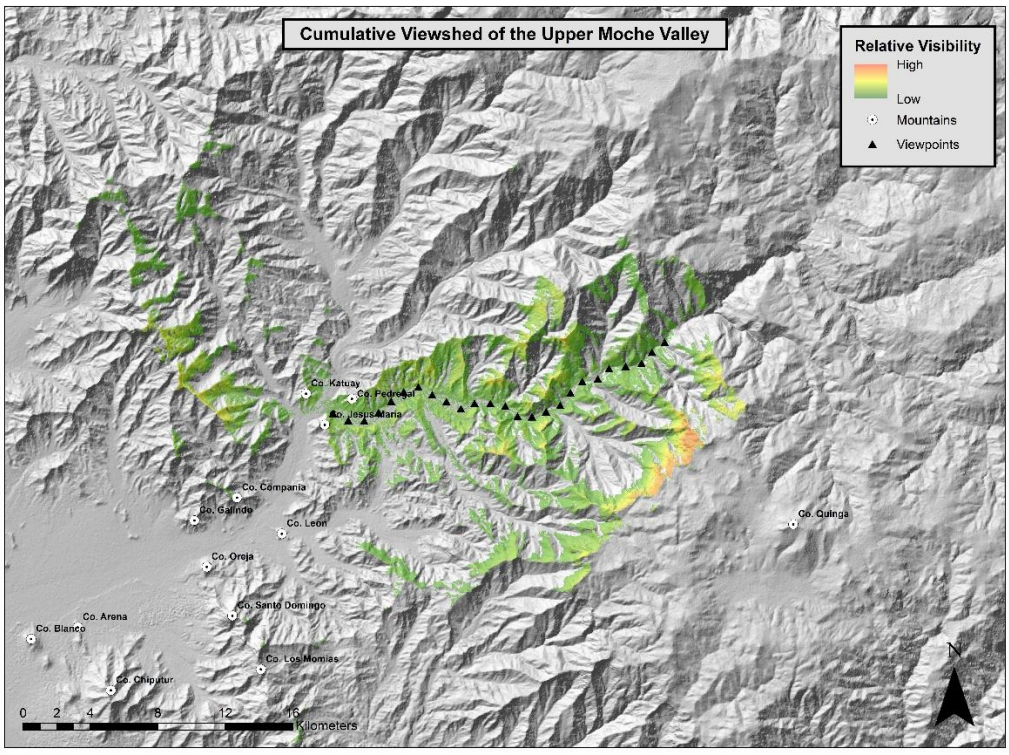


Figure 3.8.3 Cumulative Viewshed of the Upper Moche Valley

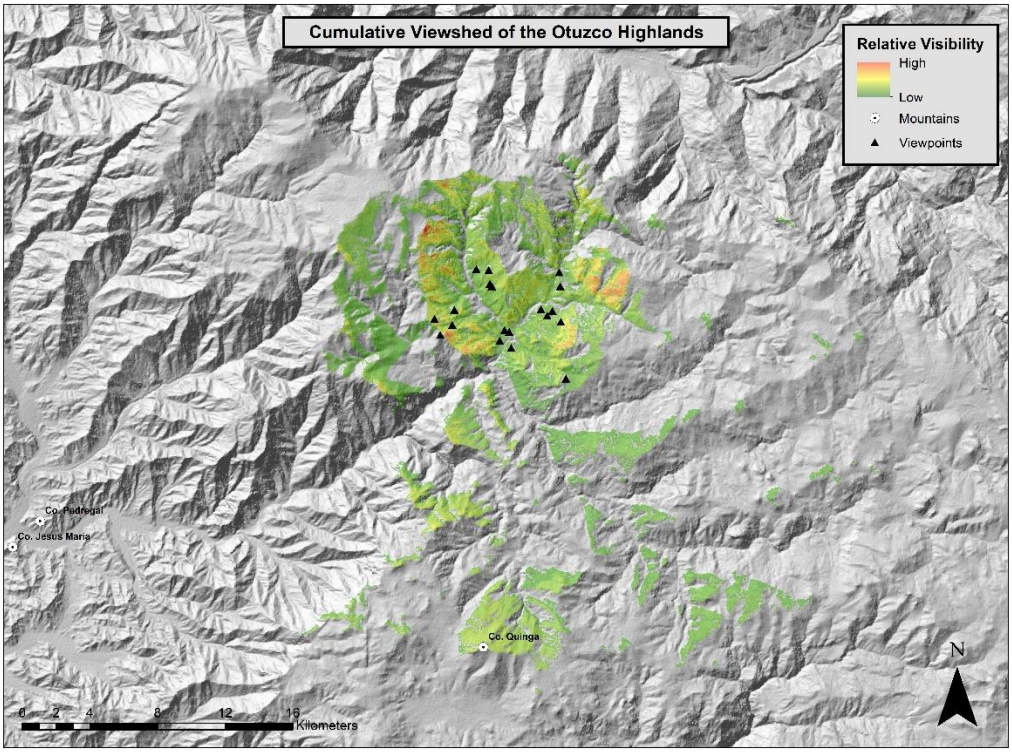


Figure 3.8.4 Cumulative Viewshed of the Otuzco Highlands

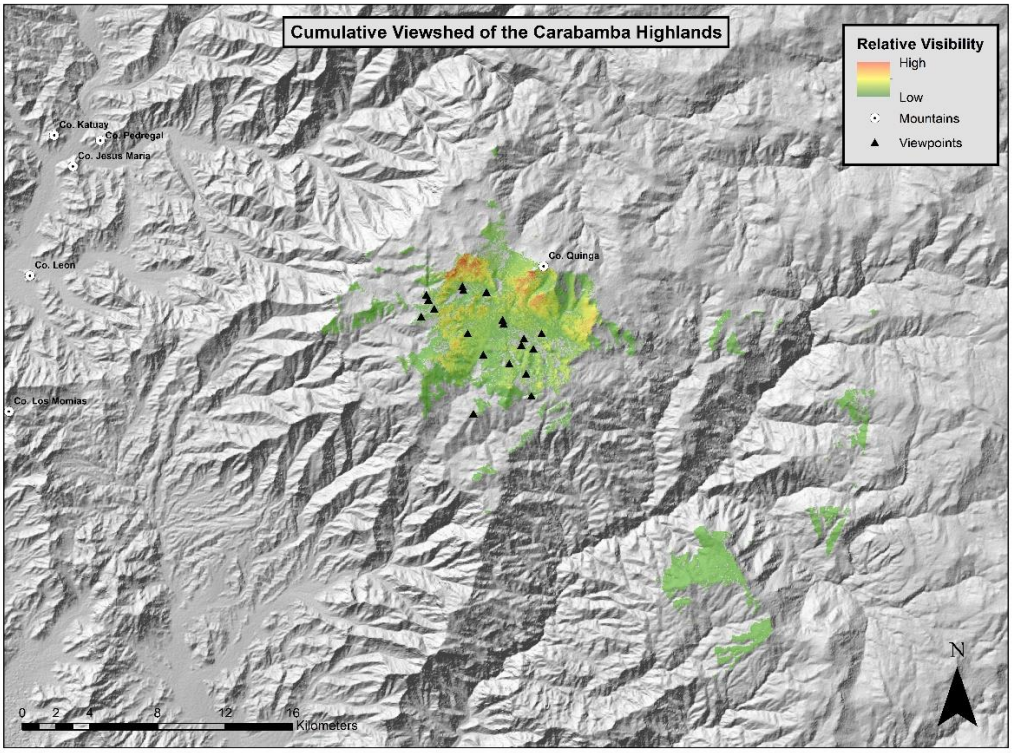


Figure 3.8.5 Cumulative Viewshed of the Carabamba Highlands

Table 3.3 Average Viewsheds by Region

Region	Seen Area per Observer Point (km^2)
Lower Valley	10.6
Middle Valley	13.8
Upper Valley	6.1
Otuzco Highlands	9.7
Carabamba Highlands	4.9

The results of these analyses are both qualitative and quantitative. First, the cumulative viewsheds themselves display which parts of the landscape were consistently more visible than others. Focusing on the *chaupiyunga*, a few predictable mountains stand out as commonly viewed landscape features. From the Lower Valley, the "gates" of Co. Oreja and Co. Galindo at the edge of the Middle Valley *chaupiyunga* stand out, as does Co. Leon, and parts of Co. Compania. From the Middle Valley looking downriver, Co. Oreja is the more frequently seen "gate" and Co. Chiputur and Co. Santo Domingo also appear to be common parts of viewsheds. The hills along the Middle Valley are predictably visible from most points as are parts of Co. Las Huacas and the Carabamba Plateau. Co. Katuay and Co. Jesus Maria at the confluence are also visible, although it appears that Co. Jesus Maria blocks much of the vision of the third confluence peak at Co. Pedregal. From the Upper Moche, surprisingly few areas within the *chaupiyunga* are consistently visible from the valley floor. The edge of the Carabamba Plateau and a few of the higher ridges appear to be somewhat common parts of viewsheds but few individual peaks stand out as being "more" visible than others.

These qualitative observations are somewhat confirmed by the proxies calculated for each region. While the Lower and Middle Valley areas enjoy relatively more expansive viewsheds at between 10 and 14 square kilometers visible per point, the Upper Valley is at around half of that at 6 square kilometers visible per point. At least part of this could be explained by the sampling method used: the valley floor is generally a poor spot to be if one wants wider viewsheds. Given the number of prominent ridges in the landscape, the Upper Valley *chaupiyunga* also likely suffers from the ridge effect discussed by Llobera (2003: 35) in which ridges tend to block vision. A

comparison with the Otuzco Highlands supports that the ridge effect is likely in play: though the Otuzco Highlands were hillier in the topographic models than even the Upper Moche, this region is more comparable to the Lower and Middle Valley in its average viewshed. Comparisons between the highland areas themselves are less important for the task at hand but it is worth noting that the lower values yielded by the Carabamba Plateau are likely a result of the "bowl" effect previously discussed in topography. In sum, the Upper Moche *chaupiyunga* is a relatively poor region as far as vision from the valley floor is concerned. If one wishes to see more, one must go to the hills.

3.6.2 Fog

A final confounding factor in any discussion of vision in the *chaupiyunga* of the Moche Valley is fog. As mentioned in the overview of Andean geography, a coastal fog often rolls into the coastal valleys of Peru and can obscure views up to at least 800masl (Pulgar Vidal 1972). In the Moche Valley in particular, this fog has been recorded at up to 1000masl (Boswell 2016: 41). This haze usually burns off well before midday in the *chaupiyunga* but it can linger well into the afternoon in the chala. In my experience, fog banks range between 1000masl down to at least 400masl and can be a few hundred meters thick. If inside the bank, vision is heavily reduced. So much so that I've found that it is advisable to wait for the fog to burn off before going on an ascent. It only takes getting lost in the fog once to learn this lesson.

In any case, this fog applies an interesting seasonality to vision: viewsheds are prone to be considerably limited in the winter. To get a better idea of how fog may influence vision, I built a set of four possible fog zones at 400masl, 600masl, 800masl, and 1000masl and then overlaid them. The result is essentially a map of the Moche Valley with darker areas representing varying intensities of fog (Figure 3.9). Though difficult to operationalize in any quantitative manner, this map does illustrate one advantage that the Upper Moche *chaupiyunga* seems to have: its high elevation makes it susceptible to only the highest of fog banks. Otherwise, the vast majority of its landscape is usually well above the fog. The Lower and Middle Valley fare far worse, and only the higher peaks of either region can emerge from even the lowest fog banks. Even if one is able to climb above the fog in the Lower and Middle Valley, the view offered is limited to the other

high places that poke through the fog that obscures the valley floor below. Though limited, the resulting vista is admittedly stunning: mountain peaks emerging like islands floating amongst a grey and feathery sea of fog.

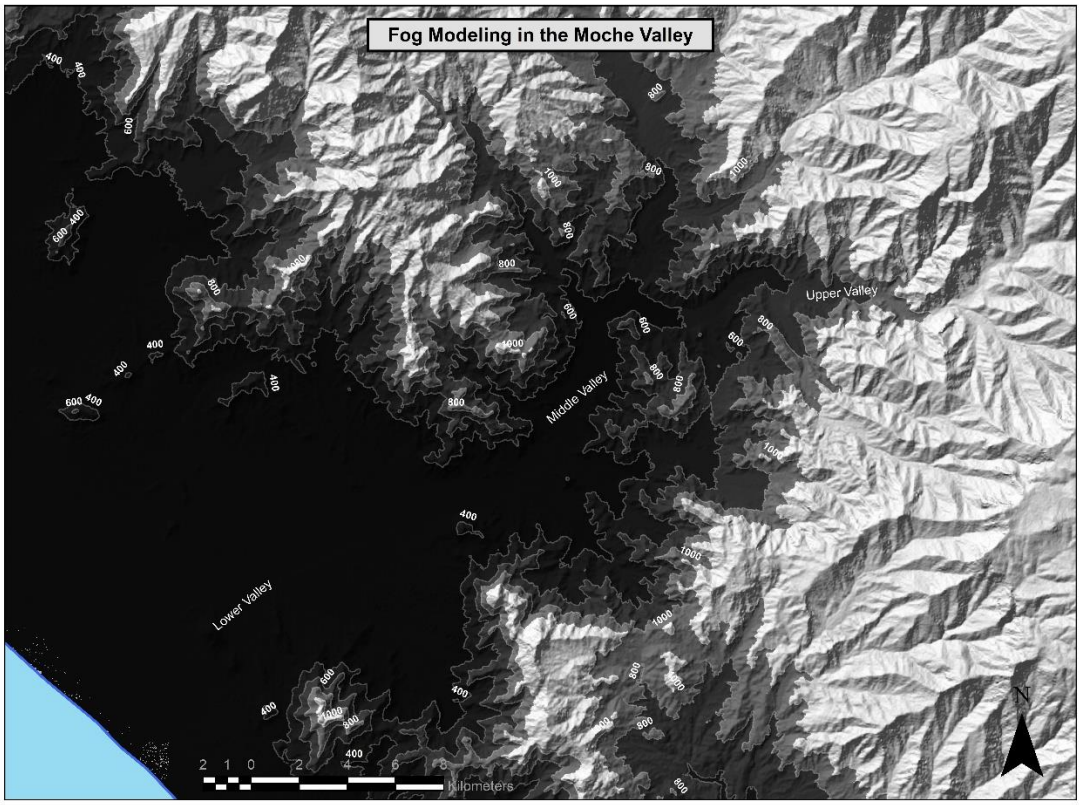


Figure 3.9 Fog Modeling in the Moche Valley

3.7 Mineral Resources

Hidden from view but nonetheless important to modern and ancient economies in the Andes, the location of mineral resources is useful knowledge for any landscape study. If an archaeologist has a good idea of where certain resources could have been obtained, more compelling arguments can be made about networks of exchange. So how does the availability of mineral resources vary across the Moche Valley and its adjacent highlands? In order to address this question, I compiled an inventory of such resources from the work of several colleagues (Franco et al. 2013; Ringberg 2012), my own knowledge of the region, and a massive regional

survey of the region done in the 1970s (ONERN 1973). I display the results of this inventory in a map that shows generally where certain mineral resources can be found in the Moche Valley and surrounding area (Figure 3.10). Though not comprehensive, this map does provide us with the ability to compare the mineral resources available to each of the previously described regions.

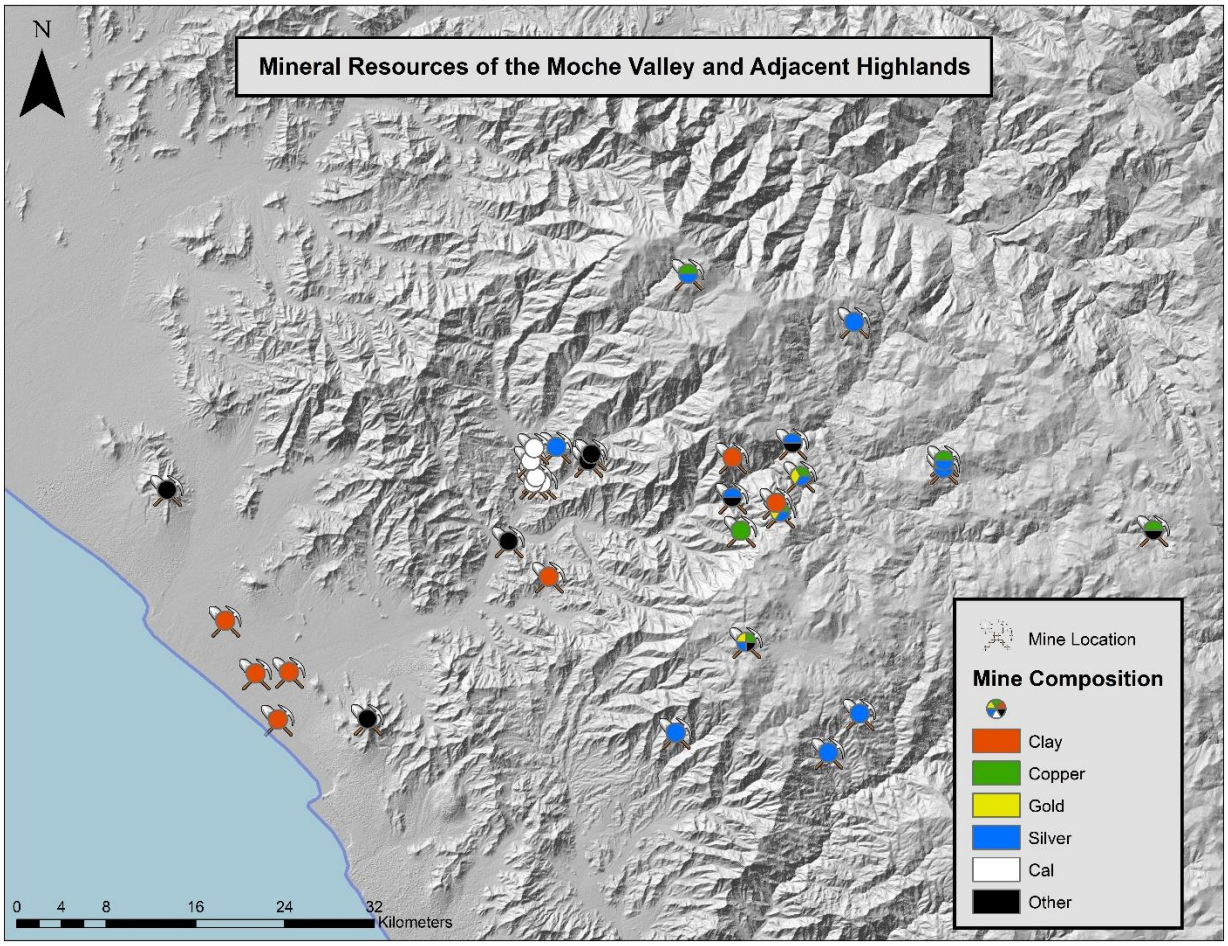


Figure 3.10 Mineral Resources of the Moche Valley and Adjacent Highlands

Generally speaking, the *chala* and *chaupiyunga* have plenty of mineral resources but are generally lacking in metals. Clay is common: the ONERN inventory notes several sources in the Lower Valley and the work of Ringberg highlights one by Co. Blanco that was surely used in prehistory (2012: 138). A large brick-making facility in the Middle Valley suggests some manner of large clay source there, but its antiquity is obviously unknown. Other than clay, a handful of smaller mines do exist in the *chala* and *chaupiyunga*. Co. Campana has several that appear to have been dug to extract very small amounts of copper, sodalite, quartz crystals, and pyrite (Franco et

al. 2013). Prieto also found a source of hematite on the mountain in proximity of those mines found by Franco and his team (Preito 2015:1029). In 2015, Dr. Gabriel Prieto (UF), mountaineer Luis de la Vega, and I did some informal prospection of Co. Chiputur and identified several mines which were targeting a handful of veins of malachite that ran up the mountain. The antiquity of any of these mining operations on either mountain is unclear, but their small size likely suggests light and local use. Also, during an informal prospection in 2015 and my dissertation survey in 2017, I found that Co. Jesus Maria likely has two mines: one likely prehistoric quartz crystal mine on its north face and one possibly modern mine on its southern face that was exploiting an unidentified iridescent sulphide material (likely some form of pyrite).

The large cluster of calcium carbonite mines around the Sinsicap Valley town of Simbal is probably the largest mining operation in the Moche Valley *chaupiyunga*. This material, locally called *cal*, is often ground up and chewed with *coca*. It is unclear, though obviously likely, that these mines were exploited in prehistory. It is worth noting that *cal* can also be produced by heating and grinding up seashells and in my experience seashell *cal* is much less harsh than that pulled from the earth. A "high quality" source of ochre was also noted by the ONERN inventory in the La Cuesta *chaupiyunga* (ONERN 1973:88). In prehistory, red ochre (which contains hematite) was very commonly used as a pigment and has been found in archaeological contexts in the Moche Valley. Two small silver sources were also noted by the ONERN inventory in the upper reaches of the Sinsicap and Upper Moche *chaupiyungas*. This being said, both were described as lacking economic potential since only very small traces of silver were found (ONERN 1973: 81, 83-84).

Contrasted with the Moche Valley *chala* and *chaupiyunga*, the highlands surrounding them are much richer in precious metals. Clay is still common in the highlands: sources are noted by Ringberg near the highland town of Huacaday near Otuzco and also around Co. Cuidista on the northwestern edge of the Carabamba Plateau (2012: 138). These are obviously not the only clay sources in the local highlands and I would expect more will be located as the region is studied further. The source near Co. Cuidista is notable because it is illite: a white clay that will be discussed more later due to its importance in prehistory. The Carabamba Highlands appear to be relatively rich in metals that were commonly used in prehistory: the ONERN survey noted a handful of mines that were exploiting a variety of silver, gold, and copper. The survey is quite explicit about the high potential the areas of Carabamba and nearby Salpo for future mining

operations (ONERN 1973:78-83). Given that modern aerial imagery shows medium-sized mines in these same areas, it seems several companies heeded ONERN's advice in the intervening decades. The Otuzco Highlands are a bit sparser in metals, with only two possible mines noted by ONERN.

To the east and further into the highlands past Carabamba is the massive mine at Quiruvilca: a rich source of copper and silver (ONERN 1973:77). The copper from Quiruvilca is best known for coinciding with sources of arsenic that were likely used in copper-arsenic alloys (Lechtman 1996). Interestingly, the report from ONERN on Quiruvilca also mentions "vidrio volcanico" (1973:77), obsidian, which was a valuable lithic material in the past. Quiruvilca is not mentioned as a source of obsidian in any archaeological literature I could find, and the next closest obsidian sources are in the South-Central Peruvian highlands and Ecuadorian highlands (Tripcevich and Contreras 2013:29). This either means that the Quiruvilca obsidian represents an error in the ONERN reporting or this mine is the only documented source of obsidian in the Northern Peruvian highlands. The question remains as to whether such an obsidian source was used in prehistory as well.

In sum, the *chaupiyungas* of the Moche Valley seem to have direct access to only *cal* and ochre, with possibly a few light sources of silver and copper. However, the *cal* and ochre are focused in the Sinsicap and La Cuesta Valleys, leaving the Upper Moche as more-or-less bereft of any clear form of mineral wealth. Though apparently lacking in sources itself, the Upper Moche is the closest of the local *chaupiyungas* to the Carabamba highlands. This perhaps could have put the region in an advantageous position to tap into or at least being "first in line" to access the metals found in the nearby highlands. Recalling our discussion of movement, however, there are plenty of ways around the Upper Moche: highland communities of the Carabamba could have easily bypassed the *chaupiyungas* to exchange their unique mineral wealth with communities on the coast.

3.8 Canals, Cultivable Land, Water, and *Coca*

Though mineral resources are obvious fonts of modern and prehistoric wealth, the real wealth of the *chaupiyunga* lies in the land. Dozens of modern canals radiate from the Moche River, forming nets of fields that are cast across the landscapes of the *chala* and *chaupiyunga* to reap bounties of crops that feed communities and power economies. The nets cast into the *chala* are wide and provide rich returns, but only the nets cast into the *chaupiyunga* yield the most elusive yet valuable crop: *coca*. Given how important canals, cultivable land, water, and *coca* were, and are, in the Moche Valley and its *chaupiyungas*, it is important to get a more detailed understanding of these resources and their dynamics over time and space.

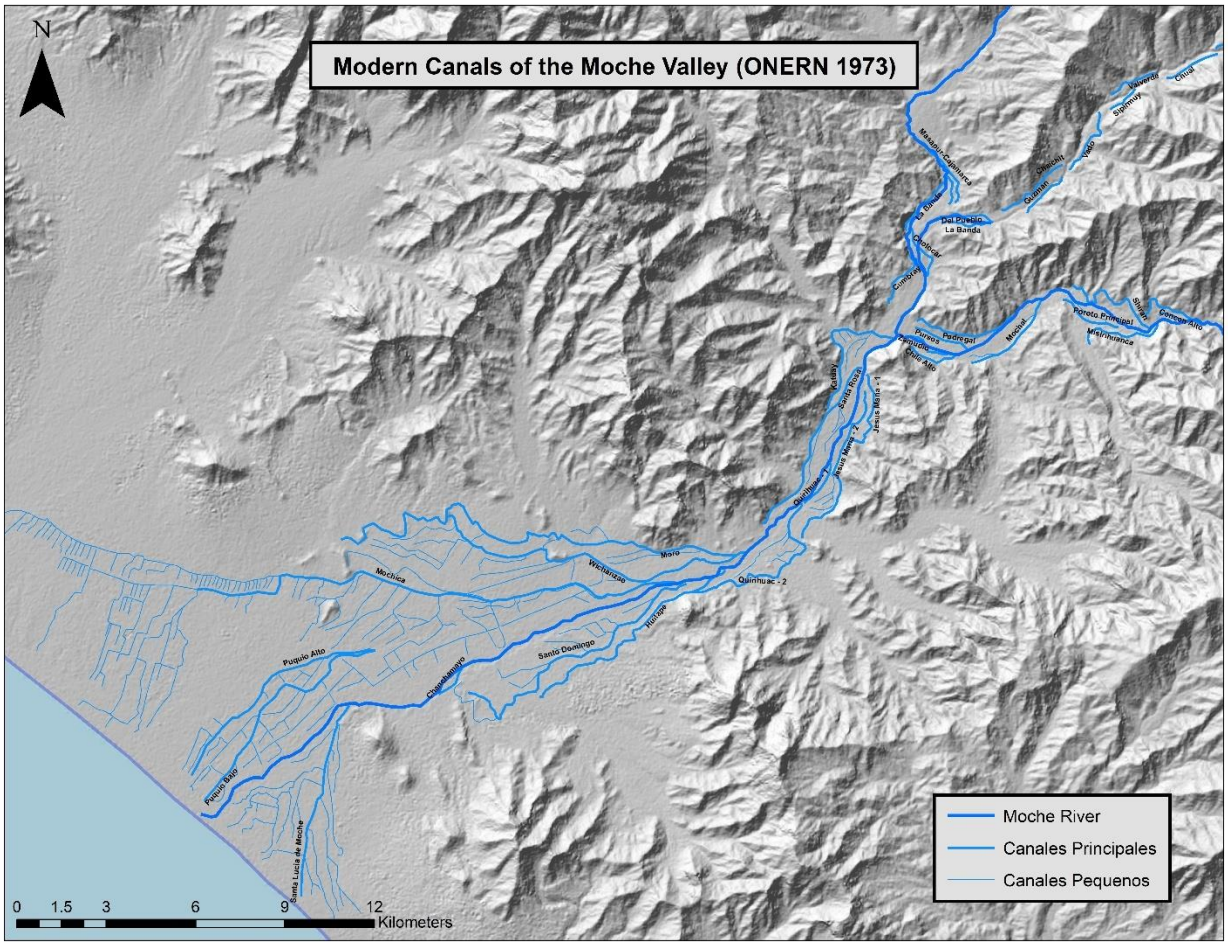


Figure 3.11 Modern Canals of the Moche Valley (ONERN 1973)

3.8.1 Canals

Canals build the necessary backbone of most fields and cultivation systems in the Moche Valley chala and *chaupiyunga*. Fortunately, both ancient and modern canal systems in the Moche Valley have received a relatively high amount of scholarly study by archaeologists and are well summed up by Billman in his dissertation (1996:38-45). First, the ONERN database provides an excellent resource for a detailed understanding of modern (from the 1970s) canal lengths, locations, and the area of cultivation they support (1973:214; Figure 3.11; Table 3.4). These data can be rearranged to give a general understanding of how the main canals of each region differ in length, number, and the total area they irrigate (Table 3.5).

In general, there are slightly fewer main canals in the Lower Valley but they are much longer and support considerably more cultivated land. Three long canals (Winchanzao, Moro, and Huitape) are notable in that they mostly supply fields in the Lower Valley but have intakes in the Middle Valley, leading me to create a category called "Middle – Lower Moche" just for them. Generally, I would consider these canals to be in the Lower Valley just because they mostly feed Lower Valley fields. They also fit in the general pattern of longer canals supporting more fields that seems to exist in the Lower Valley. Looking to the *chaupiyungas*, there are more canals in the Upper Valley but they tend to be much shorter and support considerably less cultivated land. The Middle Valley predictably sits in the middle of these patterns: slightly longer canals that feed larger areas than the Upper Valley but not nearly at the magnitude of those in the Lower Valley. Recalling our analyses of topography, this pattern of longer canals and more land in the Lower Valley should not be particularly surprising: there is much more flat space to use in the Lower Valley when compared to the Upper Valley *chaupiyungas*. Also helping explain this pattern is the reality that Lower and Middle Valley canals tend to stay in these flat areas while Upper Valley canals are often built into slopes. Thus, differences in relative canals lengths are also likely reflective of construction costs: carving canals into high mountainsides is assumedly more labor intensive than digging them along more gently sloping Middle Valley flanks or the flatter valley floor. Even so, the technical skill necessary for ensuring a canal will function properly in flatter environments should not be discounted as a feat in of itself.

Table 3.4 Modern Moche Valley Canal Lengths and Irrigated Land (ONERN 1973:214)

Canal Name	Length (km)	Irrigated Land (Ha)	Region
Santo Domingo	10.2	759	Lower Moche
Mochica	17.3	4859	Lower Moche
Puquio Bajo	8.6	564	Lower Moche
Puquio Alto	8.1	940	Lower Moche
Santa Lucia de Moche	6.8	1097	Lower Moche
Chanchamayo	1.2	28	Lower Moche
Huitape	8.4	258	Middle - Lower Moche
Moro	11.9	700	Middle - Lower Moche
Wichanzao	16.9	1363	Middle - Lower Moche
Jesus Maria - 1	3.6	59	Middle Moche
Jesus Maria - 2	6.1	61	Middle Moche
Katuay	5.2	153	Middle Moche
Santa Rosa	6.6	246	Middle Moche
Quirihuac - 1	1.8	153	Middle Moche
Quirihuac - 2	6.8	286	Middle Moche
Concon Bajo	1.0	28	Upper Moche
Concon Alto	2.9	56	Upper Moche
Shiran	4.2	83	Upper Moche
Misirihuanca	3.1	71	Upper Moche
Poroto Principal	2.2	128	Upper Moche
Pedregal	3.6	83	Upper Moche
Pursos	2.0	58	Upper Moche
Chile Bajo	0.7	7	Upper Moche
Chile Alto	1.7	24	Upper Moche
Zamudio	0.8	24	Upper Moche
Mochal	3.3	68	Upper Moche
Cumbray	2.3	90	La Cuesta - Sinsicap
Cholocar	2.0	17	La Cuesta - Sinsicap
La Banda	2.1	57	Sinsicap
Los Alfalfares	1.1	42	Sinsicap
Masapur-Cajamarca	3.0	36	Sinsicap
La Banda	1.6	24	La Cuesta
Del Pueblo	1.9	50	La Cuesta
Chaichit	2.8	111	La Cuesta
Guzman	1.8	14	La Cuesta
Vado	2.5	56	La Cuesta
Sipirmuy	1.1	21	La Cuesta
Valverde	1.8	43	La Cuesta
Chual	1.9	33	La Cuesta
Carin	1.6	24	La Cuesta
Huangabal	1.9	46	La Cuesta

Table 3.5 Canal Data by Region (ONERN 1973)

Region	Total Canals	Total Length (km)	Average Length (km)	Total Area (ha)	Average Area (ha)
Lower Moche	6	52.3	8.7	8247	1374.5
Middle - Lower Moche	3	37.2	12.4	2321	773.7
Middle Moche	6	30.1	5.0	958	159.7
Upper Moche	11	25.5	2.3	630	57.3
La Cuesta - Sinsicap	2	4.2	2.1	107	53.5
Sinsicap	3	6.2	2.1	135	45.0
La Cuesta	10	18.9	1.9	422	42.2

Though next to nothing is known about the canals of the Upper and Middle Valley in prehistory, some study has been devoted to ancient Lower Valley canal systems. Interestingly, the ancient canal systems were actually far more expansive than modern ones: with the Winchanzao being 10 kilometers longer than its modern corollary (Billman 1996: 44; Moseley and Deeds 1982; Ortloff, Feldman, and Moseley 1985; Figure 3.12). This extension of the Winchanzao canal was likely built in the Late Intermediate Period by elements of the Chimú Empire and fed hectares of new fields in the three pampas: Haunchaco, Rio Seco (Milagro), and Esperanza (Ortloff, Feldman, and Moseley 1985). The other ancient canals recounted by Ortloff, Feldman, and Moseley also have very clear correlates with the modern ones and in some cases are directly on top of them (1985; Figure 3.12; Figure 3.11). Moving to the Upper Moche, there is only anecdotal evidence for the antiquity of certain canals. Billman recorded several abandoned canals during his 1990 survey above the modern towns of Mochal and Mochalito. In the intervening decades, these canals have been rehabilitated and I have found them to be integrated as extensions of the Poroto and Misirihuanca canals. By my reckoning, such extensions would have added another 3-5 kilometers to these canals, as they were recorded in ONERN, but it is difficult to know for sure. In any case, it is likely that many of the modern canals recorded in the ONERN study for the Upper Valley do have prehistoric antecedents. However, it is difficult to say unequivocally which ones were ancient, what parts are ancient, and how long the extensions were.

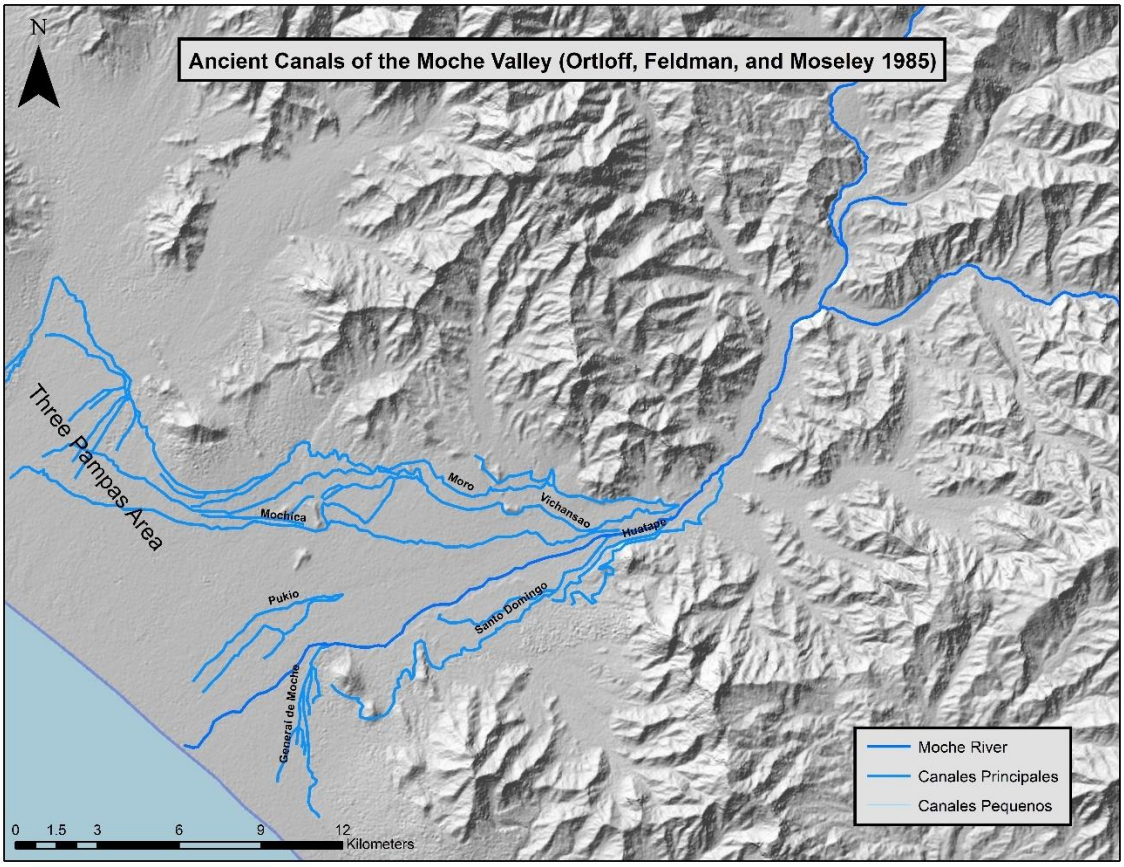


Figure 3.12 Ancient Canals of the Moche Valley (Ortloff, Feldman, and Moseley 1985)

3.8.2 Cultivable Land

Canals feed cultivated land, and comparing amounts of cultivable land is another insightful way to understand the difference between the Upper Valley *chaupiyunga* and its neighboring regions. So how does the Upper Moche *chaupiyunga* compare in cultivable land to its *chaupiyunga*, *quechua*, and *chala* neighbors? Answering this question required a general idea of what areas in the Moche Valley can, and thus could have been, cultivated.

In the Middle and Upper Valleys, aerial imagery shows that the amount of land under cultivation has actually increased when compared with the ONERN data from the 1970s. As such, for these regions I simply used the aerial imagery available on ArcMap to trace the land under cultivation. Generally, I ignored most settlements that were mingled with fields as they likely stood on land that could be cultivated. For the Middle Valley, Sinsicap Valley, and La Cuesta Valleys,

these drawings were not completely exact but I believe they give a general idea of what is currently being cultivated in each region. As it is the subject of this dissertation, a far more precise map was drawn of the Upper Moche Valley and I used a mixture of free-hand and topographic contours to follow the imagery as closely as possible.

The Lower Valley proved a bit more challenging for two reasons: a large amount of land that we know was cultivated in prehistory is currently abandoned, and an equally large amount of land is obfuscated by modern settlement. My solution to this was to include the ancient extensions (Ortloff, Feldman, and Moseley 1985) by lumping in all of the land within the Winchanzao extension. I also simply assumed that most modern settlement within the range of modern canals, including the city of Trujillo, could theoretically have been able to be cultivated in the past. The only modern extensions I intentionally avoided were the massive CHAVIMOCHIC inter-valley canals and fields in the southern Moche Valley around the modern town of Salaverry. These are very recent developments that essentially share water between the northern coastal valleys of Peru. The only ancient analogy is the La Cumbre canal system, which itself may have taken water from the neighboring Chicama Valley to feed into the three pampas of the Lower Valley. The La Cumbre has been a topic of considerable debate, and is better suited for later discussions of the prehistory of the region (Ortloff, Moseley, and Feldman 1983; Farrington 1983; Pozorski and Pozorski 1982). The result of these efforts was a map of cultivable land in all of the regions discussed except for the highlands (Figure 3.13). Estimates for cultivable land and pasturage in the Otuzco and Carabamba Highlands were obtained from ONERN and then combined with my own data to allow for comparisons between all regions (Table 3.6; ONERN 1973:60-63).

Comparing the possible cultivable land of Upper Moche *chaupiyunga* with its neighboring regions shows both its advantages and limits. First, among the *chaupiyungas* the Upper Moche quite easily has the largest amount of cultivable land. Only if one combines the land under cultivation in the Sinsicap, La Cuesta, La Cuesta – Sinsicap interface, and Middle Moche can you find a bit more cultivable land than in the Upper Moche. Thus, after seeing all of the ways the Upper Valley *chaupiyungas* is inferior to its neighbors in regional patterns of movement, general viewsheds, and mineral resources, we can finally see where it does shine: land. Tempering this brief spotlight, the amount of cultivable land in both the highlands and the *chala* dwarf anything found in the *chaupiyungas*. Even if one combines all of the *chaupiyungas* together it is still

between a quarter and third of what is available in the neighboring regions. In sum: though the Upper Moche may be the greatest of its *chaupiyunga* peers in terms of cultivable lands, it can only support a fraction of that offered by its highland and coastal neighbors.

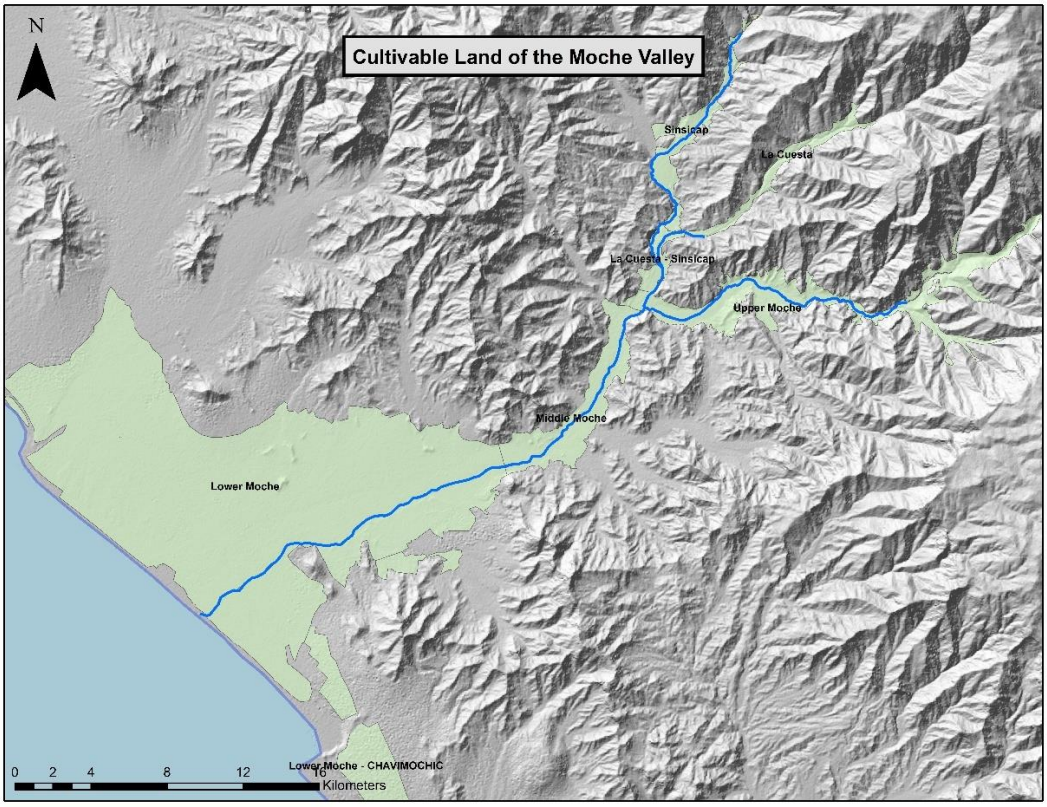


Figure 3.13 Cultivable Land of the Moche Valley

Table 3.6 Estimated Cultivable Area by Region

Region	Cultivable Area (Ha)
Lower Moche Valley	22204
Middle Moche Valley	1744
Upper Moche Valley	2939
La Cuesta - Sinsicap	331
La Cuesta Valley	542
Sinsicap Valley	878
Highlands (farmland)	23100
Highlands (pasture)	77670

3.8.3 Water

Canals and land are important, but they need water to be of any use. Using the ONERN data, Billman presented a provoking synopsis of the consequences of the volume and variability of water flow along the Moche River (Billman 1996: 39-42). By weaving these data into estimates of water requirements for maize obtained by ONERN (around 12,642m3 per hectare), he created a model of how much land could be cultivated each year in the first and second planting seasons (Billman 1996:41). Since 76% of the annual volume occurs from January to April during the first planting season, this was the amount he used to calculate areas for that season (Billman 1996:42). The drier second season between June and January only had around 15% of the annual flow so he used that figure for calculating the second season. The results illustrated some of the limitations that the Moche River put on cultivation in the valley: "even in the best years, less than half of the available land could have been double-cropped." (Billman 1996:42) Billman's estimates were made using ONERN data that combined the cultivable land in both the *chala* and *chaupiyunga*, so it was impossible to see how much the *chaupiyunga*'s first access to water would have actually influenced these numbers.

Given that one of the assumed advantages of the *chaupiyunga* is the fact it has first access to water, I decided to apply his model to my own estimates of cultivable land to explore these ideas further. I began by distributing water through the Upper Moche Valley, La Cuesta – Sinsicap, and the Middle Moche Valley *chaupiyungas* as they are "first in line" for water. This was possible mainly because the annual information available for the volume of output by the Moche River was taken from Quirihuac, which is located in the middle of the Middle Moche Valley (ONERN 1973:183). I then moved down-valley to try and fill the fields of Lower Valley with whatever water was left. I also added the 58.85 million cubic meters of water that was recorded as being annually pulled from wells, puquios, and drainages in the ONERN survey to the available reserve for the Lower Valley (ONERN 1973:194-197). The volume of this water was evenly between the first and second growing seasons to roughly take account for the wide usage of sub-surface water in the Lower Valley. Throughout, I calculated what percentage of cultivable land that could be fed by the water output of the Moche River – and sub-surface water for the Lower Valley – for each region during each year for both the first and second planting season.

Table 3.7 Estimates of Water Volume and Cultivated Land by Year (ONERN 1973:183,194)

Water Volume and Cultivated Land by Year (ONERN 1973)				
Year	**River Volume (m^3)**	**Sub-Surface Volume (m^3)**	**First Crop (Ha)**	**Second Crop (Ha)**
1933	738348000	58850000	46715	11088
1948	563081000	58850000	36178	9009
1934	556873000	58850000	35805	8935
1967	491631000	58850000	31883	8161
1946	476188000	58850000	30955	7978
1962	471836000	58850000	30693	7926
1956	461374000	58850000	30064	7802
1953	443707000	58850000	29002	7592
1957	422852000	58850000	27748	7345
1935	394275000	58850000	26030	7006
1964	391937000	58850000	25890	6978
1952	389088000	58850000	25718	6944
1945	382389000	58850000	25316	6865
1944	367767000	58850000	24437	6691
1936	344515000	58850000	23039	6415
1947	325529000	58850000	21897	6190
1943	315375000	58850000	21287	6070
1932	302189000	58850000	20494	5913
1970	287150000	58850000	19590	5735
1959	278611000	58850000	19077	5633
1954	270930000	58850000	18615	5542
1955	250117000	58850000	17364	5295
1941	249675000	58850000	17337	5290
1949	248360000	58850000	17258	5274
1939	230723000	58850000	16198	5065
1969	227246000	58850000	15989	5024
1965	211715000	58850000	15055	4840
1960	211508000	58850000	15043	4837
1966	203081000	58850000	14536	4737
1940	198463000	58850000	14259	4682
1938	196170000	58850000	14121	4655
1958	192034000	58850000	13872	4606
1963	187328000	58850000	13589	4550
1961	167552000	58850000	12400	4316
1931	136718000	58850000	10547	3950
1937	119809000	58850000	9530	3749
1951	105757000	58850000	8685	3582
1942	98164000	58850000	8229	3492
1950	77085000	58850000	6962	3242
1968	53101000	58850000	5520	2958

Table 3.8 Estimates of Land Able to be Cultivated for First and Second Planting Seasons by Region

First Crop Percent Total Land Cultivated		Second Crop Percent Total Land Cultivated	
The *Chaupiyungas*	The Lower Valley	The *Chaupiyungas*	The Lower Valley
100.0%	100.0%	100.0%	20.9%
100.0%	100.0%	100.0%	11.6%
100.0%	100.0%	100.0%	11.2%
100.0%	100.0%	90.7%	10.5%
100.0%	110.4%	87.8%	10.5%
100.0%	109.2%	87.0%	10.5%
100.0%	106.4%	85.1%	10.5%
100.0%	101.6%	81.8%	10.5%
100.0%	96.0%	78.0%	10.5%
100.0%	88.2%	72.7%	10.5%
100.0%	87.6%	72.3%	10.5%
100.0%	86.8%	71.8%	10.5%
100.0%	85.0%	70.5%	10.5%
100.0%	81.0%	67.8%	10.5%
100.0%	74.8%	63.5%	10.5%
100.0%	69.6%	60.0%	10.5%
100.0%	66.9%	58.2%	10.5%
100.0%	63.3%	55.7%	10.5%
100.0%	59.2%	53.0%	10.5%
100.0%	56.9%	51.4%	10.5%
100.0%	54.8%	50.0%	10.5%
100.0%	49.2%	46.1%	10.5%
100.0%	49.1%	46.0%	10.5%
100.0%	48.7%	45.8%	10.5%
100.0%	43.9%	42.5%	10.5%
100.0%	43.0%	41.9%	10.5%
100.0%	38.8%	39.0%	10.5%
100.0%	38.7%	39.0%	10.5%
100.0%	36.5%	37.5%	10.5%
100.0%	35.2%	36.6%	10.5%
100.0%	34.6%	36.2%	10.5%
100.0%	33.5%	35.4%	10.5%
100.0%	32.2%	34.5%	10.5%
100.0%	26.8%	30.9%	10.5%
100.0%	18.5%	25.2%	10.5%
100.0%	13.9%	22.1%	10.5%
98.8%	10.5%	19.5%	10.5%
91.7%	10.5%	18.1%	10.5%
72.0%	10.5%	14.2%	10.5%
49.6%	10.5%	9.8%	10.5%

Years when less than half of the fields could be cultivated are highlighted in red.

The results of these analyses were striking (Table 3.7; Table 3.8). Only four of the years on record did not permit all *chaupiyunga* fields to be fed in the first planting. Of those four years, only one would have left the *chaupiyungas* with less water than was needed to feed half of its fields. Lower Valley fields did not come out nearly as well watered. For a little less than half of the years on record (19 out of 40), less than 50% of the fields would have been able to be fed. This being said, for about 33 of the 40 years on record (82.5%), the leftovers from up-river could support over 29% of Lower Valley cultivable land: an amount that is still the equivalent of all of the land of the *chaupiyungas* combined. This does make the Lower Valley's position seem less bleak, since the pure mass of land available in the region means even lower percentages still represent relatively large harvests. For the four driest years on record (1942, 1950, 1951, 1968), the Lower Valley would have to be completely dependent on the sub-surface water that could only water around 10.5% of the cultivable land. Looking at the second planting season data removes any doubts about the negative aspects of being last in line: only three years on record would have allowed any water from the Moche River for a second planting season in the Lower Valley. For every other year, the Lower Valley would have been completely dependent on sub-surface water sources. In general, the *chaupiyungas* did not fare terribly in second planting seasons but would have had much smaller harvests. For almost 50% of the years, less than half of the *chaupiyunga* fields could be cultivated with the water running through the river during the dry season.

In the abstract it is rather difficult to fully grasp the consequences of being "first" or "last" in line for water. Thus, a simpler summary of these data can be more illuminating than one dense with numbers. Most years, the *chaupiyungas* would be able to have a first planting season with full fields and a second planting season with half-full fields. Thus, being "first" in line allows cultivation in the *chaupiyunga* to be consistently successful in all but the worst droughts. However, this success in the *chaupiyungas* comes at a cost to the *chala*. If *chaupiyunga* fields are fed first, the Lower Valley would inconsistently be able to feed over half of its fields for a first planting season and would almost never be given a drop for a second season. Sub-surface water could be available during these times, but would only feed a fraction of the vast fields available to the *chala*. Thus, being "last" in line means that some of the bountiful land of the *chala* would consistently be left dry, second planting seasons were entirely dependent on sub-surface water, and droughts could

be devastating. Put bluntly: if the *chaupiyunganos* had the power and desire to do so, they could easily starve their *chala* neighbors of water during years of lower river yields. Even the great fields of the *chala* need water that ultimately comes through the *chaupiyunga*.

3.8.4 *Coca*

But it isn't only water that the *chala* needs from the *chaupiyunga*: *coca* is seldom found anywhere else on the western cordillera. Most modern *coca* fields are very small-scale in the region, but those from recent history were much larger. ONERN provides excellent data recounting the location and size of *coca* fields in the *chaupiyunga* that I digitized to serve as a snapshot of what the valley looked like in the early 1970s (Figure 3.14). ONERN also has data on the average volume of water necessary for growing *coca* per harvest (1973: 229). At around 20,280m3 per hectare, it is far more water intensive than maize. This essentially means that any of the previously described water shortages for the Lower Valley would only be exacerbated by the use of *chaupiyunga* lands to grow *coca*.

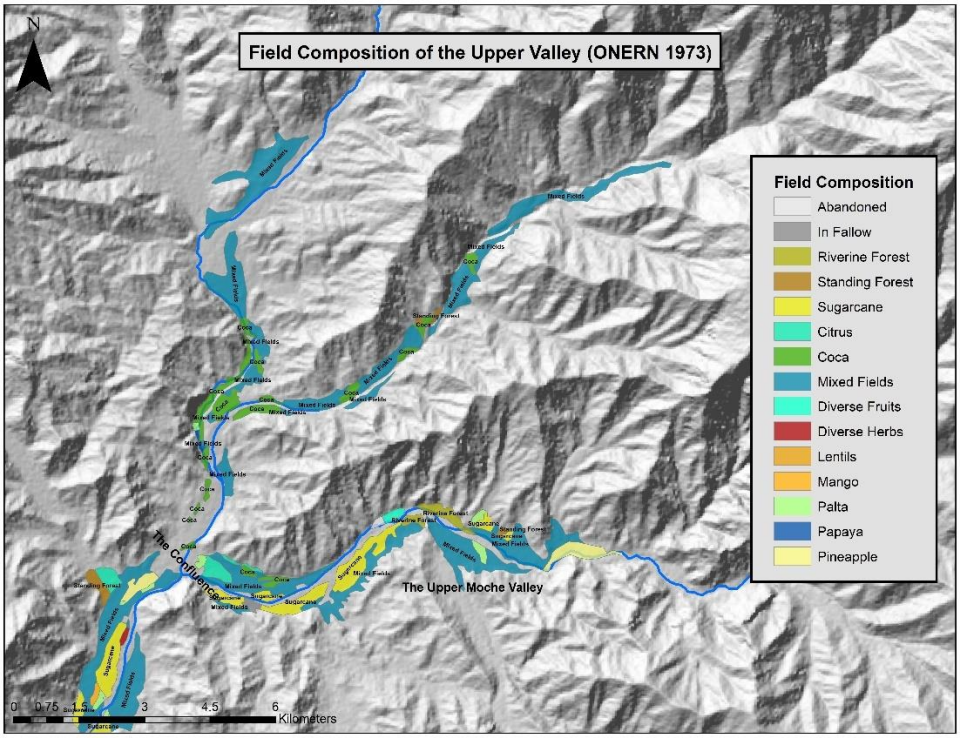


Figure 3.14 Field Compositions in the Upper Moche Valley (ONERN 1973)

Table 3.9 Field Compositions in the Upper Moche Valley (ONERN 1973)

Field Composition	Area (Ha)	Percent of Total
Mixed Fields	976	66.6%
Coca	173	11.8%
Sugarcane	148	10.1%
Pineapple	43	2.9%
Riverine Forest	38	2.6%
Citrus	29	2.0%
Avocado	22	1.5%
Standing Forest	10	0.7%
Diverse Fruits	10	0.7%
In Fallow	8	0.5%
Abandonded	5	0.3%
Papaya	4	0.3%

Table 3.10 Composition of Mixed Fields in the Moche Valley (ONERN 1973)

Cultigen	Field Area (Ha)	Percent of Total
Lentils	184.2	18.9%
Alfalfa	138.1	14.2%
Yuca	138.1	14.2%
Abandoned	82.9	8.5%
Beans	55.2	5.7%
Banana	46.0	4.7%
Coca	46.0	4.7%
Maize	46.0	4.7%
In Fallow	36.8	3.8%
Diverse Fruits	36.8	3.8%
Gramalote	36.8	3.8%
Pineapple	27.6	2.8%
Tobacco	27.6	2.8%
Papaya	27.6	2.8%
Aji Peppers	18.4	1.9%
Squash-Watermelon	9.2	0.9%
Diverse Herbs	9.2	0.9%
Avocados	9.2	0.9%

Moving to the ONERN field data, it is clear that dedicated *coca* fields only occur at or past the confluence, supporting our previous claims that *coca* is exclusively found in the *chaupiyungas*. The majority of these fields appear to cluster around the Sinsicap Valley town of Simbal. I am doubtful that this clustering is merely coincidental, especially if we recall that the area around

Simbal was rich in *cal* mines. Dedicated fields did occur in the Upper Moche around La Constancia. The La Cuesta Valley appears to have had them dispersed throughout. Tabulating the hectarage of different field compositions in the Upper Valley *chaupiyungas*, one can see that *coca* had 173 hectares of dedicated fields (Table 3.9). This is slightly more than even sugarcane, which was, and still is, the main cash crop of the Moche Valley. In addition to being in dedicated fields, *coca* was also cultivated in small quantities in the mixed fields that dominated the *chaupiyunga* landscape in the 1970s (Table 3.10). Thus, between mixed and dedicated fields around 220 hectares of land, or 15% of all cultivated land, was devoted to *coca* between the Sinsicap, La Cuesta, and Upper Moche Valley. We can then say that, at least in recent history, *coca* was exclusively grown above the confluence and formed a modest, but notable, proportion of the fields of the *chaupiyungas*.

Finally, the excellent data from ONERN on field composition in the Upper Moche Valley also gives us an interesting opportunity to see what cultigens could be and have been grown in the region. The most striking thing about the Upper Valley field compositions when compared to the Lower and even Middle Valley is the dominance of mixed fields (ONERN 1973: Mapa 4; Table 3.9). Mixed fields likely represent smaller-scale operations led by individual families or communities as opposed to the larger operations of sugarcane or alfalfa found down-valley. These fields display a dazzling variety of new-world cultigens: yuca, beans, maize, fruits, peppers, avocados, zapallo (squash), herbs, and probably several more that were not recorded. This diverse array is a testament to how easy it is to grow pretty much anything in the *chaupiyunga*. This is no secret to those who live there: one of my more vociferous and older neighbors in Casa Blanca frequently would gesture to the landscape and call it “Eden”.

Also interesting in the ONERN data was the presence, albeit small, of riverine and standing forests along the banks of the Moche River in the Upper Valley *chaupiyunga*. It is important to remember that, without canals or cultivation, the area around the river would likely have been surrounded with similar such riverine forests. Such forests would have supported vastly different ecosystems of animals and plants than modern fields or even the more-or-less wild *monte* above. Could these forests be providing a tiny lens into a more ancient past of the *chaupiyunga*, a past before any canals or cultivation? The area has long since been cleared for fields but it is compelling that even as recent as the 1970s such now-extinct ecosystems seemed to have persisted.

In regards to the size and location of *coca* fields, the composition of mixed fields, and the presence of riverine forests, the question remains as to the extent these patterns can be projected into ancient, or even colonial, history in the region. This is a question that the historic, archaeobotanical, and archaeological literature is better suited to answer and thus must be tabled for the subsequent chapter. However, these data do show that the farmers of the *chaupiyunga* can cultivate a dazzling variety of crops and easily cultivate *coca*. Combine such conditions with plentiful water and enough land and it would appear the *chaupiyunga* is an ideal place for any farming community to live.

3.9 ENSO-Related Risks

Most years, water is a limited commodity in coastal Peru, but during an ENSO year water can come in an excess that destroys fields, homes, and lives. Though we have already touched on some general risks and benefits of such events, a more focused discussion is needed to grapple with the consequences of ENSO events in the Moche Valley. What differences can we observe in how ENSO events may differentially affect the *chaupiyungas* versus the *chala*? The degree to which a landscape perspective can attempt to answer such a question is obviously limited: things like marine life die-offs, insect plagues, and social unrest are difficult to model using geo-spatial software without the necessary data. However, if we focus on those effects that can be traced in the landscape through basic topography and aerial imagery, like river overflows and *huaicos*, we can begin to articulate some of the differences that emerge between these regions.

3.9.1 River Overflow Risks

One of the most obvious consequences of ENSO events is the destruction caused by coastal rivers themselves. Invigorated and engorged by ENSO rainwater, these rivers often jump course, sometimes destroying large tracts of fields on the valley floors as they widen their beds. Recognizing such events tore away the rich topsoil and replaced it with sterile sands and cobbles, Billman and Huckleberry proposed that this type of riverside field destruction, not that of canals,

was more impactful on local populations (2008: 116). It was far more difficult to re-soil a field than it was to re-build sections of a canal. Using aerial imagery from before and after the 1982-83 and 1997-98 ENSO events, they traced the Moche River channel at the Middle Valley town of Quirihuac to show that the channel itself could double to triple in size (Billman and Huckleberry 2008:114-115). Following from this, they went on to argue that the consequences of such field destruction would have been far more profound for Middle Valley than the Lower Valley, simply because there was far less valley floor to work with in the Middle Valley (Billman and Huckleberry 2008: 116).

The wide availability of time-stamped aerial imagery via Google Earth and the 2017 ENSO event gave me an excellent opportunity to expand their study while including the upper reaches of the Moche River and my study area in particular. I began by selecting aerial imagery from 2016 and tracing a polygon that represented the width of the Moche River bed from its mouth on the coast to about 1400masl near Samne. I repeated this same process using aerial imagery from post-April 2017. Using a central line representing the Moche River, I then cut cross sections of each riverbed polygon at 1km intervals. The areas of the resulting polygons were tabulated to detail how much river overflow occurred along 1km sections of the Moche River from the *chala* deep into the *chaupiyunga*. Given that certain river sections were larger than others, I standardized each section by the pre-2017 ENSO area to instead measure the percent increase/decrease and simplified these data into a graph (Figure 3.15). In order to assess Billman and Huckleberry's hypothesis I also created a table that compares the total river overflow of each region with the cultivable area estimates made and used in the previous sections of this chapters (Table 3.11).

The results of this exploration into river overflow provide several insights into the particularities of the 2017 ENSO event as it played out across the Moche Valley landscape. As would be expected, the Lower and Middle Valley were heavily affected and the graph well-illustrates the erratic jumps made by the Moche River. The severity of these overflows far exceeded that observed by Billman and Huckleberry at Quirihuac, with some areas showing the riverbed increase to over ten times its previous size. The results of broader comparisons between regions also confirmed Billman and Huckleberry's hypothesis: of the regions, the Middle Valley was by far the hardest hit, with over 7% of its cultivable land destroyed by river overflow. Contrasting the heavily affected lands of the Middle Valley *chaupiyunga*, the Upper Valley landscape was only

modestly affected, if at all, in most areas. The river simply did not overflow above 600masl. Though I believe that overflow decreases appear to be linked with elevation, this probably occurred for reasons that could be better articulated by a hydrologist. In any case, these analyses of overflow illustrate a very interesting point: in the 2017 ENSO event, the Upper Moche *chaupiyunga* was far more resistant to river overflow than its down-valley neighbors.

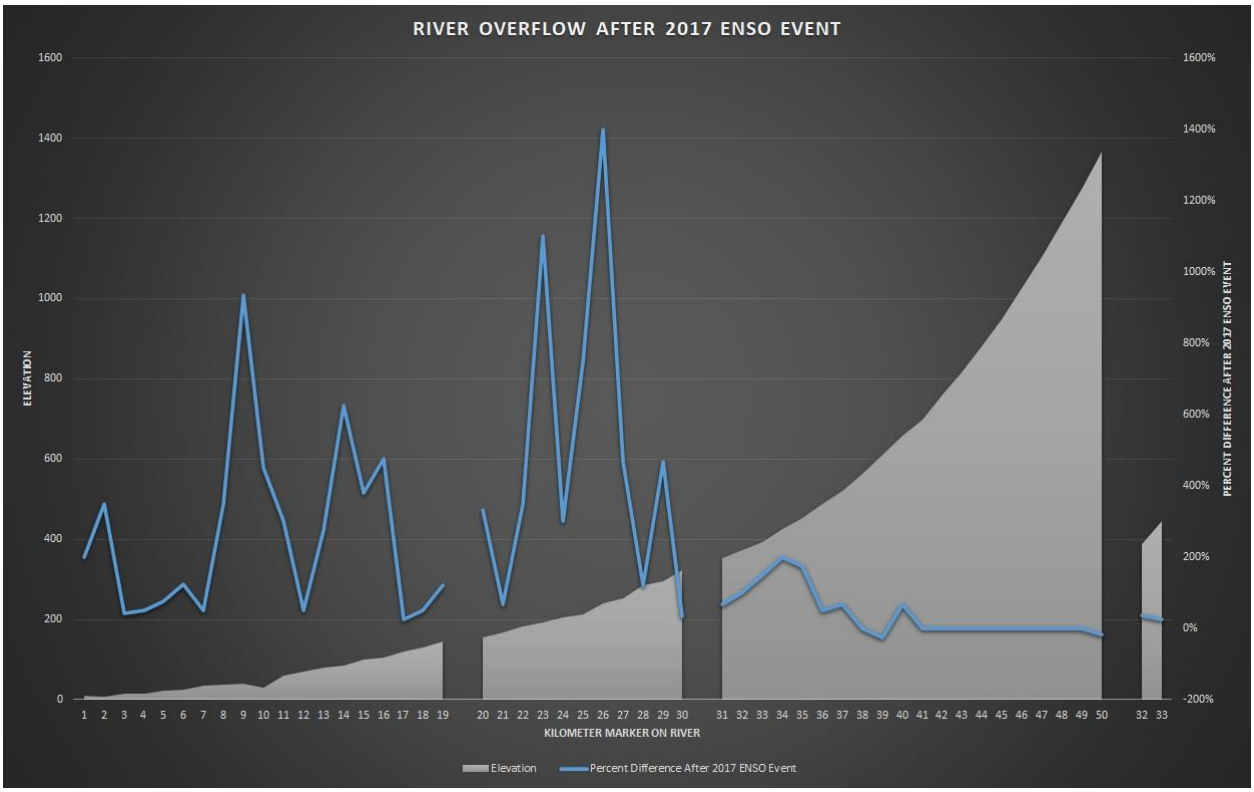


Figure 3.15 River Overflow after 2017 ENSO Event

Table 3.11 ENSO River Overflow and Cultivable Area Affected by Region

Region	Total River Overflow (Ha)	Cultivable Area (Ha)	Proportion of Cultivable Area Affected
Lower Moche Valley	331	22122	1.5%
Middle Moche Valley	128	1710	7.5%
Upper Moche Valley	34	2857	1.2%
La Cuesta - Sinsicap	5	320	1.6%

3.9.2 *Huaico* Risks

Just because the Moche River itself destroyed less in the Upper Moche *chaupiyunga* does not mean the region was immune to the destruction caused by the ENSO rains. The sudden downpours common during ENSO events can quickly transform steep slopes and dry quebradas into raging masses of earth and water, *huaicos* (also spelled *huaycos*), that are as destructive as they are terrifying. During the 2017 ENSO event, it wasn't the Moche River that my *chaupiyungano* neighbors were worried about, but the *huaicos* that would descend through the dry quebrada of the Rio Chepen, just besides Casa Blanca, after a big rain in the hills above. As soon as the rain started, community members would take turns standing guard at the upper reaches of the Rio Chepen to listen for the telltale rumble and roar of a *huaico*. The goal was to warn those in town to be ready to run if the *huaico* seemed to be particularly strong, lest it jump from its normal path through the dry bed of the Rio Chepen and into the community itself. Such strategies made it clear to me that *huaicos* were a known threat for the *chaupiyunga* community of Casa Blanca before the 2017 ENSO. It is also notable that community members had encountered *huaicos* with enough frequency that they had developed their own *ad hoc* warning system. Larger watersheds lead to larger *huaicos* if there is enough rain, and the wide quebradas of the Middle Valley dwarfed the Rio Chepen in the size of the *huaicos* they could produce. Smaller *huaicos*, however, are much less predictable and could descend in a moment's notice through any of the numerous smaller washes of the *chaupiyungas*. In fact, many of the fatalities in the Moche Valley during the 2017 ENSO event were the result of smaller *huaicos* descending upon the roadways of the *chaupiyunga* to hit unsuspecting travelers. However, most of the smaller *huaicos* caused more localized destruction of canals, fields, roadways, or the occasional abandoned or evacuated farmstead.

Needless to say, these insights make it clear that addressing the measurable impacts of *huaicos* on the *chaupiyunga* landscape is an important part of any assessment of ENSO risks in the Moche Valley. Landslide risk is notoriously tricky to model in exact terms but the most general takeaway from previous attempts is that risk is highly dependent on slope and relative elevation (Lineback Gritzner et al. 2001). Fortunately, the landscape classifications I created to understand topography earlier in this chapter are built out of these two variables and thus were quite simple to

re-assign as very rough measures of *huaico* risk. Exceptionally steep areas and quebrada washes are generally areas that *huaicos* would be more frequent and were thus classified as high risk. The moderately steep slopes of mountains and hills could still promote the fast movement of water and earth but were less likely to be affected by a *huaico* itself and were thus considered to be medium risk. Finally, mountain tops and the valley floor were generally flat areas that were less likely to be impacted by all but the largest *huiacos*. Classifying the valley floor as "low risk" is problematic, as many of the larger *huaicos* of the 2017 ENSO destroyed fields and communities in the valley floor though they came from larger quebradas fed from the hills above. With this in mind, the resulting measures seem better suited at assessing the risk posed by medium to small *huaicos*. Modeling larger ones would require more nuanced models that take broader watersheds and adjacent cell values into account, and are outside of the scope of this dissertation. Using the previously developed polygons of cultivable areas in the Lower, Middle, and Upper Valleys, I then overlaid these with the reassigned risk raster to map what land would be at risk (Figure 3.16). Proportions of what amount of cultivable land in each region was in high, medium, or low risk zones were then simple to tabulate (Table 3.12).

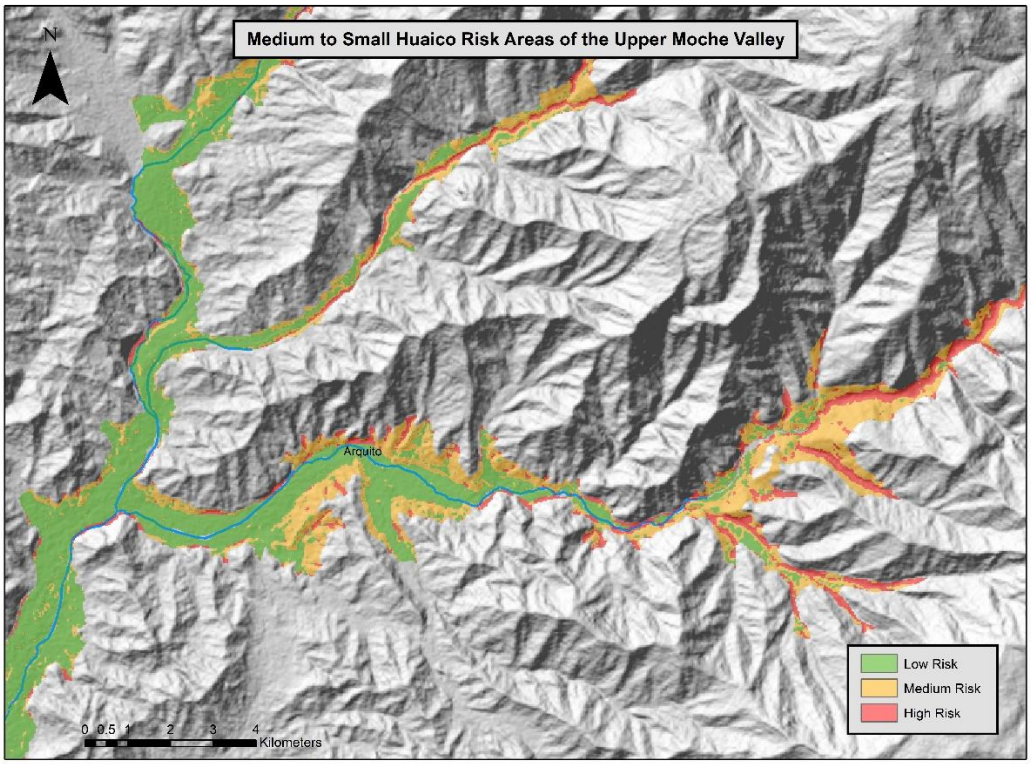


Figure 3.16 Medium to Small *Huaico* Risk Areas of the Upper Moche Valley

Table 3.12 Medium to Small *Huaico* Risk to Cultivable Land by Region

	Total Cultivable Area (Ha)			Proportion of Cultivable Area		
Medium-Small *Huaico* Risk	**Lower Valley**	**Middle Valley**	**Upper Valley**	**Lower Valley**	**Middle Valley**	**Upper Valley**
Low Risk	20216.7	1550.8	1072.8	91.7%	90.7%	37.5%
Medium Risk	1811.4	130.3	1241.1	8.2%	7.6%	43.4%
High Risk	25.7	29.0	544.6	0.1%	1.7%	19.1%

Highest risk areas highlighted in red.

The results of these analyses are relatively predictable and reflect well-trodden insights made regarding the topographic classification maps from which they were developed. The flatter Lower Valley had minimal risk of medium to small *huaicos* destroying cultivable land. The Middle Valley showed a similar risk profile, with only 2% of the cultivable land considered as high risk. These are not surprising results, as they are reflective of the fact that the majority of Lower and Middle Valley cultivation is done on the valley floor (a low-risk zone). The Upper Valley, on the other hand, had almost half of its cultivable land in medium risk zones and nearly 20% in high-risk zones. This is also not surprising: many of the fields of the Upper Moche *chaupiyunga* are located on the hills above the valley floor. These hills have quebradas and washes that are, and were, highly susceptible to *huaicos*. However, repairing higher fields and canals is not a monumental task: I would often come across recently repaired canals and re-cleared fields during my 2017 survey. Given this was only a few months after the ENSO event, it shows that most *huaico* repairs were relatively quick and I assume could be hastily done to take advantage of the increased output of the Moche River. It is also worth noting that these risky areas can be avoided in the lower part of the Upper Moche *chaupiyunga* because it has more valley floor than the narrower parts upriver. Recalling that the Upper Moche was relatively less impacted by river overflow, the valley floor of this particular part of the *chaupiyunga* actually appears to be one of the most ENSO-resistant parts of the Moche Valley landscape. In sum, higher fields are generally more susceptible to *huaicos* from ENSO events and would likely require some repairs every 20 years or so. This fact likely figured into whatever calculus guided the construction of new fields and canals in the region, specifically if those building the canals and fields were locals.

The degree to which any of these patterns of ENSO risk can be generalized past the Moche Valley, or even the 2017 ENSO event itself, is somewhat difficult to assess. Given that Billman and Huckleberry observed similar expansions of the Moche River channel after the 1982-83 and 1997-98 ENSO events, I believe the river overflow analyses of the 2017 ENSO event can be

generalized for the Moche Valley. The medium to small *huaico* risk model is more difficult to assess but I believe it is a relatively accurate, albeit coarse, measure of which places tended to be hit by *huaicos*. In 2017, I personally witnessed landslides in two of the high-risk areas the model identified around Arquito (Figure 3.17). This provides a bit of anecdotal support for the veracity of the *huaico* model at least in regards to the 2017 event.

Figure 3.17 Photo of Rubble from *Huaico* Landslide near Arquito, 2017

To summarize this final section, the Upper Moche *chaupiyunga* appears uniquely resistant to river overflow during ENSO events but is markedly more susceptible to medium and small *huaicos*. Given that smaller *huaicos* cause damage that appears to be quite repairable, this seems like a relatively advantageous trade-off. Downriver, the Middle Valley *chaupiyunga* appears to be a uniquely dangerous landscape to inhabit during ENSO events. Residents of the Middle Valley have to periodically contend with massive river overflows and larger *huaico* events that destroy significant portions of the valuable cultivable land on the valley floor. Thus, yet again the Upper Moche and Middle Moche *chaupiyungas* appear to emerge as being quite different though both can be considered *chaupiyungas*.

3.10 Geographic Boundaries in the *Chaupiyunga* Borderlands

To conclude, it is useful to return to our broader goal of understanding the Upper Moche Valley *chaupiyunga* as a borderland. How may we marshal the insights we have obtained towards this goal, particularly when it comes to geography? I find that the easiest way to conceptualize the consequences of the preceding analyses is to place them in the realm of advantages and disadvantages, benefits and drawbacks.

The geography of the Upper Moche Valley *chaupiyunga* imparts many advantages that may encourage the settlement of its hills when compared with neighboring regions or adjacent *chaupiyungas*. Easily the most pronounced advantage of this region is that it has first access to water. When combined with its position as having the largest area of potential cultivable land of any of the Moche Valley *chaupiyungas*, the ample fields of the Upper Moche would never need to go dry. Many of these fields could support *coca*, giving even greater economic potential to this land. With the Moche River confluence at its base, the Upper Moche was also quite close to an area that likely served as an important intersection in inter-valley and coastal-highland movement. The region mostly sits above the fog banks that periodically obscure the Moche Valley in winter months, perhaps giving it advantages in realms where vision is essential. Finally, the Upper Moche seems uniquely resistant to river overflows, meaning that less of the valuable farmland on the valley floor is periodically destroyed during ENSO events.

This same geography also makes the Upper Moche Valley *chaupiyunga* a less attractive, even dangerous, place to live. Though it oversees the confluence, the region is not inherently positioned to control highland-coastal or inter-valley movement: it is often quite easy to just go around it. The fields of the Upper Moche Valley may be the largest of the *chaupiyunga* but they are still dwarfed by the cultivable land available in the adjacent *chala* or *quechua* regions. Fields grow crops that feed people, meaning that geography likely puts a cap on how many people the *chaupiyunga* alone could support. Whatever that number is or was, it would likely be far less than the *chala* or *quechua*. Moreover, the fields of the *chaupiyunga* must be carved into steep slopes, making them quite an investment early on. This region is also sorely lacking in mineral wealth: inhabitants would have had to obtain metals, and even possibly clay, from their *chaupiyunga*, *chala*, and *quechua* neighbors. Viewsheds from the valley floor of the Upper Moche *chaupiyunga*

are poor, meaning that inhabitants would have to ascend adjacent mountains and ridges to take advantage of their fog-less views. Finally, the cultivable land and canals of this region are particularly susceptible to *huaicos* during ENSO events and would have required periodic repairs in addition to caution in regards to where one lives.

3.10.1 A Contested *Chaupiyunga*

One particular set of advantages and disadvantages warrants further unpacking and theory-crafting for the *chaupiyunga*: those concerning canals, cultivatable land, water, and *coca*. One may assume that, given the advantages in water access and ample fields, the occupants of the *chaupiyungas* in prehistory could leverage these advantages to become the most powerful rulers of the Moche Valley. The *chala* may offer larger fields, which would support larger populations, but many of these fields cannot be watered nor people fed if the *chaupiyungas* come first. However, we will find in the following chapter that the people of the *chaupiyungas* were almost surely not the rulers of the Moche Valley for most, or likely any, of the region's prehistory. What advantages and disadvantages may explain such discordance?

It is important to remember that <u>all</u> of the *chaupiyunga* canals and fields must first be built in order for those occupying the region to fully enjoy its advantages. It is here that the *chala* perhaps may get the upper hand: carving canals and fields out of the mountainous terrain in the upper parts of the *chaupiyunga* slopes can be more labor intensive than building them on the wide valley floor of the *chala* or *chaupiyunga*. If we assume canals were being built along the valley floor locations where they are more easily constructed, the valley floors of the *chala* are far more expansive than those in the *chaupiyunga*. With ample canals and land, it would then be in the interest of those occupying the *chala* that the *chaupiyungas* were either left unoccupied or only sparsely occupied to limit shortfalls downstream. Even so, we should expect that at least some of the Upper Moche Valley would be opened for cultivation as the ever-valuable *coca* is unique to the zone. We can then propose that *chala* groups would have needed to find a crucial balance between any desire they had for *coca* and the need for watering *chala* fields and preventing shortfalls. That is, unless water was brought from elsewhere: the modern CHAVIMOCHIC project is doing this now and the La Cumbre canal could have done it in the past.

Contrasting the *chala*, those occupying the *quechua* need not have as many, if any, considerations for balance in regards to *coca* cultivation in the *chaupiyunga*. If *quechua* groups encouraged the development of the *chaupiyunga* so they could have access to more *coca*, it would obviously have negative consequences for *quechua-chala* relationships but would have no effect on the productivity of the *quechua* itself. Given that most *quechua* canals are constructed into mountainous terrain, it is possible that building canals into similar parts of the *chaupiyunga* would seem less daunting for those from the *quechua* than it would for those from the *chala*. This is difficult to test in any substantive way but is worth mentioning simply as a hypothetical. However, we can say with relative confidence that an empty *chaupiyunga* (as those in the *chala* would want it) would present prime (and relatively free) real estate for those from the *quechua*. Ambitious or wily highlanders could settle the area to access *coca* while having no impact on the productivity or water requirements of their own lands.

Thus, we can identify a fundamental tension between any groups occupying the *chala* and *quechua*, a tension we can expect to be enacted upon, and likely unique to, the *chaupiyunga* borderland. At the center of this tension: *coca*, water, and the landscape of the *chaupiyunga*. A relatively empty *chaupiyunga* is needed for the *chala* to thrive but could prove too tempting a prize for any enterprising groups in the *quechua*. An occupied *chaupiyunga* can provide riches of *coca* for those in the *quechua* but could starve those in the *chala*, no doubt filling them with a resolve to regain the balance they need to survive. The geography of the *chaupiyunga* borderland seems to set the board to produce this tension: an eternal tug-of-war between the *chala* and *quechua* over the *chaupiyunga*. But we must remember it is up to the players of the game to fall into its traps. There are limits of looking at geography alone and there is no borderland without people. People dig the canals, clear the fields, and plant the *coca*. Though geography may provide constraints, people shape the landscape to live within these constraints or overcome them. People can endure tension or find ways to resolve it.

4.0 THE PEOPLE: THE PREHISTORY AND HISTORY OF THE PEOPLE OF THE MOCHE VALLEY AND ITS *CHAUPIYUNGA*

4.1 Introduction

Far from determining human behavior, the opportunities and dangers presented by the geography of the *chaupiyunga* are often circumvented, overcome, or embraced by the people who settle upon its hills. It is these people who shape their economies, share their cultures, settle their populations, and navigate their politics to build the economic, cultural, demographic, and political boundaries that interact upon and create the *chaupiyunga* borderlands, past and present. What is currently understood about the prehistory of the Moche Valley and its *chaupiyunga* illustrates a long past full of people. The material record shows people who cooperated to build monuments and canals, immigrated from distant lands, submitted to and resisted foreign rule, served as intermediaries in vast trade networks, and were often forced to defend their lands and homes from internal and external threats. Though not always specifically about the Moche Valley or its *chaupiyunga*, the broader Andean historic record recounts pasts of conflict and cooperation, of sacred landscapes filled with gods and ancestors, and of nobles and subjects bound together in the landscape. These accounts afford more colorful interpretations and informative details that bolster the admittedly less articulate tales left in the material record. But the story of people in the Moche Valley *chaupiyunga* borderlands obviously does not end in prehistory or with the arrival of the Spanish. Later communities in the *chaupiyungas* continued to be bound to a borderland where multiple political, cultural, demographic, and economic boundaries persisted, as they do up to the present.

The goal of this chapter is to provide the detailed treatment of regional background necessary for building expectations towards what borderlands processes have shaped the long past of the Moche Valley *chaupiyunga*. As they are the main subject of this dissertation, I mainly focus on the dynamics of political and demographic boundaries through an investigation of local political traditions and regional demography. Economic and cultural boundaries are obviously intertwined with demography and politics, so they are discussed accordingly where relevant. At the conclusion

of this chapter, I endeavor to better situate the *chaupiyunga* as a borderland: highlighting a few ways in which different boundaries possibly interacted upon its hills.

4.2 Prehistory of the Moche Valley

I begin this chapter by outlining some of the applicable chronologies in the region but frame my discussion of regional prehistory within a condensed version of the traditional Moche Valley chronology. My discussion is admittedly focused on the *chala* and *chaupiyunga*, as the adjacent highlands have seen very little study. I start with a discussion of the earliest people, landscapes, and sedentary communities of the Moche Valley during the Paiján Phase (11000 – 5000 BCE) and Late Preceramic Phase (2500 – 1600 BCE). The chronology then moves to describing the earliest instances of monumentality and possible political complexity during what is often called the Guañape Phase (1600 – 500 BCE). This is followed by an understudied, but seemingly transitional, set of phases that are characterized by conflict, highland migration, and possible foreign political influence from the Virú Valley during the Salinar (500 – 1 BCE) through Gallinazo Phases (1 – 400 CE). Later, the Moche Phase (400 – 900 CE) sees the emergence of at least two political and demographic centers in the Moche Valley *chala*: Huacas del Moche and Galindo. Both of these centers were part of a broader Moche Political Tradition that spanned much of the north coast of Peru. Though very little is understood about the local highlands during these phases, we do know that some communities and possible palace compounds had appeared by at least 200 BCE. Throughout the *chala*, the remnant Moche centers were eventually eclipsed by the capital of the Chimú Empire (also called the Kingdom of Chimor) at Chan Chan during the Chimú Phase (900 – 1450s CE). This demographic center also served as the political center of the Chimú Political Tradition, a tradition that expanded irrigation and transformed settlement throughout the valley. During this same time period, the *chaupiyunga* and local highlands saw an explosion of fortified towns: pointing towards endemic conflict upon the eastern frontier of Chimor. Sometime in the mid-1400s, the last truly sovereign King of Chimor was defeated and subjugated by the Inka after a prolonged, but poorly understood, set of conflicts between the two Andean super-powers. During the Chimú-Inka Phase (1450s – 1530s CE), the Inka Empire indirectly administered the

Moche Valley *chaupiyungas* through the highland kingdom of Huamachuco until the Spanish invasion of the 1500s.

4.2.1 Relevant Chronologies

Chronologies are useful tools that archaeologists use to make sense of the large timescales and varied material culture we often engage with. Broader regional chronologies usually focus on equally broader temporal patterns while more specific local chronologies are tailored towards more specific and localized patterns. All chronologies, however, are built for the same task: organizing observed patterns in the material record in the order in which they occur. Such patterns can range from the rise and fall of ceramic traditions to the expansion and decay of powerful political traditions. For the purposes of this chapter, I focus on the demographic and political patterns that emerge from a discussion of the pre-history of the people of the Moche Valley.

4.2.1.1 Horizons and Periods in the Andes

In the Andes, one of the more widely used regional chronologies is that constructed by Rowe and Menzel (1967), who organized time through a series of horizons and periods. This is often referred to as the Rowe-Menzel system (Table 4.1). Horizons are generally characterized by wide-reaching cultural and political phenomena: The Early (EH), Middle (MH), and Late Horizons (LH) can be seen, respectively, as corresponding with the Chavín phenomenon, the expansion of the Wari and Tiwanaku polities, and the expansion of the Inka Empire. Periods are characterized more by wide-reaching variability and the domination of uniquely local phenomena. The Initial Period (IP), Early Intermediate Period (EIP), and Late Intermediate Period (LIP) are periods that seldom can be associated with specific polities/phenomena that span the entirety of the Andes and instead vary from region to region. In general, such broad chronological frameworks are best suited for equally broad arguments about prehistory and are difficult to use when looking at particular sub-regions.

Table 4.1 General Chronologies for the Andes and the Moche Valley

General Chronologies for the Andes and Moche Valley							
Year		*Andean Chronology*	*North Coast Regional*	*Moche Valley (Donnan and Mackey 1978)*	*Moche Valley (Billman 2002)*	*Moche Valley (Mullins)*	*Huamachuco (Topic, J. 2009)*
1800	CE	Colonial Period	Colonial Period	Colonial Period		Colonial Period	Colonial Period
1700	CE						
1600	CE	Late Horizon	Inca	Chimu-Inca		Chimu-Inka	Santa Barbara
1500	CE	(1438 - 1532 CE)	(1470 - 1532 CE)	(1470 - 1532 CE)		(1450s - 1531 CE)	(1470 - 1532 CE)
1400	CE	Late Intermediate	Late Intermediate	Chimu (E-M-L)	Middle and Late	Chimu	Tuscan
1300	CE	Period	Period	(800 - 1450 CE)	Chimu	(900 - 1450s CE)	(1000 - 1470 CE)
1200	CE	(1100 - 1438 CE)	(900 - 1470 CE)		(1000 - 1470 CE)	Early Chimu (?)	
1100	CE					(900 - 1200 CE)	
1000	CE	Middle Horizon			Early Chimu		Late Huamachuco
900	CE	(600 - 1000 CE)	Middle Horizon		Late Moche	Moche	(800? - 1000 CE)
800	CE		Early Intermediate	Moche (I-V)	Middle Moche	(400 - 900 CE)	Amaru
700	CE		Period	(100 - 800 CE)	(400 - 800 CE)		(600 - 800? CE)
600	CE	Early Intermediate	(400 BCE - 800 CE)				Early Huamachuco
500	CE	Period					(300 - 600 CE)
400	CE	(1 - 600 CE)			Early Moche	Gallinazo	
300	CE				(200 - 400 CE)	(1 - 400 CE)	Purpucala
200	CE				Gallinazo		(200 BCE - 300 CE)
100	CE			Gallinazo	(1 - 200 CE)		
100	BCE	Early Horizon		(200 BCE - 100 CE)	Late Salinar	Salinar	
200	BCE	(800 BCE - 1 CE)			(200 - 1 BCE)	(500 - 1 BCE)	
300	BCE			Salinar	Early Salinar		Sausagocha
400	BCE			(450 - 200 BCE)	(200 - 400 BCE)		(900 - 200 BCE)
500	BCE		Early Horizon	Cupisnique	Late Guanape		
600	BCE		(400 - 1200 BCE)	(1500 - 450 BCE)	(800 - 400 BCE)	Guanape	
700	BCE					(1600 - 500 BCE)	
800	BCE						
900	BCE	Initial Period			Middle Guanape		
1000	BCE	(1800 - 800 BCE)			(1300 - 800 BCE)		Colpa
1100	BCE						(? - 900 BCE)
1200	BCE						
1300	BCE		Initial Period				
1400	BCE		(1200 - 1800 BCE)		Late Guanape		
1500	BCE				(1800 - 1300 BCE)		
1600	BCE			Gramalote (?)			
1700	BCE			(1900 - 1500 BCE)		Late Preceramic	
1800	BCE					(2500 - 1600 BCE)	
1900	BCE	Late Preceramic	Late Preceramic				
2000	BCE	Period	Period	La Cumbre			
2100	BCE	(2500 - 1800 BCE)	(2500 - 1800 BCE)	(1900 - 1500 BCE)			
2200	BCE						
2300	BCE						
2400	BCE						
2500	BCE						
/\/\/\/\	\/\/	\	/\/\/\/\/\/\	/\/\/\/\/\/\	/\/\/\/\/\/\	/\/\/\/\/\/\	/\/\/\/\/\/\
5000	BCE	Paleolithic	Paleolithic	La Cumbre		Paijan	
6000	BCE					(11000 - 5000 BCE)	
7000	BCE						
8000	BCE						
9000	BCE						
10000	BCE						
11000	BCE						

In fact, archaeologists of each sub-region of the Andes have often interpreted and changed the dating scheme of the Rowe-Menzel system to better fit their own local contexts. The chronologies of the Peruvian North Coast are a good illustration of how local archaeologists have tried to balance an appreciation of phenomena that are wide-reaching, albeit at a local scale, with those identified as operating on an even larger Andean scale (Table 4.1; Billman 2002). One can see that the chronology of the North Coast has little room for the MH, and this is mainly because the Tiwanaku and Wari political traditions had minimal presence in the region. It is also clear that the EIP emerges as a much larger period and gobbles up this extra space provided by a smaller MH. The reason for the larger EIP of the north coast is simple: this period corresponds with the rise and fall of the wide-reaching and massively influential Moche political and cultural tradition. This tradition dominated local prehistory for nearly a millennium, essentially creating a Moche "Horizon" of sorts for the North Coast. Such modifications clearly lend these localized versions of the Rowe-Menzel system more utility in describing the localized patterns they were developed to characterize. However, the fact that they use similar naming conventions makes them particularly susceptible to sowing confusion between sub-regions. For example: the MH in the North Coast is much different from that of the Titicaca Basin in both time and the broader political and cultural phenomena at play.

4.2.1.2 The Chronological Sequence of the Moche Valley

As one becomes familiar with these local chronologies, it is increasingly apparent that they are all commonly rooted in localized patterns of material culture. More specifically: most are rooted in ceramic chronologies. Thus, changes in ceramics almost always guide interpretations of broader changes in settlement patterns or political traditions. This is an unavoidable element of most archaeological work but is important to state plainly. There has been one complete ceramic chronology developed for the Moche Valley (Donnan and Mackey 1978) and it is usually supplemented by an earlier, and widely influential, ceramic chronology developed for the neighboring Virú Valley (Ford 1949). I reserve an *ad nauseum* discussion of these ceramic chronologies for Appendix A where I develop my own modified ceramic chronology for the Moche Valley. Here, it is simply important to state that these ceramic chronologies are inseparable from how the chronology of the Moche Valley has been discussed over the past several decades

(Donnan and Mackey 1978; Billman 1996). Donnan and Mackey present a synopsis of regional history that is clearly tied with the specific ceramic traditions they use to differentiate the different periods within their chronology (1978; Table 4.1). Billman's regional prehistory is similarly structured, but divides several of these periods into sub-phases that align with his own updated ceramic chronology (1996; Table 4.1).

The chronology that I outline here is essentially an updated and condensed version of that developed by Billman (Table 4.1). The differences are mainly the result of my integration of more recent scholarship and the more condensed ceramic chronology I develop in a later chapter and use for my dissertation. I also compiled most of the absolute dates available in publication before around 2019-2020 from the Moche Valley and recalibrated them with the most recent curve (using the SHCal20 solely for consistency) in order to better modernize the chronology presented in this dissertation (Hogg et al. 2020; Appendix F; Table F.1; Figure F.1). New dates are constantly being published but the 204 dates included in Appendix F do provide a good baseline. Though I mainly stick to my condensed phases, I explore several of the sub-divisions created by Billman as they become relevant. I begin my discussion of each phase by briefly noting some of the material culture, specifically the lithic or ceramic traditions, associated with the phase and its sub-divisions. I then transition to a treatment of the demographic patterns of the phase, focusing on community size, location, and qualities. This is followed by a summary of any political traditions that arise during each phase, focusing on the location, extents, and particularities of each tradition. Though I expend most of my words in discussing the demographic and political patterns and histories of the Moche Valley landscape, as they are the focus of this dissertation, I discuss economic and cultural patterns as they become relevant to issues at hand. The insights gained from identifying these patterns and elucidating these histories help articulate the more regionally specific research questions that help guide this dissertation.

4.2.2 The Paiján Phase (~11000 – 5000 BCE): The Earliest People

The earliest people who are archaeologically visible in the Moche Valley were mobile hunter-gatherer groups often referred to as the Paiján or Paijanese. The name comes from the Paiján lithic tradition which is composed of projectile points and other lithic tools found scattered

around camp sites dating between 11000 and around 5000 BCE. This lithic tradition has been encountered throughout the North Coast but is also commonly found in adjacent *chaupiyungas* and even parts of the highlands (Briceño 2011; Figure 4.1). Though there is no evidence yet for any large-scale political or ritual traditions arising from these groups, the wide demographic dispersal of Paiján people tells us much about how they interacted with and adapted to the early landscape of the Moche Valley.

4.2.2.1 The Paiján Landscape

Before we can understand how these earliest people lived, it is first important to understand that the landscape and general climate that shaped their lives was quite distinct from that described in the previous chapter. The Paiján would have settled the Moche Valley at the edge of the Pleistocene and early- and mid-Holocene, a period of time when the earth was getting warmer and sea levels were rising. Though no such research has been done for the Moche Valley, recent paleoclimate research from the Chicama Valley paints the landscape and climate of this phase in stunning detail (Goodbred et al. 2017). The coastline would have begun at least 30 kilometers westward from that seen in modern times, creating a larger *chala* with wide stretches of marshes and lagoons in the additional land created by the lower sea-levels (Netherly and Dillehay 2017; Goodbred et al. 2017). These marshes provided a bounty of marine flora and fauna, especially when paired with that already offered by the Pacific Ocean. The upper edges of the *chaupiyungas* would have seen moderately more rain, supporting long bands of dry forests that existed well beyond the extent of modern rivers (Netherly 2011). Interestingly, stands of these forests remained for millennia well into the Holocene, and to the present, due to their ability to recycle water locally and create their own self-sustaining micro-climates. In the Moche Valley, *bosque secos* like that found in Avendaño are probably relics of these more ancient landscapes. ENSO events still would have occurred at a somewhat similar frequency and severity as seen in modern times, but they do appear to have subsided briefly for a few millennia sometime in the mid-Holocene (Goodbred et al. 2017).

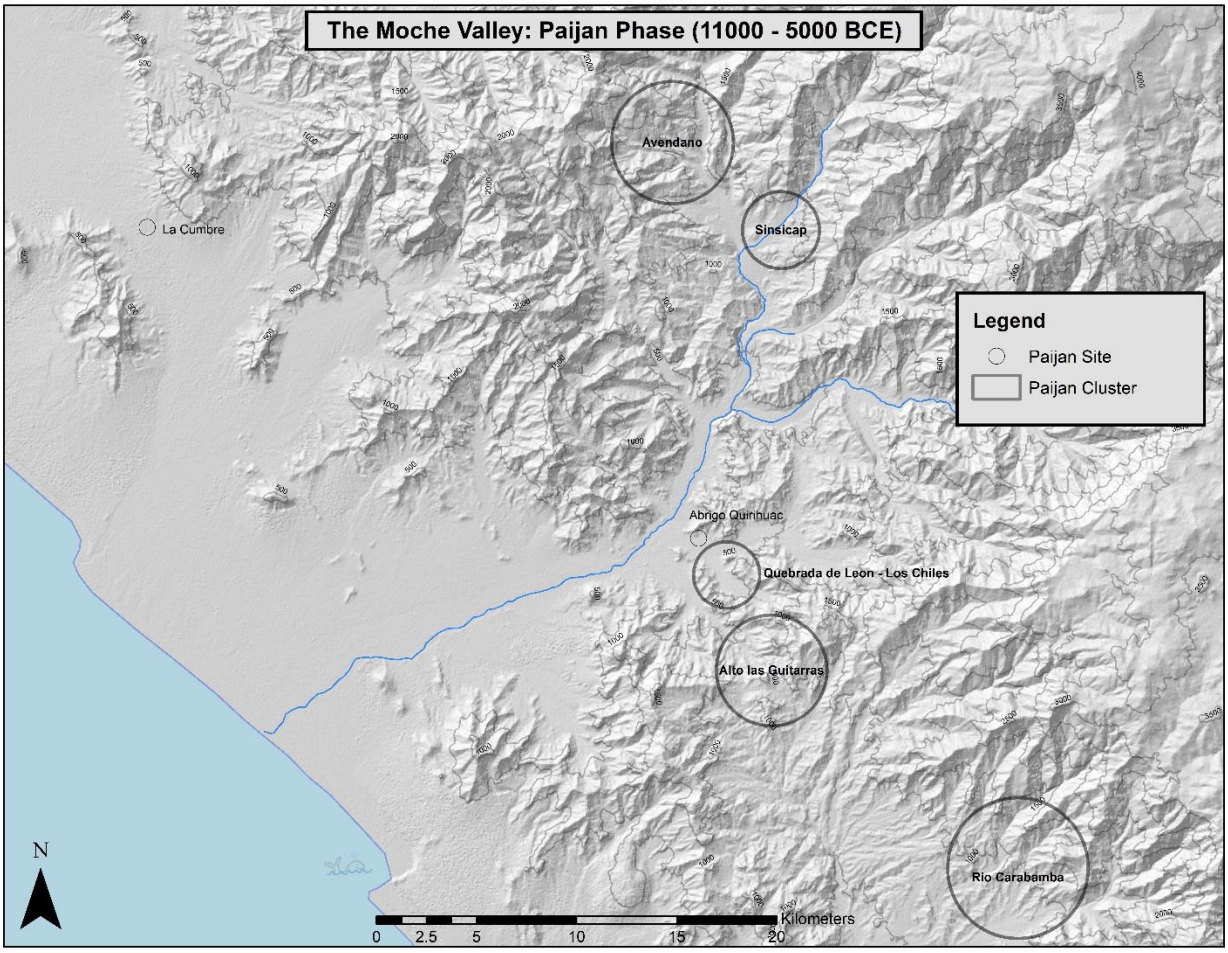


Figure 4.1 The Paiján Phase (11000 – 5000 BCE) in the Moche Valley

4.2.2.2 Paiján Phase Demography and Subsistence

Archaeological evidence for Paiján people is limited, but the evidence we do have suggests that these earliest people were highly mobile and took advantage of much of the Moche Valley landscape. The earliest recorded evidence of human occupation in the Moche Valley, and until recently the entire North Coast, was found at the small rock outcrop known as Abrigo Quirihuac. Located in the Middle Valley in Quebrada Leon – Los Chiles, excavation of this rock shelter yielded corrected absolute dates ranging widely from 15000 to 3000 BCE (Ossa 1973; Table F.1). The sigma ranges on these dates make them relatively unreliable for any exact dating but the camp was probably occupied within a few millennia of 10000 BCE, given the overlap observed. Charcoal from campfires or hearths paired with large middens of land snails suggest the site was likely a camp used by Paiján people while hunting and gathering from the surrounding area. Recent

work by Briceño has illustrated that Abrigo Quirihuac was one of many camps used by Paiján people to take advantage of the Quebrada de Leon – Los Chiles and Quebrada Alto las Guitarras areas (Briceño 2011:184-193). Though many of these sites are in what is now desert, it is very likely such areas had moderately more vegetation, and possibly even *bosque secas*, during Paijan times. Further inland, Briceño registered dozens more camps in the Avendaño *bosque seca*, the Sinsicap Valley, and even parts of the Carabamba Highlands (Briceño 2011). These *chaupiyunga* and *quechua* areas were almost surely in *bosque secas*, or at least near riverine forests, during Paiján times. Closer to the modern coast, but still inland during Paiján times, the site of La Cumbre is in the *chala* on the northern fringe of the Moche Valley and wide surface collections and excavations yielded an enormous lithic assemblage (Ossa 1976; Ossa and Moseley 1971). The consistent presence of tools associated with the Paiján lithic tradition is one clear thread that ties all of these camps in the *chala*, *chaupiyunga*, and *quechua* together, but many also exhibit a similar subsistence repertoire of land snails and small terrestrial animals (Briceño 2011). Similarly, they are all likely the product of dozens, even hundreds, of periodic (annual, semi-annual, or seasonal) occupations: places where Paiján groups would periodically produce tools, hunt, gather, and then move on.

The work of Chauchat in the Quebrada de Cupisnique on the northern fringe of the Chicama Valley provides some additional details regarding Paiján subsistence. His work focused on this region because it was where the Paiján lithic tradition was first defined in the 1940s. Based on data from multiple excavation units, Chauchat found that the Paiján people in the region were taking advantage of land snails, a wide variety of fish and lizards, foxes, small birds, other reptiles, rodents, and even a few deer (Chauchat 1988:57-58). He convincingly argues that the distinctive Paiján projectile points were probably developed for hunting fish and smaller animals: as their long and acute tips would have likely broken on most larger Pleistocene fauna (Chauchat 1988:58). Notably absent from Paiján middens in the area are marine shellfish, though this is perhaps a result of how much further away the coast was at the time. What is sorely lacking, but also difficult to recover given the age of the material, is any data on the plant foods that surely formed an important part of the Paiján subsistence tradition. Either way, the evidence on hand suggests that the Paiján were versatile hunter-gatherers who not only took advantage of a wide variety of areas, but also a wide variety of resources.

4.2.2.3 Discussion

The broadest summarizing statement we can distill out of this discussion is that the earliest people to live in the Moche Valley had already developed an intimate understanding of much of the landscape. These were hunter-gatherers who thrived on a broad subsistence base and residential mobility. The evidence for mobility, consistently broad subsistence bases, and relatively uniform lithic material culture at all Paiján sites in the Moche Valley are data points that suggest no meaningful distinctions between the groups living and subsisting in the *quechua*, *chaupiyunga*, or *chala* of the region. It is possible, even likely, that Paiján groups moved seamlessly from the coast, to the valleys, and into the highlands as part of a cyclical residential mobility strategy. The consequence of this being: many of the dispersed Paiján camps identified in the Moche Valley could very well have been used by the same mobile communities of people. Whatever the case, the applicability of the borderland concept to the *chaupiyunga* this early in the history of the region seems inappropriate, or at least is impossible to assess with the data at hand. What is notable is that many of the movement corridors modeled in the previous chapter, specifically the inter-valley ones, were well-trodden and even temporarily occupied by Paiján people. Whether such occupations are residues of broader patterns of mobility between river valleys is difficult to prove but does seem plausible. Even as the climate changed, *bosque secas* disappeared, and water became scarcer, such areas continued to see human activity in the later millennia and even go on to become part of the sacred landscapes of the later Guañape Phase. Such a deep past of people should dispel any notion that the quebradas and mountain ranges deep in the inter-valley zones were unexplored or unknown in antiquity, regardless of how inhospitable they may seem in the present.

4.2.3 The Late Preceramic Phase (~2500 – 1600 BCE): Early Sedentary Communities

Often called the Cotton Preceramic, the Late Preceramic Phase follows Paiján and exhibits the earliest sedentary communities in the Moche Valley. As its name suggests, this phase is still before ceramics were widely adopted but can be more-or-less differentiated from Paiján due to the presence of cotton, specifically in woven nets. Ironically, our understanding of Late Preceramic demographic patterns is even more limited than that of Paiján: only two sites have been identified

in the Moche Valley and both are on the coast (Figure 4.2). Early research at these sites illustrated that, on the coastal *chala* at least, Late Preceramic groups in the Moche Valley were beginning to settle into more sedentary communities while also integrating cultivation into a broad, but marine-focused, subsistence pattern. Though evidence for larger political traditions emerging during this period is less clear in the Moche Valley, contemporary communities in the neighboring Virú and Chicama Valleys were constructing small mounds and practicing repeated and collective ritual activities that could be interpreted as nascent small-scale political traditions.

4.2.3.1 Coastal Communities and Sedentism

Padre Alban and Alto Salaverry are the sole Late Preceramic Phase sites that have been identified in any detail in the Moche Valley. Both sites are not only along the coastline of the Moche Valley *chala*, but are also located near the only bays in the area: Huanchaco and Salaverry. To the north, Padre Alban lacks any discernable architecture and appears to be a periodically occupied camp used to exploit nearby marine resources, specifically mollusks (Pozorski, S. 1976, 1983; Billman 1996: 102). Middens at Padre Alban yielded calibrated absolute dates with massive sigma values ranging between 4500 BCE to 1400 BCE (Pozorski, S. 1983; Table F.1). Excavation recorded the use of three cultigens at the site: gourds for floaters or containers, cotton for nets, and squash assumedly for consumption. The larger Alto Salaverry to the south features a dozen or so structures, in addition to a cemetery, and was likely a sedentary, or at least semi-sedentary, community. One sunken circular courtyard indicates some manner of community-level ritual architecture and Billman convincingly argues that two larger compounds were likely storage facilities for dried fish (Billman 1996:111-113). Contrasting with Padre Alban, subsistence at Alto Salaverry appears to be more skewed towards fish and a wider variety of edible cultigens were noted in addition to cotton textiles. Billman uses a combination of houses per hectare and the settlement size to estimate that the community had a total population of between 125 and 375 people (Billman 1996:104-105). Though the site lacks absolute dates, many of its qualities (e.g., standing architecture, more edible cultigens, cotton textiles) led Pozorski to date Alto Salaverry to the latter half of the Late Preceramic (Pozorski, S. 1976, 1983). It is worth noting that it seems equally likely that the absence of these features could be more a reflection of Padre Alban being a seasonal mollusk harvesting camp and thus has little to do with the chronology of Alto Salaverry.

In any case, as a part of recent excavations at the Salinar Phase site of Cerro Arena, Millaire identified a number of small Late Preceramic Phase camps peppering the hillside (Millaire 2020). Though further elaboration on the nature of the occupations has yet to come, it did yield a suite of absolute dates that have far narrower sigma values than those found on the coast: dating the Late Preceramic Phase occupations between around 2300 and 2000 BCE.

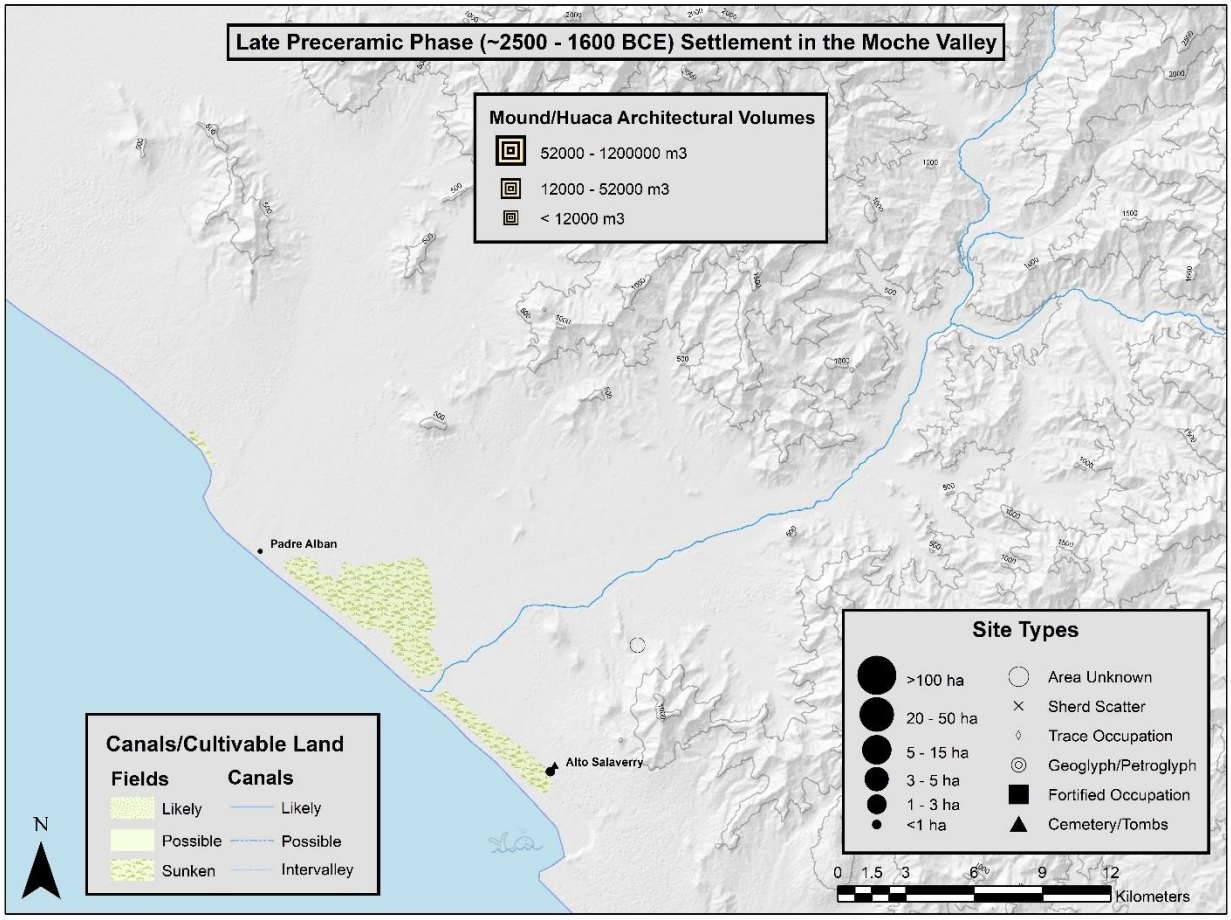


Figure 4.2 The Late Preceramic Phase (2500 – 1600 BCE) in the Moche Valley

4.2.3.2 Early Monuments in Neighboring Valleys

Though absent in the Moche Valley, larger-scale public constructions that could be considered "monumental" were not foreign to the neighboring valleys during the Late Preceramic. In the Chicama Valley, the Sangamon Terrace saw the construction of several large platform mounds, or *huacas*, at Huaca Prieta and Paredones. With beginnings as early as 5500 BCE, these mounds appear to have been built by hunter-gatherer-cultivators not very different than those

recorded at Alto Salaverry. Dillehay argues that the construction, expansion, and maintenance of these mounds was a community-making process aimed at nurturing cohesion between the varied groups that lived in the area (Dillehay 2017). Though ritual activities were common on Huaca Prieta in earlier phases, it was not until between around 3500 and 1500 BCE that chamber tombs and a formal sunken circular courtyard were incorporated into the *huaca* itself: transforming and formalizing it into a "ritual and mortuary complex" (Dillehay 2017:572). In the Virú Valley, recent work by Chen details the development of Huaca Negra from 3000 to 1200 BCE as it began as an occupational "tell" that was modified and built up into a mound. Marshalling her excavation data, she argues that the construction of Huaca Negra served a similar role in building and maintaining community cohesion (Chen 2019). Interestingly, she also points out that shifts in subsistence activity and lack of storage indicate that the "collective goal in Huaca Negra was *not to create a surplus*" and instead was oriented towards "meeting basic subsistence needs" (Chen 2019:370). The interpretations provided by both projects emphasize collective action and community-building over individual aggrandizers and incipient hierarchies. If the "non-domestic" compounds at Alto Salaverry were actually for fish storage it would reveal a somewhat distinct trajectory for the Moche Valley: one that begins with smaller community-level ritual spaces but does illustrate the use of surplus storage and perhaps the precedence for authority being constructed or wielded by certain individuals or families who were stockpiling food for public events.

4.2.3.3 Discussion

In sum, the Late Preceramic Phase illustrates the first good evidence for sedentary, or at least semi-sedentary, communities emerging in the Moche Valley. Alto Salaverry presents an example of a community where people lived either full-time or at least most of the time. Padre Alban, however, shows that sedentism being adopted does not necessarily preclude occupational mobility by "sedentary" communities or their less sedentary neighbors. The likely camps found around the mountain of Cerro Arena also show that occupational mobility was still common even later in the phase. In any case, the first example of sedentism in the Moche Valley also corresponds with the first example of public architecture. In the neighboring Virú and Chicama Valleys, public architecture, in the form of mounds, seems to be vital in creating and maintaining community cohesion and identity. It would not be a stretch to propose that the sunken circular courtyard at

Alto Salaverry held a similar purpose. Interestingly, the likely storage facilities at Alto Salaverry present the possibility that at least one community in the Moche Valley was mobilizing surplus storage to assist in this process of community cohesion.

One important point here for the purposes of this dissertation is that it is during the Late Preceramic Phase in the Moche Valley that the term "community" can first be seen as attached to demographic clustering in one place. The example of Alto Salaverry shows one version of what such a community and clustering can look like: a collection of sedentary households associated with a sunken circular courtyard and several storage compounds. The data at hand indicates these communities were modestly sized but not insignificant: between 100 and 400 people is between around 20 to 80 families. While the camps of the Paiján people are no doubt traces of communities, their dispersed nature shows how Paiján demography, and its relation to space, was markedly different from Alto Salaverry. This being said, Alto Salaverry is just one site and is located in the coastal *chala*: there were no doubt many settlements and varied community forms in the valley *chala*, *chaupiyunga*, and *quechua* that have either been destroyed or have yet to be discovered. The existence of broader political traditions is even less clear during this phase. What is clear is that community-level political traditions, even if those traditions were egalitarian, were being partially enacted in specific spaces in, around, or nearby communities: at mounds and sunken circular plazas.

4.2.4 The Guañape Phase (~1600 – 500 BCE): Early Monumental and Sacred Landscapes

The Guañape Phase of the Moche Valley is a phase of substantial firsts: the first ceramics are produced and used, the first monumental architecture is constructed, and the first large-scale canals are likely constructed. Some of the ceramics of the Guañape Phase present enough variability to allow for sub-phases to be divined, although such sub-phases have needed considerable refinement over the past few decades. The pattern of small towns continues from the Late Preceramic but also appears to expand in the number of towns and their locations: probably a handful of such communities existed between the coast and the Middle Valley (Figure 4.3; Table 4.2). Public architecture exploded during this phase, resulting in the construction and use of several

enormous monuments and monumental complexes that may or may not have been occupied quite densely (Figure 4.3; Table 4.3). Though the role of such monuments in building a political landscape is unclear, they were likely tied to broader sacred landscapes and the construction of canals.

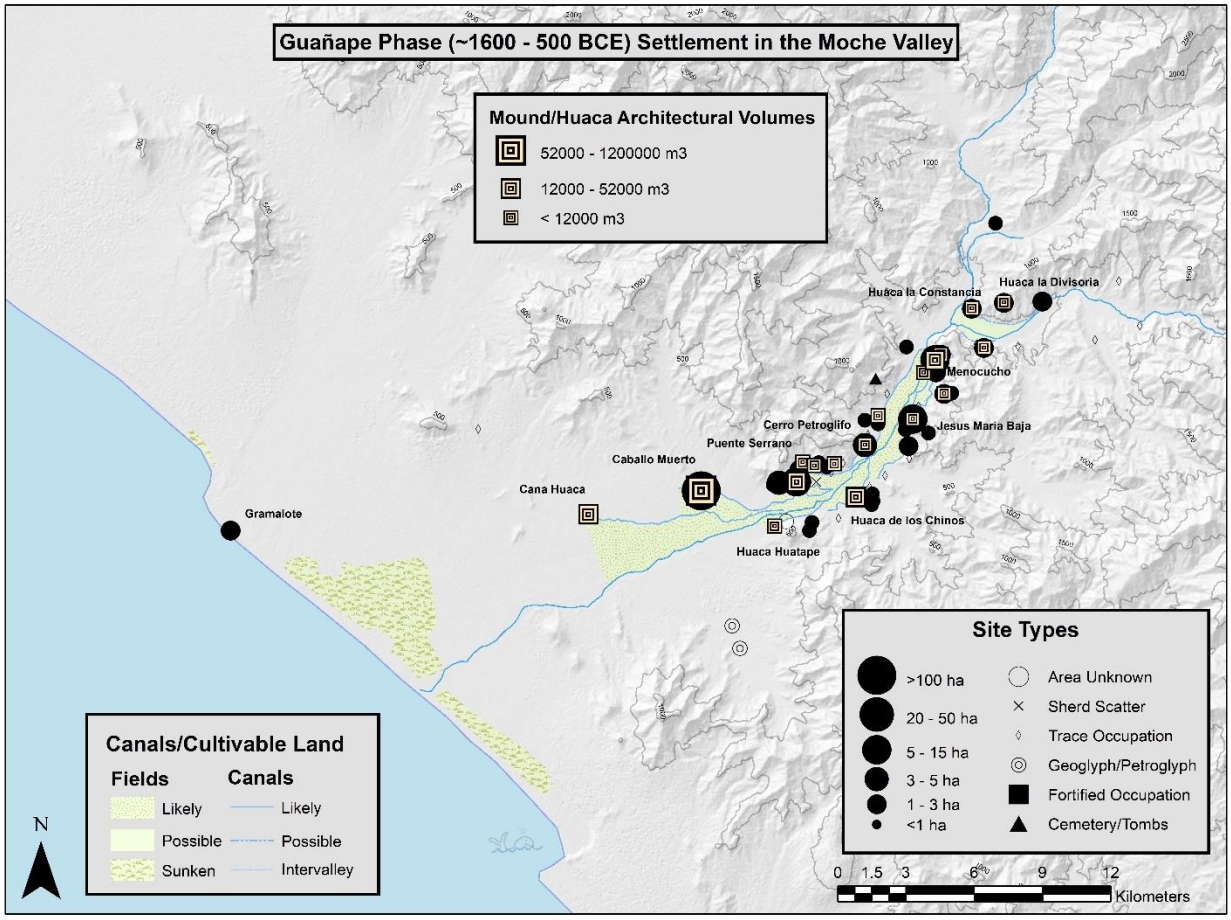


Figure 4.3 The Guañape Phase (1600 – 500 BCE) in the Moche Valley

4.2.4.1 Ceramics and Chronology

The first ceramics in the Moche Valley are relatively limited in their forms and decorations but do allow for some limited sub-phases to be discerned. Guañape Plain is the broader domestic ceramic tradition I identified for this phase, and features a limited variety of forms and decorations when compared to later phases. It is very likely that domestic ceramics to be sharing household roles with gourds or other perishables. Fancier ceramics with finer pastes and more elaborate decorations are generally rare, but do occur in higher frequencies later on in the Guañape Phase.

Many of these fancier wares feature iconography linked with several broader iconographic cannons like Cupisnique from the coast or Chavín from the central highlands. These are most often found in ceremonial contexts as offerings. In my later appendix I lump all of these fancier ceramics into the larger Ancón Fine corporate ware traditions. Citing subtle differences in ceramic assemblages, Billman divided the Guañape Phase into three sub-phases (Table 4.1; Billman 1996:131-130). Subsequent research has updated several of the diagnostic ceramic markers used by Billman. Some of the "zoned punctation, fineline and broadline incisions, incised applique bands, and short-necked jars" he assigned as diagnostic of the Middle Guañape Phase have been recorded as likely being used in the Early Guañape Phase (Billman 1996:126; Prieto 2015; Nesbitt 2012; Chen 2019). Additionally, the "red paint, and post-fire graphite paint" he attributed to the Late Guañape Phase have been shown to be decorations used during the Middle Guañape Phase (Billman 1996:126; Nesbitt 2012:228-268). Other indicators, namely the circle-and-dot motif associated with the highland religious center of Chavín de Huantar, remain good temporal markers for the Late Guañape Phase. This motif is notable in that it is the only good evidence for something akin to "highland" influence, albeit central highland, in the Moche Valley ceramic traditions of the Guañape Phase.

In his updated chronology of Caballo Muerto, Nesbitt identified four phases: the Cortijo Phase from 1600 to 1100 BCE, the San Lorenzo Phase from 1100 to 800 BCE, the Laredo Phase from 800 to 700 BCE, and the Curaca Phase from 700 to 300 BCE (Nesbit 2012). Though useful, his chronology has limits and cannot be applied to the entire valley unmodified. Mainly, the Chavín-influenced assemblages he described in his Curaca Phase are being eclipsed by Salinar Phase ceramics by 400 or 500 BCE in many other parts of the valley and his cutoff at 300 BCE thus seems inappropriate outside of Caballo Muerto. The resulting phases more-or-less align with those originally identified by Billman even if the ceramic markers used for their identification is somewhat different. I update Billman's original sub-divisions accordingly and use them in the present discussion (Table 4.1). A far more detailed discussion of Guañape Phase ceramics in the Moche Valley is presented in Appendix A but I also must stress that (1) these earlier phases are not my specialty and (2) much of this information was changing even as I wrote this dissertation. For a more up-to-date discussion of the Guañape Phase in the Moche Valley I would suggest a reader to wait for Gabriel Prieto's forthcoming book on his work at Gramalote.

4.2.4.2 Coastal and Valley Communities

Demographic patterns throughout the Guañape Phase are difficult to discern due to preservation issues and chronological uncertainties. What we do know points towards a patchwork of several sedentary communities co-existing with a wider dispersal of smaller camps and more ephemeral occupations (Table 4.2; Figure 4.3). The Early Guañape Phase fishing community of Gramalote has recently seen intensive study and is the only excavated example of what such sedentary communities would have looked like in the Moche Valley. Prieto presents a detailed narrative of Gramalote as a coastal fishing community with its own small-scale non-mound public architecture, its own ritual specialists, and its own locally-guided use of surplus for exchange and interaction with communities further up-valley in the *chala* and *chaupiyunga* (Prieto 2015). He estimates that the community itself likely had between 400 and 500 people in total (Prieto 2015: 343) with around 100 to 200 people per century. Though there is clear evidence for increased specialization and craft production at Gramalote, the demographic size and subsistence base of this community is strikingly similar to Alto Salaverry. Looking to larger demographic patterns, Billman recorded several communities up-valley at Cerro Oreja and Jesus Maria but also noted a wide dispersal of more ephemerally occupied residences scattered throughout the valley (Billman 1996:132-163). He cautiously observed general trends of increasing settlement size over time from the Early to Late Guañape Phases in addition to a favoring of Lower and Middle Valley areas over the coast (Billman 1996: 164-167). The source of his caution is warranted: it is very clear that post-Guañape Phase settlements, irrigation, and cleared fields on the valley floor are obscuring earlier settlement patterns (Billman 1996:167). Without looking beneath deep layers of alluvium and modern cultivated fields, it is difficult to accurately understand Guañape Phase demography and any conclusions from surface surveys must be made with caution.

Table 4.2 Settlement and Demographic Estimates for the Guañape Phase

Guañape Phase Settlement and Demographic Estimates (Partially from Billman 1996)			
Sub-Phase	**Site Name**	**Area (ha)**	**Population Estimate***
Early Guañape	Gramalote	2	100 - 200
	11	0.28	14 - 28
	208	0.25	13 - 25
	240	0.24	12 - 24

	71	0.18	9 - 18
	238	0.09	5 - 9
	285	0.09	5 - 9
	209	0.03	2 - 3
	211	0.03	2 - 3
	28	0.0035	0 - 0
	Total	3.1935	160 - 319
Middle Guañape	176	1.52	76 - 152
	60	0.45	23 - 45
	235	0.6	30 - 60
	193	0.5	25 - 50
	121	0.12	6 - 12
	305	0.11	6 - 11
	239	0.1	5 - 10
	Cerro Oreja	unknown	
	Total	3.4	170 - 340
Late Guañape	191	4	200 - 400
	199	4.93	247 - 493
	148	4	200 - 400
	301	3.75	188 - 375
	215	2.25	113 - 225
	394	1.55	78 - 155
	297	1.4	70 - 140
	288	0.49	25 - 49
	161	0.31	16 - 31
	344	0.28	14 - 28
	187	0.21	11 - 21
	186	0.18	9 - 18
	202	0.12	6 - 12
	213	0.09	5 - 9
	Cerro Oreja	unknown	
	Total	23.56	1178 - 2356
Guañape Phase	Total	30.1535	1508 - 3015

***Calculated using 50-100 people/ha via the demographic estimates from Gramalote. Seems high and/or inappropriate for some of the smaller sites that were more likely ephemeral but somewhat appropriate for those over 1ha.**

4.2.4.3 An Early Monumental Landscape

The Guañape Phase is best known in the Moche Valley for being the first phase in which monumental public architecture emerged. Guañape Phase monumental public architecture is

varied: ranging from mounds to multi-tiered platformed structures with alternating sets of plazas and smaller rooms. One common feature tying many of these constructions together is the u-shaped temple format: a plaza faces an elevated mound and is flanked by elevated platforms to form a u-shape. Chronologically, cylindrical adobes appear to be used in the Early Guañape Phase and are replaced by conical adobes by the Late Guañape Phase. Stonemasonry and fill architecture are used throughout the Guañape Phase and plaster is often employed on walls to support painted decorations or friezes. Billman recorded that small- and medium-sized public architecture was generally dispersed throughout the Middle Valley (Billman 1996:167-179), but there were larger monumental complexes in which public architecture clustered. Situated under Co. Jesus Maria at the confluence of the Moche River and the edge of the Upper Moche *chaupiyunga*, the Huaca Menocucho complex was likely constructed in the Early Guañape Phase. The most distinctive part of this complex is a large mound built out of cylindrical adobes, but this feature is also flanked to the north by a looted multi-tiered set of platforms and to the east by two stone masonry mounds (Watanabe 1976; Gutierrez 1998; Prieto and Maquera 2015). This complex was part of my 2017 survey and is discussed in far more detail in Chapter 6. Down-river from the gates of the Moche Valley and amongst modern sugarcane fields is the Caballo Muerto complex. This is by far the largest monumental complex of the Guañape Phase and, though it saw immense construction in the Early Guañape Phase, it continued to be occupied and expanded well into the Late Guañape Phase (Nesbitt 2012; Pozorski 1976, 1980, 1982). A number of other complexes and large, but isolated, platform mounds are also distributed across the landscape: Cerro Petroglifo, Puente Serrano, Huaca de los Chinos, Huaca Huatape, Huaca la Constancia, Huaca la Divisoria, and Cana Huaca are among these (Billman 1996:167-179; Pleasants 2009).

Most of the scholarly discourse on the public architecture of this phase has revolved around the mound complex of Caballo Muerto and, more specifically, Huaca de los Reyes (Moore 2005:101-105; Burger 1992:92-93; Conklin 1985; Moseley and Watanabe 1974; Watanabe 1979; Pozorski, T. 1975, 1982, 1995). The monument of Huaca de los Reyes is remarkable in its organization and axial symmetry. Three tiers of plazas get progressively smaller and are flanked by a symmetrical array of elevated patios, colonnades, and smaller rooms decorated with increasingly elaborate friezes of feline and anthropomorphic beings that are clearly part of the broader Cupisnique iconographic canons. With both private and public elements, the experience of this architecture changes as one moves through it to gain access to more and more secluded

areas. This introduces a recognizable hierarchy of space and authority: surely some people had the authority to lead a ceremony atop a patio for those gathered in the plaza or conduct more private rituals in secluded rooms while others did not, or could not, access such spaces. The lack of elaborate burials, or any burials for that matter, within patios or platforms dispels any thought that Huaca de los Reyes housed some noble lineage, despite what the mound's name may suggest. Additionally, the lack of storage facilities makes it clear that whatever authority was being wielded did not result in stored surpluses and, thus, appears spatially confined to the rituals or ceremonies being conducted in the monument. Without clearer indicators of political authority, the Pozorskis argue that the authority being exercised by those leading rituals at Huaca de los Reyes was fundamentally religious in nature and the site itself was a religious center (Pozorski and Pozorski 1994). In Chapter 6, I discuss this complex in a bit more detail and provide my own theories regarding the possible linkages between its orientation, the orientation of nearby canals, as well as visual linkages with equinoxes.

4.2.4.4 An Early Political Landscape?

Even when looking at the broader landscape outside of Caballo Muerto, it is unclear how mounds and mound complexes were integrated with surrounding communities, or each other, to form any manner of political network. Comparing construction volumes between these mounds and mound complexes, Billman argues that Caballo Muerto emerged as a paramount center of a three-tiered valley-wide polity during the Middle Guañape Phase (Billman 2002:393-394). Recalling the three-tiered format of Huaca de los Reyes, it is an intriguing possibility that this monument perhaps served as an architectural representation, and reification, of a political landscape. If such a political landscape existed, it clearly was enacted through an architectural liturgy steeped within a supernatural milieu of religious symbols. However, given the previously identified chronological issues, it is difficult to assess the presence of any hierarchy by sub-phase or argue for contemporaneity between more than a few of the mounds and mound complexes. This hierarchy does persist with Caballo Muerto at the top even if all sub-phases are lumped together: even with issues of contemporaneity, that mound complex is the largest (Table 4.3).

Table 4.3 Ceremonial Architecure of the Guañape Phase

Guanape Phase Ceremonial Architecture (Partially from Billman 1996)					
Sub-Phase	**Site Name**	**Site Area (ha)**	**Population Estimate***	**Structure**	**Dimensions (m)**	**Volume (m3)**
Early Guanape	Menocucho (147)	6	300 - 600			29028
				Mound	48 x 42 x 11.5	23184
				Mound	41 x 32 x 3.3	4330
				Mound	21 x 17 x 2.5	919
				Mound	34 x 17 x 1	595
	Menocucho Bajo (146)	0.105	5 - 11	Mound	35 x 30 x 3.5	3675
	Menocucho Alto (164)	2.73	137 - 273	Terraces/Mounds		500
	44	0.0396	2 - 4	Mound	22.5 x 18 x 1.7	344
	5	0.008	0 - 1	Terraces	10 x 7 x 1	35
	21	0.004	0 - 0	Terraces	10 x 3 x 1	15
	Total	8.8866	444 - 889			62625
Middle Guanape	Caballo Muerto (527)	44	2200 - 4400			231602
				Herederos Grande	120 x 100 x24	96000
				Cortada (1)	100 x 90 x 24	72000
				Herederos Chica	85 x 60 x 9.5	16150
				Hall of Niches		300
				Huaca los Reyes		41250
				Huaca Curaca (1)	54 x 47 x 6	5076
				Huaca San Carlos		826
	Puente Serrano (1)	9.1	455 - 910			31032
	Possibly Late Guanape			Mound	44 x 39 x 4	4584
	Possibly Late Guanape			Mound	42 x 32 x 4	2688
	Possibly Late Guanape			Mound	42.7 x 41.5 x 5	4510
	Possibly Late Guanape			Mound	50 x 40 x 12	19200
	Possibly Late Guanape			Mound	10 x 10 x 1	50
	Huaca los Chinos (481)	1.13	57 - 113	Mound	95 x 80 x 12	49716
	Cerro Petroglifo (50)	5	250 - 500			4632
	Possibly Late Guanape			Mound	40 x 20 x 10	4000
	Possibly Late Guanape			Mound	20 x 10 x 2	200
	Possibly Late Guanape			Mound	18 x 16 x 1.5	432
	404	1.52	76 - 152			875
				Terraces		750
				Terraces		125
	176	1.5	75 - 150			610
				Terrace	17 x 14 x 1	240
				Terrace	17 x 17.5 x 1	370
	83	0.08	4 - 8	Terrace	10 x 20 x 1	200
	Total	66.26	3313 - 6626			318667
Late Guanape	Caballo Muerto (527)	NA				11949
				Huaca la Cruz		5859
				Huaca Curaca (2)		240
				Huaca Guavalito		5850
	Cana Huaca (529)	0.5	25 - 50	Mound	100 x 50 x 10.4	43500
	Jesus Maria Baja (191)	4.45	223 - 445	Terraces		500
	306	1.1	55 - 110	Mound		1890
	377	1.14	57 - 114	Mounds		7000
	Total	7.19	360 - 719			64839
Guanape Phase	*Total*	82.3366	4117 - 8234			446131

***I used the same 50-100 people/ha estimate as that proposed for Gramalote. These estimates are rough and depends on how "empty" theses centers were and if they lacked large residential populations. I would argue that the lower range seem like reasonable estimates for some of the larger centers (like Caballo Muerto having around 2000 people).**

Though Caballo Muerto was enormous, there is no evidence that it was expressing any tangible political authority over neighboring mounds, mound complexes, or any surrounding communities. Outside of the broader axial symmetry or the format of being u-shaped temples, none of these mounds appear to have followed more specific architectural or iconographic canon emanating from Huaca de los Reyes. The format of Huaca de los Chinos is somewhat reminiscent in its use of colonnades and successive plazas and it seems the most likely candidate for a "secondary center" of Caballo Muerto. However, Huaca de los Chinos also lacks much of the axial symmetry of Huaca de los Reyes, is oriented on a slightly different axis, and appears more linked to a sacred landscape that will be discussed later (Pleasants 2009). Also, the vast majority of absolute dates from Huaca de los Chinos were half a millennium later than the major constructions at Caballo Muerto (Table F.1). The Cupisnique iconography associated with many of these monuments surely ties them together in sharing some manner of ideology but this same iconography is also relatively common across the north and central Andes during this period (Nesbitt 2012). The quality of the friezes and clear plan and layout of monuments like Huaca de los Reyes does suggest there were skilled community members serving as artisans and architects who knew how to marshal Cupisnique iconography and had a vision that guided how space was to be constructed at these *haucas* (Moore 2005). However, the existence of such individuals, let alone the degree of authority they may have held over others, is entirely speculative and their identification in the archaeological record seems unlikely.

Looking to what is a bit more archaeologically visible, only a few monumental complexes or individual monuments have any substantial domestic occupations that have been recorded. Thomas Pozorski presents the possibility that the area between the mounds at Caballo Muerto was occupied by a larger community that lived amongst the ceremonial architecture but there is a distinct lack of investigation into such occupations (Pozorski, T. 1982:230-231). Nesbitt conducted limited investigations into such occupations and mentions off-hand that "at least some of the lands around the monuments had potentially dense settlement" (Nesbitt 2012:76): thus, perhaps such occupations merely have yet to be investigated more thoroughly. One small ceremonial center noted by Billman, Jesus Maria Baja (MV-191), does appear to have a substantial domestic component of a little over four hectares. Though the interest in such domestic occupations has only recently begun to be investigated, the idea of these mound centers as being occupied, even densely occupied, seems exceedingly likely.

Though there may be a lack of concrete evidence for demographic clustering in the immediate vicinity, surely there were nearby communities that were the source of the labor needed to build these *huacas*. Looking at Huaca de los Reyes, it is estimated that it could have been constructed by a 250-person workforce in 25 years if they worked for a few months out of the year (Moore 2005:103; Pozorski, J 1980). If the population estimates of Gramalote are representative of what an average Guañape Phase community would look like, it is then likely that two or more communities could have built a *huaca* like Huaca de los Reyes. Prieto does argue that some community members at Gramalote likely went to mound complexes like Caballo Muerto and Huaca Menocucho for something akin to seasonal fairs in which coastal and inland goods could be exchanged (Prieto 2015). Nesbitt corroborates this narrative with a perspective from Caballo Muerto: he cites high proportions of marine foods to propose that the complex was built and seasonally occupied, in part at least, by coastal communities like Gramalote (2012). The absolute dates from both of these sites make such a narrative tenable: both land between 1600 and 1200 BCE in their occupations (Table F.1). This being said, only a better understanding of the Guañape Phase demographic landscape will help us understand the degree to which communities were clustering around such centers.

4.2.4.5 Canals and Exchange

The Guañape Phase presents some good indirect evidence for canal construction in addition to limited coastal-highland exchange. Billman argues that most of the Middle Valley and some of the Upper Valley canals would have been built in the Early Guañape Phase while part of the north side of the Lower Valley would have been canalized during the Middle and Late Guañape Phases (Billman 2002:378-380). Observing that Middle Valley Guañape Phase monuments are usually above modern canal lines, Billman argued this was good indirect evidence that these monuments were likely constructed above ancient canal lines. It does seem likely that monumental architecture and canal construction or maintenance were coeval during the Guañape Phase at certain places, particularly those located at ideal areas for canal intakes. Caballo Muerto would have been located above a reasonable place to dig a relatively long Lower Valley canal similar to the later Vinchansao canal of the Moche Phase. If such a canal existed, it could show a relationship between canal length and the size and intricacy of monumental construction. Huaca Menocucho is located above the

intakes of the two modern Jesus Maria I and II canals, which probably had prehistoric corollaries given the positioning of the river and lack of alternative intake areas due to the positioning of Cerro Jesus Maria and the Moche River at the final confluence. My own canal estimates are discussed in detail elsewhere and moderately differ from those presented by Billman (Appendix C; Table C.1). Besides my use of modern GIS software, the principal difference is that I do not include as many of the *chaupiyunga* canals and fields simply because there is no good evidence for substantial Guañape Phase occupations past the final confluence. This difference in methodology yielded estimates of cultivated land with a range between 2585 to 5254 hectares, with the large jump mainly being from the possibility that the sunken fields along the coastline were being used during this time period. The lower range, which is more likely, is considerably lower than the 4100 hectares estimated by Billman for this phase especially when considering the sunken fields were not added for his estimates (Billman 2002: 380; Appendix C; Table C.1).

Though evidence for coastal-highland exchange during the Guañape Phase in the Moche Valley is limited, it does exist. In terms of precious metals that would have surely come from the highlands: several gold and copper artifacts were uncovered at Huaca de los Chinos (Pleasants 2009:175-177). The question is of course whether such artifacts came from the local highlands or from further afield outside of the Moche Valley via down-the-line exchange with other *chala* and *chaupiyunga* centers in the broader Cupisnique region. The positioning of Huaca de los Chinos at one end of the Alto de Las Guitarras corridor would place it on one of the optimal routes that could be followed to the closest source of gold and copper in the Carabamba Plateau. This would mean that the best evidence for coastal-highland exchange during the Guañape Phase actually leads to the Carabamba Plateau via a desert route that goes up the Virú Valley *chaupiyunga*. This is not to say the Upper Moche *chaupiyunga* was not used as a corridor during the Guañape Phase, and in Chapter 6 I go into far more detail regarding the possible role of the final confluence as a meeting place of people, goods, and traditions.

4.2.4.6 An Early Sacred Landscape

A final important element of the Guañape Phase is the clear existence, construction, and maintenance of a broader sacred landscape that appears interwoven with the monumental landscape. Probably the most famous example of this is the Alto de las Guitarras complex of sacred

roads, petroglyphs, geoglyphs, and small u-shaped temples that stretch from Huaca de los Chinos, deep into the Quebrada de las Guitarras, and eventually lead to the Virú Valley (Sharon, Briceño, and Noack 2003; van Hoek 2019). The artwork exhibited on many of the petroglyphs and geoglyphs in the Quebrada de las Guitarras are attributed to broader Cupisnique iconographic canons, furthering the linkages of these stunning creations to many of the Guañape Phase monuments in the valley below. It is notable that, by the Guañape Phase, this area seems to have transitioned from being part of an earlier Paiján Phase pattern of residential mobility to being a corridor of movement and religious activity. Like the *huacas* of the valley, the context of this corridor was likely both ceremonial and economic: with goods and people moving through a landscape that was clearly steeped in religious significance and meaning.

This sacred landscape was not limited to the isolated desert areas either: there are clear linkages between many Guañape Phase mounds and adjacent mountains. In discussing the function of Huaca de los Chinos, Pleasants emphasizes how the mound itself was embedded in the adjacent mountain of Cerro Castillo (2009:255-268). He argues that the mound was constructed, in part at least, because Cerro Castillo was a sacred mountain, pointing at several "anthropomorphic rock formations visible on its northwestern side" as natural features that were possibly seen as sacred or religiously significant (Pleasants 2009:164). Though not all Guañape Phase monuments are so clearly linked with an adjacent landscape feature that was so prominent, several surely are: Huaca Menocucho is located directly beneath the highly distinctive twin peaks of Co. Jesus Maria, Huaca la Constancia is just beneath the large boulder field of Co. Pedregal, and Huaca la Divisoria is built atop a mountain peak that oversees the final confluence of the Moche River. Thus, it seems that at least some of these monuments appear to be linked with a wider sacred landscape and several specific mountains.

4.2.4.7 Discussion

In sum, the Guañape Phase is a period of immense change and increasing complexity in how the people of the Moche Valley organized themselves, interacted with each other, and interacted with the landscape. The seeds of sedentism that were planted in the Late Preceramic Phase truly took hold throughout the Guañape Phase: leading to sedentary and semi-sedentary settlements on both the coast and in the valley. If Gramalote can be used as an example of such

communities, they appear to be a similar size to those recorded in the Late Preceramic but there are also likely more of them. Plenty of smaller camps and ephemeral residences still were widely used to take advantage of the Guañape Phase landscape. The construction of several massive and ornate monumental temple complexes illustrates the cooperation of multiple communities towards creating ceremonial spaces, spaces that likely tied communities together. The architectural layout of these spaces also suggests that they were built so certain individuals would have likely been able to express authority over others. However, such authority was likely religious and does not appear to have resulted in wealth accumulation through storage or have attracted large populations to settle nearby. These monuments may also be tied to economic exchange between the valley and coast, canal construction, and the broader sacred landscape they inhabited. Of these temple complexes, Caballo Muerto appears to be the largest but its role in integrating surrounding *huacas* and communities into a larger political or religious network is still unclear. Until we arrive at a better understanding of Guañape Phase demography in the Moche Valley, questions regarding the political authority being built at these monuments will likely remain unanswered.

What is equally unclear from the data at hand is how much we can say that the Moche Valley *chaupiyunga* was a borderland during this phase. Surely corridors like that of Alto de las Guitarras served an important role in inter-valley and coastal-highland movement. Given that the Moche Valley *chaupiyunga*, like Alto de las Guitarras, was well occupied by Paiján Phase people, it seems plausible that it was a known coastal-highland corridor during the Guañape Phase. It is possible that some of the precious metals found at coastal and valley Guañape Phase sites could have come from the local highlands. It is also possible that the temples of the final confluence at Huaca Menocucho, Huaca la Constancia, or Huaca la Divisoria could have been built by Upper Moche *chaupiyunga* communities that may have moved such goods. This is of course assuming that such communities existed on the valley floor, since there is currently no record of them archaeologically. If Huaca de los Reyes was the center of an early political or religious network in the Moche Valley, the monuments of the *chaupiyunga* would also be situated upon the highland frontier of such a network. Importantly, the lack of local highland influence in the region suggests that the Middle and Upper Valley *chaupiyungas* were mainly shaped by, and interacting with, the people and traditions of the *chala*. Such questions and issues are addressed in Chapter 6 in my discussion of these "*Huacas* of the Confluence" and their possible supporting communities. With the pre-dissertation data, however, we can then say that the Moche Valley *chaupiyunga* of the

Guañape Phase could have been a relatively lightly occupied boundary that sat at the periphery or edge of a series of emergent, and seemingly powerful, political, or religious, traditions of the *chala*.

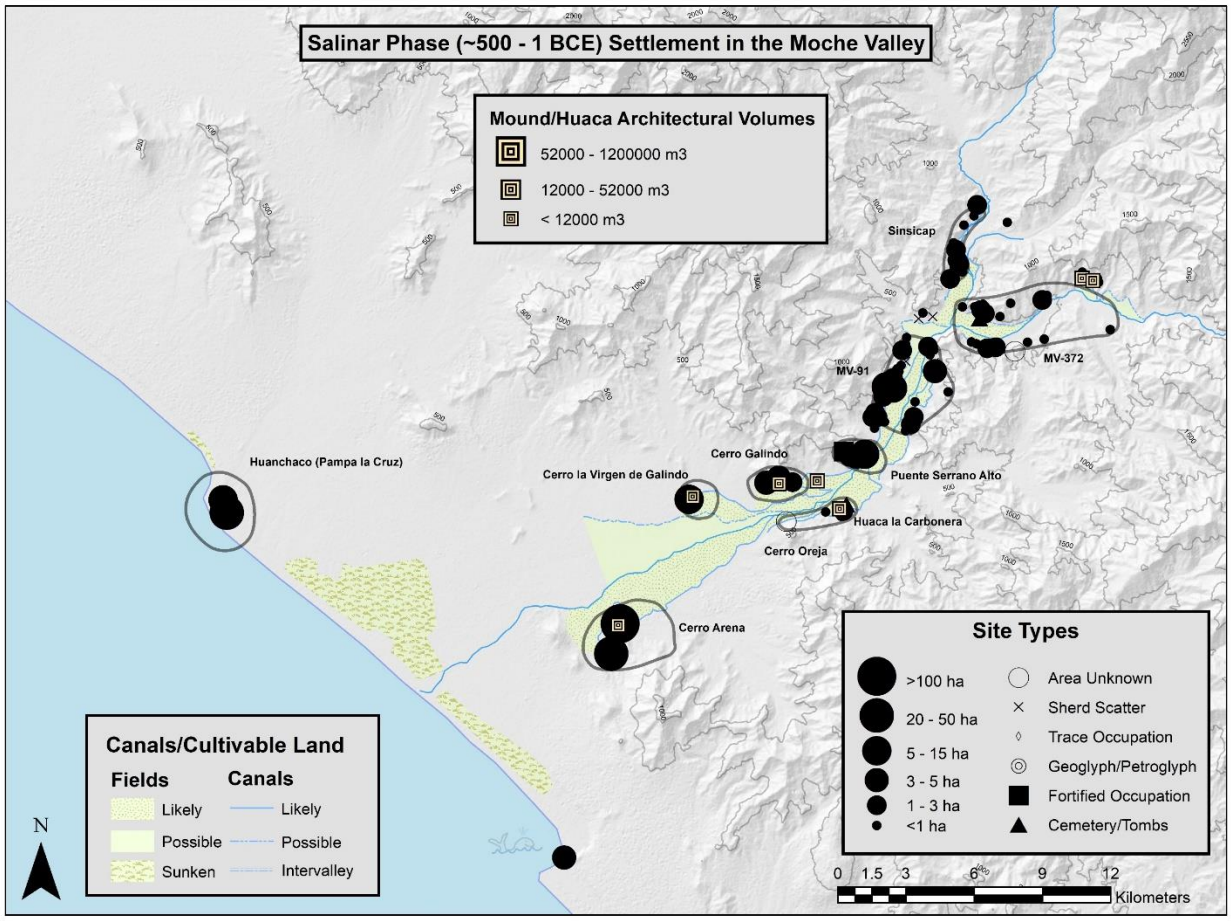


Figure 4.4 The Salinar Phase (200 – 1 BCE) in the Moche Valley
Salinar Phase clusters outlined in grey and labeled.

4.2.5 The Salinar Phase (~500 – 1 BCE): Conflict and Social Fragmentation

The Salinar Phase appears to have been a time of conflict and social fragmentation in the Moche Valley. Demographic patterns are far more archaeologically visible: a variety of small, medium, and large towns emerged upon many of the hilltops and ridges surrounding the valley floor (Figure 4.4; Table 4.4). Though only a few are actually fortified, the defensive orientation of these communities illustrates that such concerns about raiding and warfare where so intense that they were shaping regional demography, specifically in the *chaupiyungas*. Simultaneously, many

Guañape Phase monuments appear to have been abandoned, or at least were not expanded, and newly constructed public architecture was much smaller in the Salinar Phase (Table 4.5). These lines of evidence point towards social fragmentation: public architecture does not seem to be designed to integrate much more than one community and many of these communities were positioning themselves in ways that would suggest tense relationships.

4.2.5.1 Ceramics and Chronology

Salinar Phase ceramics are distinguishable from those of the earlier Guañape Phase but cannot be divided into sub-phases. The main ceramic tradition of the Salinar Phase that I discuss in my chronology is Huacapongo Polished Plain, a tradition that exhibited a far wider variety of vessel forms and decorations when compared with the preceding traditions of the Guañape Phase (Appendix A). It is clear that ceramics had become important parts of household assemblages by this phase and were being used for a wider variety of household activities. Some fancier ceramic wares are found in burial contexts and perhaps point to increasing social inequality during this phase (Donnan and Mackey 1978:26-44). Billman divided the Salinar Phase into two sub-phases: Early Salinar (400 – 200 BCE) and Late Salinar (200 – 1 BCE) (Billman 1996:187-189). The principal criterion for this subdivision was the presence or absence of an assumedly Late Salinar white painting decorative tradition identified in the Virú Valley and referred to as Puerto Moorin White-on-Red (Billman 1996:188-189). Using these criteria, Billman determined that the Salinar Phase type-site for the Moche Valley, Cerro Arena, was a Late Salinar settlement. A robust sample of absolute dates obtained during excavations conducted by Millaire have shown that Cerro Arena was only occupied for a few decades sometime around 375 BCE (Millaire 2020; Table F.1).

These new findings call into question whether Cerro Arena should be a type-site for the Salinar Phase. They also illustrate that the criteria used by Billman to sub-divide the phase no longer seem appropriate. In any case, 400 BCE is likely too late of a starting point for the Salinar Phase in the Moche Valley: it is highly unlikely that the Huacapongo Polished Plain ceramic tradition appeared fully articulated out of thin air at Cerro Arena. Thus, I tentatively push back the starting point of the Salinar Phase to around 500 BCE to better fit these new findings. The ending of the Salinar Phase correlates with the disappearance of the Huacapongo Polished Plain ceramic tradition: something that occurred sometime between 100 BCE and 100 CE (Downey 2014).

Splitting the difference, I settled upon 1 BCE as an obviously tentative ending point for the Salinar Phase. As with the Guañape Phase, these data were changing as I was writing this dissertation and I would (again) point towards the work of Gabriel Prieto and his recent volume from Pampa la Cruz for a more updated sample of Salinar Phase ceramics.

An intriguing element of Salinar Phase ceramic chronology in the Moche Valley is the possible presence of highland ceramic traditions during the phase. At Cerro Arena, Brennan noted several vessels that were very likely highland in origin: one kaolinite bowl type in addition to several brown-ware bowl types (Brennan 1978:602, 609-614; Ringberg 2012:176-177). Additionally, a recent synthesis of contemporary ceramic data from other northern valleys has presented the hypothesis that a broader "White-on-Red" tradition existed and was associated with "successive waves of small groups or tribes" coming from the Ecuadorian highlands (Chamussy and Goepfert 2019:25). This hypothesis requires considerably more data to be tested elsewhere, but also does not seem to apply to the archaeological record in the Moche Valley for two main reasons. First, the Puerto Moorin White-on-Red tradition appears far more associated with the *chala* than the local highlands in the Moche Valley for reasons I go into in Appendix A. Second, Huacapongo Polished Plain wares also share far too many affinities in the technique of production with earlier Guañape Phase wares to be realistically associated with any foreign highland groups. These data points do not readily support any manner of immigration *en masse* that would have replaced previous indigenous populations. However, they also do not disprove such an occurrence in other valleys nor the possibility that the inhabitants of the Moche Valley would have had to contend with some manner of mass migration event. In any case, the ceramic data from Cerro Arena do illustrate that fancier highland ceramics were likely circulating in parts of the Moche Valley *chala* at least as far back as 400 BCE, even if most domestic wares appear indigenous.

4.2.5.2 Defensive Communities, Fortifications, and Conflict

Regional demographic patterns become far more visible during the Salinar Phase, more communities are present than in the preceding Guañape Phase, and many of these new communities are positioned in defensive positions on hilltops. Much of the settlement during the Salinar Phase was located above modern cultivation lines, likely explaining why regional demography is more visible when compared with the Guañape Phase: fewer sites were destroyed

by cultivation so more settlement is visible. Regional demography is estimated to have increased by almost 2000% from the Guañape Phase, an increase that far exceeds normal population growth and possibly suggests in-migration from adjacent valleys or the highlands (Billman 1996: 203). This being said, almost two-thirds of this increased demography can be attributed to the Salinar Phase settlement of Cerro Arena (Billman 1996: 203; Table 4.4), a site now known to have only been occupied for a few decades (Millaire 2020). While populations definitely grew during the Salinar Phase, the aforementioned issues with Guañape Phase demography and the outlier effect of Cerro Arena likely mean that any increase is far less pronounced than the data may suggest.

Billman outlines nine main clusters of settlement for the Salinar Phase (Billman 2002:390; Figure 4.4). These clusters can fall under three categories: (1) clusters that are composed of one or two large communities, (2) clusters that have one large community with several smaller surrounding settlements, (3) and clusters composed of wider dispersals of smaller settlements. Most of the large communities of the Salinar Phase, such as the coastal site of Pampa la Cruz, appear to have housed at least several hundred people (Billman 1996:199). Smaller settlements were likely clusters of households or farmsteads, with some possibly being more ephemeral camps. Only a few of these clusters appear to be continuations of previous Guañape Phase occupations: the areas around both Cerro Oreja and Cerro Galindo were both occupied in the Late Guañape and well into the Salinar Phase. Interestingly, the type of cluster changes as one moves up the valley: clusters with solitary large communities tend to be in the *chala*, clusters with large communities surrounded by smaller ones tend to be in the Middle Valley, and clusters of smaller communities tend to be in the Upper Valley *chaupiyungas*. In fact, most Salinar Phase settlement past the confluence is restricted to communities no larger than 4-5 hectares (Billman 2002:390; Briceño and Billman 2014). The implication of this: though the *chaupiyunga* was occupied, it was clearly far less densely occupied than the *chala* during this phase.

Any discussion of Salinar Phase demography in the Moche Valley is incomplete without addressing the massive ridge-top settlement of Cerro Arena. This settlement was a clear outlier when compared to other Salinar Phase settlements in the region: covering 224 hectares and housing an estimated population of between 1800 and 4450 people (Gonzalez-Macqueen 2018:61; Millaire 2020; Table 4.6). Early investigations of Cerro Arena by Brennan and Mujica argued that it was likely the first urban center of the Moche Valley (Brennan 1980). Using household excavation

data, Brennan convincingly argued for the presence of an elite strata at the site: 25 of the nearly 2000 households at Cerro Arena were larger, more finely constructed, had adjacent small ceremonial patios, and had higher proportions of fine-wares (Brennan 1978, 1980). Billman cited the demographic primacy of Cerro Arena and the presence of elite households in his argument that the community was well-positioned to exercise authority over its neighboring clusters (Billman 2002:390).

Recent work has illustrated that Cerro Arena was likely only occupied for a few decades (Millaire 2020), calling into question the primacy of the site and the permanence of any urban experiment or elite households there. Instead of being a regional center, Cerro Arena appears to be the site of a rapid and unprecedented aggregation of population in one area. This aggregation could have been the result of particularly intense conflict, though it is difficult to say. The fact that Cero Arena accounted for some around two thirds of regional demography would imply that the aggregation observed included more than just the inhabitants of the Moche Valley. Billman cites a contemporary decline in settlement in the Virú Valley to suggest that refugees from that neighboring valley may have also converged at Cerro Arena during this period of turmoil. The question of where these people went after the site was abandoned also remains: did they simply disperse into other surrounding communities? Without a greater understanding of the contemporaneity of the other communities in the region, these questions will remain unanswered. Whatever the case, it is clear that Cerro Arena only enjoyed regional primacy for a few decades and did not last as a demographic or political power during the Salinar Phase.

An unavoidable and incredibly important feature of Salinar Phase demography is that most communities are either fortified or defensively located upon hillslopes or steep ridges. Almost two-thirds of settlement during the Salinar Phase is located on “hillslopes, hilltops, or ridgetops” and almost all of the larger communities of this phase are positioned upon or around such areas (Billman 1996:226). Even while Salinar Phase communities were consistently located in defensible areas, Billman also noted that most habitation sites were still quite close to fields: “groups apparently tried to minimize the effect of this [defensive] shift on travel time to fields” (Billman 1996:227). These hilltop, hillslope, and ridgetop communities were not lightly occupied refuges, they were semi-permanent habitations built in defensible locations to provide constant security from attack. This being said, further evidence for endemic conflict during the Salinar

Phase lies in the fact that several Moche Valley communities featured fortifications. The large Middle Valley community of Puente Serrano Alto was built just below a fortified hilltop that likely provided protection for surrounding populations that could hide behind several layers of large fortified walls (Billman 1996:228). The small hilltop hamlet of Cerro Cantegallo, in the Sinsicap Valley *chaupiyunga*, was also fortified, featuring a series of defensive walls and dry moats that blocked any approach from the highlands above (Briceño and Billman 2014:213-216). Interestingly, this pattern of endemic conflict appears to have extended deep into the highlands. The contemporary Sausagocha Phase (900 – 200 BCE) in the Huamachuco region featured at least two hilltop communities with possible defensive walls (J. Topic 2009:215-218). Further support for a defense-related motivation for these settlements is that one of these communities, Cerro Chico, was re-occupied during the conflict-ridden Tuscan Phase (1000 – 1470 CE; Topic 2009:217). In sum, the Salinar Phase appears to be a phase in which conflict was intense and common enough to force many communities across the Andes to live in defensible locations and built fortifications for protection.

Table 4.4 Settlement and Demographic Estimates for the Salinar Phase

Salinar Phase Settlement and Demographic Estimates (Partially from Billman 1996)			
Cluster Name	**Number of Sites**	**Total Area (ha)**	**Population Estimate***
Cerro Arena	1	224**	1800 - 4450
Huanchaco (Pampa la Cruz)	2	43	344 - 860
91	22	32	256 - 640
Puente Serrano Alto	3	20	160 - 400
Cerro Oreja	7	39	312 - 780
372	13	8	64 - 160
Cerro la Virgen de Galindo	1	7	56 - 140
301***	4	17	136 340
Sinsicap	9	5	40 - 100
Total	62	395	3168 - 7900
Total w/o Cerro Arena	61	171	1368 - 3420

***Estimated using the 8-20 people/hectare population densities that have been argued for Cerro Arena (Gonzalez-Macqueen 2018:61)**

****Corrected from 200ha provided by Billman to the 224ha recorded by Gonzalez-Macqueen (Gonzalez-Macqueen 2019:38).**

*****The ninth cluster is referred to but not published by Billman (Billman 1996, 1999, 2002), this was corrected from Billman's survey notes by the author.**

4.2.5.3 Public Architecture in a Fragmented Social Landscape

At the same time that demography was moving towards the hills, the Salinar Phase landscape of public architecture in the Moche Valley echoed the social fragmentation that would be expected during times of endemic conflict. In terms of diagnostic markers of Salinar Phase public architecture, Billman argues that the use of conical adobes was likely confined to the phase. The Salinar Phase was probably the peak of when conical adobes were used, but their temporal placement is somewhat more complicated: conical adobes are observed at the Late Guañape monument of Huaca de los Chinos and at remodeling events at Huaca Menocucho (Pleasants 2009:94; Nesbitt 2012:62). The massive monuments and mound complexes of the Guañape Phase were mostly abandoned and replaced during the Salinar Phase by much smaller mounds, hilltop platforms, and meeting halls that were located within or around communities themselves. The shift in public architecture during the Salinar Phase can be described in both raw volumes and by the differences in the format of the public architecture that was constructed. Looking at total construction volume: the 380,600 to 422,500 m^3 of construction during the Guañape Phase dropped to only around 15,000 m^3 during the Salinar Phase (Billman 1996:216; Table 4.5). Even when one corrects by century, the drop is still immense: from around 34,600 to 38,409 m^3 per century during the Guañape Phase to only around 3,000 m^3 per century during the Salinar Phase. This alone illustrates a profound drop in how much time and effort was invested in structures that were previously playing important roles in inter- and intra-community cohesion. When one considers that Salinar Phase demography was much higher than that of the Guañape Phase, it only exaggerates the underlying pattern (Billman 1996: 216): more people investing less time in building fewer and smaller places to come together.

The nature of public architecture also changed during the Salinar Phase in ways that reflect how fragmented the social landscape had become. Salinar Phase public architecture is most widely seen in the small leveled-off platforms that were etched into the slopes of hills and ridges above, besides, or within communities (Billman 1996:216-219). These simple open spaces were often no larger than 25 meters in diameter and would only realistically host gatherings of a few dozen people at most (Billman 1996:217). Similarly, small meeting rooms and patio spaces are observed as associated with elite structures at Cerro Arena (Brennan 1978; Billman 1996:216-219) but have yet to be recorded elsewhere. The small crowds assembled in the common Salinar Phase platforms

or patios would pale in comparison to the hundreds, even thousands, that could have gathered in the larger Guañape Phase *huacas* like Huaca de los Reyes or Huaca de los Chinos. Qualitatively, the masterful control of space through architecture and iconography that was characteristic of Guañape Phase public spaces was replaced, for the most part, by relatively simple open platforms during the Salinar Phase. Not only were public spaces smaller, but less time and effort were being put into their aesthetics and the use of space within them. This is not to say that the Salinar Phase lacked any monuments reminiscent of the Guañape Phase. Billman recorded the one small u-shaped mound of Huaca La Carbonera constructed in the Middle Valley, but this is one of the only such constructions in the Moche Valley during the Salinar Phase (Billman 1996: 215). In any case, it is clear that Salinar Phase public architecture was tailored to accommodating fewer people and less effort was put into shaping the experience of these smaller crowds through architecture or iconography.

Public architecture and demography were unambiguously spatially correlated with each other during the Salinar Phase. With the "empty" centers of the Guañape Phase abandoned or in disuse, public architecture was far more localized. Most Salinar Phase communities had their own platforms or meeting areas within the settlements themselves or upon adjacent ridges or hills. If we recall that most communities only housed a few hundred people, it is clear that a platform no larger than 25 meters in diameter would scarcely be able to house all of the members of a community itself, let alone any from outside. These communities seemed more concerned with internal cohesion than bringing neighboring communities into the fold, not a surprising strategy if neighboring communities were often hostile. Though what exactly was going on in such platforms is unclear: if they were anything like preceding forms of public architecture, they would have served as the loci for community-level rituals or ceremonies. At Cerro Arena, such public places appear to have been co-opted by, even incorporated into, assumedly powerful households in the community. However, whatever authority these households wielded does not seem to extend past hosting or supporting ritual or ceremonial activities. A lack of extra storage facilities suggests that specific households were not yet able to mobilize their authority into surplus storage or the extraction of tribute through goods. Given they could scarcely host all of the members of even their own communities, it is doubtful whatever authority these "elite" households wielded would have extended with any considerable strength into neighboring communities. In sum, Salinar Phase

communities were probably politically independent of one another: weak political authority was built within communities, but not between them.

Though easily obscured by all of the other significant changes that occurred during the Salinar Phase, some elements of the monumental and sacred landscapes of the Guañape Phase do suggest lines of continuity. First, it is important to remember that the small-scale public architecture seen in the Salinar Phase is actually quite reminiscent of earlier small public spaces found at Gramalote during the Guañape Phase or even the sunken courtyard at the Late Preceramic Phase settlement of Alto Salaverry. Thus, it is perhaps more accurate to say that inter-community public architecture disappeared while intra-community public architecture persisted and remained quite similar to its earlier forms. The only recorded u-shaped temple of the Salinar Phase in the Moche Valley, Huaca La Carbonera, is located less than 1 kilometer south of Huaca de los Chinos (Billman 1996: 215). Not only was Huaca La Carbonera constructed at the westernmost edge of the Quebrada las Guitarras sacred landscape, but the temple itself appears to directly face the back of Cerro Castillo, the same mountain into which Huaca de los Chinos is embedded. Huaca de los Chinos was clearly constructed in the latter centuries of the Guañape Phase, so a continued occupation or at least memorialization in the Salinar Phase would not be unthinkable. Limited aerial imagery suggests further ties: these monuments appear to have shared a general orientation. Just down-valley, several intrusive Salinar Phase burials at the abandoned monumental complex of Caballo Muerto (Donnan and Mackey 1978:39-44) also illustrate some engagement between Salinar Phase populations and past monumental landscapes. Recalling that many Guañape Phase monuments were associated with specific mountains or hills, it is intriguing that ridge slopes and hilltops were the most popular targets for public architecture in the Salinar Phase. It is possible that this illustrates some continuity in associating mountains and hills with sacred places. However, the positioning of these platforms may just be circumstantial: if most communities were located on ridges and hilltops, one may expect public architecture to be located there as well. In sum, many of these continuities and associations with the Guañape Phase monumental landscape do not seem coincidental and should not be ignored. At most, they could suggest a more direct continuity between the Guañape and Salinar Phase monumental and sacred landscapes than previously thought. At the very least, they suggest that a few Salinar Phase communities held some memory of, and desire to connect with, the powerful places embedded in the landscape during the Guañape Phase.

Table 4.5 Ceremonial Architecture of the Salinar Phase

Salinar Phase Ceremonial Architecture (From Billman 1996)					
Sub-Phase	**Site Name**	**Site Area (ha)**	**Population Estimate***	**Structure**	**Dimensions (m)**	**Volume (m3)**
Early Salinar	9	0.11	1 - 2	Hilltop Platform	15 x 25	<1000
	462	1.38	14 - 28	Hilltop Platform	10 x 10	<1000
	464	1.81	18 - 36	Hilltop Platform	10 x 10	<1000
	397	1.69	17 - 34	Terraces	10 x 5	75
	126	0.05	1 - 1	Hilltop Platform	24.5 x 6.3 x .4	60
	Total	5.04	50 - 101			<3135
Early/Late Salinar	301	5.23	52 - 105	Mound	23 x 18 x 8	1700
	Cerro la Virgen de Galindo (633)	7.13	71 - 143	Hilltop Platform	17.2, diameter	<1000
	325	0.40	4 - 8	Mound	10 x 5 x .5	25
	Total	12.75	128 - 255			<2725
Late Salinar	Huaca la Carbonara (256)	3.38	34 - 68	Mound	60 x 53 x 5	5000
	Cerro Arena (527)	224.00	2240 - 4480			4000
				Hilltop Platform	35 x 25	<3000
				Type III		<500
				Types I, A, and B		<500
	459	1.68	17 - 34	Mound	40 x 20 x .5	400
	Total	229.06	2291 - 4581			<9400
Salinar Phase	*Total*	246.85	2468 - 4937			<15260

*** Taken using a 10-20 people/hectare/century from the occupation at Cerro Arena**

4.2.5.4 Canals, Exchange, and *Coca*

During the Salinar Phase, there is good evidence for the expansion of canals in the Lower Valley *chala*, some coastal-highland exchange, and the use of *coca* by the people of the Moche Valley. An approximately 13-kilometer-long prehistoric canal, with a likely intake near Cerro Oreja, wrapped around Cerro Arena and stopped just after the site (Brennan 1978:324-338; Moseley and Deeds 1982; Appendix C). Brennan convincingly argues that this canal, which is one of many, was likely constructed during the Salinar Phase and associated with Cerro Oreja and Cerro Arena (Brennan 1978:324-338). Later canals positioned above the Cerro Oreja – Cerro Arena canal were likely constructed during either the Gallinazo or Moche Phases and were in use into the early Chimú Phase (Brennan 1978:324-338). The Cerro Oreja – Cerro Arena canal appears to have been the main addition to the economic landscape of the Salinar Phase (Billman 2002:380-382). This being said, it may have just been an extension or expansion of an earlier canal associated with Guañape Phase occupation at Huaca Huatape below Cerro Oreja. Other Guañape Phase canals that are assumed to have existed, like those in the Middle Valley and below Caballo Muerto, probably had Salinar Phase analogues as well (Billman 2002:380-382; Appendix C). However, as has been said before, their existence is assumed because they have likely long since been destroyed. Overall, the Salinar Phase saw a moderately sharp rise in likely irrigated land: rising to

around 4000 to 7500 hectares from the previous 2500 to 5000 hectares seen in the Guañape Phase. Most of this came from the Cerro Arena canal but also several canals were likely opened up in the *chaupiyungas* by the new communities inhabiting that zone. The higher range of these figures are about on par with the 7000-hectare estimate made by Billman, but again the sunken fields were not taken into account and thus his estimates would likely be a bit higher (2002: 380).

Evidence for coastal-highland exchange during the Salinar Phase is far less clear. Several burials recently uncovered by Rivera Prince and Prieto at Pampa la Cruz exhibit copper artifacts (Rivera Prince personal communication 2020), but whether or not the copper used came from the local highlands or from further afield is not clear. Additionally, the presence of kaolin and brown-ware bowls, likely from the local highlands, at Cerro Arena (Brennan 1978:602, 609-614) would suggest some highland connections cultivated by *chala* communities. The Salinar Phase occupation at Huaca La Carbonera, and its association with Huaca de los Chinos, may suggest that the Alto de Las Guitarras corridor was still in use during this period. Recent work by Sghinolfi confirms Salinar Phase occupations in the Virú Valley *chaupiyunga* that leads to the Carabamba Plateau (Sghinolfi personal communication 2020). Put together with the increased, albeit light, occupations noted in the Upper Moche and Sinsicap Valley *chaupiyungas*, it would appear that many known coastal-highland corridors were occupied during the phase. Whether or not any of the Salinar Phase *chaupiyunga* communities were involved in coastal-highland exchange is unclear but they do seem located to oversee common corridors of movement.

The Salinar Phase presents the first good evidence that *coca* was being chewed by the people of the Moche Valley. This is mainly based on the study of several individuals unearthed in burials associated with Salinar Phase ceramics at Cerro Oreja (Gagnon et al. 2013). This study combined "patterns of oral health indicative of coca leaf chewing and the presence of coca-like plant remains in dental calculus" as indirect evidence to track *coca* use from the Salinar Phase through the Gallinazo Phase (Gagnon et al. 2013: 208). The results confirmed that *coca* was likely being chewed during the Salinar Phase and surmised it was likely coming from the local Moche Valley *chaupiyunga*. This is a reasonable conclusion since the area around the confluence was likely the closest *coca* growing zone and was only around 10 kilometers away from Cerro Oreja. Given that this area was surely occupied, albeit lightly, during the Salinar Phase it is not stretch to assume that some fields would have been devoted to *coca* cultivation.

4.2.5.5 Discussion

In sum, the Salinar Phase appears to be a time of social disintegration and uncertainty for many of the people in the Moche Valley. The number of communities grew considerably, though their populations appear to be quite similar to their Guañape Phase predecessors. Inter-community conflict was likely endemic throughout the phase, and intense enough at times to force many communities into defensive locations. The massive hilltop settlement of Cerro Arena is an anomaly within this pattern: perhaps representing a massive coalescence of regional populations during two particularly chaotic decades near the beginning of the Salinar Phase. Previous Guañape Phase monuments built through inter-community collaboration and cohesion were abandoned and replaced by newer forms of public architecture that were smaller, less complex, and appear to be focused on intra-community cohesion. All of this occurred upon a backdrop of nascent evidence for household inequality, moderate canal expansion, likely coastal-highland interaction, and probable *coca* cultivation in the *chaupiyunga*. Keeping these trends in mind, it is important not to overstate the apparent upheaval of Guañape Phase trends in landscape use: a handful of Salinar Phase communities were located on or nearby areas that were also occupied during the Guañape Phase. Monuments may have been abandoned and settlements moved, but such places were clearly not forgotten.

In terms of the status of the *chaupiyunga* as a borderland during the Salinar Phase, some observations can be made from what little is known. The Upper Moche and Sinsicap Valley *chaupiyungas* are clearly occupied, though *chaupiyunga* communities appear to be smaller and the clusters more dispersed than their larger and more nucleated neighbors down-valley. Salinar Phase *chaupiyunga* communities were assumedly politically independent but their smaller size and more dispersed nature may suggest they were politically weaker than their Middle and Lower Valley neighbors. These same communities, like their *chala* neighbors, were also clearly occupying a contested landscape that was shaped by endemic conflict. The presence of several fortifications in the *chaupiyunga* suggests that this endemic conflict was possibly even more intense at the *chala-quechua* boundary. Limited evidence for coastal-highland exchange does exist, but the role of *chaupiyunga* communities in facilitating or controlling any exchange is unclear. Additionally, at least some of the fields of the *chaupiyunga* surely were devoted to *coca* during this phase and this *coca* was clearly moving down-valley to communities like Cerro Oreja. Thus, we can propose that

the *chaupiyunga* was a demographic boundary with the *chala* in terms of both the density and structure of demography in the landscape. Meanwhile, it was also a political boundary of sorts: independent *chaupiyunga* communities would assumedly have interacted with their *chala* and *quechua* neighbors. These interactions were clearly violent at times and, though endemic conflict was by no means confined to the *chaupiyunga*, it does appear to be more intense there. Interestingly, this same contested landscape was also an economic boundary across which *coca* was already flowing to the *chala*: increased conflict did not necessarily translate into a decrease in exchange.

4.2.6 The Gallinazo Phase (~1 – 400 CE): Highland Colonization and the Virú Political Tradition

The Gallinazo Phase was a time in which the indigenous inhabitants of the Moche Valley appear to have been under immense pressure from the people and polities of the local highlands and the neighboring Virú Valley. In terms of ceramics, this phase is best characterized by the spread of a negative-painted fine-ware associated with the Virú Political Tradition to the south. Though not diagnostic of the Gallinazo Phase in particular, long-lasting and distinct *chala* and *quechua* domestic ceramic traditions emerge for the first time during this phase. Conflict continues to shape settlement, but demographic patterns also change radically during this phase. Several *chala* communities with Salinar Phase roots explode in size while much of the *chaupiyunga* appears to have been abandoned by indigenous groups and colonized by defensive clusters of smaller communities that had strong highland ties (Figure 4.5; Table 4.6; Table 4.7; Table 4.8). For those in the *chala*, the *huaca* re-emerges, albeit in a different form, as a central place of community cohesion and likely was co-opted by powerful families, households, or individuals to consolidate their political authority over their neighbors. The Virú Political Tradition, based at the urban center of the Gallinazo Group in the Virú Valley, emerges as a multi-valley power that likely expressed authority over most of the Lower Moche Valley during part of this phase. Simultaneously, poorly understood political traditions emerged in the local highlands that were likely tangled with the disparate colonies of the *chaupiyunga*. Most notably, this is the first phase where the Moche Valley *chaupiyunga* is very clearly playing a role as a borderland between distinct peoples and polities of the *chala* and *quechua*.

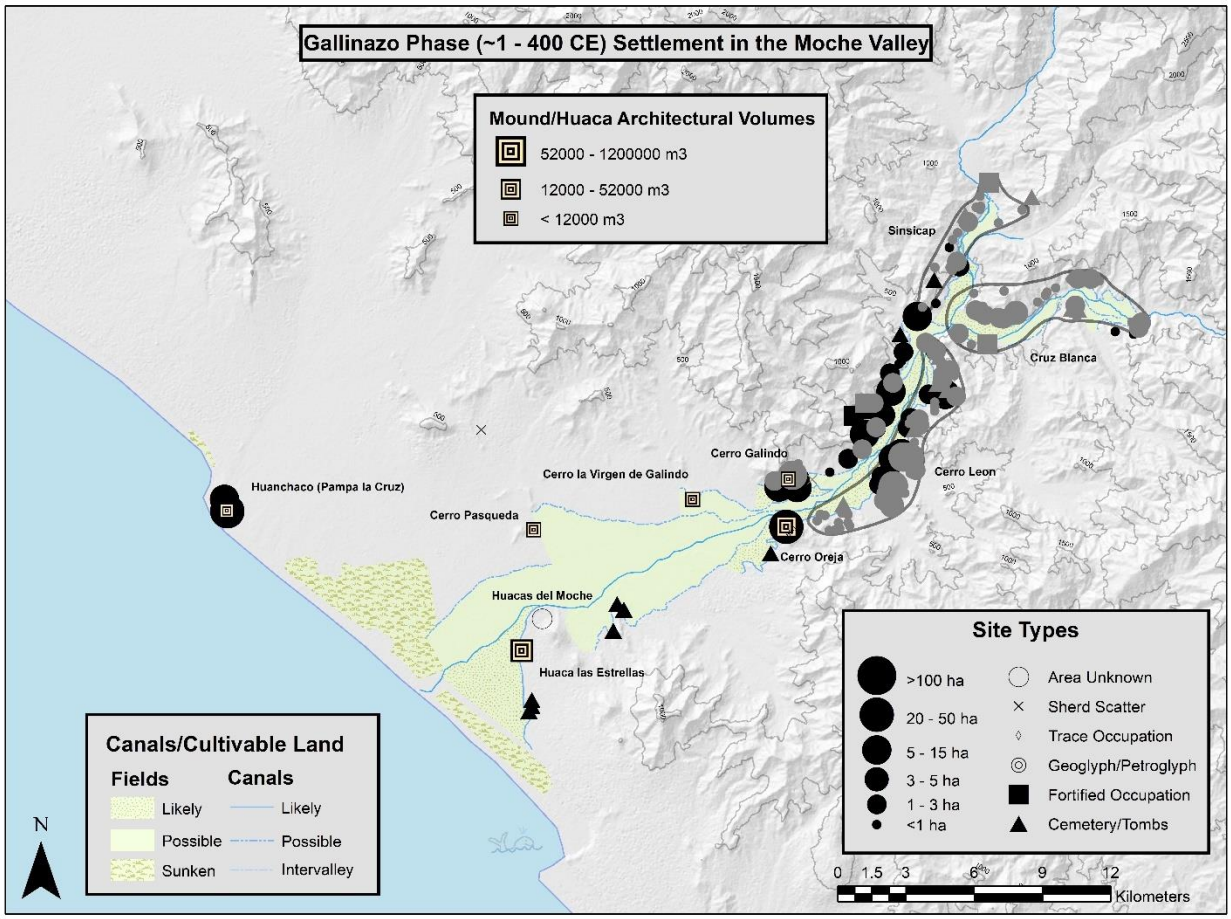


Figure 4.5 The Gallinazo Phase (1 – 400 CE) of the Moche Valley
Highland sites colored in grey and highland clusters outlined in grey

4.2.6.1 Ceramics and Chronology

The ceramics of the Gallinazo Phase are unique from those of the Salinar Phase but, other than a few finer wares, are almost indistinguishable from those of the Moche Phase. Importantly for this dissertation: it is during the Gallinazo Phase that domestic ceramics found in the Moche Valley can first be easily differentiated by where they were being produced. A red-ware tradition, generally referred to as Castillo or Gallinazo, has been widely documented across the north coast. This appears to have been a *chala* tradition and was in use for nearly a millennium from 100 BCE to 900 CE. Meanwhile, several brown- and buff-ware traditions, discussed later as Early Highland, have been recently documented and are thought to have been produced in the local highlands or upper *chaupiyungas* of the Moche Valley. These were made between around 0 CE and at least 400

CE, but likely persisted much later. Coming from the local highlands, and further afield in Cajamarca and the Callejon de Huaylas, kaolin and illite white clay fine-ware bowl traditions reach their peak in popularity during the Gallinazo Phase as well. Another elusive and less clear set of markers for the Gallinazo Phase are the Moche I and II fine-wares that have only been sparingly found in the Moche Valley (Donnan and Mackey 1978:59-63; Gumerman and Briceño 2003:226). Though previously Moche I/II fine-wares were thought to have been contemporary with the Gallinazo Phase, recent work has shown a much later date range between 350 and 570 CE (Koons and Alex 2014). Either way, these fine-wares were not originating in the Moche Valley: Koons and Alex convincingly argue that the "Moche I/II was a local Chicama style" that was perhaps related to Early Moche styles further north (Koons and Alex 2014:1050). The most important marker for the Gallinazo Phase, however, is the rise of a negative- and resist-painted fine-ware tradition now referred to as Virú corporate wares. These fine-wares are rare outside of the Virú Valley but have been documented in contexts ranging between 100 BCE and 300 or 400 CE in the Chicama and Moche Valleys.

Recent scholarship makes it clear that several of Billman's criteria for identifying Gallinazo Phase ceramics are in need of revision. Noticing that the highly diagnostic negative wares were generally "rare" in the Moche Valley, Billman's identification of Gallinazo Phase settlement relied greatly upon using Castillo Modeled and Incised ceramics as temporal markers for the phase (Billman 1996:237). Complicating things further, many *chaupiyunga* frontier communities featured mixed assemblages of highland and coastal ceramics. Pointing again to the presence of Castillo Modeled and Incised ceramics, many of these frontier communities were assumed to have been mainly occupied during the Gallinazo Phase. Subsequent work has illustrated that Castillo Modeled and Incised ceramics are part of a much broader domestic ware tradition that persisted well into the Moche Phase in the Moche Valley (Uceda et al. 2009). These issues in Gallinazo-Moche Phase chronology are part of a broader "Gallinazo problem" that is discussed in considerably more detail in Appendix A. For the current chapter, it is important to note because of its consequences on interpreting regional demography. Simply put: many of the sites Billman assigned to the Gallinazo Phase were done so using criteria that could just as easily be used now to assign them to the Moche Phase. Thus, here I attempt to focus on those communities that have been confirmed as belonging to the Gallinazo Phase via either (1) the

presence of negative- or resist-painted fine-wares associated with the Virú corporate ware tradition or (2) absolute dating.

Table 4.6 Settlement During the Gallinazo Phase

Gallinazo Phase Settlement* (From Billman 1996)			
Sub-Phase/Occupations	**Site Size Category (ha)**	**Number of Sites**	**Total Area (ha)**
*Gallinazo***			
	0 - 1	14	4.94
	1 - 1.7	9	12.49
	2 - 2.7	5	11.27
	3.18 - 4.88	2	8.06
	5.21 - 14	9	73.64
	28.1 - 35.5	2	63.45
	Total	42	173.85
*Highland Early Intermediate Period (HEIP)****			
	0 - 1	61	24.115
	1 - 1.88	18	26.28
	2 - 2.5	7	15.71
	3.04 - 4.72	5	19.68
	5.82 - 8.64	4	26.64
	Total	95	112.425

***This table is an aggregation of Tables 8.2 and 9.2 provided in Billman's dissertation (Billman 1996:241, 270).**

****Many of these occupations were identified as "Gallinazo" using Castillo Modeled and Incised as markers and are thus suspect.**

*****Assumedly contemporary with the aforementioned "Gallinazo" occupations and thus compiled here.**

Table 4.7 Ceremonial Architecture of the Gallinazo Phase

Gallinazo Phase Ceremonial Architecture (From Billman 1996)			
Site Name	**Structure**	**Dimensions (m)**	**Volume (m^3)**
Cerro Oreja (484)			52000
	Mound	110 x 35 x 8	30800
	Platform of Mound		21200
631	Three Mounds		5100
Huaca las Estrellas (515)	Mound	43 x 41 x 9.5	15000
Cerro Pasqueda (558)*	Hilltop Platform	50 x 25 x 4	5000
301	Mound	23 x 18 x 8	1700
Cerro la Virgen de Galindo (633)	Hilltop Platform	21.5 x 19.5 x 2	840
Total			79640

***Possibly continued use into the Moche Phase**

Table 4.8 Demographic Estimates for the Gallinazo Phase

Gallinazo Phase Demographic Estimates (Partially from Billman 1996)			
Site and/or Site Cluster	**Number of Sites**	**Total Area (ha)**	**Population Estimates**
Cerro Oreja*	1	28.1	3500 - 7000
Cerro Oreja Cluster**	39	103.75	1556 5188
Pampa la Cruz***	2	42	2000 - 4000
Cerro Leon(+)	40	56	1000 - 2800
Cruz Blanca(+)	30	34	500 - 1700
Sinsicap(+)	14	8	100 - 500
Non-Cluster HEIP Settlement(+)(++)	11	14.425	216 721
Total	137	286.275	8873 - 21909
Total w/o Cerro Oreja and HEIP Additions	87	168.1	7100 - 16000

***Based off of 25-50 habitations/ha and 5 people/habitations, so around 125 to 250 people/ha (Billman 1996:241)**

****Calculated from total area (ha) of "Gallinazo" occupations minus Cerro Oreja and Pampa la Cruz (and MV-632), used the lower range provided by less urban Gallinazo Phase HEIP settlements of 15-50 people/ha (Billman 1996:278-282).**

*****Based off of 10-20 habitations/ha and 5 people/habitations, so between 50 and 100 people/ha (Billman 1996:242)**

(+) Based off of 3-10 habitations/ha and 5 people/habitations, so about 15-50 people/ha (Billman 1996:278-282)

(++) Calculated by subtracting the totals from Table 4.6 from the data from each of the HEIP clusters described by Billman (Billman 1996:278-282)

4.2.6.2 Enclave Towns of the *Chala* and Highland Colonies of the *Chaupiyunga*

During the Gallinazo Phase, the Moche Valley saw the emergence of two distinct demographic patterns: one in the *chala* and one in the *chaupiyunga*. Beginning with the *chala*, most of the people in the Lower Valley aggregated into the two community clusters centered around the large towns at Cerro Oreja and Pampa la Cruz (Table 4.6; Table 4.8). The Cerro Oreja cluster includes several smaller, and assumedly affiliated, occupations across the river at Cerro Galindo. This would have effectively placed the Cerro Oreja cluster in a position to envelop both of the "gates" of the Moche Valley. Additionally, Cerro Oreja was likely at the center of any demographic hierarchy of communities within its cluster. The town of Cerro Oreja itself was enormous, with an estimated population of between 3500 and 7000 people living in numerous habitation terraces that were densely packed onto slopes of the great mountain (Billman 1996:

241). Unlike Cerro Arena, there is no doubt that Cerro Oreja had a long-term and intense occupation: sherd densities easily exceed several hundred per square meter. Moving to the coast, the Pampa la Cruz cluster was a bit smaller with an estimated population of at least 2000 people (Billman 1996: 242). Importantly, both of these towns were the centers of two earlier Salinar Phase clusters. This suggests some manner of continuity between the Salinar and Gallinazo Phase demographic landscapes in the *chala*. Furthering these connections with pasts embedded in the *chala*, the Cerro Oreja and Pampa la Cruz clusters have ceramic assemblages dominated by local *chala* Castillo wares.

Looking to the *chaupiyunga*, Billman identified three clusters of new communities that appear to be highland colonies (Billman 1996: 277-283, 2002: 392; Table 4.10). The largest cluster is on the south side of the Middle Valley and is centered around a sprawling town built upon the slopes of Cerro Leon. This is the only intensively researched and securely dated of the clusters and was documented as being occupied sometime between 100 and 400 CE (Billman 2019; Ringberg 2012; Bardolph 2017; Table F.1). The other two clusters are relatively smaller: (1) in the Upper Valley there are a dispersed set of hamlets loosely clustered around the hilltop town of Cruz Blanca and (2) in the Sinsicap Valley there is a loosely tied cluster of dispersed hamlets. Billman does not explicitly make population estimates for these clusters but he does provide the data necessary to divine some of our own: total habitation area, estimated households per hectare, and estimate people per household (Billman 1996:278-282). Using his bottom and top ranges of 3 to 10 households per hectare, we can estimate that the Cerro Leon cluster would have had between 1000 and 2800 people, the Cruz Blanca cluster would have had between 500 and 1700 people, and the Sinsicap Valley cluster would have had between 100 and 500 people.

The most notable element of these community clusters is that their ceramic assemblages illustrate a blend of highland and *chala* wares. These assemblages, along with highland architectural and mortuary traditions present at these communities, has led Billman and others towards interpreting them as likely highland colonies (Billman 2019; Ringberg 2012; Fariss 2012). With plenty of *chala* cooking wares, in addition to *chala* cuisine staples like *donax peruvianus*, these highland colonies probably had a mixed demography of highland and *chala* people (Bardolph 2017). Although a few Salinar Phase clusters were located in the vicinity of some of these highland colonies, none appeared to show the sort of continuity observed at *chala* towns like Cerro Oreja

or Pampa la Cruz. Such patterns appear to support the hypothesis that these new communities were foreign colonies that were not settled by indigenous inhabitants of the Moche Valley. Though much of the *chaupiyunga* was settled by these apparent highland colonists, it is important to note that there are some scattered settlements on the north side of the Middle Valley that have *chala* Castillo-dominated assemblages (Figure 4.5). The largest of these settlements, Santa Rosa – Quirihuac, is located just across the river from Cerro Leon but lacks any highland wares whatsoever (Gumerman and Briceño 2003). Given that this settlement also exhibited some of the few Moche I/II fine-wares found in the Moche Valley (Gumerman and Briceño 2003:226), it is also possible it would be better situated in the Moche Phase rather than the Gallinazo Phase. In fact, many of these sites seem to be perhaps better situated in the Moche Phase but only a further refinement of survey and ceramic data would permit such assumptions.

A final important element of Gallinazo Phase settlement patterns in the Moche Valley is the continued evidence for conflict. Similar to what he observed for the Salinar Phase, Billman noted that Gallinazo Phase settlements, particularly those in the *chaupiyunga*, tended to favor hill slopes and other naturally defensible areas. In addition, several of these communities were either fortified themselves or had fortified refuges nearby. In the *chala*, Pampa la Cruz lacked any fortifications but the massive town of Cerro Oreja enjoyed very defensible position on the mountain slope. Billman cites the presence of buffer zones between all of these clusters, *chaupiyunga* and *chala* alike, as good evidence for conflict between all of these populations. In the *chaupiyunga*, Cerro Leon would appear to be hold a considerable demographic advantage over its neighbors in any protracted conflict but would be hard pressed to compete with any *chala* community. The town of Cerro Oreja alone housed considerably more people (3500 – 7000) than of all of the *chaupiyunga* communities combined (1600 – 5000 people): meaning the highland colonies would likely have to depend on highland allies in any conflict with the *chala*. The positioning of Cerro Oreja itself may inform why Pampa la Cruz does not appear fortified or defensively located: the larger community would have effectively shielded its coastal neighbor from any disputes with the *chaupiyunga* or local highlands. Any such scenarios, however, are dependent on arguments of contemporaneity between these communities that are difficult to build with survey data alone.

One counter-argument was proposed by Fariss, who pushed back on portrayals of *chaupiyunga* communities as settling upon slopes for defensive reasons. He used a series of Generalized Linear Models to argue that (1) communities were not clearly favoring other defensive features in addition to steep sloped areas and that (2) slope itself was less predictive than distance to fields for settlement choice (Fariss 2012:126-132). Interestingly, he proposed that nonlocal (i.e., highland) communities may have been targeting steep slopes for "aesthetic" reasons related to their highland origin and not for military purposes (Fariss 2012: 132). Curiously, one of the sample sites used by Fariss in his analysis, MV-441, has been identified by Billman, Topic, and now myself as belonging to the Chimú Phase (Fariss 2012: 101; Topic 1990: 182; Chapter 10). The implication of this being that, in part, the settlement data being input into his models were not actually representative of the Gallinazo Phase. Even ignoring this error, some of the underlying logic behind his first argument seems counterintuitive: the choice to settle steeper, and more defensible, areas would preclude the construction of additional defensive features. If people were already investing in building their settlements upon steep slopes, they probably were less concerned with further investment in fortifications or other defensive features. Regardless of these data and methodological issues, his points regarding aesthetics and preference are intriguing and worthy of consideration: surely highland colonists would have been viewing and interacting with the *chaupiyunga* landscape in somewhat different ways than the indigenous inhabitants of the Moche Valley.

4.2.6.3 Local Political Traditions of the Moche Valley: The Rise of *Huaca*-Towns

The Gallinazo Phase witnessed the return of large elevated platform mounds, *huacas*, which were very well correlated with communities in the landscape to form what I call *huaca*-towns. Gallinazo Phase *huacas* are distinguishable from earlier mounds in part due to the use of rectangular adobes with cane impressions (Billman 1996: 238; Hastings and Moseley 1975). Though such adobes were initially thought to have been diagnostic of the Gallinazo Phase, subsequent research has shown they were also commonly used well into the Moche Phase (Uceda et al. 2009: 115). Billman recorded a substantial increase in investment in public architecture during the Gallinazo Phase: around 16,910 m^3 of construction per century (Billman 1996:253; Table 4.7). This is over three times that found in the Salinar Phase, an increase that is even more

pronounced if one considers that all of this construction was focused in the *chala*. Though larger than their Salinar Phase predecessors, Gallinazo Phase *huacas* bear little resemblance to u-shaped temples and platform complexes with large plazas common in the Guañape Phase.

Only a few Gallinazo Phase *huacas* are well documented but the general format they seem to follow is: an elevated platform mound with small rooms and private spaces on top (Gayoso 2019; Gayoso and Angulo 2013). Most of these *huacas* lack any formal adjacent plaza spaces but their elevated position does make them highly visible to anyone in the general vicinity. A hyperbole of this high visibility is the massive *huaca* at Cerro Oreja, which is built into the side of the mountain and highly visible to anyone passing between the Middle and Lower Valley. Recalling that some Guañape Phase *huacas* (e.g., Huaca de los Chinos) were clearly associated with nearby mountains, the *huaca* at Cerro Oreja seems to have taken this tradition to an extreme. Even after nearly two millennia, the distinct color of adobe melt remains inseparable from the mountain slope: a constant visual reminder of the strong bond between people, political power, and place at Cerro Oreja. However, as Billman points out, the activities occurring on any of these *huacas* were likely not visible to those below (Billman 1996: 251-253): these structures were thus simultaneously public and private. The *huaca* itself appears to have been built to be seen by the entire community, but only a few could actually participate in the activities at its top during any given moment.

The exact nature of *huaca* activities is unclear from the data at hand. However, the finer ceramics often found at Gallinazo Phase *huacas* in the Moche Valley, and elsewhere, do indicate *huacas* were likely involved in wider elite networks of exchange and authority (Millaire et al. 2016). At Cerro Oreja, a vast cemetery including many elite burials was positioned just under the great *huaca* but, at the present, elite burials appear to be seldom found in Gallinazo Phase *huacas* in the Moche Valley. Additionally, none of these *huacas*, in the Moche Valley at least, appear to have been associated with or built into elite residences: *huacas* did not belong to specific individuals, they appear to have still been "community" structures. Thus, *huacas* were probably places in which elite families or households negotiated some manner of political authority within the community itself. At Cerro Oreja, this authority may have been partially negotiated through binding elite ancestry, through burial in the space below, indirectly to the *huaca* and mountain

itself. However, *huacas* were also probable locales in which relationships, possibly of authority, were being built with elites from adjacent communities as well.

Most Gallinazo Phase *huacas* in the Moche Valley are directly associated with the communities that surrounded them, forming what I call a *huaca*-town. The two largest communities in the Moche Valley, Cerro Oreja and Pampa la Cruz, each have their own *huacas* and the *huaca* of Cerro Oreja was the largest by far (Millaire et al. 2016: 6021-6022; Billman 1996: 251). Though both of these communities have substantial Salinar Phase occupations, Cerro Oreja has even deeper roots: sitting above the Guañape Phase *huaca* of Huaca Huatape. A few smaller Gallinazo Phase communities, like Galindo and MV-301, illustrate similar continuity and had small *huacas* that were likely built nearby or atop earlier Salinar Phase platforms with conical adobes (Billman 1996: 246). Only two Gallinazo Phase *huacas* do not have obvious associations with contemporary communities: Huaca las Estrellas and Cerro Pasqueda. However, even these are ambiguous. Huaca las Estrellas, possibly called Huaca *Pisum* or *Pisam* in the past, does not have any recorded settlement surrounding it, but is also located just outside of the large Moche Phase center of Huacas del Moche which has been documented as having a Gallinazo Phase component (Donnan and Mackey 1978:45; Uceda et al. 2009; Gayoso 2019). Cerro Pasqueda was located above a large, but unstudied, Moche Phase community (Billman 1996: 246). Given that this *huaca* was identified as Gallinazo Phase via adobes, it is possible it was actually a Moche Phase *huaca*. It is equally possible that the large Moche Phase community below had an unidentified Gallinazo Phase component. Thus, during the Gallinazo Phase not all communities had *huacas* nearby, but almost every *huaca* had a community nearby.

This entanglement between the political authority embedded in a *huaca* and the clustering of demography into communities within the landscape is what I endeavored to capture with the term *huaca*-town. The lack of large plazas or other large public areas near these *huacas* would suggest that the politics of Moche Valley *huaca*-towns were mostly local to each community cluster. Though the labor of an entire community was likely needed to build the *huaca*, it is telling that only a few privileged individuals could partake in the private activities occurring upon the structures. The presence of foreign fine-wares suggests that these same structures were also built to facilitate the construction and maintenance of broader inter-community networks of authority, perhaps with other privileged individuals from adjacent communities. The enormous size of the

huaca at Cerro Oreja was probably reflective of the massive labor pool available to the community, allowing more locals to partake in *huaca*-based activities. However, as Billman argues, this size could have also reflected some broader authority which the *huaca*-town was exercising over other communities within its cluster (e.g., Galindo). Though the Cerro Oreja *huaca*-town was demographically the most powerful community in the Moche Valley during the Gallinazo Phase (Billman 1996:251), further research at the site is needed to better articulate what role it was playing in the broader political landscape.

4.2.6.4 The Virú Political Tradition: Influence from a *Huaca*-Polity to the South

The Virú Political Tradition is the first clear and somewhat discrete political tradition that can be recognized in the Moche Valley, though it arose in the *chala* of the neighboring Virú Valley. Just at the onset of the Gallinazo Phase, a massive community emerged at the Gallinazo Group that housed an enormous population, dozens of elite compounds, and several large *huacas* (Millaire 2010). The Gallinazo Group served as the seat of power of the Virú Political Tradition (also called the Virú Polity), a tradition that persisted for several centuries to peak sometime around 200 to 300 CE (Millaire 2010). The Virú Political Tradition is defined in part by its own unique corporate package: a distinct ensemble of material culture produced by specialists in the Gallinazo Group and utilized by elites in activities centered around gift-giving, exchange, and funerary paraphernalia (Millaire 2009; Millaire et al. 2016). Whatever these exact activities were, they were intertwined with how Virú authority was built. Objects like Virú Negative fine-wares serve as material residues of these activities and can be traced to find the networks of affiliation, and likely authority, constructed between Virú nobility and powerful individuals or families in neighboring communities and *huaca*-towns. Interestingly, Larco Hoyle initially argued negative-painted pottery was a coastal manifestation of styles from the northern highlands like that of Recuay (Larco Hoyle 1945). Downey also calls attention to the affinities between some Virú Negative fine-wares and the white clay pottery common in the local highlands (Downey 2014:75). The implication of this being: the Virú Negative fine-ware tradition does appear to exhibit some aesthetic relation to traditions that are clearly highland in origin.

Recalling the concept of a *huaca*-town, it is clear that the Gallinazo Group was a hyperbole of the entanglements between political authority and demography that the term describes. At the

center of the Virú network of affiliation and authority was Huaca Gallinazo, a massive set of *huaca* platforms (over 80,000 m^3 of construction) bordered by equally massive plazas perfect for hosting throngs of subjects, local and foreign alike (Millaire 2010). The urban area around this *huaca* was easily the largest in the region and housed a population ranging from 14,400 to 28,800 people (Millaire 2010:6188). The result was a *huaca*-town so enormous and led by groups so powerful that they were capable of cultivating a centuries-long tradition of politically influencing, or perhaps even subsuming, neighboring *huaca*-towns and communities. As such, the Gallinazo Group could be thought of as a *huaca*-polity: a *huaca*-town with a well-developed, long-lasting, and wide-spread tradition of authority that radiated from the community as its agents expanded their influence abroad. A *huaca*-polity, like any other polity, is best conceptualized not as a monolithic block of political power but instead a vast, and somewhat varied, network of authority built between layers of regimes and subjects: people make polities.

Evidence from the *huaca*-towns of the Moche Valley illustrate that these communities were no doubt tangled within the web of the Virú *huaca*-polity. The presence of Virú Negative fine-wares at Pampa la Cruz, Cerro Oreja, and Huaca las Estrellas suggest that members of these *huaca*-towns and *huacas* were not shy about their affiliations with the broader Virú network (Millaire et al. 2016). An even deeper connection is apparent at Huaca las Estrellas: the *huaca* itself was adorned with friezes that were similar to those found at Huaca Gallinazo to the south (Gayoso and Angulo 2013). This architectural emulation suggests more than simple affiliation or association with the Virú *huaca*-polity and instead indicates a more direct form of authority being built through Huaca las Estrellas itself. Recalling that Huaca las Estrellas did not have a prior Salinar Phase occupation, this *huaca* could very well have represented a construction project guided by agents of the Virú *huaca*-polity. That it is also spatially the closest *huaca* to the Virú Valley would further support such a hypothesis, but more research at Huaca las Estrellas, and a clarification of any community around it, is needed to secure its chronology and broader context. The other two main Moche Valley *huaca*-towns, Cerro Oreja and Pampa la Cruz, have much deeper roots in the Salinar Phase landscape and were more likely indigenous communities under Virú influence.

4.2.6.5 Political Traditions of the *Chaupiyunga* and Local Highlands

The political traditions of the highland colonies of the Moche Valley *chaupiyunga* and the communities of the local highlands are poorly understood. The best evidence for highland connections in the *chaupiyungas* is the wide array of white clay (kaolin or illite) fine-ware bowls that are commonly found in the Gallinazo Phase highland colonies. Though most of the bowls found in communities like Cerro Leon or Cruz Blanca were probably made in the local Carabamba or Otuzco Highlands, some could have been coming from as far afield as Cajamarca, Callejon de Huaylas, or Huamachuco (Ringberg 2012; Czwarno 1983). The exact context of how these bowls were used, or exchanged, is unclear but it does appear they were involved in community-level feasting in the *chaupiyunga* and were common prestige items (Ringberg 2012: 264). At Cerro Leon, high-status households were likely hosting feasts and community-level activities within the patio spaces of their larger compounds where conspicuously highland pottery played an important role in these activities (Billman et al. 2022; Ringberg 2012). What is lacking in these communities are larger structures or plazas that would indicate broader inter-community cooperation or any clear evidence for one community exercising authority over the others. It is also clear that the *chala* traditions of *huaca*-towns and *huaca*-polities did not translate to contemporary *chaupiyunga* populations. The politics of *chaupiyunga* communities were enacted in the patio spaces of households rather than in specific structures like *huacas*.

The local highlands are less understood than the *chaupiyungas*, and what little is known provides more questions than answers. If the highland colonies in the *chaupiyunga* were indeed colonies, one may expect that the neighboring highlands would have ample evidence for large communities and well-developed political traditions. A few early and unsystematic surveys in the Otuzco and Carabamba Highlands do note a handful of moderately-sized hilltop settlements that were likely inhabited by communities practicing some form of agropastoralism (Haley 1979; Coupland 1980; Mackenzie 1980; DeHetre 1979; J. Topic and T. Topic 1979a). This being said, the earliest chronological placement of these sites can only be vaguely aligned with the Early Intermediate Period in the Carabamba Highlands and to the Middle Horizon in the Otuzco Highlands (Figure 4.6). None of the sites that were recorded had specialized architecture or were notably large. This presents a strange conundrum: highland colonies in the *chaupiyunga* that lack any clear parent communities. Deep into the highlands in the Huamachuco region to the east, there

is a marked increase in population and evidence for warfare during the contemporary Purpucala Phase from around 200 BCE to 300 CE (J. Topic 2009). However, the monumental center of Marcahumachuco, and the larger confederacy it likely housed, was not built until the subsequent Early Huamachuco Phase at around 300 or 400 CE (J. Topic 2009).

In 2017, I conducted preliminary survey of a small part of the Otuzco Highlands and encountered a cluster of at least five rectilinear compounds and a nearby fortified hilltop occupation all located by a town called Canac (Figure 4.6; Figure 4.7). The ensemble of local highland ceramics found at these compounds aligns well with the Early Highland set of traditions outlined in the subsequent chapter, traditions that spanned both the Gallinazo and Moche Phases. Though the rectilinear format of the compounds may suggest linkages with the distant Wari-influenced center at Viracochapampa occupied between 600 and 800 CE, surface collections revealed no Wari-related wares. In fact, a few negative-painted decorations and white-clay wares found at Canac align well with Thatcher's Purpucala Phase ceramics, dating between 200 BCE and 300 CE (Thatcher 1972: 206-211; J. Topic 2009). To add more to this confusion, the only previous mention of the site focuses on the fortified hilltop and tentatively assigns it to the Chimú Phase between 900 and 1470 CE (Coupland 1980: 130-131). Given the assemblages and architecture I witnessed, I would guess that the rectilinear compounds at Canac were probably contemporary with the rise of Marcahuamachuco although the fortified hilltop was perhaps a later occupation. Future excavations at the site are needed to clarify these issues of chronology and perhaps allow us to understand how Canac may have interacted with possibly contemporary highland colonies below. However, until this research is conducted, it is difficult to expand any more on the possible connections between communities in the local highlands and those in the *chaupiyunga*.

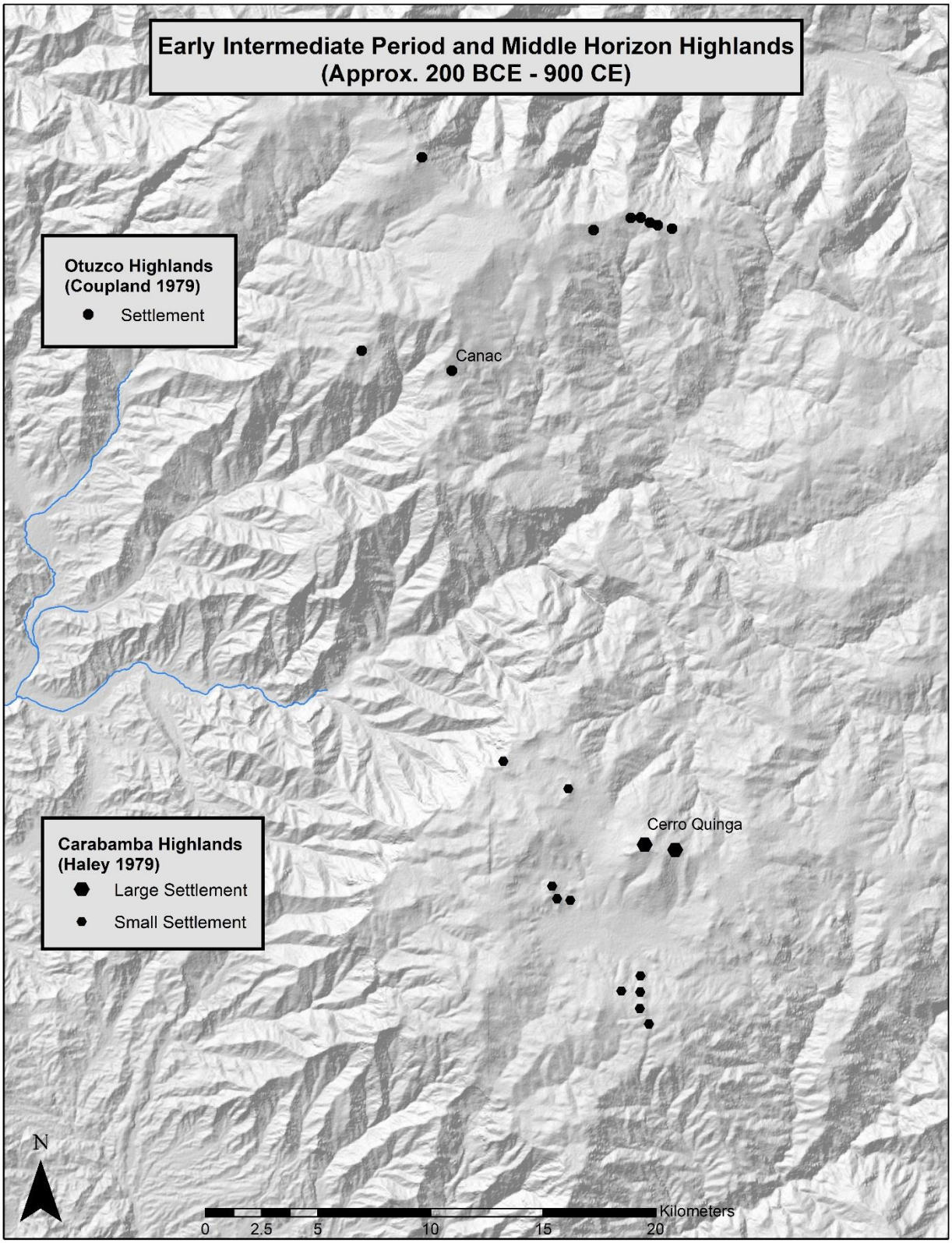


Figure 4.6 Early Intermediate Period and Middle Horizon Highland Occupations (~200 BCE – 900 CE)

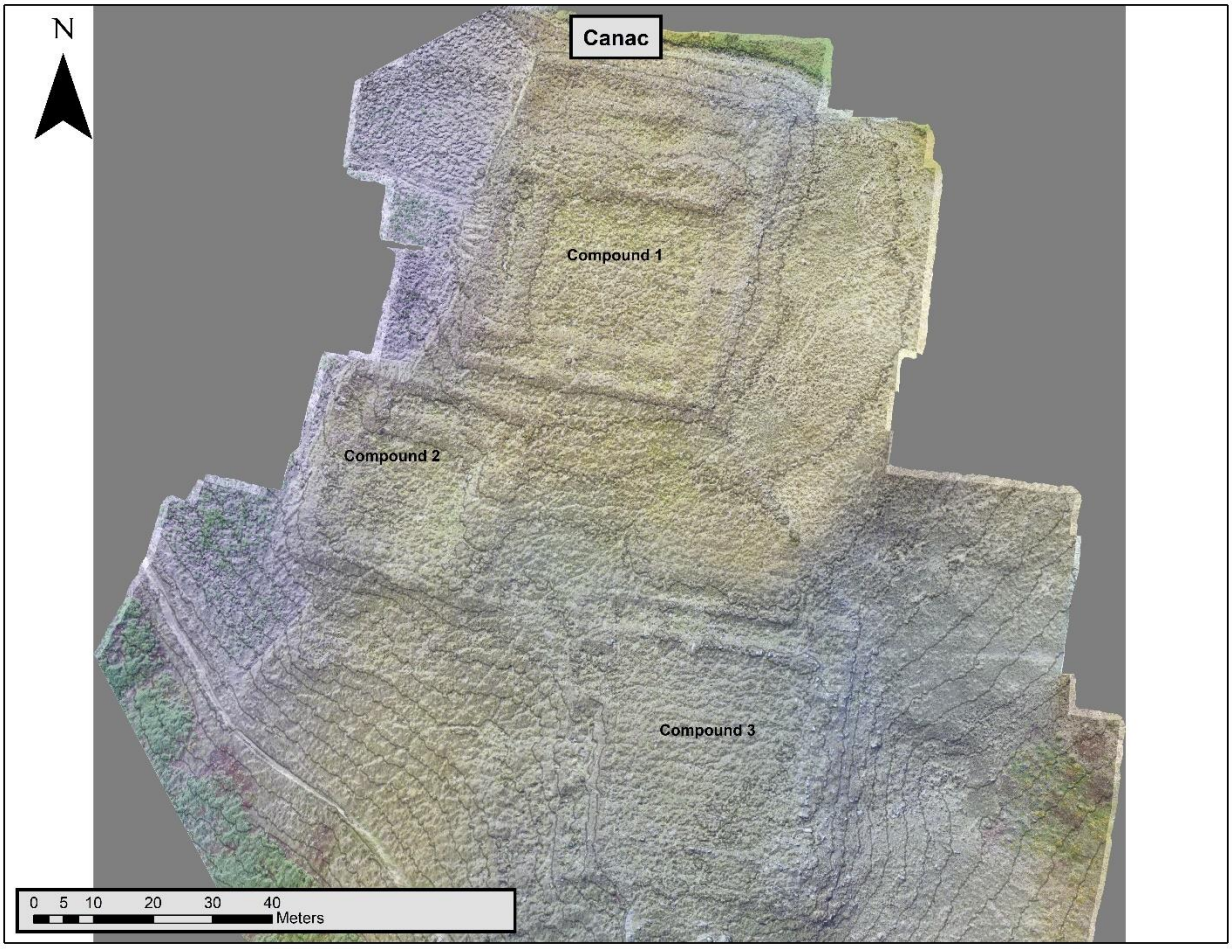


Figure 4.7 Preliminary Drone Imagery from Canac

4.2.6.6 Canals, Exchange, and *Coca*

During the Gallinazo Phase, new canal construction was uncertain, coastal-highland exchange was being mediated, in part, by *chaupiyunga* communities, and access to *coca* appears to have been reduced in the *chala*. Billman argues that older Salinar Phase canals were re-used within the valley and no new canals were constructed during the Gallinazo Phase (Billman 2002:383), but this could require some revision (See Appendix C). The clear Gallinazo Phase occupations at Huaca las Estrellas and Huacas del Moche (Gayoso and Angulo 2013; Uceda et al. 2009) would suggest that the General de Moche canals (Ortloff, Feldman, and Moseley 1985) could have been built sometime before the Moche Phase. The possibility of this addition being dated to the Gallinazo Phase is particularly interesting given that Huaca las Estrellas, a Virú-affiliated *huaca*, would have likely been associated with such canals. The ultimate consequence of

this being: some of the earliest canals associated with the Moche Phase center of Huacas del Moche may have begun as projects associated with agents affiliated with the Virú *huaca*-polity. Thus, Virú expansion may have served as a catalyst for the rise of the Moche Political Tradition in the Moche Valley. Though intriguing, a more concrete association between Huaca las Estrellas, the Virú, and the earlier canals around Huacas del Moche would need to be articulated for this hypothesis to be better supported. In any case, the use of canals is considerably more ambiguous during this phase mainly because of the abandonment of Cerro Arena and the general confusions between Gallinazo and Moche Phase occupations in the lower valley. The range that I reached in my estimates, between around 3000 and 11000 hectares, could tell a story of either stagnation or massive growth and is thus of little use in clarifying much of anything until we get a better handle on the canal chronology during these phases (Table C.1).

Several details regarding coastal-highland exchange become a bit clearer during the Gallinazo Phase. The presence of white clay bowls in *chaupiyunga* communities has already been discussed and is good evidence for relationships of exchange and affiliation between the *chaupiyunga* and the local highlands. That these bowls are not commonly found in the *chala* may illustrate the limits of such exchange networks. Alternatively, I would argue such limits reflect the fact that these bowls are better described as corporate goods than simple exchange items: they had little use in Moche Valley *chala* politics, outside of perhaps being foreign oddities, and thus there was not as much demand for them. Copper and gold artifacts do continue to be found in the *chala*, illustrating coastal use of highland resources. In the *chaupiyunga*, excavations at Cerro Leon uncovered plentiful evidence of copper and gold artifacts that were analyzed using a pXRF in 2015 by myself and Rachel Johnson (Johnson 2015). The site featured a combination of thin sheets of gold and copper, small slag chunks, and partially completed fishing hooks and pins: all suggesting that sheets of precious metals were being delivered to Cerro Leon and refined into tools on-site. Given that Cerro Leon is at the end of the Alto Las Guitarras corridor, it seems most likely that these metals were coming from the Carabamba Highlands (Figure 4.5; Figure 4.6). Interestingly, camelid remains see a marked increase in ubiquity during the Gallinazo Phase at Pampa la Cruz: perhaps indicating further connections between the coastal communities and those in the *chaupiyunga* and highlands (Millaire et al. 2016). Millaire connects these increases with the rise of the Virú Political Tradition and its influence over the community. Alternatively, increased access to camelids could be interpreted as a residue of *chala* exchange relationships with

chaupiyunga communities like Cerro Leon. These *chaupiyunga* communities were clearly making tools, like fishing hooks, that would be used by *chala* communities. In any case, it does appear that the closer highland bonds enjoyed by *chaupiyunga* communities put them in a position to serve as probable intermediaries in certain elements of coastal-highland exchange.

A final important insight about the Gallinazo Phase is the evidence that *coca* use in the *chala* actually decreased for most of the phase. In the previously cited study on human remains from Cerro Oreja, the authors noted that their indirect evidence for *coca* use saw a subtle drop during the earlier and middle part of the Gallinazo Phase but would have increased in the final century or so (Gagnon et al. 2013). The explanation provided for this drop was that *chala* populations simply had less access to *coca* because the *coca* growing zone of the *chaupiyunga* was controlled by highlanders for much of the Gallinazo Phase. This seems likely, though it is equally possible that the fluctuations in *coca* access could be related to the expansion and decay of the Virú *huaca*-polity. The later part of the Gallinazo Phase more-or-less aligns with the rise of the Huacas del Moche *huaca*-polity and, assumedly, the weakening of the Virú *huaca*-polity within the Moche Valley. Thus, it could be that indigenous groups of the Moche Valley *chala* regained their privileges in accessing more *coca* as Virú power in the region waned. In any case, *coca* use does not disappear altogether and it likely continued to be an important good for *chala* populations and polities.

4.2.6.7 Discussion

In sum, the Gallinazo Phase was not a time of valley-wide sovereignty, nor unity, in the Moche Valley. The *chala huaca*-town of Cerro Oreja may have been the largest, and assumedly most powerful, community in the Moche Valley but it inhabited a precarious landscape. To the south, the expansive Virú *huaca*-polity was actively cultivating relationships of affiliation with the elite households and families of Cerro Oreja and its coastal neighbor of Pampa la Cruz. Moreover, the Virú *huaca*-polity could have been building more direct modes of authority into the landscape at places like Huaca las Estrellas. To the east, clusters of defensively-located highland colonies dotted the *chaupiyunga* landscape, possibly disrupting older traditions that allowed *chala* communities consistent access to the *coca*-growing zone. Though Cerro Oreja would have likely had an advantage in numbers, the communities of the *chaupiyunga* were very actively cultivating

distant highland ties: ties that they could no doubt call upon to help them secure their place in the landscape. Besieged upon both sides as they were, it is perhaps not surprising that the leaders of the *huaca*-town of Cerro Oreja invested so heavily in building into and expressing their power through the mountain adjacent to their community: a mountain that remains an immutable and eternal feature of the Moche Valley landscape.

This was the first phase during which the *chaupiyunga* was very clearly a borderland. The demographic landscape was divided around the Middle Valley *chaupiyunga*: two principal *huaca*-towns dominated the *chala* while the *chaupiyunga* featured three smaller clusters of likely highland colonies. The political affiliations of these communities also appear to have been divided along the Middle Valley *chaupiyunga*: the *huaca*-towns of the *chala* were likely affiliated, in part at least, with the Virú *huaca*-polity to the south, while the highland colonies of the *chaupiyunga* were likely affiliated with other highland communities further afield. Upon this backdrop of *chala*-*chaupiyunga* division was evidence for endemic conflict and a generally contested landscape. Even so, there still existed economic ties and exchange networks that were connecting the *chala* communities with highland goods, ties that were likely mediated by *chaupiyunga* communities. Additionally, the mixture of *chala* and highland material culture in the communities of the *chaupiyunga* indicate that conflict did not translate into rigid and pervasive demographic and cultural divisions along this borderland. Though contested, the *chaupiyunga* was clearly a permeable zone, rich with more peaceful interactions. Thus, it is clear that, during the Gallinazo Phase, the Moche Valley *chaupiyunga* was a political, demographic, cultural, and economic boundary between *chala* and highland peoples and polities.

4.2.7 The Moche Phase (~400 – 900 CE): The Rise of Valley *Huaca*-Polities of the Moche Political Tradition

It is out of the tumultuous crucible of the Gallinazo Phase landscape in the Moche Valley that one of the most powerful *huaca*-polities of the broader Moche Political Tradition emerged: Huacas del Moche. Though domestic ceramics remain relatively unchanged, the Moche fine-ware ceramic tradition is wide-spread, well-documented, and can even be diagnostic of sub-phases and influence from specific Moche *huaca*-polities of the Moche Phase. Most notably, the indigenous

huaca-polity of Huacas del Moche catapulted itself into an unquestionable position as a political and demographic power in the region for several centuries. Many of the older *huaca*-towns of the Gallinazo Phase persisted into the Moche Phase while the highland colonies of the *chaupiyunga* were all but abandoned (Figure 4.9; Table 4.9; Table 4.10; Table 4.11). The aggressive expansion of the Huacas del Moche *huaca*-polity, and its political ideology, is seen in many ways: Moche III/IV fine-wares spread to adjacent *huaca*-towns and communities, nearby *huacas* are remodeled with iconography consistent with Huacas del Moche, and newly constructed *huacas* and canals connected Moche authority with the economic landscape. In the latter half of the Moche Phase, the *huaca*-polity of Galindo emerged as a unique challenger to the supremacy of the Huacas del Moche in the region. However, the broader authority of Galindo is only visible in the Moche V fine-wares and unique palace structures that are rarely encountered in the Moche Phase landscape of the Moche Valley. Interestingly, the nature of the *chaupiyunga* as a borderland during this phase is relatively unknown due to a lack of focused investigation: something this dissertation is equipped to somewhat remedy.

Table 4.9 Settlement During the Moche Phase

Moche Phase Settlement* (From Billman 1996)		
Site Size Category (ha)	**Number of Sites**	**Total Area (ha)**
0 - 1	45	14.718
1.21 - 1.98	16	23.55
2.03 - 2.75	10	21.79
4.34 - 4.48	2	8.82
6.11 - 10.28	7	54.76
21.06 - 35.35	5	137.51
63 - 135**	1	135
Total	87	396.148

***This is taken from Billman's Table 10.5 and thus omits the latter centuries of the Moche Phase and the occupations at Galindo (Billman 1996:303)**

****Missing Galindo (~160 ha). Also, Billman's estimates are about twice the size of Chapdelaine's estimate of Huacas del Moche at 63ha so I added that here (Chapdelaine 2009:185).**

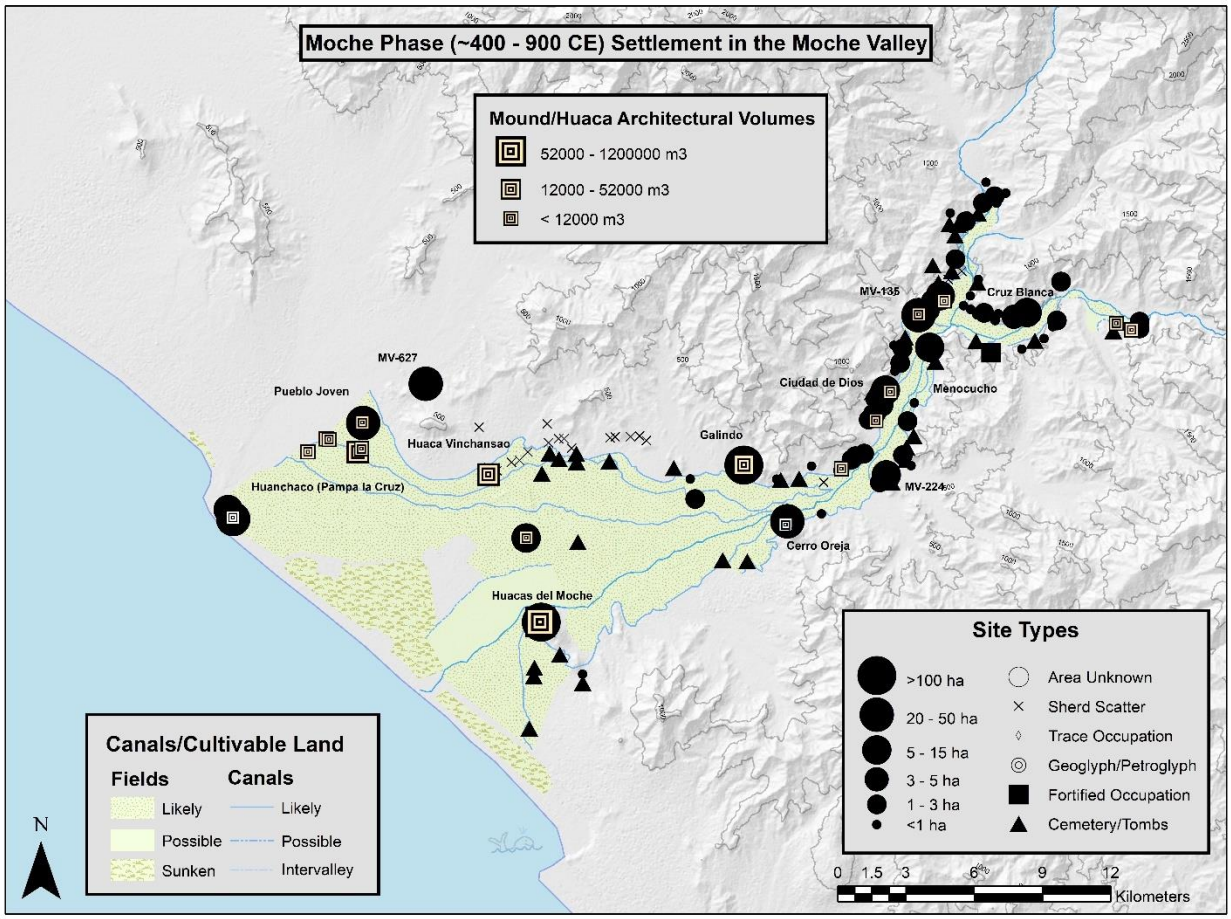


Figure 4.8 The Moche Phase (400 – 900 CE) of the Moche Valley

Table 4.10 Ceremonial Architecture of the Moche Phase

Moche Phase Ceremonial Architecture (Partially from Billman 1996)			
Site Name	**Structure**	**Dimensions (m)**	**Volume (m^3)**
Huacas del Moche (510)			1200000
	Huaca del Sol	340 x 160 x 40	1047000
	Huaca de la Luna	90 x 85 x 20	153000
Cerro Pasqueda (558)*	Hilltop Platform	50 x 25 x 4	5000
Huaca Vinchanzao (582)	Isolated Mound	210 x 80 x 4	50400
599	Isolated Mounds		18000
135	Two Mounds		4640
141	Two Mounds		2135
451	Isolated Mound	35 x 30 x 2	2100
67	Hilltop Platform	30 x 20 x 3	1800
91	Hilltop Platform	30 x 20 x 1.5	900
595	Isolated Mounds		470
34	Isolated Mound		440

447	Terraced Knoll	35 x 10 x 1	350
Pueblo Joven (625)	Four Mounds		235
596	Isolated Mound	10 x 10 x .8	80
619	Isolated Mound	5.5 x 4.5 x 1	25
617	Isolated Mound	4.9 x 3.8 x .8	12
Galindo**			34494
	Platform-mound A		16927
	Platform-mound B		5670
	Platform-mound C		1064
	Platform-mound D		3368
	Cercadura A		1723
	Cercadura B		4912
	Cercadura C		830
Total w/o Galindo or Cerro Pasqueda			2481587
Total w/o Cerro Pasqueda			2550575
Total			2555575

***Possibly just Gallinazo Phase occupation**

****Volume estimates taken from Murray's thesis on Galindo (Murray 2018:37)**

Table 4.11 Demographic Estimates for the Moche Phase

Moche Phase Demographic Estimates (Partially from Billman 1996)			
Site and/or Site Cluster	**Number of Sites**	**Total Area (ha)**	**Population Estimates**
Huacas del Moche*	1	60 - 135 (100)	6000 - 9000
Galindo**	1	160 (151)	7550 - 15100
Pampa la Cruz***	2	42	2000 - 4000
Cerro Oreja***	1	28.1	3500 - 7000
Other Moche Phase "Secondary Centers" (+)	3	73.91	3696 - 7391
All Other Moche Phase Settlement (++)	79	117.138	1757 - 5857
Total w/o Galindo	86	396.148	16953 - 33248
Total	87	556.148	24503 - 48348

***Here I chose Chapdelaine's estimate using an approximate site area of 60ha and a density of 100-150 people/ha only because it was the most recent estimate and took into account excavations at Huacas del Moche that were not available to Billman (Billman 1996:315; Chapdelaine 2009:185; Wilson 1988:78).**

**** Was calculated using a modified area of 151 ha, given that at least 9ha were larger palace compounds (Murray 2018:40). I used a basic 50-100 people/hectare range because that seemed to be a good metric for most other larger urban settlements discussed during this phase. A more detailed demographic estimate for this settlement is sorely needed.**

*****Given assumedly similar occupation, I used the same demographic estimates as the Gallinazo Phase. For Pampa la Cruz, I took account of the sister site of 632 (6.5ha) and omitted it from the later calculations in the "All Other Moche Phase Settlement" Site Cluster.**

(+) Subtracted areas of Pampa la Cruz (35.5ha) and Cerro Oreja (28.1ha) from the penultimate settlement tier in Table 4.11. An estimated 50-100 people/ha is used because these areas were likely more urban than rural and thus should reflect densities more similar to a settlement like Pampa la Cruz.
(++) Calculated from the 5 other site categories provided in Table 4.11. The previously used rural estimate of 15-50 people/ha is used again because it seemed to capture that range well during the Gallinazo Phase.

4.2.7.1 Ceramics and Chronology

The domestic ceramics of the Moche Phase are almost impossible to differentiate from those of the Gallinazo Phase but Moche fine-wares are distinct and diagnostic. Recalling the aforementioned chronological issues with the domestic ceramics of the Gallinazo Phase, these issues become particularly problematic for interpreting highland wares in the Moche Phase. The only securely dated context in which these early highland wares have been found in the Moche Valley, Cerro Leon, dates them to the Gallinazo Phase (Ringberg 2012; Bardolph 2017). However, these ceramic traditions almost surely persist well into the Moche Phase in the local highlands and are even found in some contexts with Moche fine-wares (Topic and Topic 1982; Thatcher 1972). Thus, though Billman argues the highland colonies in the Moche Valley *chaupiyunga* were likely abandoned in the Moche Phase (Billman 1996: 268; Billman 2002: 392), this remains unclear from the ceramics alone. It is entirely possible that Cerro Leon was abandoned while at least some of the other highland colonies continued to be occupied well into the Moche Phase.

Moche fine-wares are not only diagnostic of the Moche Phase, but can be tentatively divided into sub-phases and even styles specific to certain *huaca*-polities or regions. The 5-phase chronology of Moche fine-wares established by Larco is foundational but the temporal and regional ambiguity within the wares he identified has been exposed over the past few decades (Larco 1948; Castillo and Donnan 1994; Castillo and Uceda 2008; Koons and Alex 2016). Initial revisions of the Larco sequence revealed clear differences between Northern and Southern Moche traditions and regions, and subsequent revisions have focused now upon the Southern Moche region (Castillo and Donnan 1994; Casillo and Uceda 2008; Koons and Alex 2016).

Moche I and II fine-wares appear rarely in the Moche Valley but, as previously stated, they spanned between around 300 to 600 CE and were likely a Chicama Valley style (Koons and Alex 2016: 1049-1050). It is unclear whether Moche I-II was associated with the *hauca* at El Brujo in

particular or if it was just a broader tradition associated with *huacas* throughout the Chicama Valley. Moche III fine-wares actually date a bit earlier, between 150 and 650 CE, and appear to be indigenous to the Moche Valley and specifically to Huacas del Moche (Koons and Alex 2016:1050). Interestingly, these wares were contemporary with the latter centuries of the Virú Negative tradition in the Moche and Chicama Valley: illustrating further overlap between the Gallinazo and Moche Phases. Moche IV fine-wares have some overlap with these earlier wares but are generally later in date, between 500 and 750 CE, and are mostly indigenous to the Moche Valley and the Huacas del Moche (Koons and Alex 2016:1050). These fine-wares are found throughout the Moche Valley, in the Chicama Valley beginning around 600 CE, and are imitated as far south as the Santa Valley (Gamboa and Nesbitt 2012; Koons and Alex 2016:1050).

Finally, Moche V fine-wares are generally later in date, between 650 and 750 CE, and are first found in the northern Chicama Valley at Licapa II (Koons and Alex 2016:1050-1051; Koons 2012). Notably, these wares are also commonly found at Galindo in addition to some other smaller sites in the Moche Valley (Lockard 2009; Gamboa and Nesbitt 2012). Generally, Koons and Alex see these Moche V fine-wares as regional offshoots following the wide distribution of Moche IV fine-wares that occurred after 600 CE. In sum, these new understandings of Moche fine-wares reveal a mosaic of overlapping sub-phases and inter-valley associations. Tracing these fine-wares can help us articulate the webs of interaction that entangled the *huaca*-polities and *huaca*-towns of Moche and Chicama Valleys, and the broader Southern Moche region, throughout the Moche Phase.

4.2.7.2 Huacas del Moche and *Chala* Demographic Expansion

The Moche Phase is best characterized as a time of demographic expansion within and from the Moche Valley *chala*: the *huaca*-polity of Huacas del Moche becomes the new demographic center of the valley, new *chala* communities pop up in the northern sections of the Lower Valley, and many of the highland colonies of the *chaupiyunga* are replaced by *chala* communities. Beginning at Huacas del Moche, this community was likely occupied by at least 200 CE but rose as the demographic and political center of the valley by the beginning of the Moche Phase (Table 4.9; Table 4.11). Using approximations of total site area and habitations per hectare, Billman estimated that 5000 to 12500 people lived between and around the two main *huacas* at

the center of this *huaca*-polity (Billman 1996:302, 315). Chapdelaine makes a similar assessment, estimating somewhere between 6000 and 9000 people occupied the core of the site (Chapdelaine 2009:185). This core can be confidently described as a dense and urban community: "with streets, plazas, public buildings, mixed residential and workshop compounds" (Chapdelaine 2009:193). It is important to note that the residents of Huacas del Moche appear solidly *chala* in terms of any broader cultural identity they shared: there is no evidence for highland domestic ceramics or other non-elite highland cultural material within the site core (Chapdelaine 2009:191-192). In any case, around a third of the population of the Moche Valley would have likely been living in Huacas del Moche for most of the Moche Phase (Table 4.11).

Looking at the Moche Valley as a whole, Billman argues that Huacas del Moche sits at the top of a four-tiered settlement hierarchy with five large towns at the third tier, a handful of smaller towns at the second tier, and a vast number of hamlets and camps at the fourth tier (Billman 1996: 302-305). This is an interesting departure from his identification of clusters in previous phases: it is immediately assumed that the entire valley is essentially one large settlement cluster (Table 4.9). The older *chala* communities at Cerro Oreja and Pampa la Cruz persist in their relevance and size, but much of the demographic landscape in the Moche Phase is composed of newer communities also using *chala* ceramic wares.

This new *chala*-dominated demographic landscape of the Moche Phase is seen in the expansion of communities into the northern sections of the Lower Valley and a handful of other communities that emerge in the *chaupiyunga*. Previously unoccupied portions of the northern Lower Valley become well-populated during the Moche Phase, a pattern that is almost surely correlated with the construction of several large canal systems in the north. Two of the large third-tier towns noted by Billman, Pueblo Joven and MV-627, are located along and likely depended upon these new canals (Billman 1996: 304; Figure 4.8). Deeper into the cultivated zone on the north side of the valley, Cerro Pasqueda is a second-tier town that, as previously noted, could have a Gallinazo Phase component but was occupied well into the Moche Phase (Billman 1996: 304). Looking at the Middle Valley *chaupiyunga*, a series of other second-tier towns emerge at MV-224, Santa Rosa – Quirihuac, MV-135, and around Menocucho (Billman 1996: 304; Billman 2002:393; Gumerman and Briceño 2003). The second-tier large town of MV-135 is located at the final confluence of the Moche River, directly adjacent to the modern town of Katuay. Billman

argues this town possibly had an earlier Gallinazo Phase occupation (Billman 1996: 303). However, this is not confirmed by the presence of Virú Negative wares and the settlement is more thoroughly treated later in this dissertation. Past the confluence, communities that principally used *chala* wares appear to have been lightly occupied and sparsely scattered across the landscape (Billman 2002: 393).

One question that emerges from the discussion of this clear *chala* expansion into the *chaupiyunga* is: where did all of the Gallinazo Phase highland colonies go? Though our understandings are incomplete, the current answer seems to be highly dependent on where the colonies were located in the first place. In the Middle Valley, large communities like Cerro Leon were almost surely abandoned within the first few centuries of the Moche Phase (Bardolph 2017; Billman et al. 2022). Interestingly, a possible late Gallinazo or early Moche Phase *chala* community at MV-224 is located just beneath Cerro Leon. It would not be unreasonable to guess that MV-224 could have been partially settled by former highland colonists from Cerro Leon: perhaps they became more entangled in the *chala* networks of exchange and affiliation at the cost of their previous strong ties to the highlands. Such a possibility warrants further research but also should not distract from an important reality: Cerro Leon was very surely abandoned.

Past the confluence and into the Upper Valley *chaupiyunga*, the situation is even less clear. The highland colony at Cruz Blanca was not abandoned and was occupied as a community well into the Moche Phase (Billman 1996:305; Topic and Topic 1982). This community exhibits a remarkable mixture of Moche fine-wares, *chala* domestic wares, white clay bowls, and highland domestic wares (Topic and Topic 1982): a veritable *smorgasbord* of cultural material and traces of affiliation from the *chala* and *quechua* alike. Cruz Blanca was also one of the few communities during the Moche Phase that was defensively located and fortified. Though this could simply be a left-over from the more chaotic Gallinazo Phase landscape in which the community was forged, the continued occupation of that area could show that Cruz Blanca remained in a somewhat precarious position on the landscape. Thus, the Gallinazo Phase highland colonists of the Middle Valley *chaupiyunga* likely abandoned their settlements to either become more "*chala*-like" or return to the highlands. Meanwhile, at least one highland enclave, Cruz Blanca, continued to hold on in the Upper Valley *chaupiyunga* while conducting a balancing act of sorts between highland and coastal affiliations.

4.2.7.3 The Moche Political Tradition: The *Huaca*-Polity of Huacas del Moche

The main catalyst for many of these demographic changes was the rise of the *huaca*-polity of Huacas del Moche. Though it was one of many *huaca*-polities and *huaca*-towns enmeshed within the broader Moche Political Tradition that spanned much of the North Coast, Huacas del Moche is often argued to have been the principal center for the Southern Moche part of this tradition. Like the Virú, the Moche Political Tradition is defined in part by its own corporate package of material culture and a very distinct iconographic and religious canon, both of which were integral to elite identity and *huaca*-related activities. Unlike the Virú, the Moche Political Tradition is wider in its reach and exhibits remarkable regional diversity: it is better described as multiple overlapping traditions that were part of a broader "Mochelandia" (Quilter 2002; Quilter and Koons 2012:138). Previous debates regarding Moche politics, specifically the role of Huacas del Moche in the Southern Moche region, have focused on whether or not it was the center of a centralized state (Quilter and Koons 2012). I attempt to sidestep this question of "state-ness" and instead favor describing what we can confidently say about how political authority was being built within and around the likely centers of the Moche Political Tradition in the Moche Valley. Specifically, I focus on how authority was built within the center of the *huaca*-polity of Huacas del Moche and how its agents cast their remarkably broad nets of authority into the surrounding landscape.

The manner in which political authority was built upon and between the dual *huacas* of Huacas del Moche changed over time in ways that are linked to the history of the *huaca*-polity itself. The earliest centuries of Huacas del Moche are poorly understood, but the community likely began as a *huaca*-town that rose to prominence during the waning centuries of Virú authority in the Moche Valley. Uceda describes this "First Moche Period", between 100 and 600 CE, as a time during which the Old Temple at Huaca de la Luna was the focal point of the community, and was consistently remodeled and expanded (Uceda 2010). Huaca de la Luna was built into the slopes of Cerro Blanco, binding the *huaca* to the striking mountain: the darker andesite band traversing Cerro Blanca is highly visible throughout the *chala*. The *huaca* itself consisted of a platform mound with an elaborately decorated stepped façade, lateral L-shaped access ramp, and massive walled plaza. The urban core of the *huaca*-polity was vital to the maintenance of this *huaca* and several of the residential compounds within it were involved in the production of Moche fine-

wares (Moche II, III, and IV fine-wares) and other associated corporate goods. Generally, Uceda's argument is that the *huaca*-polity was a theocracy during this period: guided by an oligarchy of priests and nobles, likely even priestly nobles, who led both private and public ceremonies in the Old Temple that bound the community, and associated subject communities, together (Uceda 2010).

The "Second Moche Period", from 600 to 850 CE, saw the abandonment of the Old Temple paired with the massive expansion of Huaca del Sol into the largest pre-Columbian adobe structure built in the Americas. Though it was a much smaller platform in the First Moche Period, Huaca del Sol more clearly assumes a dual role as a temple and palace during this Second Moche Period. Recent research has exposed a mixture of elite residences and plaza spaces atop the *huaca*, suggesting a dual role as a palace-temple (Tifunio 2019). This represents a marked departure from lack of direct entanglements between elite residences and ceremonial architecture that were a feature of Huaca de la Luna and earlier Gallinazo Phase *huacas*. The urban core continued to be vital in craft production (Moche IV fine-wares) and the wealth and power of its inhabitants increased dramatically: some occupied their own construction blocks that assumedly functioned as small palace compounds (Uceda 2010). The result of all of these factors was a *huaca*-polity in which political authority was no longer mediated through a *huaca* that was separated from the residences of the noble families and priests who assumedly ruled the community: the *huaca* and palace had become one. Though it seems unlikely that more than one lord or lady would rule from atop Huaca del Sol, the evidence to date neither confirms nor denies the presence of one paramount ruler (Tifunio 2019). The developments during the Second Moche Period do reveal a rising class of likely lower nobility that were living in smaller palaces among the construction blocks. These individuals were integral in producing the material culture that was essential for the maintenance of the broader networks of inter-elite authority extending from the Huacas del Moche.

The expanding influence of the Huacas del Moche *huaca*-polity across the landscape of the Moche Valley, and further afield, has traditionally been seen in three ways: (1) the labor needed to build its *huacas*, (2) the common architectural liturgy emanating from Huaca de la Luna, and (3) the corporate ware tradition rooted in its urban sector. To begin, the *huacas* at Huacas del Moche themselves were almost surely products of the collaboration, coerced or otherwise, between many communities and groups. The segmented construction columns and use of maker's marks

on some adobe bricks at the *huacas* of Huacas del Moche have often been used to argue the *huacas* were constructed by work gangs conscripted by the *huaca*-polity itself (Hastings and Moseley 1975). Given the size of the monuments, it seems likely these laborers would have come from outside of the community itself: probably from the surrounding communities in the Moche Valley but perhaps even from the Virú and Chicama Valleys as well. While the possibility of labor conscription from distant communities does not by itself suggest political power over these communities (Quilter and Koons 2012), it does at the very least suggest that inter-community connections did exist. Importantly, it also suggests that such connections were almost surely tied to, and expressed through, labor. Given the gargantuan size of Huaca del Sol, it is clear that the *huaca*-polity of Huacas del Moche had access to a vast pool of laborers (Table 4.10).

An architecturally-rooted liturgy clearly emanated from the Huacas del Moche, specifically from Huaca de la Luna, and was replicated at a few distant *huacas*. The most famous *huaca* that exhibits these similarities is the massive temple of Huaca Cao Viejo of the larger El Brujo complex on the Sangamon Terrace in the Chicama Valley (Franco et al. 2001; Franco et al. 2010; Quilter et al. 2012). This *huaca* had an L-shape format early in its construction history but was remodeled in the later years of its occupation with a decorated façade almost identical to that seen at Huaca de la Luna (Quilter et al. 2012). Defining the El Brujo complex as a *huaca*-town or *huaca*-polity is difficult because the extent of Moche Phase demography at and around the site is unclear from published sources. That being said, most of the researchers at the site argue it was the principal religious, and likely political, center of the Chicama Valley during this period. Recent excavations by Prieto at Pampa la Cruz in the Moche Valley have exposed similar decorations upon the façade of its much smaller *huaca*. The question remains whether any architectural and iconographic similarities shared between these *huacas* are best described as a common religious canon shared among Moche *huaca*-towns and *huaca*-polities or as evidence for political affiliation with or domination by Huacas del Moche (Quilter and Koons 2012). Given that authority during First Moche Period at the Huacas del Moche *huaca*-polity was probably more "theocratic", I would argue that religious canon and political affiliation seem very likely to be two sides of the same coin.

A corporate package of fine-wares (Moche III-IV) and other material culture also appears to have radiated from Huacas del Moche and was found in neighboring communities, *huaca*-towns,

and *huaca*-polities. Many of these corporate goods, particularly the intricately painted fine-ware bottles, are most famously found in Moche burials and were clearly integral parts of how high-status individuals were represented as they were interred (Donnan and Mackey 1978). The Moche IV fine-ware vessels coming from the Huacas del Moche appear unique to the site in their pastes and thus could theoretically be tracked across the landscape, especially if production was limited to the urban core of the *huaca*-polity (Koons 2012:475, 478-479). In fact, these fine-wares, along with a wider array of figurines, musical instruments, and other vessel forms referred to by Billman as "intermediate" wares, were also commonly found in household contexts abroad (Billman 2010:191-193). It is these "intermediate" wares that are the most common elements of the Moche corporate package found in the surrounding countryside by archaeologists today (Billman 2010; Billman 1996). Generally, it is assumed this corporate package was likely distributed across the landscape through a web of exchange, reciprocity, and authority that interconnected those within the *huaca*-polity of Huacas del Moche to those without (Billman 2010:188-192). Put simply: these intermediate wares can serve as proxies for the network of authority cast upon the landscape by agents of the Moche *huaca*-polity at Huacas del Moche.

4.2.7.4 The Moche Political Tradition: Lords, Ladies, and Leaders of the Moche

Iconographic and archaeological evidence speaks to a wide host of local leaders, priests, lords, ladies, and paramount rulers who played vital roles in Moche politics: roles that were often intertwined with and expressed through corporate wares and large formalized adobe *huacas* or smaller platform mounds. The full array of political activities in which these agents were involved is outside of the scope of this discussion but a closer look at a few traditions provides useful insights into how Moche authority was being built in the landscape.

Firstly, the burial traditions of Moche elites are often inseparable from corporate wares and *huacas*. In iconography, the burial ceremony of Moche nobility is a famous theme and illustrates both their internment in *huacas* and the vast array of offerings, living and material, they carried with them to death (Donnan and McClelland 1979, 1999:166, 182, 276, 284, 295). Interestingly, Donnan and McClelland note that the burial theme becomes most common amongst Moche V ceramics (Donnan and McClelland 1979, 1999:166), perhaps hinting that the more grandiose burials depicted in such wares were a later development and maybe even more associated with the

rivaling *huaca*-polity of Galindo. In any case, archaeological evidence from across the broader Moche world illustrates a wide spectrum of similar burials that have been uncovered within *huacas* themselves: from the elaborate tombs of great lords and ladies to much smaller internments of priests or seemingly lower nobility (Alva 2001; Uceda 2001; Franco et al. 2001). Both *huacas* at Huacas del Moche illustrate a long history of elite burials, showing that elites were likely co-opting *huacas* through burial even before the Second Moche Period when the *huaca* and palace were made one. Such burial traditions bound elite ancestry to the political authority embodied in and enacted upon *huacas*, anchoring powerful families and individuals, literally or symbolically, to these powerful places in the landscape.

Violence, combat, and martial prowess were important elements of Moche political identity and authority that were illustrated upon corporate wares, were enacted around and upon *huacas*, and were particularly prevalent in the *huaca*-polity of Huacas del Moche. A broad iconographic corpus found on Moche corporate wares narrates tales, and likely some histories, of violence in the Moche past. Scenes of combat between elaborately armored Moche warriors are followed by the parading and torture of captives around and within the *huaca* (Donnan and McClelland 1999). Many of these captives are ultimately sacrificed upon the *huacas* themselves, their vital blood captured and consumed by nobility, lords and ladies alike, dressed in the ornate garb of supernatural beings associated with the *huacas* (Donnan and McClelland 1999). Interestingly, Moche nobles were both the perpetrators and victims of this violence: victorious nobles accepted the blood of captive combatants while vanquished nobles were paraded naked upon their litters (Donnan and McClelland 1999). These violent narratives are borne out at the Huacas del Moche, and Huaca de la Luna in particular, in both the iconography of façade friezes and the associated traditions of human sacrifice. The main plaza of Huaca de la Luna exhibits one layer of friezes depicting victorious warriors parading captives, echoing nearly identical themes that were illustrated upon corporate wares. Famously, a centuries-long tradition of captive torture and sacrifice was recorded in a somewhat secluded plaza space at Huaca de la Luna: archaeological evidence for traditions of torture and sacrifice similar to those depicted on iconography (Verano 2014). Notably, this sacrificial plaza was intentionally built around a protruding rock outcrop from the adjacent Co. Blanco, perhaps serving as a representation of the mountain. That such a representation of the mountain was important to explicitly tie into the *huaca*, and the vital activities for which it was tasked, illustrates a continued association between *huacas* and mountains as

sacred places in the Moche Valley landscape. Combat and violence were important elements of Moche political authority at Huacas del Moche and provide additional evidence of how political actors, *huacas*, and mountains were bound together in the landscape.

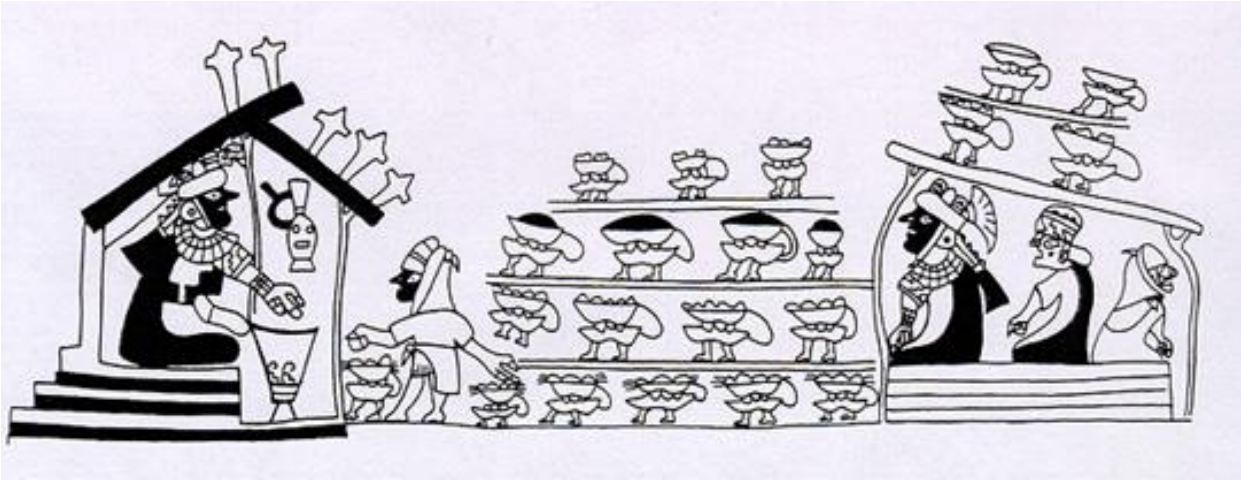


Figure 4.9 Depiction of a Moche Noble Accepting Tribute (adapted from Donnan and McClelland 1999)

Moche political actors held some manner of authority over agricultural production and labor, but this authority was exercised through *huacas* themselves. Though depictions of canals and fields are notably absent, the corpus of iconography found on Moche corporate wares does show a few examples of tribute. One particularly vivid depiction shows a Moche noble collecting what appears to be tribute from a lesser lord and his retinue. The depiction shows animated gourds and jars filled with food and drink walking to the greater noble perched upon a platform, like those found upon many *huacas*, with a gabled roof adorned with stylized clubs (Donnan and McClelland 1999:113; Figure 4.9). It is important to note that the tribute presented to the noble is ready for consumption and not storage: open plates full of food and jars of drink to pour into adjacent glasses. Thus, it seems likely that tribute and feasting were perhaps analogous or simultaneous activities that were managed or guided by nobles upon the venue of the *huaca*. The likelihood that collecting tribute and hosting feasts were simultaneous activities in some *huacas* is also supported in the archaeological record: medium-sized and smaller *huacas* are rarely much more than elevated platforms and most of them lacked storage areas (Billman 1996:306). Huaca de la Luna and Huaca del Sol have some evidence for limited storage (Uceda 2010; Tufinio 2019), but the storage available was probably not much more than would be necessary to sustain the priests and noble families that lived nearby or upon these *huacas*. Thus, the *huaca*, or associated platforms, probably

served occasionally as the stage for Moche nobles to play a particular role as both collectors of tribute and hosts of feasts. However, this authority that they held over finished agricultural products had to be mediated through the *huaca* and/or platform. It is likely that this role could have provided an access point to the obligations needed to mobilize subjects, and thus labor, within *huaca*-towns and *huaca*-polities of the Moche Valley. One could easily imagine that a feast, or series of feasts, could be hosted by a lord or lady to mobilize the labor and obligations necessary to build a new canal, cultivate and harvest fields, expand a *huaca*, or raise a host for war.

4.2.7.5 The Moche Political Tradition: The Political Landscape of Huacas del Moche

Returning to the broader political landscape of Huacas del Moche, a deeper look provides additional insights into how Moche authority could have been built outside of the center of the *huaca*-polity (Figure 4.8). The aforementioned traditional indicators of Huacas del Moche political authority (e.g., analogous *huaca* façades, Moche III-IV corporate wares) show some classic examples of how the nobles of Huacas del Moche subjected, incorporated, or influenced nearby *huaca*-polities and *huaca*-towns. Adding upon this, the economic, demographic, and political expansions into the Lower Moche Valley *chala* during the Moche Phase illustrate two more unique forms of Moche authority: (1) the founding of new *huaca*-towns as tributaries and (2) the construction of canal-*huacas*.

First, several nearby *huaca*-towns and *huaca*-polities were probably subjected to the authority of Huacas del Moche at certain points in time. At Pampa la Cruz and El Brujo, this is seen most visibly in the remodeling of local *huacas* to fit with the specific tradition of façades at Huacas del Moche. Additionally, the influx of Moche III/IV wares at Pampa la Cruz and El Brujo shows that local noble families became more intertwined with the corporate ware traditions used by those in Huacas del Moche. Though the remodeling of *huacas* probably represents some re-structuring of local religious and political traditions, the fact that these *huacas* were remodeled, and not destroyed, suggests that older power structures were co-opted rather than completely re-designed. The switch to or addition of Moche III/IV wares could indicate that local nobles were supplanted by ones from Huacas del Moche, but it is just as likely that local nobles merely bent the knee and adopted foreign traditions. Other older Moche Valley *huaca*-towns like Cerro Pasqueda and Cerro Oreja show ample evidence of Moche III/IV wares but currently lack evidence

that their *huacas* were remodeled. Perhaps a spectrum of authority was used to subject neighboring *huaca*-towns and *huaca*-polities: with more direct authority being expressed through remodeling and co-opting local *huacas* vs. more indirect authority being expressed through integrating local nobility. Whatever the case, the important point for the purposes of this dissertation is that authority is being expressed over a community and *huaca* that already existed. It is clear that the nobility of Huacas del Moche would rather co-opt, modify, or place themselves upon pre-existing power structures than destroy old rivals and build completely new arrangements within the landscape.

In some cases, however, it seems such arrangements *had* to be built anew: the nobility of Huacas del Moche clearly had a hand in establishing several new *huaca*-towns and building new canals and fields in the Moche Valley. Billman identified a set of six medium and small "ceremonial platforms", *huacas*, that were associated with new communities and located along the newer Moche Phase canals that sequentially emerged on the north side of the valley (Billman 1996:312-319, 2002:392-393). That all of these constructions emerged within a similar timeframe was probably not coincidental: the establishment of these new *huaca*-towns was almost surely linked to the contemporary expansion of canals and cultivation in the area. Billman suggests that the *huaca*-polity of Huacas del Moche was responsible for these new constructions and posits that the *huaca*-polity used the new *huacas* to administer the maintenance and productivity of the canals and fields (Billman 1996:306). The footprint of Huacas del Moche is undeniably strong in the area: the new *huacas* have high frequencies of Moche III/IV corporate wares and many of the mounds themselves are built from adobe bricks with makers marks similar to those used at Huacas del Moche (Gamboa and Nesbitt 2012). The newly constructed canals associated with these *huacas* were remarkably long and opened up large swaths of land, but the labor needed to build, and maintain, these canals would have likely required cooperation from a larger community like Huacas del Moche (Billman 2002: 383-384, 2010:193-197). The location of these new *huaca*-towns at the distal ends of these canals also implies they were established after the canals were constructed. Such an order would further support the involvement of actors from a larger neighbor like Huacas del Moche in the initial construction of the canal and the founding of the associated community and *huaca*. That being said, such involvement could have manifested in a variety of ways: from the projects being sponsored by aspiring noble families to a more top-down process directed by the rulers themselves. Whatever the case, I argue that the nobility from the Huacas del

Moche can be seen as mobilizing the labor necessary to create a "habitat" in which new associated lesser nobles and subjects could thrive. Any rulers of these new *huaca*-towns would have surely owed debts of water, land, and labor to their benefactors or family members at the Huacas del Moche. Thus, the nobility of Huacas del Moche probably did not only conquer and incorporate older *huaca*-towns and *huaca*-polities, they seem to have been more than capable of cultivating their own.

Finally, the nobility of Huacas del Moche were also building far more direct venues for their authority into the landscape through what I call "canal-*huacas*". One of the new *huacas* on the northern side of the valley, Huaca Vinchanzao, appears not to have been built in the middle of a large community and instead features only dispersed sherd scatters and light occupations nearby (Billman 2002: 393; Gamboa and Nesbitt 2012). This lack of centrality in the demographic landscape makes the role of Huaca Vinchanzao problematic to uncritically analogize to those *huacas* found in *huaca*-towns or *huaca*-polities: it was perhaps not serving as the beating heart of political and religious life within a community. Instead, the *huaca* seems to be more centrally located within an economic landscape, likely serving some role in the construction, maintenance, and agricultural productivity of new canals and fields nearby: a canal-*huaca*. Importantly, the labor associated with this canal-*huaca*, and nearby fields, would have had to be mobilized from the surrounding countryside of relatively newer communities. In the Moche Valley, the nobility of Huacas del Moche were uniquely endowed with a wide enough network of authority and labor to mobilize such a workforce and probably already held some manner of dominion over such communities. Thus, this canal-*huaca* could represent a more direct form of authority being expressed by specific noble families from Huacas del Moche over the land itself. Authority over the canals, lands, and productivity associated with a canal-*huaca* need not be mediated with any subservient noble family or associated community: the contributing noble family, or families, from Huacas del Moche would be the sole wielders, and benefactors, of the authority built and labor tribute extracted through the canal-*huaca*. Recalling the lack of demography around Huaca las Estrellas, it is possible that this practice of canal-*huacas* has a deeper antiquity and was used by Virú nobility as they expanded their own authority into the Moche Valley. In any case, the use of canal-*huacas* appears to have been one more way in which the nobility of Huacas del Moche could rule the valley.

What emerges from all of this is a mosaic of authority distributed across the political landscape of the Moche Valley by the nobility of Huacas del Moche. Over several centuries, families of nobles ruled the Moche Valley landscape through a variety of means: co-opting or replacing local-level nobility to rule their respective *huaca*-towns, subsidizing the construction of canals and fields to service new subservient *huaca*-towns, and building canal-*huacas* to more directly exercise their authority over newly cultivated lands. Though it is unclear if there was ever one paramount ruler at Huacas del Moche, whatever set of families that guided this *huaca*-polity surely were the most powerful rulers of the Moche Valley for much of the Moche Phase.

4.2.7.6 The Moche Political Tradition: Domesticating the *Huaca* at Galindo

Around the same time that Huaca del Sol likely became a palace-temple, a contending *huaca*-polity arose upriver at Galindo. Though this *huaca*-polity rose to prominence between 650 and 750 CE (Table F.1), the settlement history surrounding Galindo shows a much deeper past of occupations in the area. Beginning with a few Guañape Phase occupations just outside of the Caballo Muerto complex, these grew into a small set of Salinar Phase communities which in turn were followed by a Gallinazo Phase *huaca*-town (Billman 1996). Assumedly this *huaca*-town was the basis of what would become the Galindo *huaca*-polity, but the connection between the Gallinazo and Moche Phase occupations in the area is admittedly unclear. Though no formal population estimates have been proposed for the site, the enormous size of Galindo (160 hectares) would suggest a population numbering over 10,000 at its height of power: composed of elite residences, commoner housing, *huacas*, and large palaces. Even so, the occupation at Galindo appears quite shallow on the quebrada bottom and such a population probably did not persist there for more than a few hundred years. The monumental center of the Galindo likely was abandoned by 900 CE, but the surrounding landscape was occupied well through the Chimú Phase and likely into the Inka and Spanish conquests of the Moche Valley.

The most notable element of Galindo is that its noble family, or families, were experimenting with a fundamentally new form of public architecture for the Moche Valley: the *cercadura*. Initial *huacas* constructed at the site were reminiscent of those seen at Huacas del Moche: a blend of simple platform mounds and a moderately sized L-shaped mound (Bawden 1977: 57-86). The chronology of these *huacas* is unclear but the use of the characteristic L-shape,

similar to Huaca de la Luna, suggests that the earlier nobles of Galindo were probably intertwined with the powerful families and traditions of Huacas del Moche sometime around the First Moche Period (100 – 600 CE). Bawden also recognized that platform mounds, and later *cercaduras*, often incorporated an architectural form he called a *tablado*: essentially just a raised open dais very similar to the platforms upon which Moche nobles would sit in iconography (Bawden 1977: 43-56). Later research at Huacas del Moche also found evidence for at least one *tablado* structure at Huaca de la Luna, meaning that this tradition clearly had deeper roots (Armas et al. 2004:95; Gamboa 2005:168, 174-175).

The first significant transformation occurred at Galindo with the construction of Platform-mound A: a large complex platform-mound *huaca* enclosed by a massive adobe wall that also included several layers of additional plaza spaces, kitchen areas, and small storage rooms (Bawden 1977: 57-86). Bawden describes this *huaca* as the palace residence of the paramount lord of Galindo (Bawden 1977:86). Instead of building their palaces upon the *huaca* like the noble families of Huaca del Sol, the powerful families of Galindo build their palaces around the *huaca*: incorporating the *huaca* into their noble estate. This trend is also seen in other palace compounds called *cercaduras*: these were similarly enclosed by large walls, contained layers of plazas, and had ample storage space nearby (Bawden 1977: 87-126). Most importantly, the *huacas* (i.e., platform mounds) within *cercaduras* were considerably smaller than their earlier counterparts or were absent altogether (Bawden 1977: 87-126; Murray 2018). The end result of this slow "domestication" of the *huaca* by the nobility of Galindo was a *huaca*-polity in which the *huaca* was replaced by the palace as the main venue through which authority could be wielded by nobles. In fact, this distinction brings the identification of Galindo as a "*huaca*-polity" into question, specifically after *cercaduras* became the focus of noble activities.

Another significant departure that separated Galindo from Huacas del Moche was the blend of Moche IV and V corporate wares that were used by the elite households who resided there. The presence of some Moche IV wares at Galindo confirms some degree of interaction and affiliation with the nobles of Huacas del Moche, but the vast majority of corporate wares used at the *huaca*-polity were Moche V (Lockard 2005:279-328). Somewhat similar to the ceramic workshops found at Huacas del Moche, these Moche V corporate wares were produced on-site at Galindo. Moche V corporate wares are, however, absent from Huacas del Moche and appear to have been instead

intertwined with the noble families of powerful *huaca*-polities to the north: Moche V ceramics have been attributed to Licapa II in the Chicama Valley and even as far north as Pampa Grande in the Lambayeque Valley (Koons and Alex 2014). Such connections with *huaca*-polities further afield can be interpreted in a number of ways: from evidence of alliances with distant families to even a foreign noble lineage fracturing off and moving into the Moche Valley. This possible foreign heritage or foreign affiliation could have perhaps even served as the catalyst or inspiration for the architectural "innovations" observed at Galindo.

The nobles of Galindo would have surely made some bids for power over the lesser nobility and lands that were previously under the thumb of Huacas del Moche, but evidence for Galindo authority is sparse in the broader Moche Valley landscape. Located just downstream from Galindo, several of the previously described *huaca*-towns and canal-*huacas* illustrate some Moche V wares that may suggest at least limited influence from Galindo (Gamboa and Nesbitt 2012). Most intriguing, the positioning of Galindo just above the Moro canal would have perhaps allowed the later *huaca*-polity to expand this canal above several of these *huaca*-towns and canal-*huacas* (Figure 4.7). If the nobles of Galindo were responsible for opening any of the substantial extensions of the Moro canal for cultivation, they would have come in direct competition with Huacas del Moche for both water and subjects. In fact, all of the substantial northern canal expansions (the Mochica, Vinchansao, and Moro), and their associated communities, would have been very susceptible to being poached by Galindo given how close the *huaca*-polity was to the intakes. The defensive walls protecting habitation terraces on Cerro Galindo (Bawden 1977), and even the high walls of the *cercaduras* and Platform-mound A, could indicate that the nobles of Galindo had to protect their *huaca*-polity from aggressors. Given the proximity of Huacas del Moche and the aforementioned potential for tensions over water and people, the former superpower of the Moche Valley seems the most likely competitor for Galindo. However, the sole Moche Phase fortified town at Puente Serrano in the Middle Valley *chaupiyunga* has limited evidence for Moche V wares and is more suggestive of highland aggressors late in the Moche Phase (Topic and Topic 1983:25-26). Though the *huaca*-polities of the Moche Valley surely competed, this competition may have been regulated through pitched battles outside of settlements or was simply not long-lived or intense enough to warrant more extensive defenses at either center.

Notably, the authority being built by the nobles of Galindo through their *cercaduras* was unable to be translated elsewhere in the Moche Valley: no *huaca*-towns or canal-*huacas* with Moche V wares had their *huacas* re-modeled into or replaced by *cercaduras*. This may just be a result of site preservation or a lack of study but it also may have been a result of how "foreign" the *cercadura* was for Moche Valley communities and nobles: the *huaca* was probably still a preferred, and even traditional, venue of authority for noble families outside of Galindo. Most of these noble families likely had either (1) much deeper historical ties to the families of Huacas del Moche or (2) were operating upon their own ancestral *huacas* that had centuries-old foundations spanning back to the Gallinazo Phase. Whatever the case, any competition between these *huaca*-polities was short-lived: by 900 CE both were in decline and increasingly eclipsed by Chan Chan as the early Kings of Chimor began their rise to power downriver.

4.2.7.7 The Moche Political Tradition: Nobles and Priests in the *Chaupiyunga*

Moche political actors are illustrated upon corporate wares in several themes that link their activities to the *chaupiyunga*. Illustrations of *coca*-chewing priests in Moche iconography present the most direct evidence for such linkages between Moche leaders and the *chaupiyunga*. These priests are often entranced in rituals involving rainfall and have cheeks visibly bulging from a *bola* of leaves. Moche priests also have their own *coca*-chewing paraphernalia: *caleros* for holding their *cal* and unique tasseled bags (called *chuspas* by later highland groups) for holding their *coca* (Donnan and McClelland 1999: 84, 124, 178; Figure 4.10). It is unclear if the *chala* priest were asking for supernatural intervention to influence the beginning or cessation of rain: especially given that it mostly rains in the *chala* during ENSO events. It is true that some *chala* groups took advantage of the increased river capacity following ENSO events but the accompanying canal damage and insect plagues of ENSO events seem like less than desirable outcomes. I would argue that it is more likely that these priests were instead asking for rains further up-valley at the *quechua* headwaters that eventually fed the Moche River. Such an arrangement would mean that *chala* priests were using two *chaupiyunga* products, *coca* and *cal*, as key elements in their supernatural negotiations to obtain water from the landscape of the *quechua*. This seems to make more intuitive sense: the *chaupiyunga* as being a key to the balance between the *chala* and *quechua*. However, interrogating such elements of the Moche worldview is outside the scope of this dissertation.

Whatever the intent behind their rituals, any *coca*-chewing Moche priests in the Moche Valley would have been doubly linked to the *chaupiyunga* through the products they consumed: *coca* from *chaupiyunga* fields and possibly *cal* from the mines around the Sinsicap Valley.

Figure 4.10 Depiction of Moche *Coca*-Chewing Priests (adapted from Donnan and McClelland 1999)

Though most depictions of combat in Moche iconography are between Moche warriors, there is rare evidence of combat with highland groups like the Recuay (Lau 2004). Most relevant to this discussion, Recuay warriors are depicted with bags that may have been trophy-head bags but also resemble the same *coca* bags of Moche priests (Lau 2004:173; Benson 1984). The array of cacti and agave shown in the background of the combat scenes can be found across the western cordillera (Lau 2004:167), but it would not be a stretch to guess that such *chala-quechua* conflicts could have taken place in the *chaupiyunga*. It is also even possible that the similarities between the trophy-head bags and *coca* bags in Moche iconography were intentional: the painters calling upon bags meant for *coca* as a visual metaphor for the *chaupiyunga*. This is admittedly a stretch and it is important to emphasize that this is a rare theme that has only been found on one vessel: it is very difficult to make any larger conclusions from one vessel alone.

Finally, Moche nobles are often shown in scenes upon backdrops of scrubby bushes and trap fences in which they are hunting deer with spear-throwers or, more rarely, clubs (Donnan and McClellan 1999). While deer can be encountered in *lomas* ecosystems and in some parts of the *chala*, they are also very common in the more vegetated parts of the *chaupiyunga* and *quechua*. The thick *monte* of the *chaupiyunga* fits well with some of the backgrounds depicted in such scenes, though some *lomas* have the same blend of cacti, spiny bushes, and shrubberies. If this was

the case, it is possible that this tradition of deer hunting would have periodically brought Moche nobility into the *chaupiyunga* or *quechua*.

Interestingly, the themes of deer hunting and *coca* chewers were found to be far more common in Moche IV wares compared to Moche V wares (Donnan and McClelland 1999:178). Though it is difficult to directly associate the Moche IV wares described by Donnan and McClelland with the *huaca*-polity of Huacas del Moche, these differences could suggest that the political agents of certain *huaca*-polities were more active in the *chaupiyunga* than others. Whatever the case, iconography on corporate wares illustrate that the wider realm of Moche political actors had a variety of activities that may have brought them to the *chaupiyunga*.

4.2.7.8 Highland Political Traditions: The Huamachuco Highlands

Deep into the highlands to the east, the monumental center of Marcahuamachuco emerged as the heart of a confederation of communities that would have been contemporary with the rising Moche *huaca*-polities of the *chala*. Extensive research in the Huamachuco area identified three phases which would have been contemporary with the Moche Phase in the *chala*: The Early Huamachuco (300 – 600 CE), Amaru (600 – 800 CE), and Late Huamachuco (800 – 1000 CE) Phases (J. Topic 2009; Thatcher 1972). During the Early Huamachuco Phase, a massive increase in local population coincided with the construction of a monumental complex of stone-masonry circular galleries and niched halls built at Marcahuamachuco (J. Topic 2009; T. Topic 2009). While the circular galleries likely served as seasonal housing for powerful local lineages, niched halls served as places in which lineages would gather to celebrated revered ancestors and reenforce ties of shared ancestry through feasting (J. Topic 2009). At its height, Marcahuamachuco is estimated to have supported seasonal gatherings of up to 6000 people that aggregated from various surrounding communities (J. Topic 2009). Topic argues the political organization of this center resembled a large confederacy of these ranked lineages, with no lineage holding dominion over the others and communal feasting aimed at building bonds between all (J. Topic 2009:223). Thus, authority amongst the Huamachuco highlanders appears intertwined with revered ancestors and was strongest at the community level, with inter-community authority only being built to reduce hierarchies and assumedly settle disputes.

During the Amaru Phase, Marcahuamachuco continued to be used and expanded but construction also begun on a monumental center associated with the Ayacucho-based Wari polity deep in the central Andean highlands. This center, Viracochapampa, represented an intriguing blend of Wari and Huamachuco architectural and ceramic styles and likely was subsidized by local lineages who were building ties with agents of the Wari polity (Topic 1991; Topic and Topic 2010). Additionally, Wari agents perhaps had interest in the region as Huamachuco served as a sort of "cross-roads" between the central and northern Andean highlands: sitting between Ayacucho and Cajamarca (Topic and Topic 2010). These efforts were short-lived and a still incomplete Viracochapampa was abandoned by around 800 CE. Marcahuamachuco, on the other hand, persisted well through the Late Huamachuco Phase and was even lightly occupied through the Inka and Spanish conquests. Wari political actors had a similarly limited impact in the Moche world in the Moche Valley: only a handful of Wari ceramics are noted at *chala* centers in the north and likely only played limited roles as prestigious signals of the foreign connections cherished by some Moche nobles (Chapdelaine 2010).

Though there is no evidence of Moche-Huamachuco interactions in the Moche Valley, the aforementioned compounds at Canac could have housed similar highland lineages that would have been aware, maybe even part, of the confederacy at Marcahuamachuco. However, the lack of *chala* ceramics at the compounds at Canac suggests those that used the compounds would have had little to do with any Moche noble families in the *chala* downstream. Whatever the case, without further research at Canac any discussion of such interactions would be speculation.

4.2.7.9 Canals, Exchange, and *Coca*

Returning to the Moche Valley, the economic landscape of the Moche Phase witnessed a massive increase in canal construction, somewhat reduced evidence for *chaupiyunga* mediation of coastal-highland exchange, and *chala* access to *coca* likely increased from the Gallinazo Phase. As was previously discussed, massive canal expansions on the north side of the Lower Moche Valley *chala* during the Moche Phase were likely guided by the noble families of Huacas del Moche (Table C.1).

The chronology of these canal expansions provides some interesting insights into how the authority of Moche nobility evolved over time. The Mochica canal was likely the first expansion and probably occurred during the First Moche Period and at the beginning of the Moche Phase (Billman 2002:383). This was followed by the expansion of the Moro canal between approximately 450 and 600 CE: a much larger canal that expanded irrigated lands all the way to the Pampa Esperanza deep into the northern Moche Valley *chala* (Billman 2002:383; Ortloff et al. 1985:79, 91). Finally, the Vinchansao canal was built to better feed the fields in the Pampa Esperanza during the Second Moche Period (Billman 2002:383; Moseley and Deeds 1982:37). This perhaps would indicate that the innovation of canal-*huacas* like Huaca Vinchansao occurred only after political power was consolidated into the palace-temple at Huaca del Sol. Notably, the Vinchansao canal also features a long band of "sherd scatters" just above its prehistoric extents (Billman 2002:393; Figure 4.8). These assumedly brief occupations could perhaps be traces of fieldhouses (see Chapter 3.3.3 for modern examples) being used by temporary laborers associated with the canal-*huaca* below. Whatever the case, the Lower Moche Valley *chala* was very close to being cultivated to its fullest extent by the end of the Moche Phase. My own estimates for the land that could have been cultivated during this phase, in between 16,000 and 19,000 hectares, represent between two and six times that of the previous phase (Table C.1). The main difference between my estimates and those of Billman is the inclusion or omission of the sunken fields around Chan Chan: something that is highly dependent on if Chan Chan originated as a Moche Phase *huaca*-town or even *huaca*-polity (Appendix C). In any case, these estimates are some 3000 to 6000 hectares larger than those made by Billman (Billman 2002: 380).

Evidence for *chaupiyunga* mediation of coastal-highland exchange persists into the Moche Phase, but access to the important Alto de las Guitarras corridor was claimed by *chala*-aligned communities. Cruz Blanca was the lone Gallinazo Phase highland colony in the *chaupiyunga* that persisted into the Moche Phase: a feat that likely could be attributed to the wide range of affiliations, ranging from Huacas del Moche to Cajamarca, cultivated by the inhabitants of the community. Given the strong highland and *chala* connections enjoyed by Cruz Blanca, it was well positioned to play some role as a node for coastal-highland exchange (J. Topic 2013). Specifically, the booming craft production economy subsidized by the powerful families of Huacas del Moche would have likely required some highland, or even jungle, goods that would have flowed through the *chaupiyunga* (e.g., silver, gold, copper, exotic bird feathers, etc.). The *chaupiyunga* community

of Cruz Blanca likely had the connections necessary to provide access to these goods and would have thus been an attractive ally or subject of the nobility of Huacas del Moche. This being said, evidence for Moche fine-wares at MV-224 on the western edge of the Alto de las Guitarras corridor also shows that Moche nobles, or at least some affiliated communities, would have probably been poised at part of an access route to the Carabamba Plateau and its rich mines of silver, gold, and copper (Billman 1996:316). Similarly, the *huaca*-town recorded at MV-135 near Katuay would have been positioned at the intersection of the Quebrada Katuay and Sinisicap Valley corridors to the Chicama Valley and northern highlands (Billman 1996:316). Thus, *chaupiyunga* communities like Cruz Blanca continued to play some role in coastal-highland exchange but the powerful families of Huacas del Moche were also making bids towards exchange corridors that would have granted them with the ability to more directly access some exotic goods.

Finally, there is abundant evidence for *coca* use and access by *chala* groups during the Moche Phase. The aforementioned iconographic evidence for *coca* being chewed by Moche priests is bolstered by the possible physical examples of similar such bags having been excavated from priest burials at Huaca de la Luna. Both the *huaca*-town of MV-135 at the confluence and Cruz Blanca further upriver were built within the *chaupiyunga* growing zone for *coca*. The Moche-affiliated *huaca*-town at Katuay, MV-135, specifically appears to have been settled at the same part of the confluence that was previously described as being where the *coca* fields recorded in the 1970s began. Thus, *coca* leaves would have probably been easily attainable by the more powerful Moche families downstream: they need only extract tribute from a possible lesser Moche noble family or community at Katuay or the *chaupiyunga* community of Cruz Blanca. Even so, *coca* probably played an important role in the survival of a community like Cruz Blanca: highland elites surely would have also been interested in gaining access to *coca* and perhaps would have been willing to help defend Cruz Blanca to ensure their *coca* supply was not disrupted by *chala* aggressors.

4.2.7.10 Discussion

In sum, the Moche Phase is best defined by the meteoric rise of the *huaca*-polity at Huacas del Moche. The nobles of Huacas del Moche were masterful and versatile in how they cast their broad nets of authority, shaping the Moche Valley landscape in profound ways. Wielding authority

through the great *huacas* of their communities, these nobles were able to marshal the labor of their subjects to build canals and fields in unclaimed lands: seeding the landscape with fertile ground for new crops, *huacas*, noble families, and subjects to be grown. In those places with deeper pasts, the nobility of Huacas del Moche subsumed, co-opted, or replaced local leaders and *huacas*, transforming them into subjects of their authority. This authority not only extended into adjacent river valleys but also brought at least part of the local *chaupiyunga* under *chala* authority. All but a few of the older Gallinazo Phase highland colonies were abandoned or transformed, paving the way for new communities affiliated with the powerful Moche downstream. Challenging the centuries-long dominion that Huacas del Moche held over the Moche Valley landscape, the nobility of Galindo rose to power in the latter half of the Moche Phase. These families were unique in their ties to distant *huaca*-polities of northern valleys but in the Moche Valley, it was the noble families of Galindo who first domesticated the power of the *huaca* directly into their noble estates. Though the latter innovation had limited success among the local contemporaries of Galindo, it proved to be prescient of how nobility became royalty in the subsequent Chimú Phase.

The *chaupiyunga* continued to be a borderland during the Moche Phase but was intertwined with the *chala* to an extent that had not been seen since the Cupisnique-associated monumental centers of the Guañape Phase. The expanding authority of Huacas del Moche brought *huaca*-towns and *chala* communities up to the Middle Valley *chaupiyunga*, turning a previous political, cultural, and demographic boundary into a solely economic coastal-highland boundary securely under *chala* control. However, the Upper Valley *chaupiyunga* likely continued to be a diverse borderland: the old highland colony of Cruz Blanca persisted as a possible exchange enclave that profited from highland connections amidst a landscape increasingly dominated by *chala* actors downstream. Evidence for conflict upon this *chaupiyunga* borderland is less prevalent than previous phases but not entirely absent: the positioning of Cruz Blanca suggests some defensive concerns and Moche nobility clearly used combat to dominate highland and *chala* rivals alike. This being said, Moche nobles appear to have been intent on taking advantage of the economic assets of the *chaupiyunga* without venturing too far upriver: their priorities seemed to be (1) gaining access to *coca* and (2) coastal-highland exchange corridors through dominating the Middle Valley *chaupiyunga* and confluence. Thus, many of the previous demographic, political, cultural, and economic boundaries bound to the *chaupiyunga* simply moved from the Middle Valley to the Upper Valley during the

Moche Phase. This process of transformation was a direct result of the regional political dominance of the Huacas del Moche *huaca*-polity.

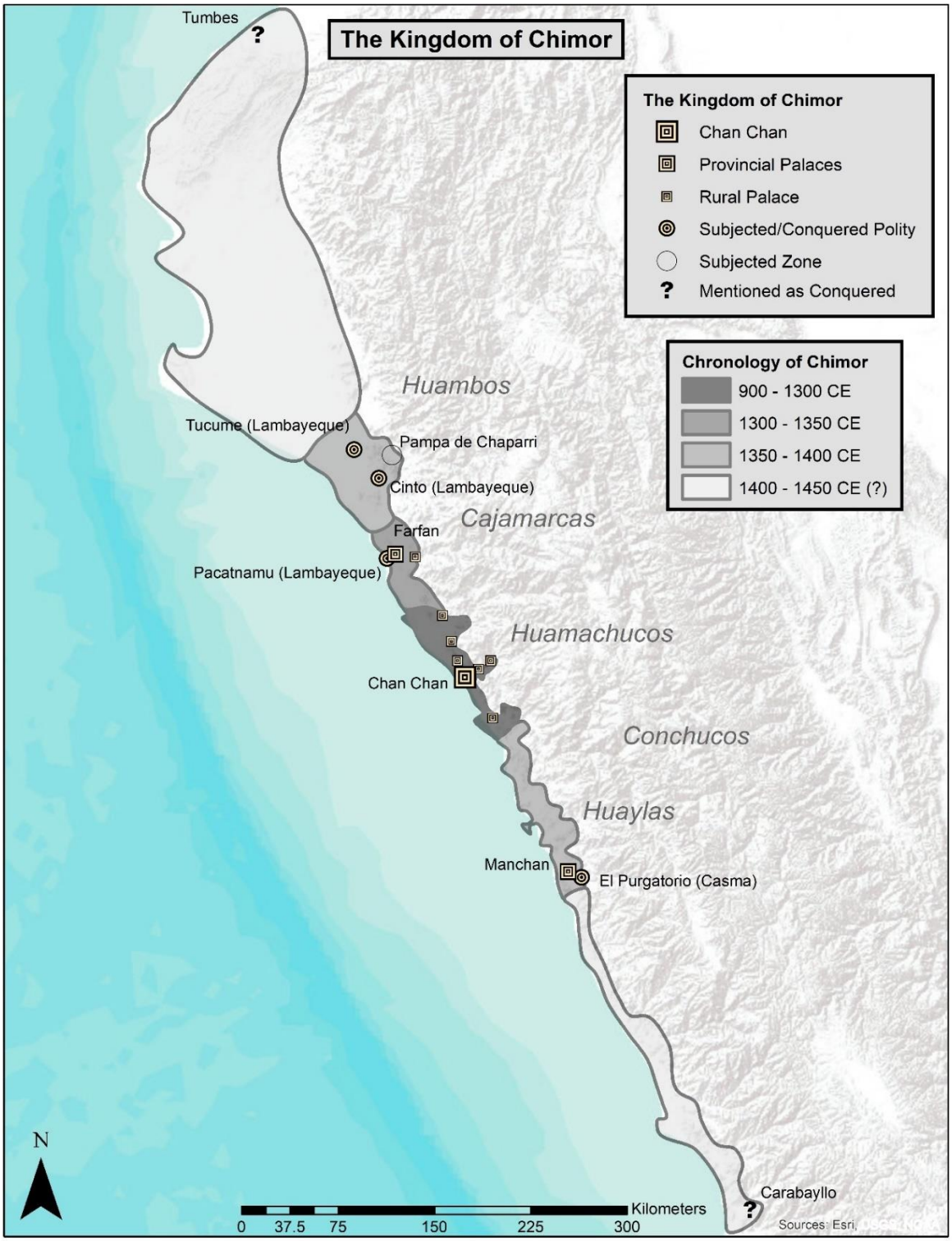


Figure 4.11 The Kingdom of Chimor

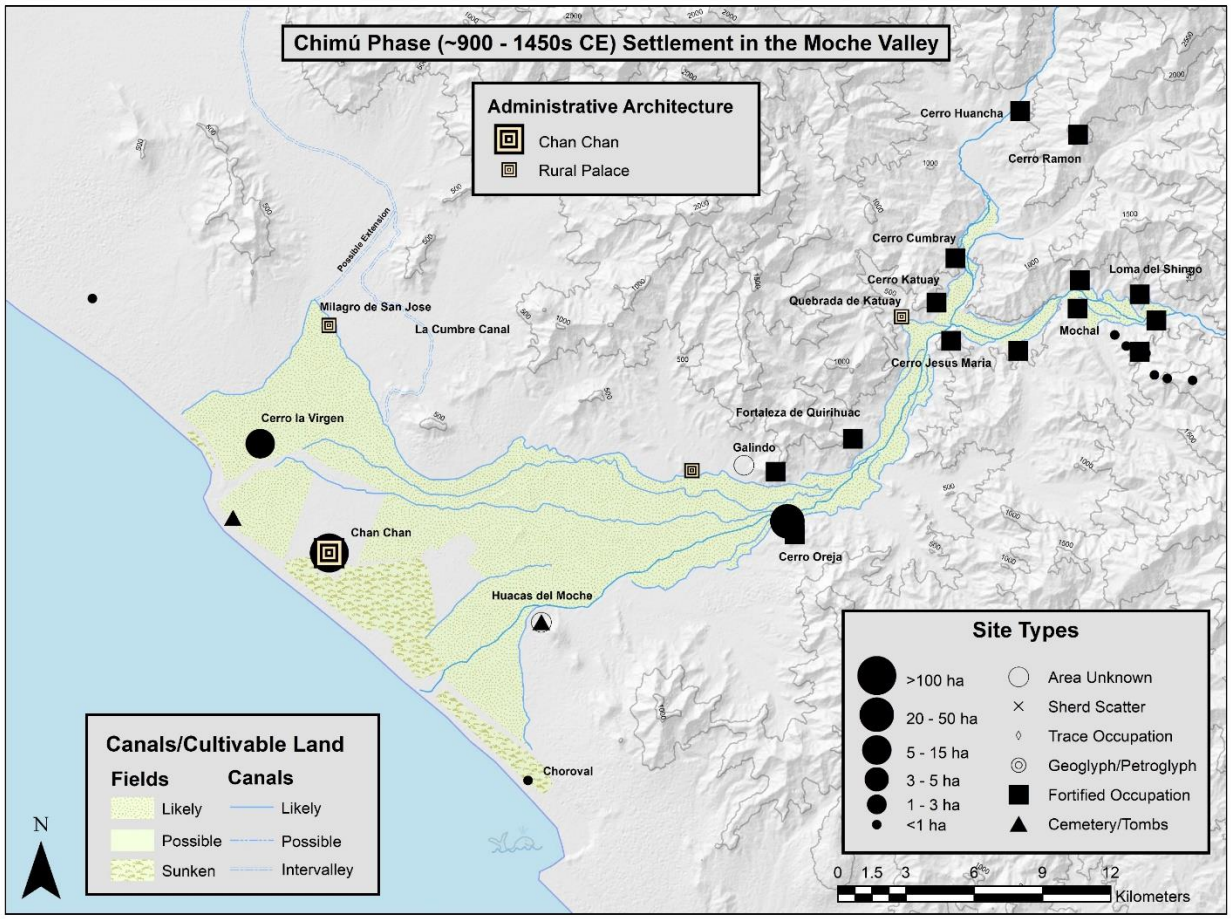


Figure 4.12 The Chimú Phase (900 – 1450s CE) of the Moche Valley

4.2.8 The Chimú Phase (~900 – 1450s CE): The *Chala* Dynasties of the Chimú Political Tradition

Emerging from and inheriting this landscape laden with Moche authority, the dynasties of the Chimú Empire (also called the Kingdom of Chimor) led a political tradition that dominated the Moche Valley for centuries, with generations of rulers who sequentially expanded their authority over much the north coast of Peru (Figure 4.11; Table 4.12). Though the Early Chimú (~ 900 – 1200 CE) sub-phase indicates a still poorly understood transition from the Moche Phase, both domestic and fine-ware ceramic traditions change substantially and are well-documented during the rest of the Chimú Phase. The *chala* demographic expansion of the Moche Phase continued but was paired with remarkable centralization at the imperial capital of Chan Chan: an urban center housing the palaces of royalty, estates of lower nobility, craft production areas, and a vast sprawl

of urban residences (Figure 4.12; Table 4.13). The *chaupiyunga* and local highlands echo this demographic explosion in the *chala*, but a ubiquity of defensive settlement suggests the borderland was hotly contested. The royalty and nobility of Chimor were ambitious, flexible, and innovative: building their political authority into the landscape using unique palace compounds and a blend of indirect and direct rule. Even so, the Upper Moche *chaupiyunga* proved a difficult region for them to master and became a contested borderland that they shared with smaller, but still formidable, highland neighbors.

Table 4.12 Ceremonial Architecture of the Chimú Phase

Chimu Phase Ceremonial Architecture (Partially from Mackey 1987:124)							
Valley	**Site Name**	**Palace Type**	**Rank**	**Number of Compounds***	**Size of Compound (m2)****	**Size of Patio (m2)**	**Standing Room (People) *****
Moche Valley				51			11616 - 29040
	Chan Chan (+)	*Ciudadelas* and Intermediate Palaces	Primary	45	171456	5181	10362 - 25905
	H-360485	Rural Palace	Tertiary	1	4788	150	300 - 750
	El Milagro de San Jose	Rural Palace	Tertiary	1	2475	176	352 - 880
	Quebrada Katuay	Rural Palace	Quaternary	1	950	100	200 - 500
	H-186436	Rural Palace	Quaternary	1	506	100	200 - 500
	H-192483	Rural Palace	Quaternary	1	320	56	112 - 280
	H-394544	Rural Palace	Quaternary	1	204	45	90 - 225
Viru Valley				1			? - ?
	V-124	Rural Palace	Tertiary	1	7504	?	? - ?
Chicama Valley				2			1224 - 3060
	Quebrada del Oso	Rural Palace	Tertiary	1	2062	324	648 - 1620
	Mocan	Rural Palace	Tertiary	1	1479	288	576 - 1440
Jequetepeque Valley				7			8832 - 22080
	Farfan	Provincial Palace	Secondary	6	40250	3600	7200 - 18000
	Talambo	Rural Palace	Tertiary	1	2904	816	1632 - 4080
Casma Valley				12			22400 - 56000
	Manchan (++)	Provincial Palace	Secondary	12	86400	11200	22400 - 56000

***From Mackey, "includes monumental and elite compounds" and thus at Chan Chan she is referring to both ciudadelas and intermediate palaces (Mackey 1987:124).**

****From Mackey 1987:124 "Size refers to one compound only". Unsure how this was used at Chan Chan and which of the royal palaces was chosen.**

*****A range of 2-5 people/m^2 was chosen to represent comfortable standing room vs. packed crowds**

(+)The patio size seems quite low and I think is only one of the many patios of ciudadelas.

(++)The patio size seems very high.

Table 4.13 Settlement and Demographic Estimates of the Chimú Phase

Chimú Phase Settlement and Demographic Estimates*		
Site Name	**Total Area (ha)**	**Population Estimate**
Chan Chan - SIAR**	107	20000 - 40000
Chan Chan - Palaces**	(?)	6000 - 6000
Cerro la Virgen***	14	1400 - 2100
Cerro Oreja***	28.1 (?)	2810 - 4215
Cerro Galindo(+)	?	1400 - 4215
Huacas del Moche	?	? - ?
Choroval	?	? - ?

Caracoles	?	?	?
Total(++)	149.1	30210	56530

***Only sites in the *chala* were taken into account due to lack of data.**

****Taken from Topic and Moseley (Topic and Moseley 1983:157). For the SIAR this was a well-thought-out estimate based on the area of the SIAR and habitation counts. For the Palaces it was simply a guess. The area is assumedly that of the only habitations (SIAR), as the entire site of Chan Chan is over 36 km^2.**

*****Keatinge notes at least 400 rooms for the 14ha site of Cerro la Virgen (Keatinge 1975:217). If we extrapolate that into 28 habitations/ha and use 5 people/habitation that gives us about 140 people/ha. Thus, I decided to use 150 people/ha as the upper range and a lower value of about 100 people/ha for a lower range.**

(+) Occupation size is unclear but was likely a town like Cerro la Virgen or Cerro Galindo so I gave it the range of both

(++) These estimates seem insanely low and are lacking (1) the *chaupiyunga* and (2) a really deep look at the entire *chala* and even Chan Chan

4.2.8.1 Ceramics and Chronology

The domestic and fine-ware ceramic traditions of the Chimú Phase are easily distinguishable from those of earlier phases in both the techniques used and the decorations employed. Starting by at least 900 CE, the older Castillo red-ware tradition of the *chala* developed into a blend of red- and black-ware traditions, what I later describe as Tomaval-Estero and Rubia, that persisted in the region well into Inka and Spanish conquest (Collier 1955; Keatinge 1973; Kanigan 1994). These new traditions heavily incorporated molds in varied aspects of production: leading to a new suite of forms and decorations in domestic wares. Though some of the new forms and decorations can be used as vague chronological markers, most persist throughout and make difficult any confident assignment of sub-phases. Domestic ware traditions in the highlands transition from the Early Highland set of buff- and brown-ware traditions into a coarse and somewhat unique brown-ware tradition I late outline as Late Highland. These later highland wares have a paucity of decorations compared to their precursors, but still show some use of red, purple, and orange paints, often sloppily applied. The absolute dates for both *chala* and highland wares are widely variable but generally date their use between 900 and 1500 CE (Boswell 2016: 302-304; Table F.1).

The fine-ware traditions of the Chimú Phase can be more-or-less divided into two traditions that I describe in detail later and are somewhat chronologically distinct: Early Chimú (900 – 1200

CE) and Middle/Late Chimú (~1200 – 1550 CE). Early Chimú ceramics have many affinities to some of the later Moche fine-wares in their forms and firing but are mainly distinguishable by the more common use of poly-chrome and the wide use of mold-impressed designs (Donnan and Mackey 1978: 215-288). This ceramic tradition, and the sub-phase it helps define, is poorly understood and seems to be more a composite of varied traditions exhibiting external influences, highland and northern coastal, in the Moche Valley. Recent work by Castillo has produced absolute dates ranging from 900 to 1200 CE for these wares (Castillo 2019:233; Table F.1). Middle and Late Chimú stand out from these earlier red-wares: black-wares become far more common and decoration moves almost exclusively to mold-impressions, eschewing older painting traditions (Donnan and Mackey 1978: 289-355). In general, the transition between these fine-wares seem to be evidence that ceramics were playing much different roles in Chimú politics and elite identity than what was seen in the Moche traditions. Fancy vessels no longer appear to be the most important corporate goods in the Chimú repertoire and have far less visible roles in how Chimor nobility and royalty built their authority.

4.2.8.2 The Early Chimú Phase (~900 – 1200 CE): Moche Endings and Chimú Beginnings

Before diving into the latter centuries of the Chimú Phase and the expansion of the Chimú Empire, it is important to briefly explore the poorly understood Early Chimú sub-phase. This sub-phase spans between 900 and 1200 CE and marks the disintegration of the *huaca*-polities of the Moche Political Tradition and the contemporary rise of Chan Chan as the principal *chala* power in the Moche Valley. The decline of the Huacas del Moche *huaca*-polity was under way well before 900 CE, as the rise of Galindo had already fractured political power in the Moche Valley. Sand dunes were encroaching upon the southern side of the valley around this time: either a cause or result of the decline of Huacas del Moche (Moseley and Deeds 1982:37-39). This decline does not mean that the power of Huacas del Moche was forgotten in the landscape: the flanks of Huaca del Sol have light Early Chimú domestic re-occupations in addition to a few elite burials embedded within the *huaca*. These occupations postdate an ENSO event that left some of the adobes upon the *huaca* melted, meaning that the *huaca* itself had likely fallen into disuse and was not being renovated (Donnan and Mackey 1978: 241; Castillo 2019). Across the valley, the main core of Galindo was probably abandoned by the end of the 9th century but the surrounding area continued

to be occupied in the Chimú Phase (Lockard 2009). Notably, the Galindo Atypical wares discussed by Bawden share some affinities with Early Chimú wares (Bawden 1977: 333-361) and perhaps indicate some early connections and overlap between Chan Chan and Galindo.

A look at the limited evidence for Early Chimú occupations at Chan Chan and elsewhere in the valley confirm these connections between the Moche and Chimú traditions and landscapes. The earliest royal palaces, called *ciudadelas*, at Chan Chan are novel to the Chimú but do share some connections with Moche antecedents. Generally speaking, *ciudadelas* are palace structures and therefore somewhat akin to *cercaduras*. Specifically, the *ciudadela* of Uhle features *tablado* architecture akin to Galindo and other Moche *huaca*-polities (Topic and Moseley 1985: 160). Connections can also be seen in Early Chimú mound architecture recorded at Chan Chan: the platform mound complex of Chaihuac echoes the Plaform-mound A at Galindo while the Huaca el Higo, Huaca Tacaynamo, and Huaca el Olvido adobe mounds seem to be less elaborate echoes of Huacas del Moche *huaca* traditions (Topic and Moseley 1985: 160). Thus, the early architecture found at Chan Chan was influenced by both old and new Moche traditions in the Moche Valley. Though obviously smaller than its later occupations, Chan Chan was probably housing a population of between 8000 to 16000 people during these earlier occupations (Topic and Moseley 1985:159-160, 177-178): on par with a *huaca*-polity like Huacas del Moche.

Outside of Chan Chan, Early Chimú settlement has not been recorded in any systematic manner and can only be cobbled together from varied sources. In the Lower Valley *chala*, Donnan and Mackey mention off-hand that much of the Early Chimú settlement was focused on the northern side of the valley (Donnan and Mackey 1978:219; Mackey 1982: 326). The south side of the valley also exhibits some Early Chimú settlement: Huacas del Moche was clearly re-occupied and a light scattering of settlements follow the re-furbished Cerro Arena canal (Moseley and Deeds 1982:37-38). Given these lands would likely have been under the authority of Galindo or Huacas del Moche prior to 900 CE, it would appear that the early nobility of Chan Chan inherited the holdings of these earlier *huaca*-polities. Up-valley, Early Chimú ceramics were found at twin fortresses positioned on the gates of the Moche Valley (Cerro Oreja and Cerro Galindo) in addition to a fortified town at Cerro Katuay (Topic, T. 1990). Such occupations suggest that the early nobility of Chan Chan endeavored to continue the legacy of Moche domination in the Middle Valley *chaupiyungas* but were met with far more resistance from *chaupiyunga* or highland actors.

In sum, the Early Chimú sub-phase illuminates a transition from Moche to Chimú that was defined not by "gaps" but continuity. A more-or-less uninterrupted chain of temporarily competing and contemporary political centers ultimately linked the early Moche *huaca*-polities of Huacas del Moche and Galindo to the Chimú urban and political center of Chan Chan. Though they built their court on the coastal *chala*, the nobility and royalty of Chan Chan inherited and engaged with a valley *chala* landscape shaped by Moche forebearers. As Uceda stated insightfully: "the end of the Moche and the emergence of the Chimú state should be considered as part of the same process." (Uceda 2010: 158)

4.2.8.3 The *Chala*: The Urban Center of Chan Chan and Outlying Communities

Though no formal settlement survey has been published for the Chimú Phase, what is known reveals that the *chala* and *chaupiyunga* had markedly different settlement patterns (Figure 4.12). The *chala* is dominated by the explosion of the urban center of Chan Chan that was surrounded by only a handful of contemporary communities (Table 4.13). The Chimú capital at Chan Chan was composed of three general types of residences: (1) the *ciudadela* royal palaces, (2) the intermediate elite residences, and (3) the Small Irregular Agglutinated Residences (SIAR) that made up most of the urban sprawl (Moore and Mackey 2008). These residences respectively housed the three basic strata of Chimú society: (1) the royalty of Chimor and their retainers, (2) the lesser nobility and aspiring nobility, and (3) the commoners and craftspeople subservient to or associated with both nobility and royalty (Moore and Mackey 2008; Mackey 2009). Workshops were dispersed across the *barrios* of SIAR, whose residents powered a booming economy that produced a wide variety of goods for the nobility and royalty as well as commoners themselves (Topic, J. 1990). At its height, Chan Chan has been argued to have housed between 30000 and 40000 people: the overwhelming majority of these people being agriculturalists and craftspeople while several thousand perhaps served as retainers in direct service of the royalty (Topic and Moseley 1983; Moore and Mackey 2008).

Outside of Chan Chan, a constellation of a few scattered towns and more ephemeral occupations have also been recorded in the *chala* landscape. The largest and best documented town was Cerro la Virgen, a mixed community of at least 1000 agriculturalists, fishers, and craftspeople located on an ancient road going north from Chan Chan (Billman et al. 2019; Keatinge 1975). The

lack of previous Moche Phase occupations and the close vicinity to newly expanded canals and fields have led previous researchers to claim that Cerro la Virgen was a town planned by agents of the Chimú Empire (Keatinge 1975). Recalling the Gallinazo and Moche Phase *huaca*-town of Pampa la Cruz located just to the south, I would argue that the residents of Cerro la Virgen were perhaps relocated from that earlier community. Additionally, recent research at Cerro la Virgen has revealed that the community depended on a mixture of annual cultivation, arboriculture, and marine fishing: far from the originally theorized "state-run" town focused solely on tribute (Billman et al. 2019). Substantial Chimú occupations at the base of Cerro Oreja and parts of Cerro Galindo perhaps show more continuity from previously occupied Gallinazo and Moche *huaca*-towns but further research at such areas is needed to clarify these occupations. This being said, none of these Chimú Phase communities resembled earlier *huaca*-towns: they all lacked a central public architectural feature akin to a *huaca* and were often, but not always, set apart from earlier occupations. Outside of these towns, ephemeral or light occupations were likely spread across the landscape but are poorly recorded. Two such occupations, Choroval and Caracoles, present evidence for Chimú Phase field houses or hamlets that would have housed those working the newly constructed fields and sunken gardens built from labor mobilized by Chimú actors (Pozorski, S. 1982).

This view of the *chala* demographic landscape during the Chimú Phase shows that the scale of the demographic centralization at Chan Chan was remarkable. Even if one liberally assumes that communities like Cerro Oreja and Cerro Galindo had populations of over 1000 people, this would still put at least 90% of the inhabitants of the Moche Valley *chala* within the Chimú capital (Table 4.13). It is important to emphasize this centralization was occurring within the *chala*: there were likely several large towns in the Middle and Upper Valley *chaupiyungas* that perhaps would have totaled a few more thousand people (see Chapter 9). Afforded this view, we can see Chan Chan as a possible hyperbole of the relationship between politics and urban development previously recognized at Huacas del Moche: a center in which increasing political power had a profound centripetal effect on regional demography. Given its explosive growth and unprecedented size, Chan Chan was surely siphoning demography (forcibly or otherwise) from the surrounding landscape and probably some of the newly conquered provinces of Chimor. This being said, only a more systematic settlement pattern study of the Chimú Phase *chala* will allow us to tease apart some of the profound demographic re-structuring of the *chala* landscape that

almost certainly occurred during this phase. My own future work on the Chan Chan – Moche Valley Project survey data should help clarify these issues.

4.2.8.4 The *Chaupiyunga*: Fortified Communities on a Contested Frontier

Past the *chala* and through the gates of the Moche Valley, the *chaupiyungas* saw an explosion of fortified communities during the Chimú Phase (Figure 4.12). Traditionally, these fortifications have been attributed to successive stages of expansion by Chimú royalty in an effort to consolidate their control over the Middle Valley and then Upper Valley *chaupiyungas* (Topic, T. 1990). At the final confluence, twin fortresses at Cerro Katuay and Cerro Jesus Maria were connected by an intervalley wall with a small Chimú palace structure at Quebrada Katuay below (Keatinge 1973; Topic, T. 1990; Mullins 2019). Though the grasp of the *chala* empire appears far tighter over the Middle Valley than in the areas past the confluence, the threat of conflict with highland or *chaupiyunga* actors long outlasted these expansions. The installations at the confluence were allegedly constructed during the Early Chimú sub-phase, but the massive Middle Valley fortress of Fortaleza de Quirihuac down-river was clearly built and occupied much later (Topic, T. 1990; Mullins 2012: 65-68). Additionally, inter-visibility analyses of the defensive occupations of the Chimú Phase revealed a network of visual connections characterized by both cohesion and centralization: most fortified communities were built to see one another, but several were far more centrally located (Mullins 2016). Not surprisingly, the most centralized of these was Cerro Jesus Maria: a mountaintop that would have visually connected the *chaupiyungas* to the gates of the Moche Valley *chala* and, eventually, Chan Chan. What emerges from this is a network of fortified communities that were likely settled individually to strategically ensure mutual defense but a few were also visually connected to the Chimú heartland down-valley should the need arise.

Fortaleza de Quirihuac is a notable example of what one of these Middle Valley fortresses looked like. The site featured layers of defensive walls, parapets, and sling stone piles in addition to limited habitation terraces that housed no more than around 300 people (Mullins 2012: 47-70). Surface collections illustrated solely *chala* domestic wares and high proportions of serving and storage vessels: meaning provisioning or feasting was occurring on the fortress peak (Mullins 2019). In fact, similarly high proportions of serving wares have only been recorded in contexts of palaces associated with Chimú nobility and royalty (Mullins 2019; Keatinge 1974). Though I

initially argued the fortress housed a garrison (Mullins 2012), I now would revise that to argue it was more likely the citadel or seat of a Chimú-affiliated noble or local leader: someone with the authority to access the labor necessary for the construction and maintenance of the citadel. A handful of *chala* communities upon the slopes of the same mountain probably were linked with Fortaleza de Quirihuac and would have looked to this citadel, and associated noble family or individual leader, for protection. Given the sling stone piles and multiple layers of fortifications, the need to guard these Middle Valley communities from some persistent external threat was an urgent one. However, answering the question of where this threat came from requires a look into the adjacent Otuzco and Carabamba Highlands.

Beyond the confluence, preliminary survey and limited excavations show a continued trend towards fortified or defensive settlement but with far more mixed assemblages and a lack of direct Chimú control. First, a preliminary image of surface artifacts recorded by Billman in his 1990 survey of the Upper Valley show a transition to mixed assemblages of *chala* and *quechua* wares after the confluence (Mullins 2019). Several relatively large fortified towns, like Loma del Shingo, were settled upon the Upper Valley *chaupiyunga* landscape and illustrate mixed assemblages and complex occupational histories of both *chala* and *quechua* groups at the same settlement or at different settlements (Melly 1983; Topic, T. 1990; Mullins 2019; Ballance 2019). Smaller communities, perhaps outposts, also dot some of the ridges leading up into the Carabamba and Otuzco Highlands: leading previous researchers to assume these were bids for Chimú authority over coastal-highland exchange routes (Topic, J. 2013; Coupland 1978). One issue with these assumptions is that they often are predicated off of equating the presence of *chala* wares with evidence of Chimú authority: an equation we will later see is problematic when such wares are part of domestic, and not necessarily corporate, traditions. Whatever the case, it seems likely that Chimú-associated or *chala* actors were interested in accessing the *chaupiyunga* as a coastal-highland corridor through which they could obtain some of the exotic goods necessary to feed the workshops of Chan Chan.

A similar, but more sparsely settled, arrangement appears to have emerged in the Siniscap Valley *chaupiyunga* to the north. The hilltop community of Cerro Huancha was the sole demographic center of this valley and likely began as a *quechua* settlement during the Early Chimú sub-phase that became more tangled with *chala* groups in later centuries (Boswell 2016). The

fields around Cerro Huancha were recorded as growing *coca* for later Inka nobility and the region is generally assumed to have had some fields devoted to growing *coca* during the Chimú Phase as well (Boswell 2016). Thus, *coca* can be added as a likely a motivator for *chala* involvement in the *chaupiyunga* during the Chimú Phase. On the ridges leading to the Otuzco Highlands above, the site of Cerro Ramon was an exchange outpost that featured a blend of *chala* and *quechua* wares and was likely associated, and contemporary, with Cerro Huancha (Jochem 2007; Boswell 2016). Thus, control or mediation of coastal-highland exchange seems to have been managed by local *chaupiyunga* actors, like those at Cerro Huancha, who probably held some manner of allegiance to the nobility and royalty of the *chala*. Settlements in the Sinsicap Valley are defensively located but not nearly fortified to the extent of those seen in the Upper Moche *chaupiyunga*: suggesting that conflict was less severe but still prevalent in the Sinsicap Valley landscape. The small fortified town of Cerro Cumbray located at the Sinsicap – La Cuesta confluence does, however, point to some more intense record of conflict at least nearby the Sinsicap Valley (Ballance 2019). In sum, Boswell's work provides fascinating new details about how settlement in the Chimú Phase *chaupiyungas* was shaped by exchange, *coca* access, and conflict. These *chaupiyunga* landscapes of danger and opportunity saw some bids of authority, albeit indirectly, from Chimor, but the attention of Chimú nobility and royalty appears to have been more focused on *chala* aspirations in the Moche Valley and abroad.

4.2.8.5 The Chimú Political Tradition: Dynastic Lore and the Kings of Chimor

The limited historical sources available on Chimor reveal stories of a line of kings and their accomplishments that, though embellished with some likely propaganda, can be vaguely aligned with the archaeological record (Rowe 1948; Moseley and Cordy-Collins 1990). Most of the specific information about the dynastic lore of Chimor is drawn from the Anonymous History of Trujillo from 1604 and here I draw from Rowe's translation of the document into English (Rowe 1948: 28-30; Vargas Ugarte 1936: 231-233, 1942: 55-57; Appendix B). Some have proposed a dual kingship model for interpreting this dynastic line for Chimor: with named royalty belonging to an upper moiety of the northern side of the valley and anonymous royalty belonging to a lower moiety of the southern side (Netherly 1990). The basis of such duality for royalty from these histories alone has been questioned and, even if such duality existed, it seems to be social mask to

normalize power asymmetries (Conrad 1990; Moore 1995). As will be discussed later, the nobles under Spanish administration in the former realm of Chimor were clearly organized in networks of authority defined by dual, but asymmetric, rulership. There is no evidence yet for any ruling Queens of Chimor, but at least one noblewoman and wife of King Minchançaman, Chanquirguanguan, is mentioned in the chronicles. Additionally, several families on the North Coast were led by noblewomen during Spanish administration: suggesting that some families were more flexible about who could lead the household and polity (Netherly 1977:189-190). Here, I interpret the kings from pre-Inka times as representing important acts or stages in the history of the Kingdom of Chimor: each stage a string of events that likely occurred over the lifespan of more than one individual.

The first act in the legend of Chimor was the foundation of the dynasty of the great lord Tacaynamo, who arrived by sea to the Moche Valley from afar. Ordered by a distant and powerful lord to govern the valley, Tacaynamo immediately gained local power and wives through conquest, magical yellow powders, and cotton cloths: securing familial alliances and loyalties to start his dynasty in the Moche Valley (Rowe 1948). The vagueness of the origins of this lord could have been an intentional propaganda effort that would give later descendants and royalty of Chimor a mandate to claim other *chala* lands under the guise of "re-claiming" ancestral homelands (Conrad 1990). However, I do not think that archaeologists should be so quick to dismiss the validity of this foreign heritage for the Tacaynamo dynasty. Recalling the likely Moche V connections between Galindo and foreign *huaca*-polities to the north, it is possible that the nobility at Chan Chan had similar foreign connections or were even related to the old rulers of Galindo. Only future research, namely the aforementioned genealogical studies, could better support such connections but they are nonetheless intriguing.

The second part of this history was the consolidation of local power by the son of Tacaynamo, Guari-cuar, who won the allegiance of the remaining independent noble families of the Moche Valley in order to unite them under the one Kingdom of Chimor (Rowe 1948). These first stages, personified in Tacaynamo and Guari-cuar, roughly correlate with the Early Chimú sub-phase: a time during which Chan Chan became the only clear political and demographic center in the Moche Valley (Topic, T. 1990: 190-193; Moore and Mackey 2008: 789). Though there is some evidence for the projection of Chimú power in the Chicama and Virú Valleys during this

phase (Topic, T. 1990), the palaces and Early Chimú ceramics in these valleys require considerably more research to help clarify their context. The massive La Cumbre canal project, beginning sometime around this phase, is notably absent from these histories (Pozorski and Pozorski 1982; Kus 1972). However, the focus of this written record seems more on political conquests and dynastic lines rather than details of infrastructure and consolidation.

The next stage of this dynasty was marked by episodes of foreign conquest and expansion that are well documented in the archaeological record. The son of Guari-cuar, Ñançen-pinco, is credited with expanding the dominion of Chimor extensively: conquering north to the Jequetepeque Valley, south to the Santa Valley, and eastward into the *chaupiyunga* (Topic, T. 1990:178; Rowe 1948). A Chimú general named Pacatnamú, assumedly sent by Ñançen-pinco, is attributed with the conquest of the Jequetepeque Valley to the north. Upon defeating the local Lambayeque polity that controlled the valley, Pacatnamú was gifted dominion of the Jequetepeque by the Chimú king: serving as steward of his newly conquered territory from a provincial palace at a place now called Farfán. This conquest has, remarkably, been recorded in the archaeological record and likely occurred sometime between 1300 and 1340 CE (Moore and Mackey 2008; Mackey 2009). During this time: the older Lambayeque center of Pacatnamú shows evidence for an attack, the earlier Lambayeque palaces at Farfán were razed, and new Chimú-style palaces were built atop or around the destroyed remains of earlier structures at Farfán (Conrad 1990; Mackey 2009). To the south, a somewhat less violent conquest of the Casma polity has been recorded in the Casma Valley and is vaguely dated to between 1350 and 1380 CE. Instead of being razed, some local centers were left intact, others were abandoned, and a smaller Chimú-style set of provincial palaces were built apart from the previous population centers of that valley at a site now called Manchan (Moore and Mackey 2008; Mackey 2009).

Continuing this trend of 14th century Chimú expansionism, the Lambayeque polities of Túcume and Cinto fell to Chimor during conquests in the La Leche Valley sometime between 1350 and 1400 CE (Moore and Mackey 2008; Mackey 2009). Chimú administration in the La Leche Valley somewhat echoed the power-sharing arrangements used in the Casma Valley. The enormous monumental center of Túcume, home to the most powerful of the Lambayeque polities, saw some modifications and additions by the Chimú but generally stayed intact (Heyerdahl et al. 1995; Mackey 2009). Though the center of the Cinto polity at Pátapo remained occupied by local

elites, the massive Chimú palace-fortress ringing the mountain above served as a powerful testament to the authority of Chimor over that landscape (Tschauner 2001). A string of smaller Chimú palaces on the margins of the La Leche also showed that some of the new provincial rulers from Chimor were mobilizing labor to actively expand irrigation in the area after conquest (Tschauner 2001).

Though these *chala* conquests were close enough together to be overseen by the same rulers or leaders, maybe even legendary figures like Ñançen-pinco or Pacatnamú, the archaeological view of the *chaupiyunga* muddles the picture considerably. At Cerro Huancha, Boswell notes increased Chimú influence after the 1200s CE, but evidence for an actual conquest of the Sinsicap Valley is lacking (Boswell 2016). Similarly, the limited information on the Upper Valley *chaupiyunga* suggests that Chimú influence extended into the region sometime after the Early Chimú sub-phase, aligning to sometime after the 1200s CE (Topic, T. 1990). Thus, Chimú bids for authority in the *chaupiyunga* seem to have begun by the 13th century: possibly pre-dating the more famous *chala* expansions that defined the 14th century. That these conquests in the *chaupiyunga* were worthy of mention is notable, but they clearly were neither as successful nor lucrative as the conquests of neighboring valley polities.

The last stage of the independent dynasty of Chimor was defined by the conquests and actions of the final sovereign ruler of the kingdom: a distant descendant of Ñançen-pinco named Minchançaman. Following somewhere between 5 and 7 unnamed descendants of Ñançen-pinco, Minchançaman was touted as having conquered all of the north coast: "from Tumbez to Carabayllo" (Rowe 1948: 17). Such an order of events would problematically place the conquest of the Lambayeque polities at Túcume and Cinto as an accomplishment of Minchançaman. This could be possible if he was quite old and had conquered them extremely early in his tenure as king. It is also possible that he re-conquered lands that were in rebellion or had earned independence during the reign of a previous king. Finally, he also could have simply been attributed responsibility for the achievements of a predecessor. At the northern edge of this proposed territory in Tumbez, evidence for the presence of Chimor is sparce: relationships with local elites were likely exchange-based and structured over obtaining the valuable *spondylus* found in equatorial waters (Moore and Mackey 2008; Moore et al. 1997). The southern conquests of Minchançaman are equally elusive in the archaeological record but were allegedly undertaken by a general named

Querrutumi (Calancha 1974-91 [1638]: 1260). Querrutumi won three important victories in a southern campaign that took him as far as Lima but he was promptly withdrawn from the south to confront the impending Inka invasion of Chimor (Huamanchumo 2012: 44; Rowe 1948). Not surprisingly, the material remains of the conquests of Minchançaman and Querrutumi remain invisible to archaeologists: not much more than the occasional evidence for Chimú-style pottery has been found beyond the La Leche and Casma Valleys (Moore and Mackey 2008). Though we have no reason to doubt these conquests occurred, the clashes between the Inka and Chimor clearly began before Minchançaman had time to fully consolidate any new holdings abroad.

Though not imperfect, the vague correspondence between the events described in the histories of Chimor and the material data left in the archaeological record is remarkable. These tales of conquest and incorporation showcase a collection of historical events, ambitious kings, and talented generals, all of which helped to transform the Kingdom of Chimor from a small fiefdom into a massive empire. The archaeological record, however, provides additional details regarding the varied strategies of expansion and, more importantly, the physical institutions that were developed and manipulated to make the growth and maintenance of Chimor possible.

4.2.8.6 The Chimú Political Tradition: Palace Politics in Chan Chan

The beating heart of the Chimú Political Tradition was in the imperial capital at Chan Chan: home to the ten massive *ciudadela* palaces through which the emperors of Chimor commanded their authority. Though they changed somewhat over time, the format of these *ciudadelas* served as the architecturally-rooted liturgy of Chimú authority: binding rulers and subjects together through networks of plazas, *audiencias*, burial platforms, and storage depots. Outside of, but associated with, the *ciudadelas*: "intermediate" residences show a class of lesser nobility that likely played some role in the maintenance of the kingdom and management of its populace. It is important, however, not to overstate the dominance of palace politics in Chan Chan: stand-alone *huacas* and non-palace temple complexes show an even wider array of stakeholders were active within the bustling political capital of Chimor.

The *ciudadelas* at Chan Chan were built with an ensemble of architectural elements that are instructive in telling archaeologists about how political power was built within Chimor. Similar

to the *huacas* of their Moche predecessors, *ciudadelas* were built from adobe mudbricks that were likely formed and assembled by labor gangs. Thus, the construction of these palaces alone, and their immense size, presents some evidence for the vastness of authority wielded by the kings who resided within. Plazas were the first elements that would have greeted those who were permitted to pass through baffled entries and enter the labyrinthian passageways of *ciudadelas*. Chimú plazas are essentially larger, and more decorated, versions of Moche Phase plazas and *tablados*: open spaces punctuated by a small elevated and ramped stage or dais on one side and surrounded by plastered friezes. These plazas were often nested within a *ciudadela*, with progressively smaller plazas for progressively more private, and assumedly privileged, audiences the further one ventures into the palace. A small wooden miniature set found in a Chimú internment at Huacas del Moche shows that feasts and processions of revered ancestors, possibly even the mummies of deceased royalty, would have likely been one activity undertaken in similar such plazas (Figure 4.13; Uceda 1999; Moore 2005). This interplay between plazas, raised platforms, and feasting is thus something that appears to persist within the political traditions of the Moche Valley from the Moche Phase and into the Chimú Phase. Specifically, the multiple plazas of *ciudadelas* show how such interactions were likely nested: revealing several tiers of venues in which royalty, or deceased royalty, could have played the role of host to an array of subjects and lesser nobles.

Adjacent to many of these plazas are clusters of small u-shaped structures lined with niches: uniquely Chimú architectural features called *audiencias*. These structures are often elaborately decorated with unique patterns borne out through plaster friezes ranging in subject matter from marine life to textiles. Less elaborate variants of these structures are called *arcones* and replace the niches of audiencias with bins. These are often found in non-*ciudadela* contexts like the intermediate residences or rural palaces that are described later. Though some manner of "administrative" function is generally assumed for these structures, their specific role in administration remains obscure and is worth further attention. Initially they were thought of as temporary storage for tribute as it passed from subjects and into the coffers of the nobility, but further exploration by Moore showed that this association between *audiencias* and storage was not consistent across *ciudadelas* (Moore 1992; Moore 1996). Topic convincingly illustrated that *audiencias,* and u-shaped structures more generally, became less associated with storage over time (Topic, J. 2003). Building off of this evidence, he proposed that these changes marked a transition from intermediate nobility exercising stewardship over goods to these nobles instead having

bureaucratic control over information regarding where goods went and what they were used for (Topic, J. 2003). Used by these bureaucrats, the specific role he assigns to *audiencias* was for recording or counting information about goods (Topic, J. 2003): a suggestion for a sort of architectural abacus that has no correlate or precedence among Andean groups. Finally, Mackey suggests that *audiencias* were the residences of administrators (Mackey 2020: 5).

Continuing this rich tradition of Chimú scholars suggesting some new interpretation of *audiencias*, I argue that *audiencias* served important roles in the processions, feasts, and ancestor and/or *huaca* veneration activities that were probably going on in nearby plazas and *tablado* areas. Though many *audiencias* were looted and burned after the abandonment of Chan Chan, most also show some evidence for fragments of human remains (Day 1982a: 60). That these remains are cited as "fragmentary" could suggest that they are the remnants of looted *huacas* and/or mummy bundles that were left behind. However, it is unclear if the remains themselves were characterized by the high frequencies of phalanges or other easily droppable bones that are usually found in examples of curation and use of mummified bundles of human remains. Many *audiencias* have ample evidence for the cooking of large quantities of food and even the brewing of *chicha* beer. These activities likely were occurring in the obscured spaces behind the *audiencias* themselves (Day 1982b: 339). This could link these *audiencias* to the likely feasts and procession events, like those shown in the Chimú miniature, occurring in nearby plaza spaces or *tablados*. It also could be evidence for some manner of provisioning for *huacas* and ancestors themselves, their attendants, and those who visited them. Finally, the a*udiencias* of Chan Chan, and those in the provinces, consistently show evidence for collapsed roofing material and roof posts (Keatinge 1974). This could simply be evidence that whatever was in them, *huacas* or ancestors, was being protected from exposure. In addition, it is also likely representative of a broader architectural association, beginning at least with Moche gabled roofs, between high-status or venerated individuals and roofed structures.

Instead of being temporary storage for agricultural goods or pieces of an architectural abacus, I argue that the niches of *audiencias* would have been permanent or temporary repositories for the *huacas*, venerated ancestors, or portable representations therein of communities or families that were incorporated into Chimor. Positioned near the plazas in which they were celebrated, *huacas* and ancestors could have been staged in *audiencias* as they awaited to join processions and

feasts at the appropriate moment. Before, after, or during this process, *audiencias* could have served as the venues in which *huacas* and ancestors were visited and consulted by privileged individuals, associated nobility, Chimú royalty, or even other ancestors and *huacas*. Such meetings, and the broader feasts of which they were a part, would have presented excellent opportunities to re-affirm relationships of authority between the royalty, nobles, and subjects in Chimor: *huacas* and humans alike could have been bound together to negotiate, or be reminded of, their place within the kingdom. Though examples on the coast of similar practices have yet to be found, the practice of "*huaca* hostage" was a common method used in highland Inka politics. Victorious Inka emperors would capture the most powerful *huacas*, or representations therein, of newly conquered groups and bring them back to the imperial capital at Cuzco where they could be worshipped, cared for, and consulted (Rowe 1946: 273). The *audiencias* of Chan Chan could very well have been the venues for a similar practice being conducted by the Chimú. This being said, the episodic nature of how provincial *audiencias* were likely used is more suggestive of a temporary housing and consultation, not a hostage situation. Whatever the case, this new interpretation of *audiencias* is no doubt equally as speculative as the others but I do think it fits well with recent insights into the wider roles that *huacas* and mummified ancestors played in Andean politics. Only further investigation of *audiencias*, particularly micro-archaeological investigations looking for phalanges and other evidence for mummy bundles, could help support this hypothesis with more substance.

The burial platform mounds within seven of the ten *ciudadelas* housed the deceased kings of Chimor along with the goods and attendants that accompanied them into death (Conrad 1978, 1982). Given that the Kingdom of Chimor likely lasted longer than the lifetime of seven kings (175 – 350 years with very generous 25 – 50-year reigns), the equation of one king equals one *ciudadela* is probably insufficient by itself. In reality such an equation would no doubt be complicated by issues of succession and the capability of a new successor to mobilize the labor, authority, and goods necessary to build their own *ciudadela* and ensure the persistence of their own cult. The death of a king likely triggered the transformation of a *ciudadela* palace into serving a dual role as a palace and a mausoleum (Moore and Mackey 2008). In fact, many *ciudadelas* continued to see use and would overlap with one another: the cult of deceased kings, and perhaps the authority of some descendants that did not inherit the crown, persisted well after life (Moore 2005). In sum, it is notable that Chimú royalty were afforded their own burial platforms and that

such platforms were so intertwined with their own palaces, personages, and families. This represented a significant departure from most of their Moche Phase predecessors in the Moche Valley. As powerful as they may have been, Moche noble families still shared the platform mound *huaca* with their descendants and the broader communities they led.

The vast networks of storage depots are somewhat unique elements to *ciudadelas* that show how Chimú nobility could express authority over goods as well as people. Storage bins at Chan Chan were usually clustered in groups and were designed to be "walk-over" for easier access (Day 1982; Moore and Mackey 2008:785-786). The amount of storage in *ciudadelas* was variable: Kolata argues it increased over time and then notably declined in the final palaces (Kolata 1982). Though the storage available in the *ciudadelas* at Chan Chan was far more extensive than any of the nearby intermediate residences or distant provincial palaces (Mackey 1987), it is still relatively unclear what was being stored. Unlike the u-shaped structures and even the burial platforms, storage bins lack evidence of burning or looting and instead appear to have been "systematically emptied" of their contents (Day 1982: 60). One may expect a mixture of goods could have been temporarily stored in these bins for palace activities: the necessary ingredients for the food and drink used in feasts as well as some caches of finer crafts that could serve as gifts for distinguished guests. More recent work has illuminated a much more complete picture of storage that confirms such a wide array of materials: ranging from foodstuffs like peanut and corn to more precious goods like quartz and textiles (Correa-Trigoso and Juaregui Vilela 2019). The question remains, however, whether such goods were solely meant to fuel the palace-subsidized crafting economy or if the royalty of Chimor also held a larger role in guarding against economic shortfalls. Regardless, this increased access to and control over such vast storage depots was a relatively new development in the Moche Valley that was almost exclusive to the palaces of the Chimú royalty.

Outside of the *ciudadelas*, smaller palace compounds called "intermediate residences" are generally thought to have housed a varied class of lesser or aspiring nobility (Klymyshyn 1982, 1987). That these structures were also often built with adobe bricks perhaps suggests that these lesser nobles had access to similar, but smaller, labor pools as their more powerful royal neighbors. These lesser nobles also incorporated *audiencias*, or *arcones*, and small plazas within their palaces (Klymyshyn 1982, 1987): using a familiar dialect of Chimú authority in the architecture of their own households. Despite these similarities, intermediate residences are notably lacking in having

the vast storage depots and burial platform mounds characteristic of *ciudadelas*. Mackey argues that such elements were likely restricted to royalty (Mackey 2009): only kings (1) commanded wide enough networks of authority to have immense caches of goods for great feasts and sumptuous gifts and (2) wielded enough power in life to maintain a stable cult after death. Variation in sizes between these intermediate residences suggest that some lesser noble families were wielding more authority over people and goods than others. This being said, these smaller palaces were built amongst the SIAR and were somewhat separated from the main palatial spaces of Chan Chan (Klymyshyn 1982): perhaps an intentional urban plan that further reinforced the division between the royalty and the lesser nobles and commoners they ruled.

Finally, the monumental landscape of Chan Chan is also punctuated by several large adobe mounds and temple complexes. Though at least 13 adobe *huacas* of varying sizes have been identified at Chan Chan (Sakai 1998: 32-33), they have seen a paucity of modern investigations when compared with other parts of the urban center. Sakai ties many of these *huacas* with the broader sacred landscape at Chan Chan: a landscape that was embedded within the urban design and that linked adobe *huacas*, *ciudadela* platform mounds, prominent mountains, and important constellations through visual lines (Sakai 1998). The specific activities occurring on these *huacas* are not remotely understood, but the temple complex at El Dragon does show one example of what such a *huaca* looked like. El Dragon was a large walled platform mound decorated with elaborate friezes, surrounded by storage bins, and accessible via a long ramp (Donnan 1990b). Though access to the *huaca* was clearly restricted by surrounding walls, this *huaca* was not within a palace nor served as a burial platform for a single individual. This *huaca* also does not appear to have been as central in the broader "community" of Chan Chan in a way akin to the *huacas* of the Moche or Gallinazo Phases. Instead, it probably served a more specific role as some manner of cult center for a smaller segment of the community of Chan Chan: a role that garnished enough support to provide (1) labor for its construction and (2) goods to store for the sustenance of the *huaca*. Notably, the specific friezes of a double-staffed deity standing beneath a rainbow-dragon at El Dragon appear to have been imitated upon a distant temple at Chotuna in the Lambayeque Valley, suggesting that the cult of the *huaca* even expanded with the political expansion of Chimor (Donnan 1990b). Thus, though our current understandings of the stand-alone *huacas* of Chan Chan are incomplete, they do serve as good reminders of two important points: (1) obviously not all

huacas had been "domesticated" in the Moche Valley by the Chimú Phase and (2) not all authority within Chan Chan was enacted through palace politics.

Figure 4.13 Miniature of a Possible Procession Within a Chimú Palace (adapted from Moore 2005)

4.2.8.7 The Chimú Political Tradition: The Political Landscape of Chimor

Looking outside of Chan Chan, and even the Moche Valley, a view of the wider political landscape of Chimor reveals the varied ways that Chimú nobility and royalty constructed their authority abroad. Before going forth with any discussion of this political landscape, it is very important to clarify that idealized maps (see Figure 4.11) of the greater Kingdom of Chimor should

be seen as heuristic guides and not be taken as showing the sort of discrete political boundaries often perpetuated by the propaganda wound into modern nation-states. Though it surely lent advantages, territorial continuity was neither a necessity nor a norm in ancient politics: there is little evidence that royalty in Chan Chan held authority over all of the land, nobles, and people that occupied the spaces between provincial and rural palaces abroad. Thus, a map of the Kingdom of Chimor (e.g., Figure 4.11) should be interpreted as vaguely representing the spatial bounds of where Chimú authority was most likely built and experienced, with the provincial and rural palaces themselves as being the locales in which the nobility and royalty of Chimor most often plied their craft. With this said, we can turn to a discussion of principles of Chimú statecraft initially put forth by Mackey (Mackey 2009; Mackey 1987; Table 4.12; Figure 4.11): principles that I attempt to summarize, elaborate, and build upon here. First, provincial palaces served as local nodes of authority that were used by both royal and non-royal Chimú nobles as they administered some of their new territories abroad. Second, smaller rural palaces were playing much more specific roles related to labor mobilization and agricultural expansion: activities that were still done within the dialect of Chimú architecture and assumedly guided by the nobility of Chimor or their clients. Third, the vast majority of authority built within the Chimú Empire at the local level appears to reflect co-rulership or was not directly associated with Chimú nobility, royalty, or political traditions at all. Finally, though the palace politics of Chan Chan may seem benign, it is important to highlight that many of the subjects of Chimor either submitted or were conquered. The expansion of the Kingdom of Chimor was often won through military might or the threat of military force, might and force that the Kings and nobles of Chimor were fully capable of wielding to upend and transform local political and demographic landscapes.

The Kings of Chimor consolidated power in at least two newly conquered areas by building large provincial palace complexes that replicated many of the general architectural elements and political activities of the *ciudadelas* at Chan Chan. Generally, these complexes are referred to as "secondary centers" because they are secondary only to Chan Chan in the size of the Chimú-style palaces they include (Moore and Mackey 2008; Mackey 2009; Mackey and Klymyshyn 1990). The first such center, Farfán, was built after the conquest of the Lambayeque polity at Pacatnamú in the early- to mid-1300s, and was constructed atop the ruined remains of a previous set of local palace compounds (Mackey 2009). Not only do the Chimú provincial palaces at Farfán include the plazas, *audiencias*, and storage areas common in *ciudadelas*, they also have small burial

platforms: implying they were perhaps used by or associated directly with royalty (Mackey 2009). Though the complex is built upon an inter-valley roadway that likely channeled exchange between coastal valleys, the main focus of activities within Farfán appears to be "feasting and trade alliances rather than on transshipment" (Moore and Mackey 2008:791). Mackey contends that the palaces themselves were possibly not even occupied year-round (Mackey 1987:127-128): perhaps relationships of authority in the provinces were renewed periodically during specific times. To the south, a set of large provincial palaces were built at Manchan in the mid-1300s after the incorporation of the Casma Valley into Chimor (Moore and Mackey 2008; Mackey and Klymyshyn 1990). Though some of the palace compounds at Manchan appear local, several were surely constructed by and for agents of Chimor: they featured the ensemble of plazas, *audiencias*, and storage areas necessary for noble-sponsored feasting events like those occurring at Farfán and Chan Chan (Mackey 2009). Notably, the palaces at Manchan lacked burial platforms and thus were probably not housing royalty but instead Chimú nobles of lesser status. Manchan not only housed these palace compounds, and the Chimú nobles within them, but also a population of around 2000 people who served as local part-time craft specialists and agriculturalists associated with the broader palace complex (Mackey and Klymyshyn 1990: 202; Moore 1981, 1985, 1989).

Both of these secondary centers were probably playing political roles that were somewhat analogous to the *ciudadelas* at Chan Chan but at a provincial level. They served as the venues in which local nobles, *huacas*, and communities could be integrated into the kingdom through feasting and gift-giving events sponsored by Chimú nobility or royalty. Recalling the story of Pacatnamú, it seems likely that some of the palaces of Farfán and Manchan could have housed favored nobility or lower-level royalty: individuals or families that were awarded fiefdoms by the King of Chimor after new regions were conquered or incorporated. However, there are also some notable differences between the two palace centers. Farfán seems to have had more evidence for members of royalty being directly involved in provincial administration but lacked palaces for local nobility or a substantial surrounding community. At Manchan, multiple palaces of non-royal Chimú nobility were intermingled with the palaces of local nobles and both were surrounded by a community of part-time craftspeople. Thus, while Manchan shows a provincial center ruled through a power-sharing arrangement between Chimú-affiliated and local-level nobles, Farfán shows a provincial center ruled through more direct and exclusive authority expressed by Chimú royalty. Interestingly, these differences in local involvement in the expression of Chimú authority

correlated with demography: Manchan was the heart of a large town while Farfán remained only sparsely settled. Though Manchan was one of the larger towns in the Casma Valley, none of the provincial centers of Chimor had the profound centripetal effect on demography like that seen at Chan Chan.

In this discussion of provincial palaces, it is also important to call attention to the relative "mobility" often attributed to Inka and Chimú kings in the written record. These figures of royalty are obviously described as conducting military campaigns outside of their seats of power but the Inka in particular often toured their domains to fulfil important ritual, political, and even agricultural roles during certain intervals over the calendar year (D'Altroy 2015). Given that the provincial palaces of Chimor were intentionally built to replicate the architectural liturgy that defined royal authority at Chan Chan, such palaces would have been ideal "stand-ins" for any kingly responsibilities of affirming or enacting royal authority abroad. Such a model of a sort of "touring court" would fit well with the possible seasonality of activities and lack of substantial surrounding community at a provincial palace like Farfán. This is not to say that these provincial palaces were solely "stand-ins" for touring royalty: it seems more likely that a provincial royal or noble would reside in, or rule through, such a palace for the vast majority of the time. However, should a King of Chimor venture from the main seat of power at Chan Chan, all of the pieces necessary to entertain subjects were available at provincial palaces like Farfán and Manchan. Perhaps then we should perceive of these provincial palaces not just as the local seats of power for provincial Chimú nobles or royals, but also as venues through which the highest royalty could periodically remind subjects of the greater royal authority that radiated directly from Chan Chan.

Smaller Chimú-style palace compounds dotted the countryside of Chimor, from the hinterlands of the Moche Valley to distant conquered territories, and were often constructed in association with newly dug canals and agricultural fields. These smaller palaces have been referred to as "tertiary" and "quaternary" administrative centers and are distinguishable from larger provincial palaces (e.g., Manchan and Farfán) due to their diminutive size and lack of storage depots (Mackey 1987: 124; Pozorski, T. 1987). This being said, the differentiation between tertiary and quaternary administrative centers themselves is relatively arbitrary and based only vaguely on size (Mackey 1987: 124-126). Though size and function are surely intertwined, it is important to better discern what role these palaces appear to have played in the political landscape of Chimor

before classifying them. These palaces were extraordinarily simple in their layout: some had a handful of *audiencias*, a few had none, but most only featured a single *audiencia* and a small plaza space. Like their larger counterparts, these palaces were probably venues for feasting events: the small palace of Milagro de San Jose in the Moche Valley exhibited exceptionally high proportions of serving wares in addition to plentiful middens (Keatinge 1974; Mullins 2012). The size of the plaza spaces within these small palaces was variable and, though gatherings at some palaces could have theoretically included entire communities (e.g., ~2500 people at Talambo), most of these palaces likely would have hosted a smaller number of assumedly privileged individuals (Table 4.12). The vast majority of these smaller palaces, irrespective of whether they were classified as tertiary or quaternary, lacked any surrounding community and were probably not even occupied full-time as formal "palaces" (Mackey 1987; Mackey 2009). Instead of being residences of officials tasked with directly administering communities, these small palaces were far better positioned to periodically control or administer elements of agricultural production: they were almost always located adjacent to newly constructed canals or raised fields.

It is this articulation into the economic, rather than demographic, landscape in Chimor that leads me to describe and categorize many of these smaller palaces, tertiary and quaternary centers alike, as "rural palaces". In fact, I would argue that these rural palaces were possible Chimú analogues to the hypothesized canal-*huacas* described during the Moche Phase: demographically remote venues through which *chala* nobles could mobilize their role as hosts of feasts to more directly wield authority over labor, land, water, and agricultural production. Though rural palaces almost surely were not full-time noble households, the combination of *audiencias* and plazas within a palace-like format would have made them ideal venues to briefly gather people, nobles, and *huacas* in one location. Given the positioning of rural palaces, the gatherings hosted within them would have assumedly been focused upon the construction, maintenance, and agricultural productivity of newly constructed canals or fields. Rural palaces also utilized a Chimú architectural liturgy of authority that would have been familiar to any noble, leader, or subject experienced with walking the halls of the *ciudadelas* or intermediate residences of Chan Chan.

Who would have mobilized the labor to build these rural palaces and then preside over the gatherings and feasts that were periodically organized within them? That these rural palaces remain somewhat uniform and consistent within a broader Chimú ideal of how a palace should be built

would suggest that these were not built for local-level leaders. As we will see, there is ample evidence for the expected local variations and adaptations of Chimú architectural traditions that would better illustrate the direct endeavors of local-level leaders and communities (Swenson 2007). Instead, an adherence to the ideals established in Chan Chan implies that these Chimú rural palaces were built by and for either (1) the royalty residing within *ciudadelas*, (2) the vast array of nobles residing within intermediate residences at Chan Chan, or (3) the nobility or royalty operating through provincial palaces. Recalling the mobility of Andean kings, it is not a stretch to assume that nobility, even royalty, could have travelled from the capital or from provincial centers to these rural palaces for specific tasks: periodically overseeing canal maintenance, consecrating critical phases of agricultural production, and/or presiding as hosts over feasts assumedly following a successful harvest. Playing the part of a generous host, Chimú nobility or royalty would assumedly be obliged to the labor of the subjects who came to "enjoy" this hospitality.

Who were the subjects that would have owed such obligations after being granted this hospitality at rural palaces? Attempting to answer this question is considerably more challenging given that these rural palaces were not serving as central places within communities. The same demographic isolation that allowed us to identify the adherence of these rural palaces onto the economic landscape, rather than demographic landscape, confounds our capability to securely identify the communities that built and maintained the palaces themselves. One possibility is that these subjects, like their rulers, came from Chimor itself to service rural palaces, tend to noble fields, and participate in associated feasts. For those rural palaces within the Moche Valley, this seems to be a plausible option. The furthest of these rural palaces in the Moche Valley, Quebrada de Katuay, was no more than a half day walk from Chan Chan, and the imperial capital had laborers to spare. A corvée labor tax was used by the Inka and obliged some subjects of the highland kingdom to periodically, or more permanently in the case of *mitmaq* laborers, work distant royal fields that would fill the coffers of royalty and their cults (D'Altroy 2015: 401-405). A similar such practice may seem a tempting explanation, but Chimú rural palaces lacked the extensive storage facilities that the Inka often used to feed their corvée laborers, rendering the application of this analogy to Chimor problematic. The semi-permanent attachment of *mitmaq* laborers to nearby communities is another possibility that has some precedent among early historically recorded noble families (Netherly 1977: 146) and would have not required storage facilities. Though I suspect this was likely occurring in the deeper past, there is no currently recorded evidence for

Chimú colonies or enclaves in communities that were close to rural palaces in the provinces. Until such scenarios are uncovered, it seems far more likely that Chimú nobility and royalty were tapping into local demographic and political landscapes for the labor and loyalties necessary to sustain their rural palaces. These landscapes were rich with local-level leaders, nobility, and communities who, upon being conquered by Chimú forces, would have witnessed their former paramount rulers subjugated or replaced by those from Chimor. These locals could have been convinced, or coerced, to attend feasts and become more directly intertwined with foreign Chimú nobility and royalty, possibly at the cost of older local loyalties.

In fact, the vast majority of authority being built throughout the distant "territories" of Chimor was likely exercised by local-level nobility and leaders who either co-ruled with Chimú nobles or had very little to do with the nobility and royalty of Chan Chan at all. An excellent example of co-rule is the arrangement observed at the powerful Lambayeque polity at Túcume (Moore and Mackey 2008:793-796; Mackey 2009: 334; Heyerdahl et al. 1995). The sprawling monumental center was only modestly modified after the Chimú conquest: with some renovations occurring at two of the pre-existing platform mounds and the addition of two new palace compounds to the broader complex (Heyerdahl et al. 1995). One of these palace compounds featured a burial platform (Heyerdahl et al. 1995), signifying that it may have been the royalty of Chimor that took over paramount leadership at Túcume (Mackey 2009: 334). However, the distinct lack of *audiencias* and general continuity seen elsewhere at Túcume suggests a more relaxed version of co-rule. Other local-level leaders and nobility, possibly even previous royalty, at Túcume were left more-or-less to run their domains in the same manner they had always done. Interestingly, this co-rule scenario left remarkably strong bonds between the noble families of Túcume and Chimor: there is some verbal testimony that the nobles of Túcume sided with Chimor in a rebellion against the Inka at one point (Netherly 1977: 152-153).

Some instances of co-rule involved far more domineering strategies from Chimú nobles. Upon the conquest of the Lambayeque polity of Cinto, an assumedly Chimú provincial noble built a massive fortified complex upon the great mountain looking over the polity capital at Pátapo (Tschauner 2001). This fortress visually dominated the landscape and was equipped with a Chimú-style palace including plaza spaces, *audiencias*, and some storage areas (Tschauner 2001): a symbolic residence befitting of a lesser provincial noble. Local-level leaders and nobility are

assumed to have continued operating through their ancestral mound center below (Tschauner 2001) but the Chimú noble occupying the likely sacred mountain above was a constant reminder that co-rule should never be confused with sovereignty. Three Chimú rural palaces also dotted the surrounding countryside but, like most rural palaces, were associated with canal expansions and had little effect on regional demography (Tschauner 2001). Tschauner describes this arrangement concisely as "a composite of a local settlement system and a set of novel valley-margin centers grafted on to it." (Tschauner 2001: 333). Thus, even this more aggressive strategy of co-ruling at Cinto left local political and demographic systems intact within a context of Chimú rule.

In the broader landscapes away from Chimú palaces and co-ruling arrangements, most local-level leaders, nobility, and communities saw few changes under, or at least adjacent to, Chimú rule. In her rare and invaluable example of household archaeology in the provinces of Chimor, Cutright traced some subtle changes in domestic life that occurred in the small Jequetepeque Valley community of Pedregal (Cutright 2009, 2015). This town was located just a few kilometers from the Chimú provincial palaces at Farfán and the previous Lambayeque polity capital at Pacatnamú. After the entrance of Chimor into the local political landscape, Cutright noticed only a slight increase in the production of goods like maize and cotton that were likely refined into *chicha* beer and textiles (Cutright 2015). As she states succinctly, "Chimú expansion into the Jequetepeque would have changed the faces of the lords to which tribute was due, but perhaps not much more than that for residents of rural villages" (Cutright 2015:81). In that same valley, a survey of the palaces and platform mounds of local-level leaders, nobility, and communities illustrated the overlapping of older Lambayeque and even Moche traditions with the selective adoption of some clearly Chimú-influenced canons like baffled entries and niched walls (Swenson 2009). This local political landscape clearly collected residues of some specific traditions coming from Chimor, possibly a result of increased local familiarity with the rural and provincial Chimú palaces in which local nobles could have been obliged to feast. However, the wide variability in how these Chimú canons were adopted suggests that most local-level nobles and leaders continued to ply their more idiosyncratic pathways towards building and maintaining political standing in their own local contexts (Swenson 2009).

The Kings of Chimor likely expanded much of their authority through conquest and military might. This is not to say that authority was not extended via more peaceful means: surely

many of the aforementioned co-ruling arrangements, specifically that seen at Túcume, could be the product of negotiated alliances or inter-marriage between royal or noble families. However, there is ample archaeological and historical evidence that the Kings of Chimor, and their generals, marshalled great armies that were used to conquer or intimidate rivals and potential subjects. First, the broader political landscape of the North and Central Coast of Peru from which Chimor arose was one often marred by conflict and political rivalries. Several coastal valleys had large fortified towns that were positioned upon hills overlooking corridors from adjacent valleys. In the Zaña Valley, Cerro la Guitarra appears to have been initially linked to the Lambayeque political tradition and was a local stronghold, possibly even a *huaca*-town, before it was conquered and incorporated by Chimor (Osores and Parker 2020). In the Chao Valley, Cerro de la Cruz is another example of such a fortified community but was associated with the Casma political tradition and was likely positioned upon a Casma-Chimor political boundary before being abandoned and possibly razed (Vogel 2012). These are just two examples of several LIP, but pre-Chimú expansion, fortifications throughout the region (Topic and Topic 2009; Arkush and Tung 2013). The positioning and pre-Chimú occupational histories of these castle-like constructions (e.g., Cerro de la Cruz, Cerro la Guitarra, etc.) suggests that they were likely built by local nobles in order to defend and secure their authority over their lands and communities, specifically from attacks by nearby and non-allied rivals. The Kingdom of Chimor was doubtlessly one such rival for many of the non-Chimú (e.g., Casma and Lambayeque) nobles and alliance networks that ruled over the numerous valleys of the region.

Even if there are few archaeological remains of actual battles, the transition of the Kingdom of Chimor from being a rival to a paramount was one that was often marked by violence. As was previously mentioned, several pre-Chimú occupations present some limited evidence for being razed or sacked: Farfán and Cerro de la Cruz both have possible evidence for the consequences of such defeats in archaeologically recorded burning or razing episodes (Mackey 2009; Vogel 2012; Arkush and Tung 2013). Two mass killing events also have been uncovered and, given their dating and context, could be attributed to Chimú conquests (Arkush and Tung 2013). In the Huarmey Valley, a mass grave of 200 males of varying ages is thought to have been a possible execution event carried out by Chimú forces between 1250 and 1300 CE (Verano 2007). At Pacatnamu, the remains of 14 men were found "with lethal blunt force trauma and stab wounds, were bound, mutilated, and killed, then tossed into a defensive trench" (Arkush and Tung 2013: 337; Verano

1986). Though these examples could have been carried out by non-Chimú rivals, the fact that they more-or-less correlate with episodes of Chimú expansions makes their attribution to Chimor believable. More generally, the widespread use of fortified strongholds within the Kingdom of Chimor suggests that newly conquered areas often needed to be defended and/or dominated (Arkush and Tung 2013; Mullins 2019; Tschauner 2001). From the grand fortress at Pátapo to the smaller Fortaleza de Quirihuac, these constructions were invaluable tools used to secure Chimú authority in their respective landscapes. However, they also suggest that these landscapes, or at least the Chimú nobility operating within them, needed to be secured. It is important to remember that conquered areas need not remain conquered: by building such fortifications, the nobility and royalty of Chimor were mobilizing considerable amounts of labor to secure their place in landscapes filled with hostility. Even so, echoes of the palace politics of Chan Chan reverberate even within the context of these strongholds: this can be seen in the noble palace within Pátapo and the evidence for feasting/provisioning at Fortaleza de Quirihuac. Though the appearance of Chimú authority in such fortresses was militarized, it was still constructed in analogous ways to the more peaceful realms of the kingdom.

Historic sources on the Kingdom of Chimor are unambiguous about the capabilities of Chimú kings in marshalling large armies for political ends. Several documents refer to the military might of Chimor as being almost on par with that of the Inka: Garcilaso de la Vega acknowledged the Chimocapac as being a worthy adversary and even defeating a force of 40,000 Inka soldiers under the command of Topa Yupanqui (Appendix B). Though only a few specifics are known, it does seem clear that Chimor had a strong military tradition. Most notably, all of the expansions of Chimor were attributed to military conquests undertaken by armies under direction of the Kings of Chimor or their generals and/or captains (Appendix B). Nobles or subjects, like Pacatnamu and Querrutumi, could serve as generals and/or captains and these military roles afforded some political mobility within the kingdom: Pacatnamu was gifted dominion over Farfán after his military successes. The Inka royalty had a strong tradition of sending out royal heirs to campaign abroad and amass wealth, but such a tradition is far less clear in Chimor. Sarmiento de Gamboa does refer to the sons of the King of Chimor being taken hostage by the Inka after a military defeat at Cajamarca: perhaps suggesting that these sons were present at the battle (Appendix B). The apparent pairing of the most successful Kings of Chimor with named and successful generals (e.g., Minchançaman and Querrutumi, Ñançen-pinco and Pacatnamu) does seem intriguing. One could

perhaps interpret this through the dual rulership proposed by Netherly for the North Coast (Netherly 1990), but with the lower paramount being a sort of "master of arms". Though intriguing, this seems unlikely given that discussions of these characters never coincide within the same stories or documents: we only assume that Querrutumi and Pacatnamu coincided with their respective Kings of Chimor through looking at different documents. Finally, Calancha has a fascinating, albeit likely hyperbolic, description of the military of Chimor being fierce and warlike (Appendix B; Calancha 1974-81 [1638]: 1062). At one point he even describes the armies of Chimor as bringing an idol devoted to a "god of battles" with them on campaign and feeding this idol with the blood of conquered foes. Though this passage is doubtlessly laden with Calancha's own bias and tendency toward hyperbole, it does at least seem to reinforce an argument that the military tradition of Chimor was a strong one.

It is important to conclude by again tempering the earlier discussion of relatively benign feasting-based Chimú authority and calling attention to some of the more profound effects that the expansion of Chimor could have on demographic and political landscapes in conquered areas. Further up-valley from the fortress palace at Pátapo and the former Cinto polity, the landscape of the Pampa de Chaparrí saw a burst of new settlements along the most productive upper canals while some previous population centers were abandoned (Hayashida 2006). Chimú nobility appear to have actively manipulated the political landscape as well: building a Chimú hilltop palace fortress and corralling a previous Sicán (Lambayeque) mound within the walls of a new compound (Hayashida 2006). It is worth taking a step back to simply appreciate the diverse, but simultaneous, styles of provincial Chimú authority that existed within the broader Lambayeque landscape: a relatively benign royal co-rule at Túcume, an aggressively domineering co-rule at Pátapo, and a highly involved demographic manipulation and domination at the Pampa de Chaparrí. Such a diverse array of strategies reflects the diverse landscapes of the Lambayeque but also, I would argue, an equally diverse array of interests associated with the Chimú nobility and royalty likely operating within this single provincial area. To the south, the Casma Valley also showed a somewhat intense Chimú manipulation of the political and demographic landscape. The previous Casma polity capital, and demographic center, at El Purgatorio was abandoned and settlement was dispersed into the surrounding landscape with the new political center located at Manchan (Vogel 2012; Moore and Mackey 2008). Thus, the example at the Pampa de Chaparrí was no isolated

occurrence: Chimú nobility and royalty clearly wielded enough authority to have a relatively heavy hand in shaping some provinces in the vast kingdom.

Provinces aside, the Moche Valley itself was surely the first landscape to witness the full weight of Chimú authority. The political landscape of the Moche Phase was completely upended and concentrated upon Chan Chan over the course of the Early Chimú Phase: producing a melting pot of palaces and *huacas* as the varied political traditions of Galindo and Huacas del Moche were negotiated and incorporated into the unique, but poorly understood, traditions of early Chimor. Many of the greatest, and longest lasting, demographic centers of the Moche Valley (e.g., Cerro Oreja, Pampa la Cruz, Galindo, Huacas del Moche) collapsed altogether, were subtly relocated, or became mere shadows of their former glory. Meanwhile, Chan Chan ballooned into an urban center that housed the vast majority of valley inhabitants. Though the details of when and how these changes occurred remain obscure, it does appear that the landscape of the Moche Valley was more intensely altered by the rise of Chimor than any of these provincial examples. My further research on the Early Chimú Phase of the Moche Valley, and Chan Chan, could help clarify the specifics of how the earliest Kings of Chimor consolidated their power at home and altered this heartland in such profound ways.

4.2.8.8 The Chimú Political Tradition: Casting Nets of Authority and Obligation

Emerging from this discussion of provincial palaces, rural palaces, local-level leaders and nobles, and conquest, we can better tease out the broader networks of authority built, and obligations owed, within the political landscape of Chimor. The starting point for any expansion of Chimú authority was likely some of variation or combination of (1) alliance, (2) inter-marriage of nobility, and/or (3) military conquest. Though not much is known about the first two, the latter appears to have been the context in which much of the authority of Chimor was expanded: Kings of Chimor were conquerors. For the most part, it seems that many local-level leaders, nobles, and communities were left to their own traditions of political authority after they submitted to Chimú authority. However, it is also clear that nobility and royalty from Chimor were frequently inserting themselves into local political landscapes: whether through building arrangements of co-rule, installing grand provincial palaces, or constructing smaller rural palaces. The common thread that connected the various manifestations of Chimú authority within the broader political landscape of

Chimor was an adherence to the palace politics so explicitly built into the imperial capital at Chan Chan.

The palace was used as a venue through which Chimú nobility and royalty could host feasts and gatherings in which participation by subject *huacas*, leaders, nobles, and communities would likely have been obligated. Such an obligation may well have been coerced if local *huacas* or ancestors were being held hostage within the *audiencias* of the royal palaces in Chan Chan. This arrangement would have potentially lent great weight to the periodic feasts occurring at provincial and rural palaces abroad. In such a scenario, palace feasts would have been vital, but brief, times during which local *huacas* and ancestors could return to their homelands to be consulted and worshiped by their respective communities and leaders in the *audiencias* of the palaces of their Chimú superiors. Though this possibility of coercion is intriguing, it seems far more likely that most obligations would be accepted more willingly. Witnessing the waning power of their previous non-Chimú paramount rulers, the local-level leaders, nobles, and broader communities in newly conquered areas may have been happy to participate in such feasts. To better position themselves in the new order of things, these local-level actors and communities could bring their *huacas* and ancestors to consult with powerful foreign dignitaries from Chimor while being showered with good food, ample drink, and elaborate gifts.

Whatever the case, in return for the hospitality provided by the presiding Chimú nobility or royalty, these local actors would have been indebted: a debt likely paid through the labor that was channeled into the maintenance of provincial centers, rural palaces, and adjacent agricultural lands. At some rural palaces these were the elements necessary to then replicate the process the following year: planting and nurturing the crops for the next feast and maintaining the "house" of the Chimú nobles for the next gathering. Interestingly, the lack of substantial on-site storage in most rural palaces would imply that any excess goods produced or extracted from this process were either kept by the participating local-level leaders and communities or, very likely, were carried back to Chan Chan or larger provincial centers. Both the nobility and the royalty of Chimor surely had the coffers in Chan Chan that were necessary to store any goods brought back from these rural palaces. Though nobles probably could have gained some wealth, the vast storage depots found in *ciudadelas* show that royalty would have ultimately been afforded the lion's share. This share would likely have been reaped when royalty hosted even greater feasts in the *ciudadelas*

of Chan Chan to collect the obligations, and goods, of the cadres of lesser and greater noble families within the imperial capital: all of whom eventually owed fealty to the Kings of Chimor.

Though it is easy to be enthralled by the possible machinations of this political economy, it is important not to lose sight of the greater political landscape these machinations reveal. Behind any movement of goods was a vast network of obligations and authority that bound the Kings of Chan Chan and cadres of lesser Chimú nobles with the distant lands, *huacas*, nobles, and communities that were conquered outside of the Moche Valley. These relationships were the cords that tied the Kingdom of Chimor together: a vast and complex net of authority and obligation upon which the Kings of Chimor were uniquely positioned to pull in its entirety. The regular, likely seasonal, bounty of pulling upon this net may have been the goods and services that fueled the political economy of Chimor and subsidized the thriving crafting communities at Chan Chan. However, this same net was sturdy and wide enough to grant the Kings of Chimor with the ability to pull upon the greatest labor force, and army, that the North Coast of Peru had ever seen. Access to these legions of subjects was then a mechanism through which the Kings of Chimor could further expand their nets: mobilizing great armies to conquer or intimidate neighbors or rivals in order to ultimately transform them into subjects. Adorning the tortuous corridors of their royal palaces with elaborate plaster friezes of fishing nets and schools of stylized fish, the Kings of Chimor were doubtlessly cognizant of this maritime metaphor for the vast network of authority and obligation they commanded. The subjected nobles and *huacas* who walked through the royal palace halls of Chan Chan perhaps needed a reminder of who ultimately pulled upon the nets in which they found themselves tangled. Abroad, these nobles could have amassed ample wealth and built estates: casting and pulling their own smaller nets of authority in the distant provinces of the great kingdom. In Chan Chan, however, it was the Kings of Chimor who were the greatest fisherman, and it was the numerous nobles and *huacas* who walked the *cuidadela* halls that were the royalty's most bountiful catch.

4.2.8.9 Fortified Highland Communities of The Carabamba and Otuzco Highlands

Contrasting with the exceptional detail with which we can describe many elements of the Kingdom of Chimor, the limited data on the political traditions and demographic patterns of the adjacent Carabamba and Otuzco Highlands limit what can be said about the Chimú Phase in these

regions. Several non-systematic surveys have revealed that most of the demography in both regions is focused within fortified hilltop communities of varying sizes (Haley 1979; Coupland 1980; DeHetre 1979; Carmichael 1980; Mackenzie 1980). Settlement seems to have increased dramatically in both regions throughout the Late Intermediate Period (Haley 1979; Carmichael 1980) and most communities exhibit material culture aligning them with the Tuscan Phase (1000 – 1470 CE) of the broader Huamachuco region to the east (Topic, J. 2009). Far from being one unified kingdom like Chimor, the Huamachucos were likely fractured into a myriad of smaller fiefdoms that were possibly bound together within a loose confederacy based somewhat on a host of shared elements: ethnicity, language (called Culle), origin histories, and previous political associations (Topic, J. 1998). The oracle shrine of Catequil was likely the most important locus of inter-community cohesion and cooperation during this time, somewhat replacing Marcahuamachuco (Topic, J. 1998, 2009). Two particular sub-groups of the Huamachucos, the Llampa to the north and Guacapongo to the south, would have more-or-less corresponded with the general area of the highlands above the Chicama, Moche, and Virú Valleys (Topic, J. 1992, 1998). This being said, most of what is known about the political organization of the Huamachucos of this time period, locally called the Tuscan Phase, is derived from historic documentation recorded well after an intense re-structuring during the Inka regime (Topic, J. 1998), and not the archaeological record. Thus, the historical specifics of Huamachuco socio-political organization will be addressed in more detail later. Most archaeologically recognized settlements in this region were heavily fortified and defensively located (Haley 1979; Coupland 1980; Carmichael 1980), fitting the Carabamba and Otuzco Highlands firmly within the extraordinarily broader pattern of endemic warfare that plagued the sierra landscapes of the Late Intermediate Period Andes (Arkush and Tung 2013).

The admittedly incomplete settlement pattern data (Figure 4.14) from the Otuzco and Carabamba Highlands does reveal a few more specific patterns. First, both regions show settlement clustering around a handful of large communities that themselves are separated by large buffer zones. In the Carabamba Highlands there appear to be three, perhaps four, clusters of settlement around the larger communities (20 hectares and larger) of Cerro Chamana, Cuidista, Cerro Sulcha, and perhaps Los Paredones – Cerro Amarro. In the Otuzco Highlands there is only one cluster located around Carpaico and Huacaday. Previous researchers in both regions have convincingly argued that these clusters correlate with discrete, but competing, political units (Haley 1979;

Coupland 1980). Not enough data is available to understand the political networks that bound together these clusters themselves, but several of the central communities, specifically those on the Carabamba Plateau, feature relatively complex and multi-storied agglutinated compounds that could have housed local elites (Haley 1979:377). Whatever their internal organization, the buffer zones between the clusters and the ubiquity of fortifications in the region both suggest a politically fractured landscape: at the very most these were collections of small competing kingdoms, at the very least these were collections of feuding towns.

The second notable trend found in most of these clusters was their consistent positioning upon the interface between the *chaupiyunga* and *quechua*. In the Cerro Sulcha, Los Paredones – Cerro Amarro, and Carpaico – Huacaday clusters, the straggle of settlements within each cluster trails down ridges that lead to the Moche and Virú Valley *chaupiyungas*. The Cerro Sulcha cluster even leads eventually into the Alto las Guitarras corridor. On the northern side of the Carabamba Highlands, the Cuidista and Cerro Chamana clusters do not exhibit such straggle in their associated settlements but the clusters themselves are positioned to overlook likely access routes to the Upper Moche *chaupiyunga*. In fact, the clusters upon the Carabamba Highlands would have visually dominated the entirety of the plateau: prohibiting any large group from crossing through the landmass undetected (Mullins 2014). Most researchers who have published on this area have argued that the inhabitants of these settlement clusters were targeting such ridges explicitly to benefit from controlling the hypothetical exchange routes that would have connected Chan Chan to the adjacent highlands and the resources within them (Topic, J. and Topic, T. 1983; Topic, J. 2013; Coupland 1980; Mackenzie 1980). Though obviously vital for exchange, these ridges could have also been targeted by community clusters to more generally control movement between the *chala* and *quechua* zones. In fact, it seems equally likely that the communities of the Carabamba and Otuzco Highlands could have been targeting ridges to better defend themselves during any conflicts with communities in the *chaupiyunga*, or even Chimor itself, in the valley below. As has been clear in the discussions of conflict and exchange in this zone during the Salinar and Gallinazo Phases: conflict and exchange were clearly not mutually exclusive interactions that would have occurred between the groups in and around the *chaupiyunga* landscape.

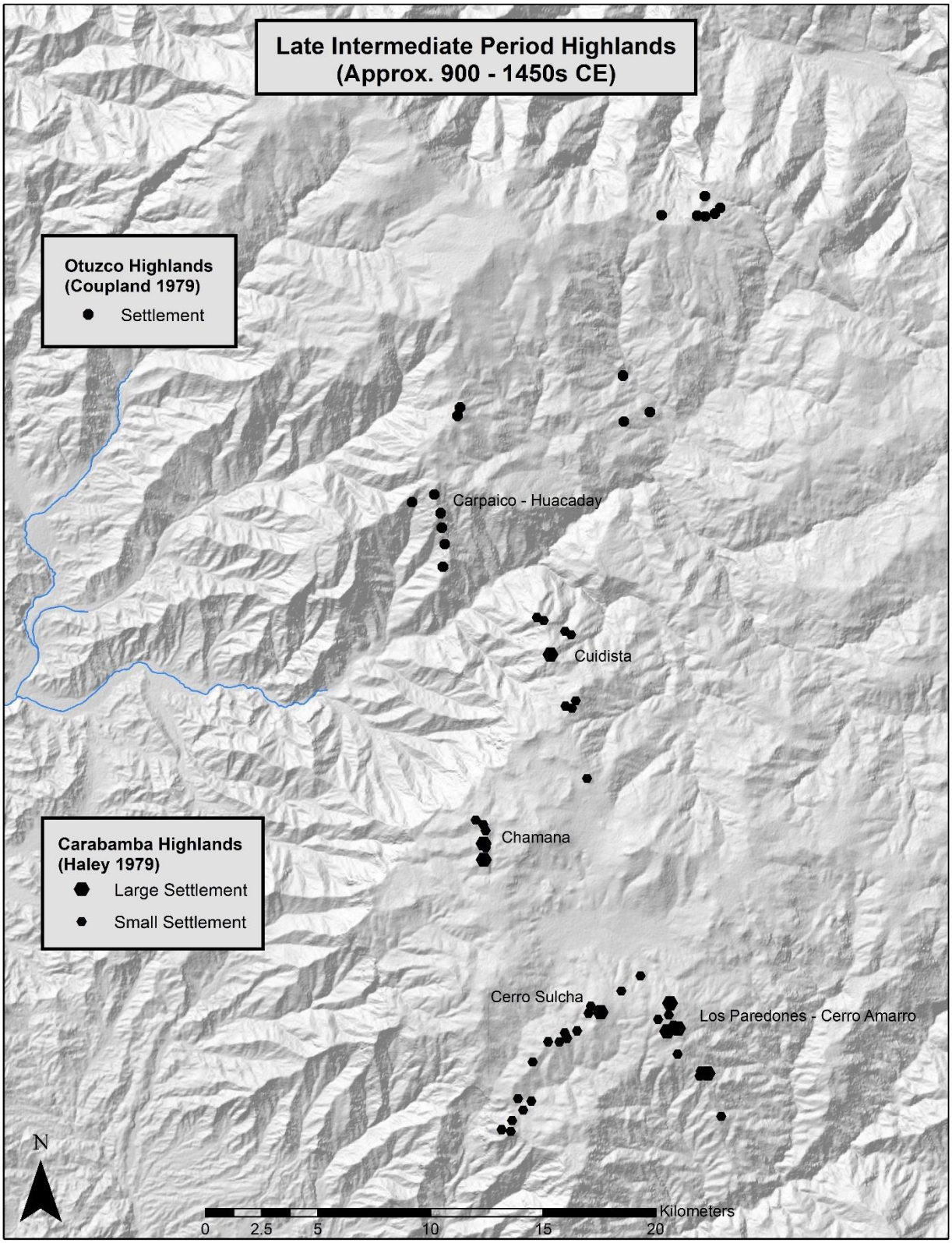


Figure 4.14 The Late Intermediate Period (~900 – 1450s CE) of the Otuzco and Carabamba Highlands

4.2.8.10 Canal Expansions, The La Cumbre Canal, and Sunken Fields

Correlating with the rise of the Kingdom of Chimor, the economic landscape of the Moche Valley *chala* truly reached its zenith in the Chimú Phase: previous Moche Phase canals were re-dug or expanded, sunken fields were more clearly in use, and the titanic La Cumbre canal stood as a testament to the power of Chimor (Table C.1). First, several of the older Moche canals, namely the Moro and Vinchansao, were re-dug or expanded to carry more water further into the northern pampas (Moseley and Deeds 1982; Pozorski 1987; Billman 2002). These pampas, the Pampa Río Seco and Pampa Huanchaco, were mainly associated with the northeastern edge of Chan Chan and the outlying rural town at Cerro la Virgen. Recent excavations at Cerro la Virgen indicate a wide array of cultigens were likely being grown on these fields: ranging from annual crops like maize to more long-term investments of arboriculture (Billman et al. 2020). Counteracting these expansions, the continued sand dune encroachment upon the southern pampas meant that many of the Moche Phase canals to the south were likely out of use (Moseley and Deeds 1982). Many of the earliest Salinar Phase canals, and their later expansions, that surrounded Cerro Arena appear to have been out of use sometime by the Early Chimú sub-phase or within a century or so afterwards (Brennan 1978:324-338). In total, the expansions and contractions of cultivation over the course of the Chimú Phase brought irrigable land in the Moche Valley to just under its maximum extents at just under 20,000 hectares (Billman 2002:384; Table C.1).

The greatest of the canal expansion endeavors undertaken during the Chimú Phase in the Moche Valley was the La Cumbre inter-valley canal. This enormous canal was constructed to carry water some 70 kilometers from the neighboring Chicama River to help water the northern pampas associated with the Vinchansao canal (Moseley and Deeds 1982). Beginning likely sometime during the Early Chimú sub-phase (Table 4.2; Pozorski, T. 1987), construction of this canal would have required an enormous labor pool. Though estimates range widely at between 560,900 to 26,561 person-seasons of labor, either estimate still represents a massive departure from the size of previous canal projects in the valley (Billman 2002:384; Ortloff et al. 1985; Pozorski and Pozorski 1982:866). The rural palace of Quebrada del Oso located along the La Cumbre provides good evidence that nobility or royalty hailing from Chan Chan had a hand in mobilizing the workforce necessary to build and maintain this canal (Keatinge 1974; Keatinge and Day 1973). This being said, the canal was likely added to and built piece-meal over time: evidenced by the

wide spread of absolute dates and variable levels of completion along the canal (Ortloff et al. 1983; Kus 1984).

In the early 1980s this canal system saw a burst of academic attention and debate. Initial scholarship argued that the canal may have functioned but was eventually rendered useless by tectonic uplift that made certain sections go uphill (Ortloff et al. 1982). Later responses contended that the canal had never functioned and that it was instead an engineering failure by the nascent Chimú Empire (Pozorski, T. and Pozorski, S. 1982; Farrington 1983). After a response from the initial authors (Ortloff et al. 1984), a researcher who had devoted his dissertation on a large portion of the canal finally weighed in with his data and interpretations (Kus 1984). I generally find the assessment by Kus to be the most compelling of these. His excavations illustrated well that the canal functioned at least up to the Quebrada del Oso and he is quite clear about the difficulties of dating any influences from tectonic uplift (Kus 1984). He also models water loss and seepage to show that only a quarter of the water entering the canal would have made it to the Moche Valley and less than a tenth could have reached fields near Chan Chan (Kus 1984:414). More intriguing, he cites droughts as being the main motivator behind the canal itself: calling attention to many of the same water issues discussed earlier in this dissertation (see Chapter 3.8.3). Even more, he identifies the construction of the canal not necessarily as a practical measure to bring water to Chan Chan but as a symbolic gesture of the nobility of Chimor: an explicit attempt to showcase their noble and royal obligations to delivering the water their subjects needed to thrive.

Though the debate surrounding the La Cumbre canal will likely remain unresolved without further work, recent fascinating research by Carimanica in the Chicama Valley provides some additional clues for the variety of ways in which the inter-valley canal may have been used. Conducting survey and excavation in the Pampa de Mocan of the northern Chicama Valley inter-valley desert, this work focused on the deep past of canal projects targeting these inter-valley desert: revealing the use of long canals from local phases contemporary with the Guañape Phase well into those contemporary with the Chimú Phase (Carimanica and Koons 2016). More relevant to my discussion here, the more-or-less contemporary Ascope canal system shows a similar history to that described for the La Cumbre: consistent remodeling and maintenance over several centuries starting by at least 1000 CE (Huckleberry et al. 2008). However, the Chicama River would have likely had insufficient water to be able to operate both the Ascope and La Cumbre simultaneously

for most of the year (Huckleberry et al. 2008). Probably the most wide-reaching finding gleaned from this recent work in the Pampa de Mocan was that many parts of this landscape, including canals like the Ascope, were manipulated in part with the objective of taking advantage of the excess water following ENSO flooding events (Caramanica et al. 2020). These insights from the Pampa de Mocan show that (1) inter-valley area canal projects need not be overseen by large kingdoms or noble families and (2) inter-valley canals and fields could have been built for a diverse array of purposes, including floodwater farming during ENSO events. Though the later expansions of the La Cumbre were almost definitely constructed in association with nobility or royalty from Chimor, the uses of this canal system were surely more diverse than we can currently appreciate.

A final important, but woefully understudied, element of the Chimú Phase agricultural landscape in the Moche Valley was the extensive use of sunken fields or *wachaques*. Though sunken fields were surely used in earlier phases (Billman 1996, 2002), they can be more clearly seen in use during the Chimú Phase. One example is provided by the small set of rural settlements around Choroval that popped up or were built in association with newly dug sunken fields on the southern side of the Moche Valley. Excavations at these small hamlets revealed a mosaic of cultigens ranging from peppers to cotton (Pozorski, S. 1982). The extent and nature of these fields are understudied but they do appear to have been vast in their use: stretching from coastal fringes of the Moche River delta to well inland near the center of modern Trujillo (Farrington 1974:88-89; Netherly 1977:65). The importance of *wachaques* in the landscape of Chimor was also immortalized in Chan Chan: sunken gardens were incorporated as both water sources and sacred spaces within several of the *ciudadela* palaces of Chimú royalty. In general, *wachaques* would have been incredibly useful in prehistory in that they operated more-or-less independently from canals and were less susceptible to periods of low water in the river. These advantages likely would have lent great utility to the *wachaques* in Chimor, especially if we recall the massive amount of land under cultivation, and thus water used, during the Chimú Phase. Further research is sorely needed to focus on the history of *wachaque* use and productivity in the Moche Valley to better understand the role these fields may have had in feeding a landscape in which water was increasingly precious and scarce.

4.2.8.11 Coastal-Highland Exchange, Caravansaries, and *Coca*

In addition to these canal expansions, the economic landscape of the Moche Valley during the Chimú Phase saw an increase in evidence for coastal-highland exchange, possible evidence for trade caravans connecting Chimor with distant lands, and some limited indirect evidence for *coca* cultivation in the *chaupiyunga*. As was previously discussed, several clusters of communities in the local highlands were clearly targeting the upper edges of *chaupiyunga* ridge routes for settlement (Coupland 1979; Mackenzie 1980; Topic, J. 2013). Though infrequent, the occasional *chala* black or gray-ware ceramics found at such *quechua* communities implies at least some manner of exchange or interaction with *chala* groups (Coupland 1979; Mackenzie 1980). On the *chaupiyunga* side of these ridges, similar such communities, possibly outposts, were also recorded at Cerro Ramon in the Sinsicap and along the Cerro Poroto ridge of the Upper Moche (Boswell 2016; Topic, T. 1990). Cerro Huancha itself has been suggested to be a community where more local-level modes of exchange were occurring in season fairs, or something akin to them (Boswell 2016; Boswell 2019). Thus, coastal-highland movement across the *chaupiyunga* was clearly common enough to warrant demographic clustering upon otherwise unoccupied ridges and was often locally managed rather than a top-down endeavor. At Chan Chan, the booming crafting economy of Chimor seems a likely driver for such movement and increased coastal-highland exchange in the region (Topic, J. 2013, 1990). Many of the sumptuous goods being produced for Chimú royalty and nobility required materials from the highlands and eastern slopes of the Andes: exotic feathers, precious metals, and processed wool yarn among them. These goods surely could have been acquired by Chimor from highland and jungle regions further afield, specifically after the northern conquests of the 1300s. However, the burst of demography upon local *chaupiyunga* ridges during the general time when such commodities saw an increase of use at Chan Chan hardly seems coincidental: perhaps these same routes, and mechanisms, for exchange were being used by actors both local and from Chimor.

Further insights into the possible mechanisms for exchange within and beyond Chimor lie in the proposed "caravansary" areas excavated at Chan Chan. Topic cites several centrally-located, but *ciudadela*-abutted, compound clusters that featured "a communal kitchen, large corral-like rooms, a platform filled with llama burials, and rooms with multiple sleeping benches." (Topic, J. 1990:161) The recovery of several exotic products, namely a macaw skeleton, *mishpingo* seeds,

and a wool textile, is used to further suggest that this area was a nexus for llama caravans bringing goods from afar (Topic, J. 2013:340). The excavations themselves also revealed a ubiquity of llama dung throughout the compounds with specific concentrations in several of the larger open spaces (Topic, J. 1977:219-281). Put together, these lines of evidence at the very least indicate that such compounds were associated with activities focused on llamas. Given that camelids were often used as pack animals in the Andes and that some exotic goods were found, it also seems plausible that these spaces could have housed small herds used for transshipment within, and outside of, Chimor. Exchange specialists, even low-level nobility temporarily taking on such roles, have been historically recorded among indigenous coastal communities in the Andes during the early centuries of the Spanish Viceroyalty of Peru (Netherly 1977: 254-259; Rostworowski 1970). These individuals often served as middle-men in carrying goods between groups and dealt in a variety of commodities: ranging from fish to clothing to precious beads (Netherly 1977: 255-256). Interpreting the "caravansaries" of Chan Chan as belonging to a similarly structured sub-group of part-time middle-men or dedicated exchange specialists seems like a somewhat appropriate analogy.

Finally, evidence for *coca* cultivation and exchange in the Moche Valley is remarkably limited and only can be gleaned from settlement locations and historic analogy. Unlike earlier phases, more direct forms of evidence of *coca* use (e.g., iconography or human remains) are lacking during the Chimú Phase. This being said, the *chaupiyunga* was surely occupied and likely under some degree of cultivation. Since the *chaupiyunga* is the only part of the Moche Valley in which *coca* can be grown, it would seem very likely that *coca* was being grown in whatever fields existed there. Some hints in the historical record point to the existence of such fields in the area around Collambay in the Sinsicap Valley. This area had fields that were likely devoted to the mother of an Inka royal: an Inka presence in the Moche Valley *chaupiyunga* that has recently been supported archaeologically by Boswell (Netherly 1977:316-319; Boswell 2019). Citing the abandonment of these fields after Spanish conquest, Netherly suggests that they were possibly appropriated by the Inka from Chimú nobility (Netherly 1977: 318). If they were not owned by coastal noble families, she contends, otherwise nearby highland groups would have laid claim to them: the new Spanish administration was relatively friendly about pre-Inka land claims (Netherly 1977: 318). Though intriguing, this argument rings somewhat hollow in the archaeological record given the distinct absence of any noble or royal Chimú palaces and the likelihood of local rule in

the Sinsicap Valley (Boswell 2016). Even so, it does seem likely that *coca* was being cultivated in the *chaupiyunga* during the Chimú Phase. Given the abundant evidence for *coca* in the previous Moche Phase and the subsequent Chimú-Inka Phase, it would be highly unusual if no *coca* was grown in the six or so centuries between.

4.2.8.12 Discussion

In sum, the Chimú Phase was defined by the rise of the Kingdom of Chimor and the resulting transformations its agents wrought upon the demographic and political landscapes of the Moche Valley. Though a memory of their former power was immortalized in the great *huacas* they left behind, the *huaca*-polities of the Moche political tradition were melded into and eclipsed by the Chimú capital at Chan Chan early on in the Chimú Phase. This urban center rapidly came to dominate the demographic and political landscape of the Moche Valley: housing the vast majority of valley inhabitants as well as the palaces, great and small, of the kings and nobility who ruled the valley. Wielding their authority over land, water, and labor through the dialect of palace politics, these rulers built upon many of the canals and fields pioneered by their Moche predecessors: the Kings of Chimor and their subjects expanded the economic potential of the Moche Valley *chala* to new heights that would not be surpassed until the 21st century. Abroad, the nobility and royalty of Chimor expanded their authority through military campaigns aimed at defeating and subjecting neighboring communities and kingdoms. Though the palace politics of Chan Chan were replicated in some parts of the provinces to better sustain the growing cadres of nobility and royalty in Chimor, the vast majority of provincial subjects would have seldom felt the presence of their new paramount rulers hailing from the Moche Valley. Despite successful and lucrative campaigns in the north and south, the eastern *chaupiyunga* and *quechua* frontier of the Kingdom of Chimor appears to have remained under indirect rule through alliance or clientship. This frontier landscape was one plagued by endemic conflict but also probably supported a coastal-highland exchange corridor that supplied the booming craft economy of Chan Chan with precious metals and exotic goods. After centuries of expansion and rule, the breadth of the networks of authority cast by the royalty at Chan Chan were unmatched on the Andean coastline in the earlier half of the 1400s. However, it was during this century that a rivaling highland kingdom to the

south would challenge, conquer, and subjugate Chimor: eventually felling the final sovereign pre-Columbian political tradition of the Moche Valley.

The *chaupiyunga* was undeniably a borderland during the Chimú Phase. Continuing the increased *chala* entanglements observed during the Moche Phase, the Kingdom of Chimor tightened the *chala* grip upon the Middle Valley *chaupiyunga* through a network of fortified strongholds, rural palaces, and a large wall built to span the valley floor. The upper *chaupiyungas* of the Sinsicap and Upper Moche Valleys, however, followed paths that appear far more intertwined with the adjacent *quechua* and have limited direct evidence for Chimú rule. The blend of *quechua* and *chala* domestic wares at communities like Cerro Huancha and Loma del Shingo also suggest the more diverse histories of colonization and affiliation characteristic of a diffuse cultural boundary. Conflict appears endemic throughout the *chaupiyungas* and *quechuas*, with many communities occupying defensible hilltops and building fortifications to better secure their place in the landscape. Notably, these defensive settlement patterns even extended into the Middle Valley *chaupiyunga*: illustrating that violence frequently overflowed into an area that was presumably controlled by Chimor. Such widespread evidence for endemic conflict would suggest that the political boundary of the *chaupiyunga* was far more tenuous and chaotic than the clean-cut border that the imposing Chimú palaces and cross-valley wall were built to project upon the landscape. Many upper *chaupiyunga* and *quechua* communities were also positioned upon key corridors of movement between the *chala* and *quechua*, suggesting they were attempting to profit from, control, or at least monitor the movement of goods and people between these regions. Thus, the upper *chaupiyunga* borderlands of the Chimú Phase can be securely defined as being composed of political, economic, demographic, and cultural boundaries between the *chala* and the adjacent *quechuas*. Though somewhat similar to the arrangement during the Moche Phase, this later borderland differed in how profoundly it was shaped by conflict. However, as was seen during the Salinar and Gallinazo Phases: conflict did not preclude economic and cultural porosity in the *chaupiyunga* landscape.

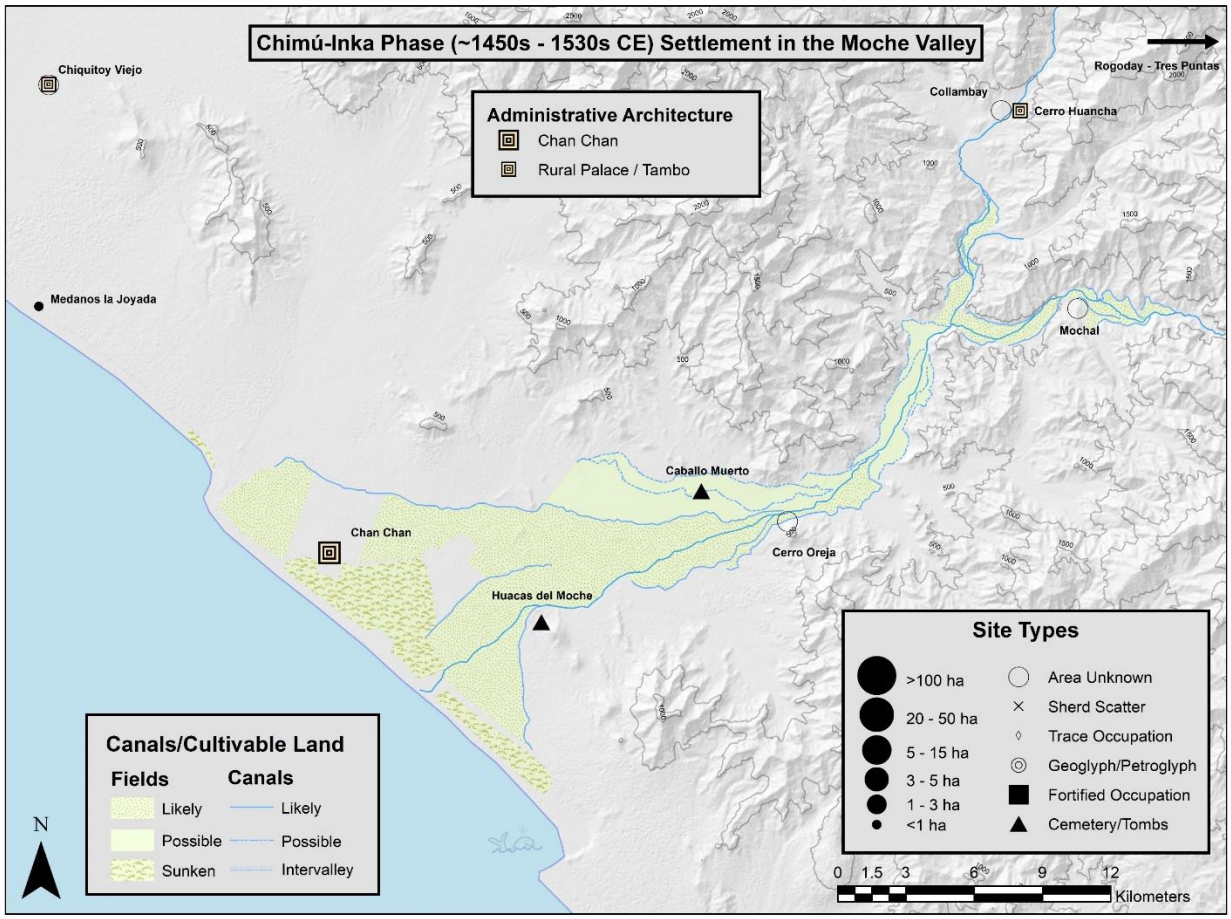


Figure 4.15 The Chimú-Inka Phase (1450s – 1530s CE) of the Moche Valley

4.2.9 The Chimú-Inka Phase (~1450s – 1531 CE): Inka Conquest and Rulership

The final century of prehistory in the Moche Valley, the Chimú-Inka Phase, is defined by the conquest and rulership of Chimor by the Inka Empire. Domestic ceramics show continuity from the Chimú Phase and make differentiating between Chimú and Chimú-Inka assemblages difficult, but there are a handful of diagnostic features related to Inka ceramic traditions that can be informative. The historical accounts pertaining to the conquest of the Moche Valley tell varied tales that suggest the clashes between the Inka and Chimor were likely more protracted and complex than we can currently appreciate. The archaeological record of the Chimú-Inka Phase in the Moche Valley is sparse but what is known points to a demographic collapse in the *chala*, surprising continuity in the *chaupiyunga*, and some settlement reorganization in the local highlands (Figure 4.14; Figure 4.15). Though the Inka administration of the Moche Valley was likely left to

puppet rulers selected from the royal houses of Chan Chan, nobles or communities based in the Huamachuco highlands were reportedly given dominion over most of the *chaupiyunga*.

4.2.9.1 Ceramics and Chronology

Outside of the introduction of a few Cuzco-derived forms and decorative elements, there are very few changes in local ceramic assemblages during the relatively short Chimú-Inka Phase. It is clear that Inka conquest did not fundamentally alter the aforementioned *chala* and *quechua* domestic traditions of the Chimú Phase: Tomaval-Estero, Rubia, and Late Highland forms and decorations generally stay the same between these phases. This being said, there are some subtle differences, like handle sizes, *adornos*, and a grayish-black slip, all of which are described in more detail in Appendix A (Donnan and Mackey 1978:356-357; Keatinge 1973: 120, 153-155; Boswell 2016:361; Appendix A).

Far more diagnostic of the Chimú-Inka Phase are forms and decorations derived from Cuzco Inka ceramics that can be found on some domestic wares but mostly on fine-wares. Of these, the aryballos form is probably the most diagnostic. This form is directly associated with the presentation and serving of *chicha* beer in rituals conducted by agents of the Inka Empire as they built relationships of authority and reciprocity with their subjects (Bray 2003). The characteristic Inka polychrome painting traditions of geometric and naturalistic designs using black, red, dark red, white, and cream paints or slips are also diagnostic and are radically different than any other fine-wares found in the Moche Valley prior to the arrival of the Inka (Collier 1955:156-157; Boswell 2016:239; Mackey 2003:336-337; Conrad 1977:15). The chronological placement of Inka-derived ceramics in the Moche Valley is generally assumed to have started sometime around 1470 CE but, as I go into detail later, this dating itself is suspect. Provincial Inka or Cuzco Inka ceramics could very well have been circulating in the local highlands in previous decades and even before any of the conquests or military defeats of Chimor even occurred.

4.2.9.2 Conquest Histories: Chronological Considerations

Before exploring the histories that recount the Inka conquests of Chimor, it is important to assess the accepted chronology for what likely amounted to be a tumultuous century for the Moche

Valley. Most Chimú scholars cite a 1462 to 1470 date range for the Inka campaigns of conquest in Chimor (Moore and Mackey 2008: 801). This date range itself was approximated by Rowe, who in turn based his dates mainly upon those presented by Cabello Balboa (Rowe 1948: 40). However, the intervening decades have brought archaeologists absolute dating methods, along with a robust sample of dates, to assess the chronological efficacy of these centuries-old, textually-based, models for Inka expansion. Unfortunately, most of the absolute dates from Chimú contexts in the Moche Valley either have error ranges too wide to be useful for such ends or are from contexts that are not unambiguously from the Chimú-Inka Phase (Table F.1; Figure F.1). This being said, the host of absolute dates from Chimú Phase child sacrifices at Huanchaquito – Las Llamas do present some examples of dates that fall within the mid-1400s (Prieto et al. 2019; Table F.1). The ceramic assemblages from some of these sacrifices also appear to be from late in the Chimú Phase or even at the cusp of the Chimú-Inka Phase (Prieto et al. 2019).

Strangely enough, the best data we currently have for dating the conquest of Chimor actually come from the Ecuadorian highlands. The Inka-led military campaigns, again mainly according to Cabello Balboa, were traditionally thought to have begun at around 1463 CE (Marsh et al. 2017: 5). In order to get to Ecuador, it is reasonable to assume that the Inka army would have had to pass through the lands of Huamachuco and Cajamarca: both of these being the largest neighboring highland regions of Chimor. Thus, if the Inka were campaigning in Ecuador, then they either were sharing a border with, or had already conquered, the lands of Chimor. Recently, a host of absolute dates from several securely Inka contexts at Chamical, Ecuador, were modeled using Bayesian statistics and yielded surprisingly early starting occupations that ranged between 1410 and 1480 CE (Marsh et al. 2017:5). For our purposes, the most notable finding from these analyses was that there was an 89% probability that the occupation at Chamical began before 1463 (Marsh et al. 2017:5). If the beginning of the Ecuadorian campaigns pre-dated 1463 CE, and even the 1462 to 1470 CE range given for the conquest of Chimor, then some revision is likely required for such narratives.

These data suggest that either (1) the first conquest of Chimor occurred a few decades earlier than traditionally thought and/or (2) the Inka Empire and Chimor shared a political border or were at war for a few decades longer than traditionally thought. I suspect the latter is the case, solely given the more chaotic reality behind the traditional conquest narratives that I attempt to

unravel later. Either way, these new insights should prompt more Chimú and Inka scholars to, at the very least, modify their chronologies of the clashes between the kingdoms to a wider range spanning the mid-1400s. If parts of Ecuador had fallen to Inka forces before 1463, it is highly likely that the Inka and Chimor were already locked in conflicts by then and had been for several years, possibly even decades, prior.

4.2.9.3 Conquest Histories: A Dance of Rivaling Kingdoms and Narratives

A handful of documents recorded in the centuries after the Spanish arrived recount histories of the Inka conflicts with Chimor: histories that speak of a dance between rivaling kingdoms, of foreign subjugation, and of defiant rebellion. The histories of these conflicts are far more varied and chaotic than is often acknowledged by scholars of the region. Other than a brief, but informative, overview provided by Netherly, the most often cited narrative is that described in an overview provided by Rowe (Rowe 1948: 40-45; Netherly 1998:87-89). Rowe, in turn, derived most of his sequence of events mainly from the narratives provided by two chroniclers: Cabello Balboa and Sarmiento de Gamboa (Rowe 1948:45). Both authors, Rowe and Netherly that is, clearly had to simplify some of the considerable chaos embedded in the written record for the purposes of their works. Rowe even laments the incompleteness of his own work and the contemporary state of scholarship on Chimor in the 1940s, proclaiming "We have only done enough to catch a glimpse of our own ignorance." (Rowe 1948:56) In this spirit of bringing more of our ignorance into view, I endeavored to re-assess his widely-cited work and the traditional narrative of the conquest of Chimor.

In order to better understand the historical accounts that describe this conquest, I identified and read through a sample of eleven chronicle-style documents written from 1553 to 1653 CE and looked for any mention of the conquest or sovereignty of Chimor in relationship with the expansion of the Inka Empire (Cieza de Leon 1967 [1553]; Zarate 1968 [1555]; Bandera 1968 [1557]; Santillan 1968 [1563]; Sarmiento de Gamboa 1965 [1572]; Cabello Balboa 1951 [1586]; Murua 1962-4 [1590]; Garcilaso de la Vega 1976 [1609]; Guaman Poma de Ayala 1980 [1615]; Calancha 1974-81 [1638]; Cobo 1964 [1653]). I also assessed the English translation of the 1604 Anonymous History of Trujillo that was provided by Rowe from the original publications of the partial document by Father Rubén Vargas Ugarte (Rowe 1948:28-30; Vargas Ugarte 1936: 231-

233, 1942: 55-57). It is important to very explicitly state that none of these documents are direct accounts and that the events they describe occurred several decades, even centuries, before being written down. This being said, they are some of the few historical documents at our disposal and many, like the Anonymous History of Trujillo, have been found to correspond remarkably well with the material record. Excerpts from the relevant passages in each of these twelve documents, as well as my own more in-depth discussions of each relevant passage, are provided in Appendix B. Of the twelve sources assessed, ten specifically mentioned or outlined conflicts between the Inka and Chimor: a mixture of battles, conquests, and rebellions. Over half of these ten narratives recounted stories of at least two distinct conflicts. Two narratives even mentioned three or four distinct conflicts. Topa Yupanqui is the Inka ruler who is most frequently attributed to marching on Chimor. However, his son Huayna Capac, uncle Capac Yupanqui, and two brothers are often mentioned as well. To make better sense of some of the variety embedded in these narratives, I also tabulated them based on four dimensions that specifically had bearing on some of the relevant topics of this dissertation and the Moche Valley *chaupiyunga* (Table 4.14).

Table 4.15 An Overview of Sources on the Conquest of Chimor

Author/Source	Inka Ruler/General/Captain	Northern Highlands Conquered/Allied	Nature of Conflict with Chimor			Origins of Inka Campaigns against Chimor			Post-Conflict Narrative in Chimor		
			Battle	Conquest	Rebellion	From North	From South	From East	Hostage Taking	Looting and/or Tribute	Inka Infrastructure/Adminsitration
Cieza de Leon (1553)	Topa Yupanqui	X	X	X		X			?	X	X
	Huayna Capac	X			?	X					X
Zarate (1555)	Huayna Capac	X			X						
Sarmiento de Gamboa (1572)	Capac Yupanqui	X	X	?				X	X	X	
	Topa Yupanqui	X		?		X				X	
Cabello Balboa (1586)	Capac Yupanqui	X	X					X	X	X	
	Topa Yupanqui	X	X	?				X			
	Auqui and Tillca Yupanqui	X	X	X		X			X	X	
	Huayna Capac (?)	X			?						
Murua (1590)	Topa Yupanqui	X		X		X					
	Auqui and Tillca Yupanqui (?)	X		?		X				X	
Anonymous History of Trujillo (1604)	Topa Yupanqui		X	X			?	?	X	X	X
Garcilaso de la Vega (1609)	Topa Yupanqui	X	X	X			X		X	X	X
	Huayna Capac (?)	X			?	?		?			X
Guaman Poma de Ayala (1615)	Urcon, Apomaytac, and Billcac Inka	?		X							
Calancha (1638)	Topa Yupanqui (?)	?	X	X						X	
	Topa Yupanqui	X	X	X			X		X	X	X
	Huayna Capac (?)	X			?	?		?			X
Cobo (1653)	Pachacuti Yupanqui	X	X	X			X			?	X

Discerning if the Inka had conquered or won allies in parts of the northern highlands before any conflicts with Chimor seemed to be the easiest way to infer if these documents suggested that the *chaupiyunga* could have served as a political boundary between the Inka and Chimor. Remarkably, this was the only thing that these narratives agreed upon: all but one specifically described the Inka as either having (1) already conquered or (2) secured allies in the northern highlands before they made war with Chimor. The most frequent of the northern highland groups mentioned were those in Cajamarca, but long lists of other groups spanning from Conchucos to Quito are also referenced. Cabello Balboa specifically referenced the lands of the Huamachucos as being conquered and then used as a staging ground for the Inka invasion of Chimor (Cabello de Balboa 1951 [1586]: 312-320). Though such details are fascinating, it is the broader consistency

between these varied narratives on this subject that is more important for my purposes. After observing such consistency, it seems safe to infer, or at least put forth the hypothesis, that the Moche Valley *chaupiyunga* could have served as the political boundary between the dominions of the Inka and Chimor if even only briefly.

The nature of the conflicts between the Inka and Chimor appear to be anything but brief: battles, conquests, and the suppression of rebellions in Chimor were attributed to the reigns of at least three of the final rulers of the Inka Empire. Several narratives split the conquest of Chimor into two parts: (1) an initial defeat of Chimor and then (2) a subsequent looting of Chan Chan. These actions are often undertaken by different leaders at different stages in larger campaigns or royal tenures. For example, Sarmiento de Gamboa described the Captain Capac Yupanqui as defeating Chimor in battle but an actual conquest and sacking of Chimor is left to his nephew, prince Topa Yupanqui, and occurred many years later (Sarmiento de Gamboa 1965 [1572]: 242-256). In the oft-cited passages from Cabello Balboa, Topa Yupanqui seems to conquer or take battle to Chimor twice within the same campaign (Cabello Balboa 1951 [1586]: 312-320, 329-333). This is even after his uncle had defeated the King of Chimor in battle some years, maybe even over a decade, earlier. Most of the time these conflicts occur during the tail-end of the reign of Pachacuti Yupanqui, though some are attributed to Topa Yupanqui during his reign. Around half of all of the narratives refer to Huayna Capac, the son of Topa Yupanqui, as having returned yet again to Chimor either to suppress a rebellion or embark on infrastructure projects. The mentions of Huayna Capac as only undertaking infrastructure projects, and not quelling rebellions and subjecting lands, in the north should be met with caution. These stories are mainly detailed by Garcilaso de la Vega in his widely-cited, but Inka-biased, narrative of the history of the region. In his account of these campaigns, he claims that Huayna Capac marched with some 40,000 soldiers that spent the better part of two years building canals and fields instead of fighting. There are some possible traces of Inka infrastructure projects that appear in the material record (Hayashida 2006). However, the degree to which that same landscape was heavily fortified suggests that Huayna Capac would have likely needed to use the 40,000 soldiers under his command for more violent ends. In sum, conflicts with a sovereign or rebelling Chimor seem to have been a persisting feature of Inka history that spanned several generations of Inka royalty.

A look at some of the consequences for Chimor after these engagements with the Inka also provides some useful insights into the varied relationship between the kingdoms. Looting, tribute extraction, and hostage-taking are the most frequently cited actions undertaken by Inka rulers and captains after conquering Chimor or defeating its leaders in battle. A great wealth of gold, silver, textiles, and even metalworkers are referenced as tribute and/or plunder obtained by the Inka after such victories. These victorious Inka rulers and captains also often took Chimú royalty and noblewomen back to Cuzco as hostages. The mention of noblewomen is particularly telling to the intended use of such hostages: there was an Inka tradition of taking women from subjected groups and training them as *aqllakuna*, chosen women, to serve as wives for distinguished Inka-affiliated nobles or, more rarely, as *capacocha* sacrifices. Politically-motivated unions were not isolated to the noblewomen of Chimor: the Chimo Capac Minchançaman himself is recounted as being forced to marry a daughter of Topa Yupanqui (Rowe 1948: 28-30). Such practices were doubtlessly meant to further intertwine the women and men of the powerful families of Chimor within a wider array of Cuzco, and Inka-affiliated, nobles and royalty. This was probably done with the intention of strengthening the ties between the nobility of the two kingdoms. Several documents refer to Inka delegates or palaces being built in Chimor but many also allude to local Inka-friendly rulers being left in power. The Anonymous History of Trujillo recounts that Topa Yupanqui found a young and foreign-born son of the vanquished and captive Minchançaman to eventually replace his father on the throne of Chimor (Rowe 1948: 28-30). In this way, the historical record paints a picture of an Inka royalty working hard to tangle the royalty and nobility of Chimor within their larger, Cuzco-based, network of authority.

Though the bonds and loyalties between the nobility of Cuzco and Chimor would be expected to deepen over time, the consistent historical references to rebellion illustrates that such an indirect approach by the Inka in their ruling of Chimor likely backfired. The continued power of Chimor, even after initial defeats, is alluded to both in these discussions of rebellions but also in references to the role of Chimor as an Inka vassal. Sarmiento de Gamboa briefly mentions that, following the victory of Capac Yupanqui over Chimor, Pachacuti Yupanqui asked the King of Chimor to assist him with crushing a Colla rebellion in the south. Not only does this suggest that Chimor was left with a standing army after being defeated, it also indicates that the King of Chimor was a vassal that had to be asked, not ordered, to provide soldiers (Sarmiento de Gamboa 1965 [1572]: 245-246). Some years later in this same narrative, Topa Yupanqui marched through and

plundered Chimor on his way to inheriting the throne from his ailing father. Thus, it would seem that the cordial military alliance with Chimor had withered away with the Inka leader who had forged it. The frequent references in many of the historical sources to a Chimú rebellion under Huayna Capac suggest a repetition of this same pattern: young Inka royalty being responsible for re-establishing or re-forming older relationships of authority upon inheriting the throne. Though not included in the documents I analyzed in Appendix B, it does seem that the fate of Chimor continued to be bound to specific Inka royalty through the civil war between Huascar and Atahualpa. After Huascar was captured, a Huascar-aligned King (or perhaps just lord at that point) of Chimor named Cuyuchi was ambushed and killed on his way to pledge his fealty to an obviously unforgiving Atahualpa (Urban 2019:148; Zevallos Quinones 1994: 84). Thus, it is very clear that the described relationships between the royalty of Cuzco and Chimor were more complex than victorious rulers administering vanquished subjects. It seems far more likely that Chimor oscillated, at least once, between sovereignty and subservience in the decades after the Inka Empire had entered the political arena of the North Coast.

To conclude, a few insights emerge from this deeper reading and analysis of the written records of conflict between the Inka and Chimor. Most importantly for this dissertation: all of the historical documents describe narratives of conflict in which the Moche Valley *chaupiyunga*, or at least the adjacent Otuzco and Carabamba Highlands, would have been a political boundary between the Kingdom of Chimor and the Inka or their allies. Though reaching a specific understanding of the nature and history of this boundary is a task better suited for archaeology, the historical record certainly gives us a place to start. This historical record also leaves behind several hints about how we can better read the material record of the *chaupiyunga* boundary, the Chimú-Inka Phase, and even Chimor more generally. The varied stories of military defeats, conquests, and rebellions suggest a longer dance of kingdoms in which Chimor likely alternated between being a rival and a vassal to the Inka. Such a dance is surely reflected in the material record: the hybridity of Chimú-Inka ceramics being a trace of the multiple, and changing, faces of authority that the rulers and peoples of Chimor would have had to contend with. Finally, this brief glance at the history of the Inka in Chimor is a good reminder of an already stated point: conquered people need not remain conquered. Maintaining, let alone expanding, political networks as vast as those commanded by the royalty of Chimor and Cuzco was an intensive, and almost always bloody, business with no guarantee of success. The Inka clearly met stubborn resistance and bids for

independence from some of their newly conquered subjects and we have already seen some evidence that the Kings of Chimor did not fare any differently.

4.2.9.4 Conquest Demography: Abandonment, Continuity, and Change

The paucity of recorded and published Chimú-Inka settlements in the Moche Valley makes any discussion of the demographic landscape during this phase problematic (Boswell 2019; Mullins 2019). What is known, however, points to three trends depending on where one looks: delayed abandonment in the *chala*, continuity in the *chaupiyunga*, and change in the local *quechua* (Figure 4.15). This being said, these "patterns" in the demographic landscape of the Chimú-Inka Phase should be approached with some caution given (1) the incompleteness of the material record and (2) the difficulty of differentiating Chimú and Chimú-Inka Phase occupations by using ceramics alone. However, the archaeological record does suggest that the demographic collapse of the *chala* almost surely was underway well before the arrival of the Spanish in the early 1500s.

Starting in the *chala*, the extraordinary demographic centralization at Chan Chan appears to have dissolved at some point during the Chimú-Inka Phase: very few Chimú-Inka ceramics have been recorded within the Chimú capital (Boswell 2019: 317; Conrad 1977; Netherly 1977: 320, 1998: 96). Some evidence is cited for the abandonment of the SIAR and maybe even a few contemporary burning episodes (Topic 1977: 173). One hint as to this process of abandonment at Chan Chan can also be seen in a Chimú-Inka Phase mass burial mentioned by Donnan and Mackey found outside of the *ciudadela* Velarde (Donnan and Mackey 1978: 362-365). They found seven bodies, of varying ages, had been placed and left in a burial pit likely around the time the *ciudadela* was abandoned. Given the lack of evidence for physical trauma and "perfunctory internment", they convincingly surmise these may have been victims of the European epidemic diseases that were spreading at least a decade before the arrival of the Spanish (Donnan and Mackey 1978: 364). Even though some parts of Chan Chan were abandoned, recent work has also uncovered some evidence that at least a few noble families continued to operate near the old *ciudadelas* (Gamarra et al. 2019). A few Chimú-Inka burials found outside of Chan Chan at Huacas del Moche, Caballo Muerto, and in Huanchaco also show individuals and families continuing to make some connections with ancestral, or at least ancient, landscapes (Boswell 2019: 317; Donnan and Mackey 1978; Menzel 1977). The varied ways we can interpret such burials will be partially

addressed in my discussion of *purun huacas* later in this chapter. The Chimú Phase town at Cerro Oreja has also been mentioned as having a continued occupation but was no longer urban in scale (Donnan and Mackey 1978: 357). Other than these traces, the only definitively Chimú-Inka occupation in the *chala* was one small fishing and agricultural village at Medanos la Joyada that was occupied well through the arrival of the Spanish (Keatinge 1973). At the time of Spanish arrival, smaller communities were recorded at Mampuesto and Mansiche nearby the eventual regional center of Trujillo, however the population of the entire valley was likely no more than a few thousand people (Lynch 1973:47; Ganoza Plaza et. al 1967). From these data alone it would seem that the *chala* saw a complete demographic collapse sometime during the Chimú-Inka Phase: a believable result of the multiple defeats suffered by Chimor and the rapid spread of European epidemic diseases.

In the *chaupiyunga*, a Chimú-Inka Phase occupation at Cerro Huancha suggests continuity from the earlier Chimú Phase (Boswell 2016, 2019). Given that Cerro Huancha was the principal community in the area, one could argue that the demographic landscape of the Sinsicap Valley *chaupiyunga* remained relatively unchanged during the Chimú-Inka Phase. The present understanding of the other *chaupiyungas* of the Moche Valley during the Chimú-Inka Phase is non-existent and no Inka or Inka-derived ceramics have been recorded (Mullins 2019). Referencing the tributary demands extracted, Julein cites a 1567 CE population for both the "*yungas mitimaes y chaupeyungas*" of the broader area at somewhere around 330 tributary households (Boswell 2019: 325; Julien 1993: 212). With a minimum of 3 people per household, this would come out to almost 1000 inhabitants spread out across the Moche, Virú, and Chao Valley *chaupiyungas* in addition to wherever the *mitmaq* of *yungas* were settled. Even if most of these were *chaupiyungas*, this number was recorded some 30 years after the arrival of the Spanish and the decades of conflict that plagued the landscape even before that. Needless to say, the prehistoric population of these zones likely would have exceeded this number.

The adjacent *quechuas* similarly have seen little or no substantial research pertaining to the Chimú-Inka Phase, though there is some evidence for settlement changes and an Inka presence in the Otuzco Highlands (Mackenzie 1980). Previous authors have argued that the Late Intermediate Period highland cluster around Carpaico – Huacaday was re-organized and moved to a new cluster of hilltop compounds surrounded by expansive terraced fields at Rogoday – Tres Puntas (Coupland

1979; Mackenzie 1980). An Inka presence here is mainly inferred from very limited ceramic evidence: one Chimú-Inka sherd was found (Coupland 1979: 303). The enormous size of the terraced fields is also argued to have required the assistance of a larger polity, like the Inka Empire, as its construction would have surpassed the labor capabilities of the few hundred occupants of the hilltops above (Coupland 1979: 92-95, 303). Though these lines of evidence could suggest some manner of Inka installation, it seems equally likely that the former community cluster at Carpaico – Huacaday merely relocated to more fertile lands after the collapse of Chimor. Without the thriving crafting economy of Chan Chan driving up traffic on the coastal-highland corridors of the adjacent *quechua* zones, it seems plausible that some communities may have re-located to focus more on agro-pastoral livelihoods.

4.2.9.5 Conquest Politics: Puppet Rulers and Highland Management

Material and historical evidence for the political landscape of Inka rule in the Moche Valley is similarly sparse but suggests at least two distinct arrangements: (1) puppet rulership in the *chala* and (2) local Huamachuco highland management of the *chaupiyunga*. As was previously mentioned, most historical accounts of the Inka administration of the heartland of Chimor suggest that some manner of puppet ruler, like Chumun-caur, was put in place at Chan Chan (Rowe 1948: 28-30). The limited occupations of noble families around some of the *ciudadelas* also suggest that Chan Chan was still functioning, albeit at a very limited capacity (Gamarra et al. 2019). Notably, a newly constructed set of small palace compounds emerged at Chiquitoy Viejo on the southern side of the Chicama Valley at some point during the Chimú-Inka Phase (Conrad 1977). The blend of Chimú and Inka-influenced wares uncovered in the funerary platform of this palace suggest that it was possibly occupied by an Inka-affiliated, but local, noble family (Conrad 1977: 14; Hayashida and Guzmán 2018: 623). Sometime after conquest, the Chimú provincial palaces at Farfán were remodeled to better fit Inka political traditions of authority and similarly saw a mixture of Chimú and Inka-influenced wares (Mackey 2020). Recent research has also illustrated that Farfán not only remained a local seat of authority but it also perhaps housed some of the famed *aqllakuna* of the Inka Empire (Mackey 2020).

In general, the effect that Inka rule had on non-Chimú local-level political arrangements is somewhat muddled: while historical documents often mention an Inka re-organization of lower-

level nobility, the material record often shows considerable continuity at the local level (Ramírez 1990). It does appear that some lower-level noble families saw an increase in authority under the Inka regime, even gaining access to attached crafting households much like those of the old royalty of Chimor (Ramírez 1996; Tate 2006). However, it is important to emphasize that most examples of "thriving" Chimú-Inka Phase local-level nobility are all conspicuously located outside of the old Chimú heartland. The political landscape of the Moche Valley *chala* did not just disintegrate after the fall of Chimor, it evaporated. Even though some local families continued to bury their dead in older and more powerful places, these places were not re-occupied as seats of local authority. Instead, the husk of Chan Chan and the few remaining noble or royal families within it were the only trace of political power that remained.

As part of a broader Inka pattern of often favoring highland groups over coastal ones, the management of the Moche Valley *chaupiyunga* fell under the new Inka province of Huamachuco. The previous, more fractured, Tuscan Phase political landscape of the Huamachucos was transformed considerably when the region became united into an Inka province (Topic, J. 1998). The area around the modern highland town of Huamachuco was the center of this province and was surrounded by a vast array of Inka storage facilities (Topic, J. and Topic, T. 1993; Topic J. 2009). Huamachuco was divided into seven *guarangas*: four of these being indigenous to the area, two being foreign coastal and highland *mitmaquna*, and one being in the *chaupiyunga* (Topic, J. 1998). Though *guarangas* were ideally populated as administrative units of 1000 households for the Inka Empire, several of the Huamachuco *guarangas* likely did not actually meet that number (Topic, J. and Topic, T. 1993; Boswell 2019: 325). Using toponyms and lists of local *huacas*, Topic has convincingly illustrated that the *guarangas* of Llampa and Guacapongo were likely around the Otuzco and Carabamba Highlands, respectively (Topic, J. 1992, 1998; Figure 4.16). Though Rogoday – Tres Puntas would have been well within the proposed territorial limits of the Llampa, further research at the site is needed to confirm what role it would have played in the surrounding landscape.

The unnamed Huamachuco *guaranga* of the *chaupiyungas* would assumedly have correlated with the *chaupiyungas* of the Moche, Virú, and possibly Chao Valleys (Topic, T. 1998). In the Moche Valley *chaupiyungas*, the residents of the zone apparently paid tribute to the *kuraka*, or local noble, at Mochal in the Upper Moche *chaupiyunga* (Netherly 1977: 317). Thus, the Upper

Moche *chaupiyunga* may have been the local political center of the Huamachuco *chaupiyungas* and would have then owed tribute to the provincial nobility at Huamachuco. Even with ample Inka storage facilities at Huamachuco nearby, many documents point to Cajamarca as being the collecting point for the tribute extracted from Chimor (Appendix B). This is echoed in the accounts of the loot taken from Chimor after conquest: it was often brought back to Cajamarca before passing to Cuzco. Though the provincial rulers of the Huamachucos may have been afforded some authority over groups and lands in the *chaupiyunga*, clearly the riches of Chimor were the sole purview of the Inka royalty.

Even so, the Inka royalty themselves are said to have had some direct involvement in the Moche Valley *chaupiyunga* to access its *coca*. An Inka *tambo* has been identified both in the historical and archaeological record at Collambay, and Cerro Huancha, in the Sinsicap Valley (Boswell 2019; Rostworowski 1987). In the Inka Empire, *tambos* played a variety of roles associated with political responsibilities in the provinces: from being storage depots for military forces to being used by noble travelers as what essentially amounted to inns (D'Altroy 2015: 361-366). By 1567, the remnant *tambo* at Collambay was locally maintained by people from Collambay, Mochal, and an unidentified third *chaupiyunga* town called "Pugueda" (Boswell 2019: 331-332; Rostworowski 1987). In addition to this *tambo*, the community at Collambay was also apparently responsible for maintaining and cultivating fields of *coca* and chili peppers destined for an unnamed Inka royal, his principal wife, and his mother (Boswell 2016: 4; Netherly 1977: 316; Rostworowski 1988, 2004). Netherly suggests this was likely done by Huayna Capac (Netherly 1977: 317), a believable suggestion given he was the last recorded Inka royal in the area. This surprisingly seemed to be a common practice of Inka royalty: royal *coca* and chili pepper fields have also been recorded in the *chaupiyungas* of the Chillón Valley to the south (Netherly 1977: 319). Thus, the Chimú-Inka Phase political landscape of the Moche Valley *chaupiyunga* was one in which Mochal was a local center but the highest level of authority resided in highland nobles and royalty from Huamachuco and Cuzco.

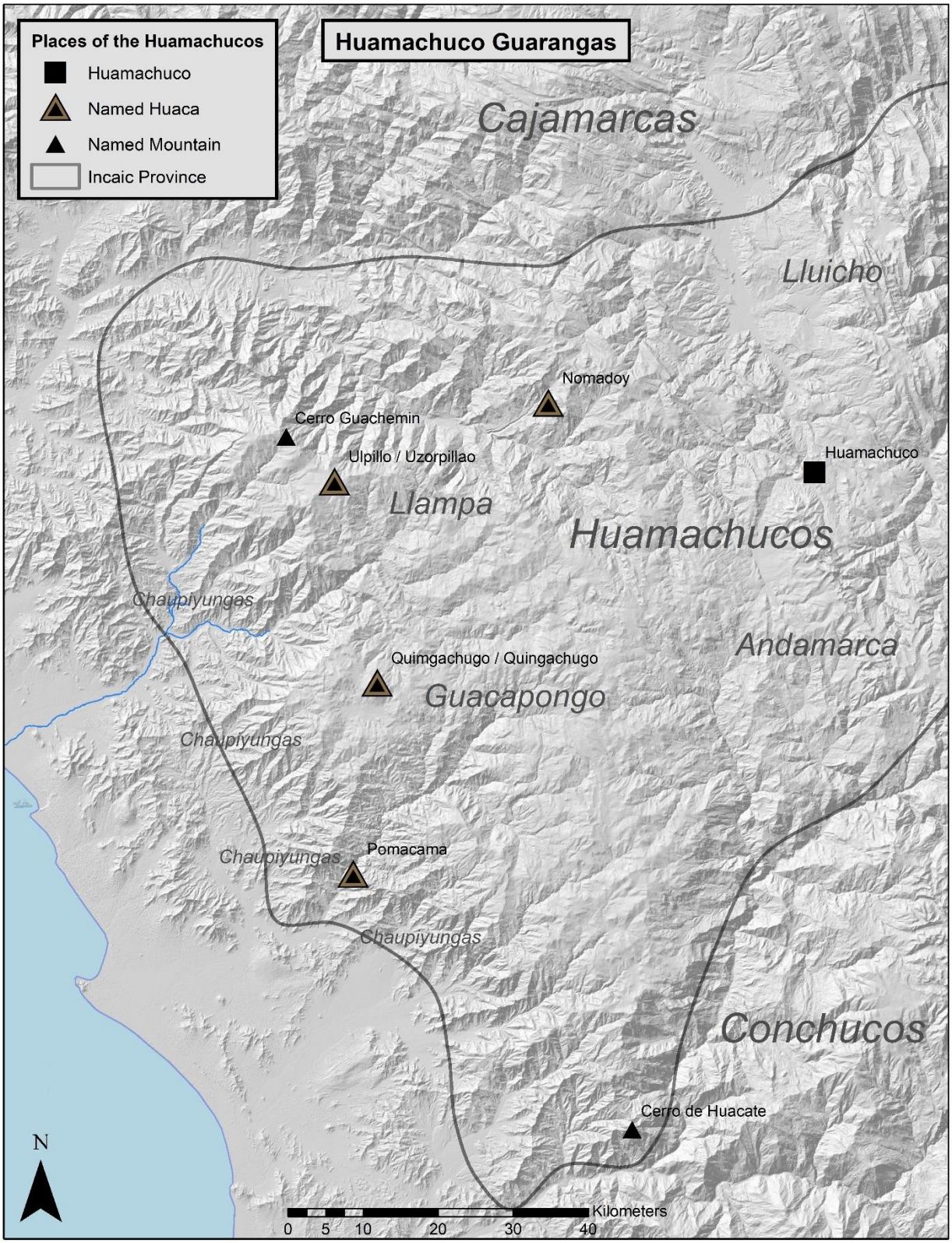


Figure 4.16 The Huamachuco Guarangas

4.2.9.6 Discussion

To conclude, the final phase of pre-history in the Moche Valley, the Chimú-Inka Phase, saw the collapse of the political and demographic landscapes that before had been so fundamentally shaped by over a millennium of *chala* domination. Emerging from the often-cacophonic historical record of battles, conquests, and rebellions, there are stories that speak to a series of clashes, and unions, that pitted the political ambitions of the powerful families of Chimor with those of the Inka Empire. These events probably played out over decades, maybe even a century, but the eventual consequences of the repeated failures of Chimor in their political entanglements with the Inka were very clearly wrought upon the political and demographic landscape of the Moche Valley. As the political power of Chan Chan was weakened, and then broken, so to was the commanding magnetism that the political center had on the surrounding demographic landscape of the Moche Valley *chala*. This previously remarkable demographic centralization around the heart of Chimor appears to have dissolved as people fled into the surrounding landscape, were taken as *mitmaquna* by the Inka, and/or perished in the decades of battles, looting, and disease. Through all of this turmoil, however, the long shadows cast by the powerful pasts embedded in places like Caballo Muerto, Huacas del Moche, Cerro Oreja, and even Chan Chan saw their continued use as places in which nearby Inka-affiliated nobility were burying their deceased.

The status of the *chaupiyunga* of the Moche Valley as a borderland persisted even through the tumultuous events of the Chimú-Inka Phase. However, the nature of several of the boundaries within the *chaupiyunga* borderlands likely changed considerably from their older arrangements. First, the *chaupiyunga* surely remained as a political boundary between the *quechua* and *chala* but the power vacuum left by the collapse of Chimor was filled in by the authority that was projected from highland actors hailing from Huamachuco and Cuzco. Second, the demographic boundary of the *chaupiyunga* probably saw the most change during this phase: for the first time in several millennia, maybe ever, the region could have had similar population densities to those in the devastated *chala* below. Finally, the *chaupiyunga* likely remained as an important economic boundary but this continuity appears to have been mainly a result of the precious *coca* that could be grown there and sent as tribute to Huamachuco and Cuzco. With the power of Chimor broken, the once-bustling coastal-highland exchange corridors upon the *chaupiyunga* would have likely

been slowed to local traffic or that related to the affairs of Inka nobles or royalty. In sum: though echoes of the misfortunes of the *chala* surely reverberated within certain boundaries bundled within the *chaupiyunga* borderland, many boundaries persisted or were left relatively unchanged.

4.3 Histories of the *Chaupiyungas* and the North Coast

The prehistory of the Moche Valley tells rich stories, but the wider historical record of the region, from the mid-1500s to the present, also provide us with invaluable insights into the possible dynamics of the *chaupiyungas*, Andean landscapes, and North Coast politics. Several documents recount local origin histories of highland groups that outline ancient and supernatural precedents for highland domination, but also integration, of peoples from the *chaupiyunga* and *chala*. Such narratives are echoed in some historical documents recounting events of the early centuries of the Viceroyalty of Peru: *chala*, *chaupiyunga*, and highland leaders and communities oscillated between cooperation and conflict in order to secure access to water, fields, and *coca*. Importantly, these *chaupiyunga* landscapes, and Andean landscapes more broadly, were filled with gods and ancestors rooted in places that played vital roles in community cohesion and identity for both *chaupiyunga* and highland groups. Notably, the communities of the Moche Valley coastal *chala* cultivated their own distinct, but similar, sacred landscape that was often more tied to the Pacific Ocean. Early historical accounts in the *chalas* of the North Coast also reveal landscapes in which nobles, subjects, land, and water were inseparably intertwined. Finally, several censuses and detailed accounts allow us to extend our view of the demographic and political landscapes of the Moche Valley through the early centuries of Spanish rulership.

4.3.1 The *Chaupiyunga* in Highland Origin Histories

The earliest written local origin histories of the Huamachucos of the northern highlands and the Huarochiri of the central highlands are both laden with relevant information to the *chaupiyunga* even if the region itself is rarely referred to by name. These histories are obviously blended with what a western archaeological perspective would call myth. They occur in worlds

filled with supernatural beings who interact with and influence humans and landscapes but can also be securely linked with the present in which they were written. Though often confusing, it is this element that lends so much value to diving into these histories: they can give us glimpses, however brief or incomplete, of the worldview of some highland peoples and how they related to the beings and landscapes, natural or supernatural, in the *yunga* and *chaupiyunga*.

4.3.1.1 Catequil and the Origin History of the Huamachucos

One version of the history of the people of Huamachuco was recorded, in part, by Augustinian priests in the mid-1500s and has some limited, but possible, references to the *chaupiyungas* (San Pedro 1992 [1560]). The narrative begins with the supreme deity, Ataguju, creating and sending a character named Guamansuri to Huamachuco, where he encountered a group called the Guachemines who already occupied the area (Topic, J. 1998). These people promptly put Guamansuri to work in their fields and he, in turn, seduced and impregnated a daughter of the Guachemines named Cautaguan. Guamansuri was burned by her countrymen for this act and was ground to dust: his ashes rising to Ataguju in the heavens. Cautaguan then died a few days later after giving birth to two eggs. These eggs hatched into two boys, the first of whom was the legendary mountain lord of lightning named Catequil (Topic, J. 1998: 112). Upon resurrecting his mother, Catequil used slings left for him by his murdered father to kill and drive away the Guachemines: clearing and preparing these lands for his people. Ataguju then instructed Catequil to dig up his new people, the Huamachucos, from a mountain named Guacat. This seems to be a reference the modern Cerro Huacate located near the confluence of the Tablachaca and Santa Rivers at the southwestern boundary of the lands of the Huamachucos and the Santa Valley *chaupiyungas* (Topic, J. 1998: 112).

Though often vague on mentioning the *chaupiyunga* specifically, this history of the Huamachucos is worth describing in detail for several reasons. First, one of the common offerings mentioned for Ataguju amongst the Huamachucos was actually *coca*. The leaves were said to be employed as an offering for life or health and were burned so that the smoke could rise to be inhaled by Ataguju himself (Relacion 1992 [1582]:11-12). The parallels between such an offering and the life of Guamansuri are intriguing: with his life, like the *coca*, being burned and transformed

into an offering to Ataguju. This unwitting offering by the Guachemines instilled vitality and power to Catequil and eventually the Huamachucos.

Interestingly, a few authors have also suggested that the Guachemines may be a reference to coastal fisherfolk: also referred to as *guaxme* or *uachimis* (Torero 1989:228-229; Topic, J. 1998: 113; Boswell 2016: 115). In this interpretation, the history of the Huamachucos would then begin by defining their identity as a highland group in contrast to lowland *chala* neighbors (Topic, J. 1998). As we will see in the case of Huarochiri, such differentiation from those residing in the lowlands is a common theme in the origin narratives of highland groups in the Andes. Topic even notes several quebradas and mountains named "Guachemin" located along the lowland edges of the Huamachuco domains: perhaps places named by local Huamachucos in commemoration of where Catequil chased some of the Guachemines into the *chaupiyungas* and the *chala* (Topic, J. 1998). One could imagine these stories of domination by the Huamachucos may have even provided precedence for those wishing to hold dominion over the lands of their *chaupiyunga* and *chala* neighbors. Such precedence would be relatively easy to access by local leaders: it was codified in verbal histories and memorialized in the landscape itself.

Though I definitely agree with this interpretation of Guachemines as coastal folk, it is worth noting that there are other layers of meaning that could be wrapped into that term. Namely, I would argue that the Guachemines could also represent an older people or long-disappeared predecessors of "another sun" like the Machukuna that are described by the people of Sonqo in the southern highlands (Allen 2002: 75-101). The people of Sonqo, who call themselves the Runakuna, attribute the ancient ruins in the hills above the community to another people called the Machukuna. The Machukuna had their own villages and leaders who lived, and thrived, during a time before that of the Runakuna: a time when the moon was the only sun. When the Sun of the first Runakuna rose and the first Runakuna themselves sprung from the earth, the Machukuna were turned to stone. Though feared and revered, the Machukuna were of such a remote past to the Runakuna that their bond with the modern people was one bound to the landscape and not necessarily of shared ancestry. Much like this relationship between the Machukuna and the Runakuna, the Guachemines were memorialized in the landscape but had to disappear to make room for the Huamachucos.

Back to the Huamachucos, there is a previously ignored emphasis on liminality and betweenness that permeates through key parts of the story and this emphasis is also eventually rooted in the landscape. The founding ancestor and most powerful supernatural lord of the Huamachucos, Catequil, is technically the result of a union between the Guachemines (Cautaguan) and the progeny of Ataguju (Guamansuri). This lends a sort of liminal status to Catequil: a being whose father was of divine creation and whose mother was of ancient, possibly even foreign (*chala* or *chaupiyunga*), descent. Continuing this theme of betweenness, Catequil oversees the creation of the Huamachucos as he pulls them from the earth at the confluence of the powerful Santa River. This is a place between the union of two rivers and the birth of one river, a river that eventually leads through the *chaupiyunga* and into the Pacific Ocean. Thus, the Huamachucos are birthed within a bundle of liminality: a people created in liminal place by a liminal being. Not unlike the foreign heritage of Tacaynamo, such a past could have given Huamachucos considerable flexibility in where they could call home and whom they believably could call ancestors. If the Llampa and Guacapongo in the Otuzco and Carabamba highlands also believed in such origins, such flexibility may have been vital in negotiations, or conflicts, with their powerful Chimú neighbors in the *chaupiyunga* and *chala* below.

4.3.1.2 Pariacaca and the Origin History of the Huarochiri

Written down in *quechua* in the late 16th century, the Huarochiri Manuscript is easily the most complete history of a non-Inka highland group ever recorded in the Andes (Huarochiri Manuscript 1991 [1598-1608]). Several elements of the origin stories of the Huarochiri emerge as relevant to our discussion of the *chaupiyunga* and also have parallels to the origin narrative of the Huamachucos. First, the story itself begins with a reference to the *huacas* who ruled the landscape in the deep, pre-Huarochiri, past: Yana Ñamca and Tuta Ñamca. Salomon and Urioste point out that Ñamca appears to be a designation for *huacas* "associated with coastal people and the remote past" and that both Yana and Tuta respectively refer to 'black' and 'night' (Huarochiri Manuscript 1991 [1598-1608]:43). Thus, these *huacas* can be seen as a sort of melding of concepts of Guachemines and Machukuna: ancient, coastal, night-dwelling beings who occupied the landscape in a time before. Whatever the case, both were vanquished by another *huaca* named Huallallo Caruincho, a *huaca* who proceeded to rule a Huarochiri landscape that was "full of *Yunca*"

(Huarochiri Manuscript 1991 [1598-1608]:43). Here, *yunca* or *yunga* is meant as a general reference to the people occupying hot lands or places and thus can by synonymous with both the *chala* and *chaupiyunga*, as I have described earlier (see Chapter 3.2.2). Again, this ancient highland landscape is one that was originally occupied by "foreign" coastal, or at least lowland, people and their *huacas*: an easily identifiable "other" for any moderately well-traveled highlander.

Following a somewhat similar pattern to that outlined in the Huamachuco origin history, the legendary mountain lord of the Huarochiri, Pariacaca, is then responsible for clearing this occupied land for his people. Shortly after being birthed from one (and simultaneously all) of five eggs, Pariacaca is angered to hear that a wealthy *yunga* lord, Tamta Ñamca, proclaimed himself to be a god. Seeing this as a slight, Pariacaca rises up as rain and sweeps the lord, and many of the *yungas*, into the Pacific Ocean (Huarochiri Manuscript 1991 [1598-1608]:59-60). He also cleared the landscape of two *yunga*-associated *huacas*: (1) Huallallo Caruincho was defeated and chased away after an epic battle and (2) an associated female *huaca* named Mana Ñamca was defeated in battle and chased into the Pacific Ocean (Huarochiri Manuscript 1991 [1598-1608]:68-69). A brother of Pariacaca, Chuqui Huampo, was injured in the second battle and remained as a mountain to watch and guard for Mana Ñamca's possible return. Several communities in the *chaupiyunga* zone (Sisicaya, Chontay, etc.) were ordered by Pariacaca to give Chuqui Huampo their *coca* first before all other *huacas* or people. They were allegedly still doing this in secret during the time in which the Haurochiri Manuscript was recorded (Huarochiri Manuscript 1991 [1598-1608]:69). Thus, the ancient *yunga* people and *huacas* were expelled or subjugated, through supernatural force, by Pariacaca and his brothers/selves in order to open a landscape to be filled with the new people and *huacas* of the Huarochiri. Unlike Catequil, however, Pariacaca does not occupy any liminal space in terms of having ancestry associated with *yungas*: in all of his forms, Pariacaca is a highland *huaca*, not a *yunga* one.

Though many of the *yunga* in these origin histories of the Huarochiri were expelled or dominated, some were willingly incorporated directly into the cult of Pariacaca and his communities. Some *yungas*, those in the *chaupiyungas* specifically, are mentioned as submitting willingly to the conquests of the Checa highlanders of the Huarochiri (Huarochiri Manuscript 1991 [1598-1608]:80). These same *yungas* were accepted as "brothers", albeit the youngest brothers, by a son of Pariacaca and founding hero of the Checa named Tutay Quiri (Huarochiri Manuscript

1991 [1598-1608]:80). In a broader discussion of the Concha highlanders of the Huarochiri, there is mention of a *yunga* orphan named Yasali who is adopted after his town and people are slaughtered and driven off (Huarochiri Manuscript 1991 [1598-1608]:137-138). Though some of the Concha wanted him killed so that he would not lay claim to lands after reaching maturity, he was eventually spared to in order to (1) tend to llamas and (2) show his Concha captors his old "customs… fields, and everything" (Huarochiri Manuscript 1991 [1598-1608]:138). Yasali not only ends up marrying into a Concha household, he also was regarded as an ancestor to a living descendant, Cristóbal Chauca Huaman, referred to in the text (Huarochiri Manuscript 1991 [1598-1608]:138). Though not all were accepted as brothers or husbands like these stories, many *yunga* apparently did hold Pariacaca in deference to some degree. The *yunga* of Carabayllo, the same Carabayllo mentioned as being one of the final conquests of Chimor, are said to have even taken pilgrimage to Pariacaca with offerings of *coca* on occasion (Huarochiri Manuscript 1991 [1598-1608]: 75).

4.3.1.3 Discussion

In sum, the origin histories of the Huarochiri and the Huamachucos show landscapes in which the identities of these highland groups were partially bound to their ancestors having conquered, cast out, or incorporated *yunga* people. Both the Huarochiri and the Huamachucos immortalized these origins, and this distinctly "highland" identity, in the landscape itself: whether by naming specific places after their vanquished *yunga* predecessors or endowing certain mountains with the identities of *huacas* who played important roles in these mythic conquests. Though some *yungas* were incorporated into these groups, they are very clearly still thought of as being "others": (1) some had to take on a subordinate role as the "youngest" like those joining the Checa or (2) some were still referred to as eventually being of *yunga* descent as was Yasali. In fact, it is to these *yungas* under highland authority that perhaps the *chaupi* prefix of *chaupiyunga* can most appropriately be applied in both human and geographical terms. These people, mythical or not, were truly *chaupiyungas*: they occupied a space that lie between both socio-political groups and geographic zones. Even more intriguing is that *coca*, itself a product of the *chaupiyunga*, is one of the substances often cited as being used by these "*chaupi-yungas*" to mediate their liminal

positioning in the mythical, demographic, and geographic landscape they called home. As we will see, this *coca* was just as much a mediator as it was a cause for conflict.

4.3.2 Histories of Conflict, Cooperation, and *Coca* in the *Chaupiyunga*

The broader historical and archaeological record also provides some hints about the complex interactions bundled within the *chaupiyunga* landscape. One particular wellspring of information comes from Rostworowski's synopsis and presentation of a series of mid-16th century legal disputes over a set of *coca* fields in the *chaupiyunga* community of Quivi in the modern Chillon Valley (Rostworowski 1988). Archaeological settlement pattern data also help corroborate or expand upon a few of the elements of this documentary evidence (Dillehay 1976; Silva 1996). Though litigated under Spanish authority, the feuds over the fields around Quivi had roots that extended at least a century beforehand and some even pre-dated the Inka conquest of the region. The chaos and intrigue embedded in the history of this small *chaupiyunga* town, and the even smaller *coca* fields, make the twists and turns of these stories worth recounting in detail. In fact, the tale of Quivi is easily the most detailed Andean testament to the complexities of interactions possible in a *chaupiyunga* borderland.

4.3.2.1 Conflict, Cooperation, and *Coca* in Quivi: Recounting the History

To begin, the people and nobles of Quivi were considered *yunga* and owed fealty to a more powerful *yunga* noble downstream in the Lower Valley *chala* town of Collec, known by the Spanish as Collique. As part of this subordinate position, the noble of Quivi owed tribute of "*coca*, corn, ají, and other things" to the paramount noble at Collec (Rostworowski 1988: 61). Sometime before the arrival of the Inka, a numerous army assembled by the highland group called the Canta descended through Quivi and reached deep into the lands of the paramount noble of Collec. Assumedly as a result of these military victories, the Canta claimed some *coca* fields in the area around Quivi and worked them using temporary hamlets settled in the region (Rostworowski 1988: 59). Allegedly, neither the community nor noble of Quivi appear to have been harmed or displaced during these events. Though the record is admittedly unclear on if tribute continued, it would appear that the people and noble of Quivi remained subjects of the paramount noble at Collec. It

seems possible that the concession of some *coca* fields was a bribe of sorts to dissuade further incursions by Canta war parties. This arrangement changed with the arrival of the Inka, who were met with stubborn resistance from the *yunga* people in the Chillon Valley. The paramount noble of Collec was joined by his vassal and subjects from Quivi in an attempt to obstruct and defeat the Inka forces but this was ultimately unsuccessful.

Though Quivi initially seems to have endured this defeat unscathed, some intrigue involving the lord of Quivi proved to be fatal for much of the *chaupiyunga* community. Allegedly, the Quivi lord conspired against Topa Yupanqui but the plot was uncovered and most of the men of Quivi, including the lord, were taken to Cuzco and executed. Around this time, the Inka gave the lands and town of Quivi to a *mitmaq* composed of a nearby loyal highland group called the Chaccla: these were trusted Inka allies and members of a broader ethnic group called the Yauyos. Though the Canta could do little to protest, given the might of the Inka, they were likely not too fond of the resulting Chaccla occupation in Quivi. Several decades later, after the fall of Cuzco to the Spanish, the Chaccla ended up abandoning some of their fields in Quivi because of the persistent low-level conflicts breaking out with the Canta upstream. These disputes continued under Spanish authority and even up to the Inka rebellion of Manco Capac II in the late 1530s. The Canta sided with these rebels while the Chaccla initially did not. Seeing this refusal as an opportunity, the lord of the Canta quickly moved to mete his own justice on his rivals: kidnapping and murdering a lord of the Chaccla as well as ambushing and killing many of his men. A decade later, the Spanish tried to impose order on the increasingly violent clashes between these two groups and forced the Chaccla to sell their *coca* lands to the Canta for some 200 llamas. This was met with frustration and confusion given that the Chaclla had "no concept for the 'sale' of land" (Rostworowski 1988:67). Angered by the fact he would lose access to the *coca* fields worked by his Chaccla subjects, the paramount lord of the greater Yauyo group threatened to march on the Canta with warriors but was forced to take the issue to court instead.

The proceeding litigations lasted another decade from 1558 to around 1567. Though the trial began as being between only the Canta and Chaclla, *yunga* representatives from Collec eventually threw in their own bid for the fields: citing that their lands were initially taken by the Canta before the Inka or Chaclla entered the scene. Eventually, the Chaclla emerged victorious and the Real Audiencia reversed the former decision: decreeing that the Chaclla be returned their

land and the Canta would receive 200 llamas in recompense. Upon the arrival of the Chaclla lord, representatives, and llamas to Quivi to undertake this transaction, the Canta representatives refused to accept the animals because their lord was not present. The Canta lord and some allies then later ambushed the Chaclla as they attempted to lay markers at their claimed fields. All offending parties were promptly arrested, but the Canta had already wrought havoc on the canals and fields: destroying canal intakes and ripping up plants by the root. The Chaclla were also not completely innocent in these affairs: further inspection of their flock of llamas revealed only a little over 100 animals and several of these had mange. Even after these issues were settled and it seemed the Chaclla could finally have their lands in peace, a group of *yunga* representatives from Collec traveled to Quivi and yet again ripped up plants and damaged canals in protest.

4.3.2.2 Conflict, Cooperation, and *Coca* in Quivi: Insights from the History

A host of insights can be gleaned from this document and lend us a better view of the possible boundary interactions bundled upon the *chaupiyunga* borderlands. First, it is clear that the community of Quivi was positioned at a political boundary. Some of the inherent qualities of the *chaupiyunga* as a geographic and economic boundary surely had some bearing on this status: this was still a clear coastal-highland boundary and one of the few places that *coca* could be grown. Though competition over *coca* seems to be one driver for interactions, the complexity of the political boundary at Quivi far exceeds any simple coastal-highland dichotomy. This was a political landscape laden with overlapping networks of political authority with claims and interests that were just as often compatible as they were mutually exclusive.

For example, the Canta military victories in Quivi may have awarded the highlanders access to a few *coca* fields, but the *yunga* noble and community of Quivi remained in place and still owed fealty, and tribute, to their paramount lord at Collec. This shows three overlapping, but more-or-less compatible, instances of authority: (1) the Canta with authority over a few *coca* fields and maybe some access to tribute, (2) the Quivi nobility with some degree of sovereignty over their own people and lands, and (3) the paramount lord at Collec with some degree of authority over the Quivi nobility and access to tribute. Notably, the bonds of fealty between the lord of Quivi and his superior in Collec were remarkably strong: these bonds brought Quivi to war with the Inka and perhaps served as the instrument for the community's demise. Though this continued loyalty

may seem puzzling, it is important to remember that these bonds were forged in a political landscape in which the Inka Empire was absent. Cultivating such a relationship with the more powerful lord of Collec downstream would have probably been vital for the survival of Quivi. With aggressors like the Canta nearby, the *chaupiyunga* community would have doubtlessly benefited from having a more powerful authority on which to call for aid.

This previous political landscape can be compared with the persistent incompatibility between the competing claims and bids for authority expressed by the Canta and Chaccla over essentially the same lands. The nobles of neither highland polity were willing to reconcile with sharing authority over the *coca* fields of Quivi and thus were constantly fighting or appealing to higher authorities to help with their claims. In the latter realm, the Chaccla frequently had the upper hand: (1) they inherited Quivi with the blessing of the powerful Inka Empire, (2) they were able to seek and secure assistance from the paramount lord of the Yauyos, and (3) they eventually were able to appeal to the Spanish authorities in reversing the initial loss of their land. Though having friends in higher places came with its benefits, it also came with costs: both the Inka and the Yauyo paramount expected *coca* from their Chaccla subjects as part of the reciprocal obligation linked to assistance in such claims. In a way, the new Chaccla inhabitants of Quivi simply replaced the previous *yunga* loyalties of their executed predecessors with new loyalties based in several powerful highland authorities above.

The demographic landscape of this *chaupiyunga* borderland was very often tied to these political ambitions and entanglements. Probably the most remarkable example of this is the likely change in the composition of the community at Quivi that occurred as a consequence of political misfortunes and changes in power. Though Quivi assumedly was a community mostly inhabited by *yunga*, the losses suffered against the Inka and the settlement of Chaccla *mitmaq* in the area probably transformed the community into one far more tied to the highlands. Thus, the community of Quivi may have stayed in the same general place in the landscape, but its demographic composition would have changed in a way that reflected the changing regional balance of power towards the highlands.

The settlement patterns of the Canta show another example of how the demographic landscape was likely tied to local politics in the *chaupiyunga*. A *visita* in the Canta area in 1549

recorded 16 temporary hamlets of no more than a few dozen people that were scattered across the surrounding landscape and were tasked with periodically accessing or crafting certain resources (Rostworowski 1988: 59). Eight of these were essentially listed as fields, called *chacaras,* and one of these *chacaras* was located in Quivi and likely was devoted to *coca*. In terms of demography, such a Canta hamlet would be negligible compared to a larger community like Quivi. Nevertheless, this hamlet was still visible as a residue of the military victories of the Canta and the more limited authority in the region those victories afforded. The use of such hamlets also seems to have allowed for the aforementioned overlap of authority in the region: the presence of a few Canta farmers did not preclude the Quivi from growing their own *coca* nor their Collec superiors from receiving their due tribute.

Undeniably central in both the political and demographic landscapes of the Chillon Valley *chaupiyunga* was *coca*. Obviously, the conflicts in and around Quivi often revolved around the *coca* fields nearby: but why were these fields such prized resources that warranted such ample bloodshed and political gambles? Ironically, one reason *coca* was such a source of tension was because of its vital role as a mediating substance for cooperation and cohesion. Leaves of *coca* were broadly seen as a required offering to important and widely revered *huacas* and ancestors in the local highlands (e.g., Pariacaca and Chuqui Huampo). Having direct access to *coca* fields would have been advantageous in allowing a community or noble to (1) have the necessary goods to make such offerings themselves and (2) have a widely valued exchange commodity. But such offerings to supernatural entities were, like the *huacas* themselves, doubtlessly entangled with people and polities around them. A lack, or excess, of *coca* offerings to Pariacaca, or any regional *huaca,* would not be something that would remain unnoticed by noble peers or their communities. Recalling the tribute of *coca* required from the inhabitants of Quivi by paramount lords or royalty (e.g. Collec, the Inka, and the Yauyos): we can also see that this good was as vital an offering to *huacas* as it was to higher political authorities. Just as *coca* satiated the needs of mountain lords, so too did it satiate the ambitions of human ones. The very real political consequences of *coca* availability can be seen in the outrage expressed by the paramount lord of the Yauyos when his Chaccla subjects informed him of how they were deprived of their *coca* lands. His first reaction was to pull upon the full weight of his authority to marshal an army against the Canta: the precious leaves of *coca* were worth fighting for.

This mediative value of *coca* is also surely why the nobles of Canta and Collec were so vindictive in their destruction of canals and uprooting of plants. Rostworowski specifically noted that *pacay* and *guava* trees were uprooted in these fields and, even more interesting, that *pacay* trees were recorded as being used in the Moche Valley to provide protective shade for *coca* as it grew (Rostworowski 1988: 64-65; Orihuela Noli 1953). This local use of *pacay* in the Moche Valley mainly becomes relevant later in this dissertation (see Chapter 9). However, it is worth recounting here because it provides insight into the larger objective of such destruction: to deprive the Chaccla in Quivi of their next few harvests of *coca*. Though *pacay* is not particularly difficult to grow and would likely take no more than two years to return, the growth and productivity of *guava* trees would probably take at least twice this time (3-5 years). Thus, both the Canta and Collec were possibly denying their Chaccla enemies of at least two or three, even up to five, harvests of *coca*. The resulting shortage could perhaps displease the paramount lord of the Yauyos and weaken his commitment to the Chaccla in future clashes: increasing the chance that the Canta or Collec could win the next round of this now centuries-long saga.

4.3.2.3 Water and Exchange upon the *Chaupiyunga*

It is important to conclude by illustrating that these historical examples of conflict and cooperation within and across the *chaupiyunga* were not isolated to interactions involving *coca*. A Quivi informant recalled a time of drought when the Canta came to the aid of the *chaupiyunga* community and provided assistance in bringing water from lakes in the highlands to their lowland neighbors in need (Rostworowski 1988: 61). Further north in the Lambayeque area, Netherly outlines a dynamic between the Penachi (*quechua-chaupiyunga*) and Jayanca (*chala*) in which exchange was common between the groups (Netherly 1977:267). This being said, access to water was a point of contention and sometimes the Jayanca would have to "pay" for water from the Penachi with tribute or goods (Netherly 1977:267-268): an arrangement very different from the helpful Canta in Quivi. Notably, many historically recorded *chala* polities had arrangements of tail-to-head water distribution in their canal networks: arrangements that would have effectively eliminated any of the advantages held by *chaupiyunga* or *quechua* groups over water access (Netherly 1977: 287-288). This being said, highland groups were often a bit less cooperative in such arrangements: the Penachi used their positioning as leverage and there are even stories of the

Inka having cut off water to Chimor during the Chimú-Inka wars (Netherly 1977: 282-283). Thus, it is probably best to state that the equitable tail-to-head irrigation arrangement observed by Netherly was more an ideal than a persistent reality in the past.

In the Moche Valley *chaupiyunga*, the town of Simbal is still used as a sort of meeting area for people from the local *quechua* and *chala* areas (Gillin 1947: 80; Prieto 2009: 291; Boswell 2016:110-111). During market days and larger celebrations, Simbal serves as an intermediate place in which *chala* and *quechua* goods are exchanged and individuals meet and become re-acquainted. In some extreme cases, localized specialization seems predicated on fluid traditions of exchange, interaction, and even intermarriage across the *chaupiyunga*. Huanchaco fishermen from the 1970s were famously quoted as saying "our sisters marry serranos (men from highland farming communities) who live with us and till our fields; we Huanchaco men are fishermen. We do not farm." (Netherly 1977:57) Though generalizing this to all of the fishermen of Huanchaco is likely unwise, such degrees of specialization are not unheard of in the Andes. In any case, it is clear that *coca* was, and is, not the sole good being moved across the *chaupiyunga*: many products, individuals, and even more "fixed" resources like water were often mediated through *chaupiyunga* lands.

4.3.2.4 Discussion

In sum, the chaotic history of Quivi enriches our view of the panoply of interactions between peoples, polities, and *coca* within *chaupiyunga* landscapes. First, politics upon the *chaupiyunga* involved a myriad of overlapping, and often contentious, webs of authority cast from multiple *chala* and *quechua* polities into the *chaupiyunga* between them. Occupying this space between, the communities in the *chaupiyunga* had a malleable sovereignty over their lives and lands: the paramount rulers of Quivi changed at least four times in a little over a century. This malleable sovereignty often had profound demographic effects that could rapidly shift community composition as a consequence of military or political defeats. Thus, the demographic landscape was very clearly tied to regional politics, especially when large polities like the Inka Empire became involved. The use of small hamlets to take advantage of specific fields importantly appears as one strategy that (1) would satisfy most parties involved, (2) was employed by smaller polities, and (3) had a relatively lighter impact on the demographic landscape. At the center of many of

these interactions was *coca* and the fields upon which it was grown. Echoing the mediating role of *coca* in negotiations with supernatural entities, *coca* was vital in navigating the risky politics that often determined the survival of communities and settlement enterprises in the *chaupiyunga*. This reality permeated throughout life on the *chaupiyunga* borderland regardless of affiliations or backgrounds: the old *yungas* of Quivi needed *coca* for their paramount in Collec just as the new Chaccla highlanders needed it for their Inka and Yauyo superiors. Outside of its importance in *coca* cultivation, the *chaupiyunga* was also (1) an important middle ground for the movement of goods and people between the highlands and *chalas* an (2) important control point for the passage of water to the coast.

4.3.3 Sacred Landscapes and Huacas in the Moche Valley

The landscape of the Moche Valley and its adjacent highlands was, and is, full of important *huacas*, deities, and places that have been recorded, remembered, and celebrated in a variety of ways. It is important to state plainly that the list and discussion presented here is neither exhaustive nor particularly in-depth. Even in the process of writing this dissertation, the available information expanded considerably: Percy Valladares Huamanchumo published rich oral histories of Huanchaco in his *Historias Del Abuelo* while the work of Dr. Ana Mariella Bacigalupo greatly expanded the published literature on *huacas* and *apus* in the landscapes of the Moche Valley and adjacent highlands (Huamanchumo 2020; Bacigalupo 2021). These were not included here solely because I needed to stop writing eventually. The goal here was mainly to highlight a few places and traditions to explore the ways in which parts of the landscape were, and still are, celebrated or engaged with by communities in the area. Additionally, exploring the importance of the Pacific Ocean and celestial realms of the night sky for the groups of the coastal *chala* gave a bit of context to the aforementioned bundling of *yunga* peoples, the night, and ancient pasts that was noted in some Andean highland origin histories. I conclude with a brief discussion and description of the concept of a *purun huaca* and explore how this concept can be possibly applied to the ancient *huacas* of the Moche Valley landscape.

4.3.3.1 *Huacas* and Pilgrimage Traditions of the Local Highlands

Starting in the highlands, the aforementioned *huacas* of Ulpillo/Uzorpillao and Quimgachugo/Quingachugo likely correlate with the mountains of Cerro Urpillao in the Otuzco Highlands and Cerro Quinga in the Carabamba Highlands (Topic, T. 1992; Figure 4.16). Though we do not have many details on their wider role amongst the Huamachucos, these *huacas* would have probably served some role in bringing the dispersed communities of Llampa and Guacapongo peoples together upon the landscape. Several meeting houses, maybe even palaces, are described by the Augustinians as being devoted to Uzorpillao and being filled with all of the necessary ingredients for great festivities and gatherings: vases and cups for drinking and "trumpets" and "tambourines" for music (Relacion 1992 [1582]:28). Though remains of these houses have yet to be found, both Cerro Urpillao and Cerro Quinga had substantial and varied archaeological occupations nearby that could correlate with such places (Topic, T. 1992). Interestingly, Uzorpillao is also said to have been seated in a desolate area above a place called Conacocha: something argued to perhaps mean a lake of the water deity Con (Relacion 1992 [1582]:28). While surveying around the aforementioned site of Canac below Cerro Urpillao, I did take note of the remains of what appeared to be a large prehistoric reservoir that could be the Conacocha that this passage refers too. This being said, it is still unclear whether either of these *huacas* were being venerated upon the arrival of the Inka or were resurrected to serve Inka needs. Even though the association between these *huacas* and the nearby mountains seems like a safe assumption, it is odd that neither mountain includes the Culle word/suffix for mountain: "-*day*" (Urban 2019: 206). This could indicate foreign origins for these *huacas* but just as easily could reflect different naming conventions for *huacas* within the Culle language: perhaps it was not necessary to specify that a *huaca* was a mountain in its name. In any case, these *huacas* will be discussed in more detail in my discussion of *purun huacas* later in this section.

Though not explicitly related to *huacas*, the modern local highlands have at least two traditions of pilgrimage involving groups of people coming together to either ascend a mountain or traverse a mountainous landscape. The Virgen de la Puerta is a widely revered Marian devotion with a rich and regionally inclusive tradition of annual pilgrimage that occurs every December to the highland town of Otuzco (see Chapter 3.3 for more details). This tradition is solidly situated in

the Catholic religious tradition but is also explicitly aimed at memorializing a bond between Otuzco and Trujillo: the highlands and the coast.

Above the highland town of Sinsicap, the distinct mountain peak of Cerro Orga has its own smaller and more locally attended pilgrimage tradition. This three-day event occurs at the beginning of May and begins with a small group ascending Cerro Orga to clean and prepare the peak with flowers for the more elaborate ascent scheduled for the next day. On the second day, a select and faithful group ascend the mountain while carrying decorated crosses: arriving at the peak and passing the night on top of the mountain. On the final day, the community greets the return of those who ventured to the top of Cerro Orga and march with them back to Sinsicap. Upon arriving, great festivities of drink, dance, and music ensue. This celebration fits well within the Catholic tradition of the "Fiesta de las Cruces" or "Cruz de Mayo" which, though it technically has Byzantian origins, is bound to older European festivals of celebrating the arrival of spring. Given the unique appearance and prominence of Cerro Orga in the Sinsicap Valley *chaupiyunga* landscape, I would not be surprised if it served periodically as a locally venerated mountain or *huaca* in the past. Whatever the case, the event brings together hundreds of celebrants from the surrounding landscape and is explicitly associated to memorializing Cerro Orga and the crosses upon it.

4.3.3.2 Celebrations, *Huacas*, and Ancient Places in the *Chaupiyunga*

Like their highland neighbors, the modern *chaupiyunga* communities of the Moche Valley have an abundance of gatherings, celebrations, and fairs. Notably, these gatherings do not involve pilgrimages akin to the Virgen de la Puerta or the ascent of mountains like Cerro Orga: the surrounding *chaupiyunga* landscape takes a backseat to the community itself in being the setting of celebration or veneration. The town of Poroto is locally well-known for the annual Fiesta Patronal de la Virgen del Carmen that takes place between the 17th and 19th of August. The Virgen del Carmen is known in English as Our Lady of Mount Carmel and has (1) a strong Marian devotion and (2) an associated order of brown-robed clergy called the Carmelites. Attracting devotees and celebrants from Poroto and surrounding *chaupiyunga* communities, the highlight of the Fiesta Patronal is a procession that marches the effigy of the Virgen del Carmen throughout the town and concludes at the Plaza del Armas where dancing, music, and drinking ensue. The

burning of a "*castillo*", essentially a series of fireworks incorporated into a light wooden scaffolding, is a particular vibrant and spectacular part of the final celebration.

The special liminal status sometimes attributed to Carmelites makes the eventual adoption of the Virgen del Carmen by the *chaupiyunga* community of Poroto all the more intriguing. At least as early as the 14th Century, the Carmelites were associated with the Sabbatine Privilege: a controversial privilege stating that Mary herself would descend into purgatory, the space between heaven and hell, on each Sabbath (Saturday) to personally guide recently deceased Carmelites into heaven. Thus, the devoted Carmelites enjoyed a privilege in which the mother of their God would actually descend into a liminal space to retrieve their souls and guide them to salvation. Though early Carmelites preached this privilege and claimed it was codified in a Papal Bull, the Bull itself was later determined a forgery and Carmelites had stopped preaching the Sabbatine Privilege by the 20th Century.

Celebrations surrounding the Virgen del Carmen are common, though far more grandiose, elsewhere in Peru. The massive Virgen del Carmen celebration of Paucartambo in the Cusco region is one that attracts thousands of celebrants from across Peru and the globe annually. This Virgen is attributed as a patroness of "*mestizaje*", which is a Peruvian and Spanish concept of characterizing people as having a "mixed" heritage of indigenous, African, and/or Spanish descent. In modern Callao, the Virgen del Carmen de La Legua is attributed as being the first effigy of any Marian devotion that was brought from Spain to Peru. Here, she is mainly regarded as a patroness of sailors and navigators: the Chapel of La Legua was allegedly sponsored by a shipwrecked Spaniard who was saved by the Virgen. Thus, elsewhere in Peru it would seem the Virgen del Carmen was, and still is, a common Marian devotion tasked with either mediating liminality or interceding to save souls by pulling them from the abyss.

That Poroto prioritized this particular Marian devotion as a patroness could simply be coincidental, but the emphasis on a liberation from a liminal status makes me suspect otherwise. As I discuss in my concluding chapter, the modern *chaupiyunga* serves as a sort of inter-generational staging ground for some highland families as they eventually leave for employment and residence in the urban center of Trujillo. Through such a lens, the *chaupiyunga* could be seen as a non-morally-charged purgatory of sorts between the highlands and the coast. A devotion to

the Virgen del Carmen and her special ability to retrieve souls from a liminal space very well could have resonated with a community, like Poroto, that was so embedded in a *chaupiyunga* landscape defined by being between Trujillo and the adjacent highlands. More research is needed to articulate whether there is an earlier basis for this specific tradition in Poroto, though there are records of Carmelites operating within Trujillo as early as 1724 (Feijoo de Sosa 1763:73).

The antiquity of any of the possible *huacas* or sacred places in the broader *chaupiyunga* landscape are far less clear. Most that I know of (1) lack any associated traditions of pilgrimage, veneration, or celebration and (2) are based mainly on local anecdotes, folklore, and hearsay. These stories are unified in that they describe a landscape laden with powerful, but dangerous, ancient pasts. Though admittedly difficult to properly contextualize, these are stories still worth telling and they beg more thorough research than the meager offering I provide here. The twin peaked mountain of Cerro Jesus Maria overlooks the final confluence of the Moche River and is said to have gotten its name from the dispersed town(s) of Jesus Maria that stretch downriver. One story for this name was graciously passed to me by Senor Ramon Uriol of Jesus Maria and is worth recounting: it begins in the distant past with a drunken *campesino* having forgotten to take his goats out to graze during the day. After coming home to be (justifiably) berated by his wife, he took his goats into the nearby hills at night and passed by the ruins of Huaca Menocucho where he heard a terrible noise. Veiled by smoke and fog, the devil himself emerged from the hills/*huaca* in such a terrifying form that the *campesino* only had time to say "Jesus, Maria…" (and not …Jose!) before running home and possibly relieving himself in the process.

This association between the night time, demons/devils, and ancient towns or *huacas* was also a common theme I heard in the stories of my neighbors in Casa Blanca. The theme specifically would emerge from stories of looting in the hills for ancient artifacts or "*huacos*": an activity that seems to have often occurred at night and always involved heavy drinking. It is tempting to draw some parallels between such stories and those of the Machukuna (Allen 2002: 75-101): the night seems to be a time when ancient things obtain a different quality and become animated in vengeful ways. Though I think it is safe to make a vague connection between the night time and the ancient past in local understandings of the landscape, a more thorough record of such stories would be needed to make more substantial connections. Finally, Pleasants mentions a local myth about the twin peaks of Cerro Santo Domingo at the upper edge of the Lower Valley, the peaks "are said to

represent two god-parents – a male and a female – who were turned to stone because of an incestuous relationship" (Pleasants 2009:264; Sharon, Briceño, Noak 2003: 122-124). The peak itself, and the story of this couple, is linked to the broader sacred landscape connected to the Quebrada Alto de las Guitarras and is described elsewhere (Sharon, Briceño, Noak 2003; Campana 2006). In sum, it is clear that the Moche Valley *chaupiyunga* landscape was, and is, not bereft of places that local people recognize as both powerful and connected with the past.

4.3.3.3 The Ocean, Celestial Realm, and *Huacas* of the Lower Valley *Chala*

The Lower Moche Valley landscape of the *chala* is one rich with *huacas* and sacred places that are relatively well-documented. The Pacific Ocean served, and still serves, as one of the most important parts of the *chala*: the surrounding sacred landscape coexists with, and even is overshadowed by, the seascape and the celestial realm of the night sky. Both the moon and sea, respectively called *Si* and *Ni* in Mochica, were considered principal deities for many of the people of the North Coast and for Chimor specifically. In fact, this superior power and scope of the moon and ocean deities in Chimor was often a point of contention with the Inka religious pantheon in which the Sun, called *Inti* in Quechua, was the paramount deity (Rowe 1949:50; Garcilaso de la Vega 1976 [1609]: 72-77). The goddess *Si* was particularly important in the Pacasmayo area where there was a great temple, *Si-an* or "House of *Si*", devoted to her followers. The constellations in the night sky also played vital roles in determining *chala* agricultural cycles. The Pleiades, called *Fur* in Mochica, were followed to mark the passage of a year and were important markers for determining certain times of planting (Rowe 1949:50).

In fact, these linkages between the ocean, the cycles of the night sky, and cycles of time are a remarkably strong thread that emerge in many parts of the *chala* worldview. Firstly, it should be obvious the cycles of the moon and ocean are linked through the tides and these are all then linked to humans, specifically women, through the biological cycle of menstruation: we may expect this to be the reason the moon deity was a goddess. Second, the planet of Venus (the Morning and Evening star) shared the name of *Ni* with the sea deity while the cycles of Venus itself conspicuously ushered the beginning and ending of nighttime and the passage of a day (Rowe 1949:50). If we recall the consistent associations between night time, coastal people, ancient pasts,

and the passage of time among the Huarochiri, Huamachucos, and even Runakuna, it does seem these concepts were bundled amongst Andean people outside the *chala* as well.

These connections between sacred realms and the Pacific Ocean itself in the Moche Valley have persisted, albeit in a different and more Catholicized form, amongst the people who live there today. The modern festival of Día de San Pedro brings the Huanchaco fishermen families together to put on great processions and parties that culminate with an effigy of San Pedro himself being taken on a brief journey into the ocean upon a massive balsa raft. This event is a massive celebration and often brings throngs of people from across Trujillo, the local highlands, and many parts of Peru: essentially a *chala* equivalent of the festivities, but not the pilgrimage, in Otuzco associated with the Virgen de la Puerta. That Saint Peter, the patron saint of fishermen, is the focal point of this celebration is obviously bound to the occupations of most of those who live in Huanchaco: whether one catches fish or thrives off of the terrestrial bounties of annual beach tourism, the Pacific Ocean remains a vital part of the identity and economy of the coastal town of Huanchaco.

This more intimate connection with the adjacent Pacific Ocean did not preclude nearby mountains from being included in pantheons of local deities or revered places. The prominent mountain of Cerro Campana was surely some manner of revered mountain during at least a few points of the prehistory of the Moche Valley: archaeologically recorded occupations on and around the mountain are numerous and range from the Paijan Phase through to the Chimú-Inka Phase (Huamanchumo 2012). Though information on earlier occupations of the mountain is limited, several possible stone altars and/or sacred stones have been recorded with nearby material that suggests Moche Phase occupations (Franco et al. 2013). Franco and his colleagues call particular attention to the association between sacred mountains and human sacrifice in both Moche iconography and the traditions observed at Huacas del Moche (Franco et al. 2013). As was previously mentioned in this chapter, several other mountains in the *chala* (e.g., Cerro Oreja, Cerro Blanco, Cerro Chiputur, etc.) were likely revered. A few of these mountains were physically incorporated into the adobe *huacas* that often abutted them: the most famous example of this practice is probably the aforementioned sacrificial altar of Huaca de la Luna that featured a part of Cerro Blanco itself.

Though archaeological examples of sacrifices are absent on Cerro Campana, the mountain is referred to in the tragic conclusion of the story of Querrutumi (Huamanchumo 2012: 44). Calancha describes that, upon being defeated by the Inka, the Chimú general was overcome with grief and took his own life at the foot of Cerro Campana (Calancha 1974-81 [1638]: 55). Like many stories in the chronicles, the story of Querrutumi itself is bound to Cerro Campana and is partly an explanation for why the mountain was so revered. Even the name of Querrutumi is laden with symbolism in Quechua: "Querru-" could be a reference to the *kero* or drinking chalice while "-tumi" could be a reference to the *tumi* knife. Both objects are linked to the Moche tradition of human sacrifice in which nobles, dressed as deities, cut the throats of their vanquished foes using *tumi* knifes and drank their blood from *keros*. That the end of the story of Querrutumi took place on a mountain overlooking the Huacas del Moche makes these associations seem even less coincidental. This being said, these are all Quechua words and the meaning of Querrutumi in the *yunga* languages of Quingnam and Mochica is less clear. In any case, the mountain of Cerro Campana was almost surely a venerated peak in the early histories of the area and this probably could be extended back at least into the Chimú-Inka Phase as well.

4.3.3.4 Exploring *Purun Huacas*

A type of *huaca* called a *purun huaca* can also serve as a useful concept for understanding how older and powerful places may have been co-opted and rebound into political landscapes in the ancient past of the Moche Valley. Salomon and Urioste describe a *purun huaca* as a sort of ancient and unaffiliated (literally "wild") *huaca* that belonged to an "extinct *allyu*" (Huarochiri Manuscript 1991 [1598-1608]:101-103). The specific example in the Huarochiri Manuscript is that of Llocllay Huancupa: a *purun huaca* who is found by the Inka and awakened (by a version of Catequil) to serve as the *huaca* of a nearby community (Huarochiri Manuscript 1991 [1598-1608]:101-103). The Spanish extirpator Rodrigo Hernández Príncipe described that, when *purun huacas* were found, the indigenous people nearby "considered themselves lucky and blessed, and they began to ennoble their lineages and their descent" (Huarochiri Manuscript 1991 [1598-1608]:101; Hernández Príncipe [1613] 1919: 184). Thus, ancient and/or powerful places in the landscape could be co-opted by the people and polities of the present, regardless of how long they had been abandoned or ignored. In the case of Llocllay Huancupa, the "discovery" of this *huaca*

by the Inka does not seem coincidental. As Salomon and Urioste point out, it was probably safer to find "new", but also obviously ancient, *huacas* than deal with local *huacas* that were already being worshipped: lest they become symbols of resistance or rebellion (Huarochiri Manuscript 1991 [1598-1608]:102). The links between *huacas* and noble lineages is also notable in showing again how intertwined political networks and landscapes often were in the Andes: successfully or convincingly identifying a mountain or place as a *huaca*, and familial ancestor, was one route towards legitimizing political authority.

With such a concept in mind, we can recall the *huacas* around Cerro Urpillao and Cerro Quinga. For Cerro Quinga, I would argue that the settlement pattern data may suggest this was something like a *purun huaca*: the majority of occupations around the mountain appear to have been contemporary with the Gallinazo or Moche Phases and not the latter Chimú or Chimú-Inka Phases (Figure 4.6, Figure 4.13). Thus, it could be that these older remains of occupations around Cerro Quinga were found by Inka agents and the *purun huaca* Quingachugo was awoken, maybe even by Catequil himself, to help simplify Inka authority in the area. That the demographic and political landscape of the Carabamba Plateau appears so fractured in the time before the Inka arrival makes this even more likely. The multiple feuding communities or fiefdoms perhaps needed one *huaca* to help reconcile their fractures and create a more manageable unit for the Inka to politically control. Meanwhile, the area around Cerro Urpillao appears to have had more-or-less continuous occupation well through to the Chimú and Chimú-Inka Phase. Thus, Uzorpillao could have been an already existing *huaca* belonging to a cooperative group that was merely co-opted into the broader Huamachuco province created by the Inka.

Moving to the Moche Valley itself, this concept of *purun huacas* is also intriguing if we recall the Chimú-Inka intrusive burials that were recorded at several ancient *huacas* like Caballo Muerto or the Huacas del Moche. These adobe *huacas* could very well have been co-opted as sacred places, even *purun huacas*, following one of the many defeats of Chimor. This would change our interpretation of the associated burials entirely: transforming them from symbols of local resiliency against Inka domination into symbols of the Inka weaponization of a broader ancient, and powerful, landscape against the entrenched traditions of political authority at Chan Chan. However, it is important to emphasize that these interpretations are definitely not mutually exclusive. Such graves could have simply been those of remnant noble families of Galindo or

Huacas del Moche (if such remnants existed) who allied with the Inka in order to curb the power of Chan Chan. The palace politics of Chimor left ample room for courtly intrigue and there were no doubt local political actors who were ready to benefit from the defeat of the royal dynasty.

More broadly, I think that this concept of a *purun huaca* can be used to understand older and pre-Inka political landscapes, particularly those in the Moche Valley. A constant theme in the earlier narrative that I have outlined for the valley was the continued occupation, re-occupation, and co-opting of old and powerful places (e.g., Galindo, Cerro Oreja, etc.) by subsequent populations and political regimes. Who is to say that Moche nobles or Chimú royalty did not search for abandoned or marginalized symbols of ancient power, like crumbling adobe *huacas*, upon or with which they could construct and legitimize their own political authority? If the *huaca*-polity of Galindo was indeed founded by a foreign dynasty or an upstart local family, we may expect these new rulers to have claimed connections with something akin to a *purun huaca* to legitimize their rule. Positioned between the sprawling ruins of Caballo Muerto and the intakes of three vital canals, the location of Galindo does surely provide an excellent halfway point between the abandoned center of an ancient political landscape and an important node in the contemporary economic landscape. Whatever the case, the idea of a *purun huaca* elucidates a whole new field of authority on which Andean polities may have competed: the ancient landscape itself was rich with abandoned and wild *huacas* who had tangible power that could be channeled for political ends in certain places.

4.3.3.5 Discussion

The above discussion of the sacred landscapes and possible *huacas* of nearly five centuries of people in the Moche Valley, though admittedly disjointed and incomplete, provides some useful information to assist our understanding of the region and the *chaupiyunga*. Firstly, the mountains of the surrounding landscape, from highlands to coast, often served as venerated or celebrated places or were venues through which veneration or celebration occurred. Such traditions of veneration and celebration both pre-date the arrival of the Inka Empire and persist well to the present. Though the exact traditions varied widely, from large public celebrations to more private engagements through shrines, mountains have likely played a re-occurring role in binding communities or individuals with the landscape for over four millennia of humanity's history in the

Moche Valley. This being said, the sacred landscapes of the *chala* and *chaupiyunga* do show some differences that surely hold echoes of the different geographic landscapes that distinct communities inhabited. In the *chala*, communities were, and are, more bound to the Pacific Ocean and the associated celestial realm of the night sky. In the *chaupiyunga*, it is possible that the community of Poroto perhaps chose the Marian devotion of the Virgen del Carmen to secure her assistance as they navigated their own liminal geographic position. Tangled in these sacred landscapes, the remains of the ancient past, like adobe *huacas*, play similarly variable but re-occurring roles: from being tools of Empire to serving as warnings against the vengeful things that lurk in the night. The former is particularly important for the purposes of this dissertation, as the concept of a *purun huaca* is one that captures how ancient landscapes may be re-articulated into contemporary ones to serve explicitly political roles.

4.3.4 Nobles, Subjects, Land, and Water on the North Coast

Early historical documents also provide invaluable insights into the identities, activities, and realms of authority held by the nobility and royalty of the North Coast. Though regional-level rulership during this time was conducted or guided by Spanish officials, most local-level rulership was still carried out by local and indigenous nobles and leaders. However, it is important to emphasize that these local-level authorities were operating within a political landscape that had been shaped by two centuries of Spanish and Inka rulership: the older political institutions of the North Coast were far from untouched when they were recorded. The proceeding discussion is definitely not comprehensive but is aimed at articulating: (1) who these local-level nobles were and how they were organized and (2) what authority they wielded over people, land, and water, and what responsibilities came with this authority. The resulting insights give us a vague idea of some of the realms of authority and responsibility that were likely held by local nobility and royalty as well as what may have changed since the fall of Chimor.

4.3.4.1 North Coast Nobility: Names, Titles, and Organization

The nobles of the North Coast were identified by a variety of names. Up to now in this dissertation, the politically powerful families and individuals of the Moche Valley have been

vaguely referred to as "nobles" and "royalty" solely because their actual titles are obscured by the lack of a written or spoken record of their existence. The language of Quingnam is one of the most likely candidates for what was spoken in much of Chimor but it went extinct rather rapidly and our current understanding of it is fragmentary at best (Urban 2019: 147-176). The words *Namo* or *Namu* are the closest terms that appear to have been associated with "lord" or "father" (Urban 2019: 150). Recalling the name of Pacatnamu, this is roughly translated as "Father/Lord of All" and is interpreted as a title given to this character for being a benevolent ruler of his newly awarded province (Urban 2019: 150; Torero 1986: 541). Interestingly, Quingnam is probably not even the specific name of the language that was spoken in Chimor: the word itself seems to be a corruption of the name of a lord of Mansiche named Quin Namo or "Lord of Quin" (Urban 2019: 148).

Though it was more common north of the Chicama Valley, the language of Mochica was also spoken within Chimor and has seen an abundance of study (Urban 2019: 115-142). In Mochica, there are many words associated with nobility and royalty: *Çie Quic* likely referred to a paramount noble or royal, *Alæc* likely referred to a lower-level "feudal" noble, *Çiec* more generally referred to a lord or lady, *Fixllca* referred to a gentleman, and *Paræng* likely meant vassal or subject (Rowe 1948: 47). This being said, most early documents and Spanish officials referred to the varied nobles and leaders in the old dominions of the Inka Empire with words derived from Spanish (e.g., *Don(a), Señor(a), Principal*), Quechua (e.g., *Kuraka*), or even Taíno (e.g., *Cacique*). Though these names varied and the specific titles used in Chimor are unclear, the common thread tying together these "nobles" was that these were individuals who held some manner of authority over local communities and landscapes.

The varied nobles of the North Coast inherited their positions of authority in a mostly hereditary manner and titles of power often stayed within local families. At the highest level, the paramount nobles often gave their sons lordships over the smaller *parcialidades*, or dominions (literally "parts"), of their realms of authority (Netherly 1977: 183). Giving such positions assured the sons of nobles with "labor service and goods befitting to their rank" while also perpetuating the leadership role of the larger family within the region under their rulership (Netherly 1977: 183). Additionally, the accumulation of multiple titles and lordships seems to have been a key to the accumulation of power: the more titles one held, the more labor one could pull upon, and the broader authority one could wield. Upon the death of a noble who held a title of leadership, the

responsibilities of this title often went to a brother or a son but seldom was a something that was given to outsiders (Netherly 1977:183-184).

For some lower-level *parcialidades*, these successors were either (1) chosen by a paramount noble or (2) were chosen by the local family itself and then approved by the paramount (Netherly 1977: 186). This role of the paramount nobility in selecting local-level nobles for positions of authority is generally thought to have carried over from the Inka, and even Chimú, regimes: before the arrival of the Spanish, it would have been royalty (or their representatives) making such selections or suggestions. Even if a paramount needed to approve of a successor, however, the decision ultimately was settled locally by councils of the powerful families and some community members of the *parcialidad* itself (Netherly 1977: 183-184). It is here that we can see lesser nobles and local-level leaders, called *principales*, enter the political arena by providing some input (even if only symbolic) in the selection of their superiors.

Though most of the recorded nobles who held titles of authority were men, there are plenty examples of women holding offices of power. In the late 1500s, the Collique in Lambayeque were led by Lady Maria Atpen and she appears to have held a very high rank and commanded ample authority over the people of her *parcialidad* (Netherly 1977: 189). A noblewoman of Chimor, Augustina Chayhuac, was even named as a possible heir to the lordship of her father because he lacked sons (Rostworowski 1961: 55). Though her uncle was ultimately left in charge when her father was absent, this could have easily been due to (1) her young age or, more likely, (2) the ambitions of the uncle for his son-less brother's title.

For the North Coast it is possible that some collections of noble families organized and distributed authority between themselves within a nested network of dual, but asymmetric, leadership arrangements. Before detailing this arrangement, it is necessary to emphasize the likelihood that parts of it developed during Inka domination of the region. The Inka were noted as promoting the division of former provinces of Chimor into dual moieties in order to dilute the authority held by the former royalty and paramount rulers (Netherly 1984: 230). In Chimor itself, this process could have begun with the installment of Chumun-caur who, though technically a son of Minchançaman, was raised in the southern lands of his mother and was almost surely loyal to Topa Yupanqui and the interests of Cuzco (Appendix B). Even if Chumun-caur was a fictional

character, we need only look to the archaeological evidence during the Chimú-Inka Phase to see how the demographic and political landscapes of the Moche Valley had been so fundamentally changed. Given the turmoil observed in these landscapes, it would be foolish to assume that local traditions of political authority had emerged completely unscathed.

In any case, Netherly argues that the Chicama and Moche Valleys were likely organized within a dual-leadership network during the early centuries of the Viceroyalty of Peru (Netherly 1977: 141-147). To begin, each valley was divided into two larger parts, moieties, that each had their own ruler and networks of families. However, the ruler of one (the *cacique principal*) held far more authority than the ruler of the other (the *segunda persona*). These larger parts in the Moche Valley were divided partially by the river itself but mainly followed canals and the fields they fed. The *cacique principal* in the Moche Valley ruled the northern part, called Chimor, that included the areas watered by the Moro, Vinchansao, and Mochica canals (Netherly 1977:144). His *segunda persona* ruled the southern part, called Guaman or Huaman, that included the areas watered by the Huaman canal (the modern Puquio Canals) on the northern side of the river and assumedly the Moche canals on the southern side of the river (Netherly 1977:144). These larger parts were further divided two or three more times depending on the valley, leading to nested layers of divisions that eventually connected the rulers at the top with those at the bottom.

The resulting web of relationships meant that rulers at the top had accumulated far more titles and potential subjects than those at the bottom. The accumulation of subjects was very clearly uneven and highly dependent on if the ruler in question was a *principal* or *segunda*. For example, the *cacique principal* at the top of the Chicama Valley held authority over 15 times more *mitmaq* family heads that were in his service than his *segunda persona* counterpart (Netherly 1977: 142). Even if one looks simply at subjects under the authority of these nobles, the clear differences persist: the *principal* of Chicama had 478 married male subjects under his authority compared to the 217 of his *segunda persona* (Netherly 1977:219).

Thus, even though this could technically be called a dual-leadership system, the allotment of authority over people, and their productivity and/or tribute, was profoundly skewed to whoever was the *principal* of the most *segundas*. This ultimately betrays the unequal reality of what may superficially seem a relatively equitable dual-leadership ideal. In fact, this feature makes the

identification of a dual-leadership arrangement in the archaeological record exceedingly difficult. Access to at least twice the number of subjects would probably result in relatively substantial material wealth differences that could obscure any of the more subtle similarities and associations between such nobles.

4.3.4.2 North Coast Nobility: Privileges and Realms of Authority

The early historical nobles of the North Coast had several privileges and were able to wield varying degrees of authority over individuals and communities within their immediate domains and abroad. The grand estates of the paramount nobles of the *chala* before and during the earlier years of the arrival of the Spanish are described by Cieza in an often-cited passage (Cieza de Leon 1967 [1553]: 197-198). Cieza was told that these palaces were made from adobes, had lots of large rooms, were adorned with big roofs, and contained great plazas in which the nobles would host gatherings of their subjects with ample food, drink, and dancing. Such hospitality was even allegedly extended to early Spaniards who passed through the *chalas*, although this specific tradition of hospitality faded as the authority of these local nobles was usurped by Spanish rule. This tradition of powerful families playing roles as the hosts for feasts and celebrations seems to have been a deep-rooted part of *chala* politics. Recalling the archaeological and iconographic evidence for such activities amongst the nobility and royalty of Chimor and even the Moche, one could argue that some form of this tradition of hospitality lasted almost a millennium on the North Coast.

The *Alæc Pong* (Mochica for "lord's stone") are enigmatic stones that could have bound noble families, or at least mythic community ancestors, to certain places in the landscape. Though only briefly mentioned by Calancha, the passage in which he describes *Alæc Pong* is rich with information (Calancha 1974-91 [1638]: 553). First, the *Alæc Pong* are notably described as "quien": a surprising attribution of personhood that seems to capture their animated state of being. They are also described as being venerated with immense care: *yungas* dared not walk near them and were required to pay homage to them if they passed their sight. Though he mentions them as being numerous in the landscape, any more concrete attribution is unclear: the *Alæc Pong* could assumedly be anything made of stone. Several scholars have suggested that the meaning of the name *Alæc Pong* may suggest that North Coast nobility themselves claimed ancestry with these

stones (Rowe 1949; Netherly 1977: 122-123). This interpretation is well-supported by *yunga* origin myths from the Central Coast: the earliest nobles in these areas were said to have been turned to stone and were thus revered as ancestors by later groups (Netherly 1977:123). Though the degree to which beings akin to *Alæc Pong* may have been worshipped in the pre-history Moche Valley is unclear, it is notable that (1) the sacred ancestry of *Alæc Pong* is embodied in stone and (2) vision seems to play an exceedingly important role in their veneration.

In addition to being hosts of feasts, having grand palaces, and possibly claiming landscape ancestry through *Alæc Pong*, nobles also had privileges of transportation that were bound to both their authority and their agricultural responsibilities. Following the Taki Onqoy rebellion of the mid-1500s in the highlands (Norman 2019), Spanish authorities denied all indigenous nobles from riding on horseback: prompting a petition by a group of loyal Moche Valley *chala* nobles who saw this as an injustice (Netherly 1977: 174). In addition to their loyalty to the Spanish, these nobles cite the myriad of agricultural responsibilities they had to guide (sowing fields, re-digging irrigation ditches, re-building farms, etc.) and lamented that they would become ill if they had to walk on foot to attend to such tasks. Netherly rightly points out that riding on horseback, like the tradition of being carried in litters that had since been outlawed, was a highly visible status signifier that was vital to the identity of these nobles (Netherly 1977: 173-174). I would only add that, on a practical level, perhaps these same nobles had recognized and grown accustomed to the utility of horses in touring their domains and managing their responsibilities: even the most talented litter-bearers could surely not outpace a horse.

The nobility of the North Coast held authority over the life and death of individuals and could extract tribute from and guide the settlement of communities abroad. The indigenous nobility of the North Coast could order the execution of their subjects, though this was exceedingly rare and was ruthlessly punished by Spanish authorities. Netherly describes a scenario in which the paramount lord of Collique in Lambayeque ordered the torture and execution of two men for allegedly seducing one of his wives (Netherly 1977: 179-180). This paramount lord was promptly executed by Spanish authorities after they became aware of this happening. However, the story shows he clearly wielded enough authority to mete out justice for what was (1) suspected adultery and (2) a likely personal affront to his own status (and that of his wives). Other references to such power over life and death by Andean nobility and royalty often revolve around their

responsibilities in stamping out malicious witchcraft or sorcery: the execution of the *yunga* lord of Quivi involved him conspiring with a local *huaca* against Topa Yupanqui. In Chimor, many crimes were punishable by death: disrespecting shrines, civil disobedience, walking along the wrong road/path, theft, adultery, and healer malpractice were among them (Rowe 1949:48-49). Punishments varied but often involved being tied up or partially buried in open areas for a slow and public death via exposure to the elements and scavenging animals. Though it is unclear what exact role nobles or royalty played in meting out justice in Chimor, the public nature of these executions does make it seem that community leaders could have been involved to some degree. Thus, the authority that these nobles had over the lives of their subjects obviously revolved around the nobility preserving or defending their own status but also probably gave powerful families some role in executions that defended the interests of the community, or polity, as a whole.

Some North Coast noble families also had access to, and authority over, *mitmaq* communities that could often be dispersed across *chala*, *chaupiyunga*, and even *quechua* landscapes. The specific named institution of installing families of *mitmaquna* was an Inka one: colonists of recently conquered or allied groups would be settled and labor partially in the service of nobility, royalty, or even a *huaca* cult. This was sometimes voluntary, like that seen with the Chaccla at Quivi, but is also argued to be part of a broader Inka strategy of dispersing troublesome groups while using *mitmaq* labor to expand the authority and wealth of specific royalty or nobility who were loyal to the current Inka King (D'Altroy 2015: 373-377). Though most seem to have been responsible for tending fields, *mitmaquna* could also be called upon to labor in a wider variety of activities like mining precious metals or raising animals. Though the *mitmaquna* were an Inka institution, similar forms of colonization have been archaeologically identified and attributed to the highland Wari and Tiwanaku political traditions. Recalling the Canta hamlet in Quivi, smaller highland groups and polities were also clearly subsidizing something akin to *mitmaq* colonies before the Inka, albeit at a much-reduced scale, by settling hamlets close to desirable areas or resources. This smaller-scale strategy is the cornerstone of Murra's classic "vertical archipelago" model for how some Andean ethnic and political groups exploited several different zones in order to achieve relative self-sufficiency (Murra 1972).

Many of the North Coast *mitmaquna* communities or families seem to have remained in service to their associated nobles well into 1500s CE. Though most of these were likely distributed

during the tenure of Inka authority in the region, those in Cajamarca could theoretically have had earlier origins. To whom exactly a given group of *mitmaquna* owed fealty varied widely, as did where they were located (Netherly 1977: 146-147, 159-160, 219-223). For example, a group of *mitmaquna* in the Moche Valley had their own locally situated lord but both the lord and the community likely hailed from the distant *chala* polity of Lloc in Pacasmayo (Netherly 1977: 146-147). Meanwhile, a highland lord of Chontal in the Cajamarca region protested to Spanish authorities when the *mitmaq* in his community, and under his control, fled back to their *chala* parent community of Chepen in Pacasmayo (Netherly 1977: 159-160). Netherly also mentions *mitmaq* from Guañape in the Virú Valley who remained under the service of their *chala* lord even though they worked and resided in the Huamachuco area (Netherly 1977:222). Thus, *mitmaquna* could have (1) a locally situated noble from their parent community, (2) a locally situated noble from the local community, (3) a distant noble from their parent community, and even (4) some combination or variation of these three. The flexibility of these arrangements was doubtlessly a product of the often-chaotic political environments in which they were forged. We need only recall the stories of Quivi to see how polities or noble families could have been awarded authority over, or the ability to settle, *mitmaquna* through alliance or military victory. The faces of superiors may have changed but the *mitmaquna* would have theoretically owed the appropriate tribute or service to whomever held authority over them at any given moment.

Specifically, the woes of the highland lord of Chontal highlight two important insights that this discussion of *mitmaquna* lends to our understanding of subjects and nobles on the North Coast. First, these *mitmaquna* were capable of "voting with their feet" if they became unsatisfied with the arrangement in which they found themselves. Subjects were not merely passive actors and, as will be seen in the following section, were owed obligations of hospitality from their associated nobility as recompense for their labor. If these needs were not met, the subjects had no reason to fulfil their side of the arrangement and could instead look for an alternative noble family who would serve as better wardens. Second, the highland lord petitioned to a higher political authority, the Spanish, likely because he himself lacked the authority to retrieve these *mitmaquna* as they fled to the coast. Though this lord was ultimately unsuccessful in his appeal, his attempt sheds light on a likely role of larger networks of authority in the Andes: the royalty of Cuzco would have surely had broad enough nets of authority to catch wayward *mitmaquna*. In fact, it is in this realm that perhaps we can see where local-level nobility would have benefitted from having a paramount. Under Spanish

rule, the lord of Chontal lacked the clout to negotiate directly with the coastal elite of Pacasmayo or their Spanish administrators. Under Inka rule, he likely could have appealed to a superior, whether a provincial noble or the King himself, who would have had the capabilities, and authority, to do so with more effect. Thus, the ability of local-level nobles to successfully maintain *mitmaquna* abroad would have been greatly improved under a broader political network like that offered by the Inka Empire: making sure subjects did not abandon their lords or ladies was much easier when there was nowhere to run.

4.3.4.3 North Coast Nobility: Land, Canals, Water, and Labor

A final important realm of authority held by nobles on the North Coast was over the management of canals, water, and land. To begin, it is important to emphasize that this authority did not translate into land or water ownership *per se* but instead was more structured on the rights or privileges of nobility in leading the cultivation of certain lands or drawing water from certain canals (Ramírez 1996; Netherly 1984; Caramanica 2018). Successfully preparing fields or maintaining canals required the labor of subjects as much as it required the presence of a noble who had rights to those parts of the landscape: this ultimately bound together the authority needed to mobilize labor with the rights held for manipulating the landscape itself. As Netherly succinctly states: "rights in land could only be realized if the lords had access to water and to human energy to make them productive." (Netherly 1977:272)

The starting point for any of this was the construction and maintenance of the canal systems that fed cultivated lands. These tasks were often the purview of the nobility of the North Coast: nobles were responsible for organizing work parties to clean and maintain canals annually (Netherly 1984: 244-245). This responsibility also extended to the repairs necessary after large ENSO floods, events that would test the capabilities of noble families and often required the assistance of a valley paramount (Netherly 1984: 246). Though drawing from and working on these canals was very clearly included in the rights of North Coast nobility, it is noteworthy that the canals, large and small, were more associated with the polity, *parcialidad*, or community as a whole and not necessarily the noble families who ruled. For example, two of the main canals on the north side of the Chicama River were associated with the two *parcialidades* within the broader Chicama polity, Nuxa and Yalpa (Netherly 1977: 284). Along this vein, canals could sometimes

remarkably reflect the political realities of the communities that used them. In the Lambayeque, the Cupip Canal, used by the smaller *parcialidad* of Pololo, was a small offshoot of the larger Taymi Canal, used by the broader polity of Collique. That the lord of Pololo was a subject of the lord of Collique should then not be surprising (Netherly 1977: 284).

Water distribution was obviously a vital part of a canal being useful and such distribution seems to have followed at least two paths depending on whether it was the wet or dry season. Netherly describes a relatively simple approach to the wet season: water was allowed to flow freely through canals and all lands were able to be fed because of this abundance (Netherly 1977: 285-287). The frequency in which such a loose approach would be used is likely tied to water availability and especially to those issues of water use that are addressed in the previous chapter (see Chapter 3.8). Given that the irrigation system in the Moche Valley likely was exceeding the output of the Moche River by sometime during the Moche Phase, it seems unlikely that this approach would last very long without leading to tensions over water availability.

A more controlled and turn-based method was also recorded that had Inka, and likely pre-Inka, origins: each canal section would be afforded a turn at watering their respective fields starting at the tail and concluding at the head (Netherly 1977:287-288). As has been discussed, this tail-to-head system was almost surely an ideal and was, as Netherly put, "a remarkably equitable system" (Netherly 1977: 288). This did not preclude confrontations or conflicts over water in which canals were disrupted or water blocked: two lords of the Jayanca are reported as coming to odds over water access in 1540, less than a decade after the Spanish arrived (Netherly 1977:288-289). It is also unclear if this tail-to-head tradition applied to individual canals or for the river as a whole. The difference between these two would be substantial in the dry season: areas up-river would have an inherent advantage to those down-river.

Though communities themselves were not consistently located at the intakes of their respective canals, they were always located upon or nearby their canals and the lands that they watered. Part of the historically recorded claim of Pololo to the Cupip Canal was that the canal passed nearby the community and watered its lands: spatial proximity to a certain canal often was linked with land claims and rights to cultivate (Netherly 1984: 240). It is also notable that the lands at canal intakes were particularly coveted by nobility (Netherly 1977: 284, 288). Obviously, these

areas offered easy access to water but they also (1) had aquifers indirectly fed by the adjacent river and canals (e.g., the Pukio Canals in the Moche Valley) and (2) were first in line during the dry season.

Though having preferred access to water and lands lent its advantages, the arena in which North Coast nobility wielded the most authority, and owed the most responsibility, was not in natural resources: it was in human labor. Mobilizing this human labor was done through providing ample materials for the subjects that could be marshalled to work the fields of a specific noble family or *huaca* (Netherly 1977: 212-214). These materials were both for sustaining the subjects (e.g., food and drink) and for transforming the land (e.g., farming implements and seeds). In fact, if we recall that the nobility also guided the distribution of water, it would appear that they provided most everything but the labor when it came to cultivating the lands within their rights. The importance of providing food, drink, tools, and seeds can be most vividly seen at the moments when it was absent. A lord of the Jayanca did not send food to the subjects of a mining *parcialidad* under his authority and thus did not receive any tribute or work: subjects would simply refuse to work if they were not fed (Netherly 1977: 213). Netherly also describes a group of subjects from Huaura who complained vigorously after being required to bring food and tools, even though they were apparently paid for their service in coin (Netherly 1977:213).

Not surprisingly, the presence of nobles for most of these activities related to cultivation was absolutely necessary. Nobles are described as overseeing a host of tasks like cleaning canals, supervising cultivation and planting, and even repairing and maintaining fieldhouses (Netherly 1977). This was also partly the motivation for the appeals by Moche Valley nobles to be permitted to ride on horseback: they had many places to go and many responsibilities to carry out. The brewing of *chicha* beer, whether from *maize* or other cultigens, was also particularly vital to being able to mobilize labor on the North Coast. Entire *parcialidades* of *chicha*-brewers are noted to have existed and, though only indirectly controlled by noble families, were surely subsidized to provide the *chicha* necessary to mobilize workers (Netherly 1977: 215-218). Attempts to regulate alcohol consumption by Spanish authorities were regularly met with resistance or complaint from nobles and subjects alike: the nobility could simply not mobilize their subjects for labor without the promise of hospitality and alcoholic beverages.

Finally, it is important to temper this discussion by being clear that plenty of cultivation and even canal construction on the North Coast likely occurred outside of the purview of Andean nobility. Though this is relatively unexplored in the literature available on the North Coast, it seems exceedingly unlikely that nobles were overseeing all of the cultivation occurring within a *parcialidad*. Such an overbearing presence would entail that a more powerful noble would be visiting the plots of several hundred families at multiple times over the course of the year. For example, the *principal* of the Chicama Valley would have had to visit the plots of, at most, 400 families several times a year! Even with access to horses and ample surrogates (*segunda personas*), this seems like a tall order. It is far more likely that the large labor events described by Netherly were (1) for special events that marked the beginning of key points in the agricultural cycle, (2) were focused on mobilizing labor for fields designated for the nobility, or (3) were perhaps for fields that had purposes that served the entire *parcialidad* (e.g., tribute to Spanish authorities). Below the larger *parcialidad* or polity, it would be safer to assume that collections of families, or even smaller *parcialidades*, would have been responsible for organizing the labor for cultivating their own fields. Modern and historically recorded Andean farming communities appear to follow such a decentralized pattern of labor that only becomes centralized at certain points of the year or for certain tasks (Gose 1994; Guillet 1992). Even though the cultivation of fields may have been more fractured, it does seem that nobles were still very often the managers of canal systems. Organizing the cleaning and maintenance of canals was a responsibility they often held almost exclusively: this came with the authority to nurture, but also command, the flow of water through the canal that fed the *parcialidad* as a whole.

Even so, we have no reason to assume that the presence of such figures of authority persisted infinitely in to the past on the North Coast or that such figures are needed to build and maintain canals systems more generally. Caramanica traces a deep past of mobile agriculturalists in the Pampa de Mocan who were only occasionally affiliated with noble families or broader polities operating within the Chicama Valley (Caramanica 2018). Many of the canals she recorded were only periodically being used during the times of high water immediately after ENSO events and were very flexible in their arrangements and uses. She argues that the biggest change in how this landscape was managed only occurred after the arrival of the Spanish: "As land, labor, and water were tethered to one another and fixed to places on the landscape, the prehispanic system of adaptive flexibility was replaced by the Spanish colonial system of optimization with permanent

settlement." (Caramanica 2018:147) The presence of a few Moche *tablados* and a likely rural Chimú palace in her survey area (Caramanica 2018: 134-140) both suggest at least a few pre-Spanish attempts by noble families to perhaps claim authority over these canals, but these attempts seem ill-fated or short-lived. The rural Chimú palace she excavated was remarkably devoid of material. To me this could be attributed to either (1) the paucity of ENSO events after it was constructed or (2) the failure of the Chimú noble who built it at wrangling the mobile agriculturalists of the Pampa de Mocan.

Whatever the case, the positioning of the Pampa de Mocan as a borderland of sorts between an adjacent desert and the fertile Chicama lowlands make it an intriguing region of comparison with the Moche Valley *chaupiyunga*. May we perhaps expect the Upper Valley *chaupiyunga* to feature similar traces of such mobile communities and flexible farming arrangements? The absence of canal and field excavations presented in this dissertation preclude fully answering this question but the fine-grained survey data presented in later chapters (Chapters 7-9) do confirm the presence of many field camps and hamlets. These occupations point towards considerable mobility amongst the variety of farmers – likely from both the *chala* and adjacent *quechuas* – who shaped the *chaupiyunga* landscape. Additionally, such practices were not restricted to the *chaupiyunga*: the variety of hamlets, sherd scatters, and field camps noted in the prehistory discussion earlier in this chapter show that *chala* farmers were often mobile upon their landscapes. In fact, it is quite clear that the mobility described by Caramanica at the Pampa de Mocan was more a norm than an exception on the ancient *chala* and *chaupiyunga* landscapes of the Moche Valley. As we see in the next sections, this thread of agricultural mobility can be followed well through Spanish rule and up to the present day.

4.3.4.4 Discussion

This brief review of the identities, activities, and realms of authority of the nobility and royalty of the North Coast in the early historical record provides a few useful insights into the politics during the early decades of Spanish authority and possible even earlier under the Inka and Chimor. These nobles went by a variety of names and they held titles of authority that tended to stay within noble families: preferentially passing titles to sons or brothers but in a way that was highly dependent on rank within a polity. Groups of noble families were organized within North

Coast polities to form nested networks of hierarchically related pairs in which one paramount family eventually accumulated far more titles and authority than the others. The authority wielded by these nobles was often far reaching: some families commanded tribute from communities of *mitmaquna* abroad, ranging from adjacent river valleys to the distant highlands, who could provide them with resources not available at home. In their homelands, authority was built through a variety of venues within the landscape in which nobles showcased their hospitality. Nobles hosted celebrations within their palaces where food and drink were ample and where their role as ruler and host could be enacted and debts of obligation re-forged. A similar hospitality was expressed even upon the economic landscape at canals and at fields associated with nobles or the community at large: nobles were responsible for providing the food, drink, tools, seeds, and water to equip their subjects with the necessary ingredients for a successful planting season. This same hospitality needed to be extended to the *mitmaquna*, who could refuse their obligation of tribute if they were neglected the food and drink required from their superiors. Thus, the authority of nobility on the North Coast under Spanish administration was inseparably bound to (1) hospitality and (2) the landscape itself: (1) rulers enacted their role as hosts to re-enforce their position of authority and (2) they mainly built this authority in certain places and spaces (e.g., palaces, canals, and fields).

4.3.5 The Moche Valley during the Viceroyalty of Peru (1542 – 1824 CE)

Census data and other historical records of the Moche Valley during the centuries of the Viceroyalty of Peru (1542 – 1824 CE) paint an important, albeit tragic, portrait of the remarkable pace of demographic collapse in the region but also extend our view of the demographic and political landscapes in the region (Appendix G). Before delving too deep into these data, it is important to recognize the limits of the census data in particular. There were many challenges that would lead to lower population counts during the early censuses of the Viceroyalty of Peru: local-level nobles often under-reported the subjects under their authority in order to avoid tribute and the mobility of many indigenous communities and individuals made them difficult to count (Cook 1981:88-89). This being said, Spanish officials were well aware of the challenges that faced them and would conduct their work accordingly by cross-checking with other sources (e.g., parish records, previous censuses, etc.) and by returning several times to be sure they did not miss seasonal laborers (Cook 1981:88-89). Thus, the initial census counts presented here should

probably be approached as minimums but are likely quite close (within a few hundred people) to what may be expected to be the "true" population of the area. Here, my discussion focuses on two specific chunks of time: (1) part of the early Viceroyalty of Peru between 1570 and 1600 CE and (2) part of the later Viceroyalty of Peru between 1763 to 1785 CE. The data themselves are summarized in a series of tables in Appendix G.

4.3.5.1 Census Data from the Early Viceroyalty of Peru (1575 – 1604 CE)

Turning to the some of the earliest censuses taken around Trujillo between 1575 and 1604 CE, these data show (1) the extent of demographic collapse that had occurred in the Moche Valley and (2) that this collapse was possibly well underway before the arrival of the Spanish. With the resources at my disposal, I was able to find discussions of two likely overlapping census counts after the Reducciones of Toledo: (1) a census prepared in 1575 and (2) a count prepared by Mayor Lescano in 1604. Cook argues that the census taken by Lescano in 1604 is likely a composite of earlier numbers and thus these two are combined and supplemented with some additional data from Lynch on the demography of Trujillo itself (Cook 1981: 139; Lynch 1973: 46-47; Appendix G; Table G.1). Of particular note are the indigenous populations: most were living in the settlements of Chimo, Guanchaco, and Moche while a modest number were likely living in or around Trujillo itself. The location, or even existence, of the settlement of "Chimo" described by Cook is unclear but it does seem likely that it represented some composite of communities associated with Mansiche or Huaman (probably Mansiche).

Though these data surely have their limits, they allow at least a minimum estimate of the number of indigenous people living in the Moche Valley *chala* between 1575 and 1604 CE: between 2480 and 3218 people. A later aside by Feijoo de Sosa somewhat corroborates this number: he mentions that more than 3,000 indigenous people lived in the Moche Valley before during the "time of the first Spaniards" (Feijoo de Sosa 1763: 83). As he likely had access to older census numbers, he may have been referring to Lescano's figures. Earlier records also show almost 1000 enslaved Africans amongst the population of Trujillo: obtaining slaves was a common solution to the lack of labor that Spanish nobles and landowners faced in the wake of the collapse of indigenous populations during the mid- and late-1500s.

Comparing the 1575 to 1604 count of indigenous people with the demographic estimates presented earlier for the Chimú Phase, one can clearly see the demographic collapse that was wrought upon the Moche Valley after a century of Inka and Spanish conquest. The combined communities that remained in the late 1500s only represented some 5-10% of the estimates for the indigenous population during the height of Chimor (Table 4.13). Similar such demographic collapses were recorded across the Andes and are often attributed to (1) multiple epidemics of European diseases and (2) the political chaos of the Spanish conquest and civil wars (Cook 1981). This being said, a few lines of evidence indicate that this collapse in the Moche Valley very likely occurred well before the arrival of the Spanish in 1532.

Compiling and analyzing a vast host of data from across the Andes, Cook distilled several broad regional estimates for the indigenous population decline that occurred from the 1570s through the 1600s (Cook 1981: 75-118). He then used these decline rates to project what indigenous populations would have looked like in the 1520s (Cook 1981: 75-118). Though he used five total methods, the estimates he settled upon as being the "most likely" were ultimately derived by: (1) applying the 1570s-1600s decline rate to pre-1570s data to get a lower range and (2) either doubling this number or using the highest available rate of decline that was recorded (that from the South Coast) to get a higher range and account for the likely higher death rates of the 1530s through 1570s (Cook 1981: 108-118).

I applied these methods to the 1575 to 1604 census data from the Moche Valley in order to get a better idea of the possible dynamics of population decline in the region (Appendix G; Table G.2). Following Cook, I used the annual decline of 2.2% recorded for the North Coast as my lower range while the annual decline of 3.8% from the South Coast was used as my upper range (Cook 1981: 106). To be clear, my intention was not to arrive at some exact population estimate of the Moche Valley before the 1520s. Instead, I wanted to simply test (1) how these historically recorded rates of decline interacted with possible important dates (e.g., arrival of Spanish, fall(s) of Chimor, etc.) and (2) when these rates produced population estimates similar to those estimated for the Chimú Phase (approximately 30,000 to 60,000 people).

To begin, by 1532 neither model had arrived at population estimates comparable to the 30,000 to 60,000 people estimated for the Chimú Phase: the estimates ranged between a third and

a half of this number. This was not a particularly surprising result given the aforementioned archaeological evidence for demographic collapse during the Chimú-Inka Phase. This being said, it does help corroborate those findings. Looking further back in time, the 1470 and 1450 CE dates for the Chimú-Inka wars and possible Inka conquest both produce somewhat believable demographic estimates using the general North Coast population decline annual rate. On the other hand, the South Coast population decline estimates arrive at similar such demographic figures sometime between 1494 and 1517. This range of years would more-or-less correlate with the reign of Huayna Capac and the possible rebellion of Chimor under his rule. However intriguing such results may be, projecting these declines past the 1520s seems exceedingly unwise: population decline was surely not constant for over a century.

More important for the purposes of this dissertation is the result of the application of these models to understanding the possible demography of the 1520s. As this was Cook's intention in developing these models, it is the wisest way to use them. To this end, they corroborate a point that was already suggested by the sparce archaeological record of the Chimú-Inka Phase: there was almost surely a demographic collapse in the Moche Valley that pre-dated the arrival of the Spanish.

4.3.5.2 *La Relación Descriptiva de la Ciudad y Provincia de Trujillo del Perú* (1763 CE)

In 1763, Miguel Feijoo de Sosa wrote an invaluable overview of the Moche Valley that included everything from a few bits of local histories to census data (Feijoo de Sosa 1763). Feijoo de Sosa was the Mayor of Trujillo between 1757 and 1775 and the document, titled *La Relación Descriptiva de la Ciudad y Provincia de Trujillo del Perú*, was meant as a gift to King Charles III. Importantly for our uses here in understanding the Moche Valley landscape, it included several maps that illustrate settlement patterns in the Moche Valley *chala* and more general maps that include the *chaupiyungas* and local highlands (Figure 4.17; Figure 4.18; Feijoo de Sosa 1763). Beginning with the general map (Figure 4.17), we can see that the *chaupiyungas* were inhabited unevenly: both the Middle Moche and Sinsicap Valley *chaupiyungas* had a variety of towns and sugar mill haciendas but the La Cuesta or Upper Moche Valley *chaupiyungas* lacked any settlements or haciendas whatsoever. The adjacent highlands were similarly sparsely settled: the sole town of Otuzco sat at its modern location while a possible mine was located assumedly near

the modern town of Carabamba. The sparse record of highland, and even some *chaupiyunga*, settlements in this document is not particularly surprising: these areas were technically located in the adjacent province of Huamachuco and were outside of Feijoo de Sosa's responsibilities as Mayor of Trujillo. It is clear that his focus was on larger settlements and specifically the operations that owed tribute to the Spanish Crown: it is doubtful that he was recording smaller towns and farmsteads in such a broad area outside of Trujillo.

Feijoo de Sosa lends far more detail in his treatment of the lands around Trujillo and provides a thorough picture of the different haciendas, towns, and even canals that were in use in the decades before and during his time as Mayor (Figure 4.18). The remnants of the ancient Mochica canal were consistently, though sometimes inadequately, repaired over the years and survived ENSO floods and rains in 1578, 1624, 1701, 1720, and 1728 before Feijoo de Sosa's tenure as Mayor began (Cook 1981:139). Two spring-fed (Puquio) canals were also in use in 1763: given that one of these fed the indigenous community (and old *parcialidad*) of Guaman, it seems likely they had been maintained since before the arrival of the Spanish. The demographic and political heart of the Moche Valley by this time was still Trujillo, but the center had grown considerably in size to house over 9,000 people (Feijoo de Sosa 1973: 29-31; Appendix G; Table G.3). The urban area dominated the demographic landscape in a manner reminiscent of Chan Chan, albeit on a smaller scale: Trujillo housed some 80% of the population in the Moche Valley. An earlier census from 1754 records the larger ecclesiastical unit of Trujillo as having over 18,000 people, making the town of Trujillo the largest urban area in the region (Cook 1981: 86). Notably, about a third of this ecclesiastical number were composed of *foresteros*: mobile and landless laborers who became common as Spanish tribute demands skyrocketed during the 17th and 18th centuries.

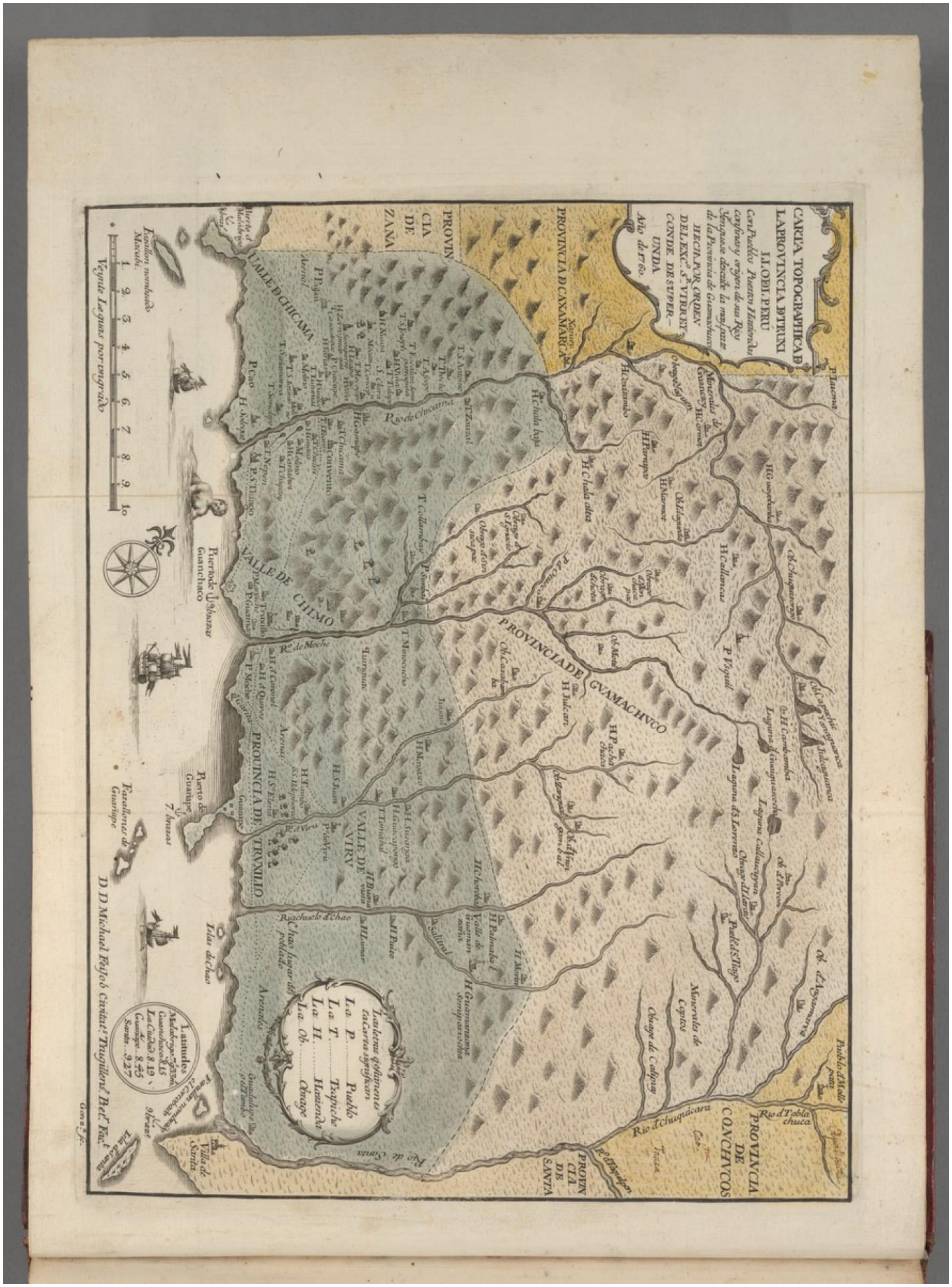


Figure 4.17 The Province of Trujillo in the 1760s CE (Feijoo de Sosa 1763)

Figure 4.18 The Valley of Chimo in the 1760s CE (Feijoo de Sosa 1763)

The Moche Valley landscape held a mosaic of permanent indigenous communities (Mansiche, Huanchaco, Guaman, and Moche), haciendas, farmsteads, and chapels (Appendix G; Table G.3; Table G.4). The communities of Huanchaco and Mansiche are discussed at length by Feijoo de Sosa, and both towns were under the authority of a descendant of the Royal line of Chimor named Don Antonio Chayhuac Casamusa (Feijoo de Sosa 1763: 82-86). The continued, albeit muted, power of the old domains of Chimor can be mainly seen in the larger populations and landholdings of the communities of Mansiche and Guanchaco when compared to Guaman and Moche (Appendix G; Table G.3). Guaman, also called Huaman, was led by Don Gregorio Mora Chimo while Moche apparently lacked an indigenous leader at that time. It is odd that Moche is not referred to as being in Don Gregorio's jurisdiction: especially given that Moche was a *reduccion* of communities that would have been under the authority of the old *parcialidad* of Guaman. It is also unclear whether Don Gregorio Mora Chimo still owed any manner of fealty or tribute to Don Antonio Chayhuac Casamusa as his descendants, or predecessors, would have in the 1500s.

The persistence of these indigenous communities and leaders, even though they were living in *reducciones*, is just as notable as the appropriation of many familiar parts of the landscape by Spanish authorities, families, and clergy. By this point in the 18th century, less than a third of the land in the Moche Valley was considered "owned" by indigenous communities or noble families (Appendix G; Table G.4). Haciendas like those built at Galindo and San Domingo were conspicuously situated just under the old ruins of the Chimú and Chimú-Inka Phase settlements at Cerro Galindo and Cerro Oreja, but the old indigenous communities that were likely nearby had either disappeared or been resettled. In his description of the Hacienda de San Agustin, Feijoo de Sosa mentions that a previous indigenous community had abandoned the area within living memory (Feijoo de Sosa 1763: 88). This being said, some indigenous lands were bought or rented by the Spanish: within the lands of Hacienda San Nicolás, Doctor Don Gaspár Antonio Remirez y Laredo rented a smaller plot, called Zacachique, that collectively "belonged" to the indigenous community of Mansiche (Feijoo de Sosa 1763: 89). Though instrumental in the generation of wealth and prestige for local Spanish authorities, families, and clergy, most of these haciendas were sparsely occupied, if at all (Appendix G; Table G.3). The most frequently recorded and "permanent" inhabitants were the African slaves who were tasked with maintaining the haciendas:

most other agricultural labor seems to have moved within the landscape to where it was needed or where good pay encouraged *foresteros* to settle.

Feijoo de Sosa devoted a chapter of his book to describing the effect of the 1728 ENSO event from local informants and included some interesting information about ancient canals and the floods that is worth recounting in detail (Feijoo de Sosa 1763: 157-164). In the chapter, he marveled at the quality of one canal built by the "Indios Gentiles" but lamented that the Spaniards had let it fall into such disrepair. Given that the Mochica canal was clearly in use, the ancient canal he was describing was probably some version of either the Moro or the Vinchansao. Whichever it was, he noted it was built tall and crossed a large quebrada, damming up water to create a deep lake. Upon being inundated with ENSO rains, the lake broke through the canal and water flooded into Trujillo, passing through the center, and then flowing into the Moche River near the town of Guaman. The quebrada being described by Feijoo de Sosa is almost surely the Quebrada San Idelfonso: this same quebrada activated and flooded Trujillo several times during the 2017 ENSO event while following a similar route. That this flood in 1728 may have followed the same path as the ones I witnessed three centuries later is not particularly surprising: the Quebrada San Idelfonso is one of a handful of watersheds in the *chala* that can activate with devastating effect given it has enough rain.

Feijoo de Sosa's mention of this lake, however, is remarkable: he appears to be describing an ancient canal that had been repurposed into a dam or reservoir for capturing ENSO rains. Though the use of reservoirs is currently far more common in the Moche Valley highlands, Caramanica recently called attention to a part of the remnant ancient Ascope canal system that currently creates a similar small lake at Cerro La Laguna in the Chicama Valley (Caramanica 2018: 62). She even added that the lake itself expanded after the 2017 ENSO event. Though I believe a similar such lake was being described by Feijoo de Sosa, the context of when exactly the lake formed is admittedly unclear from the passage itself. His informant could simply have been referring to the lake as having formed during the ENSO rains and not before.

4.3.5.3 The *Codex Martínez Compañón* (1782 – 1785 CE)

Just after Feijoo de Sosa retired from his Mayorship in 1775, King Charles III appointed a new Bishop of Trujillo named Baltazar Martínez Compañón: a man who was equally as thorough in gaining an understanding of the surrounding landscape and people. Between 1782 and 1785, he compiled a nine-volume codex, now called the *Codex Martínez Compañón*, that included 1,411 watercolor paintings of people, places, animals, and plants from the area. Also included in the *Codex Martínez Compañón* were 20 musical examples of songs from the region. Of these, the hauntingly solemn "Tonada del Chimo" continues to be one of only a few songs written in the Mochica language. More relevant to this dissertation, Martínez Compañón provided watercolor paintings of much of the daily life of the indigenous people living in the *yungas*, depictions of local indigenous leaders and dances of the Chimo, and even some highly accurate plans of the ruins of Chan Chan, Huaca del Sol, and excavated grave goods.

Though painted centuries after the time periods that are the focus of this dissertation, the depictions of indigenous people of the *yungas* working their fields help breath some life into some of the earlier described patterns of agricultural mobility within the Moche Valley landscape (Figure 4.19; Figure 4.20; Figure 4.21). In these paintings, the artist depicted indigenous men and women setting out into the countryside to work on weeding, preparing, and sowing fields (Figure 4.19; Figure 4.20). In addition to doing fieldwork, the women are also depicted preparing meals nearby: bringing the food, cooking vessels, serving wares, and utensils out to the fields to do so (Figure 4.19). Having put aside their farming implements and settled under the shade of a tree, the hungry farmers are finally depicted enjoying a meal together (Figure 4.21). Though the exact valley being depicted in the paintings is unclear, their backgrounds feature a wash of tannish-brown earth that is easily contrasted with the vibrant green of fields in the foreground. They also often have similarly desert-colored hills and mountains looming in the distance. Such a mountainous and arid landscape unmistakably belongs to a *yunga* river valley like the Moche Valley and was likely not depicting the adjacent highlands.

Figure 4.19 Fields being Tilled and Meals being Prepared from the Codex Martínez Compañón

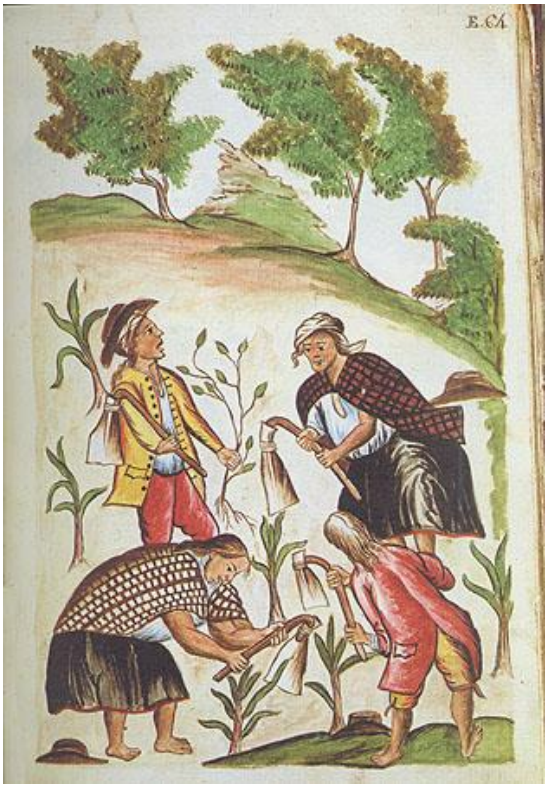


Figure 4.20 Indigenous Men and Women Working in Fields from the Codex Martínez Compañón

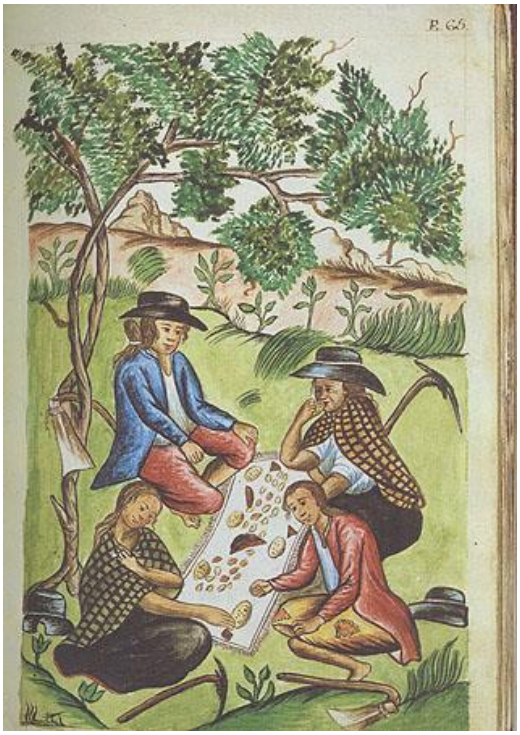


Figure 4.21 Indigenous Men and Women Eating after Working in Fields from the Codex Martínez Compañón

These depictions of the daily lives of farmers in the *yungas* illustrate some examples of the movement required within an economic landscape in which fields and settlements were seldom immediately adjacent to one another. Occupations like the camps depicted in these illustrations, though exceedingly ephemeral, would doubtlessly leave their mark. Even the most accomplished field cook breaks a pot or loses a utensil now and then! If such camps saw repeated use over decades or centuries, scatters of these materials may be dispersed on or around the fields in which ancient farmers labored. Stashing agricultural implements and cooking supplies in field houses or temporary storage areas is another common strategy that would leave a limited, but more visible, material record. A similar form of day-to-day agricultural mobility persists to the present in the *chaupiyungas*: the daily routines of many of my neighbors in Casa Blanca were governed by how far they were from the fields in which they needed to work. If fields were too far away and a return journey home would waste too much daylight, then the afternoon meal needed to be carried to or cooked on-site.

Figure 4.22 Mayor of the "Indians" of the Valleys from the Codex Martínez Compañón

Figure 4.23 Dance of the Chimo from the Codex Martínez Compañón

Figure 4.24 Dance of the Chimo from the Codex Martínez Compañón

Figure 4.25 Dance of the Huacos from the Codex Martínez Compañón

Other paintings in the *Codex Martínez Compañón* depict indigenous leaders as well as a few of the local dances devoted to the Chimo and Huacos (Figure 4.22; Figure 2.23; Figure 2.24; Figure 2.25). A *yunga* Mayor, described as an "Alcalde Yndio de Valles", is depicted in European garb that is all but indistinguishable from the modest attire of some of his Spanish and indigenous counterparts (Figure 4.22). Recalling the depictions of *yungas* doing fieldwork that was discussed earlier, it is notable that there is no explicit depiction of an indigenous leader, like this Mayor, having a role in this process. As the Spanish and Catholic regimes expanded their authority over the landscape, the authority of indigenous leaders and nobility over this same rural landscape perhaps diminished in such domains. However, the series of illustrations of local dances done during celebrations, namely those of the Chimo and Huacos, show some interesting examples of persisting memories of former *chala* glories. These depictions illustrate pairs of dancers dressed in garb that is somewhat reminiscent of, albeit less opulent than, the old Kings of Chimor: jeweled crowns fit with tassels and depictions of moons or suns, decorated axes or clubs forged from gold or copper, and brightly patterned and decorated red-and-white *mantas* (Figure 4.23; Figure 4.24; Figure 4.25). These depictions illustrate an important point: though the outfits of contemporary indigenous leaders were surely tailored to the norms of their Spanish superiors, the more traditional garbs and objects of authority associated with Chimor still had their realms of use. In fact, the spirit of Chimor seems to have been most vibrantly revived precisely for some of the more visible, and vital, moments (e.g., dances, celebrations, and processions) that brought indigenous communities together within the landscape.

The ninth volume of the *Codex Martínez Compañón* includes plans, descriptions, and depictions of indigenous landscapes, monuments, and artifacts in the Moche Valley: outlining what are arguably some of the earliest "archaeological" investigations in the region (Figure 4.26; Figure 4.27). Pillsbury and Trever present a detailed and nuanced contextualization of these illustrations: situating the volume (1) within the archaeological interests of the Royal Court of Spain (specifically of King Charles III) while also (2) showing how the work of Martínez Compañón was unique and innovative for the time (Pillsbury and Trever 2008).

A *Codex* plan of Chan Chan contains some references to how the ancient city of Chimor, its *huacas*¸ and nearby mountains continued to be tangled together within even the 18th century landscape of the Moche Valley (Figure 4.26). Martínez Compañón traced an "underground path"

from what appears to be the *ciudadela* Velarde (Ñing An) to a small *huaca* where the path diverged into two: one path going to Cerro Campana and the other to Cerro Prieto. In an aside, the author described this *huaca* as a "key" and mentioned that a house or garrison once stood nearby and guarded the entrance to these paths. It is admittedly unclear if the two paths mentioned are not just references to the two known roads that led to the Chicama Valley: these can be seen in Feijoo de Sosa's map and head northwest from Trujillo (Figure 4.18). However, the specific mention of Cerro Campana and Cerro Prieto seems to suggest that these paths were to the mountains themselves. Given that Cerro Campana was mentioned as being a venerated place that was associated with a statesman of Chimor (Querrutumi) only a century prior by Calancha (Calancha 1974-81 [1638]: 55), it does seem more than coincidental that the same mountain was still being linked to the ancient palaces of Chimor.

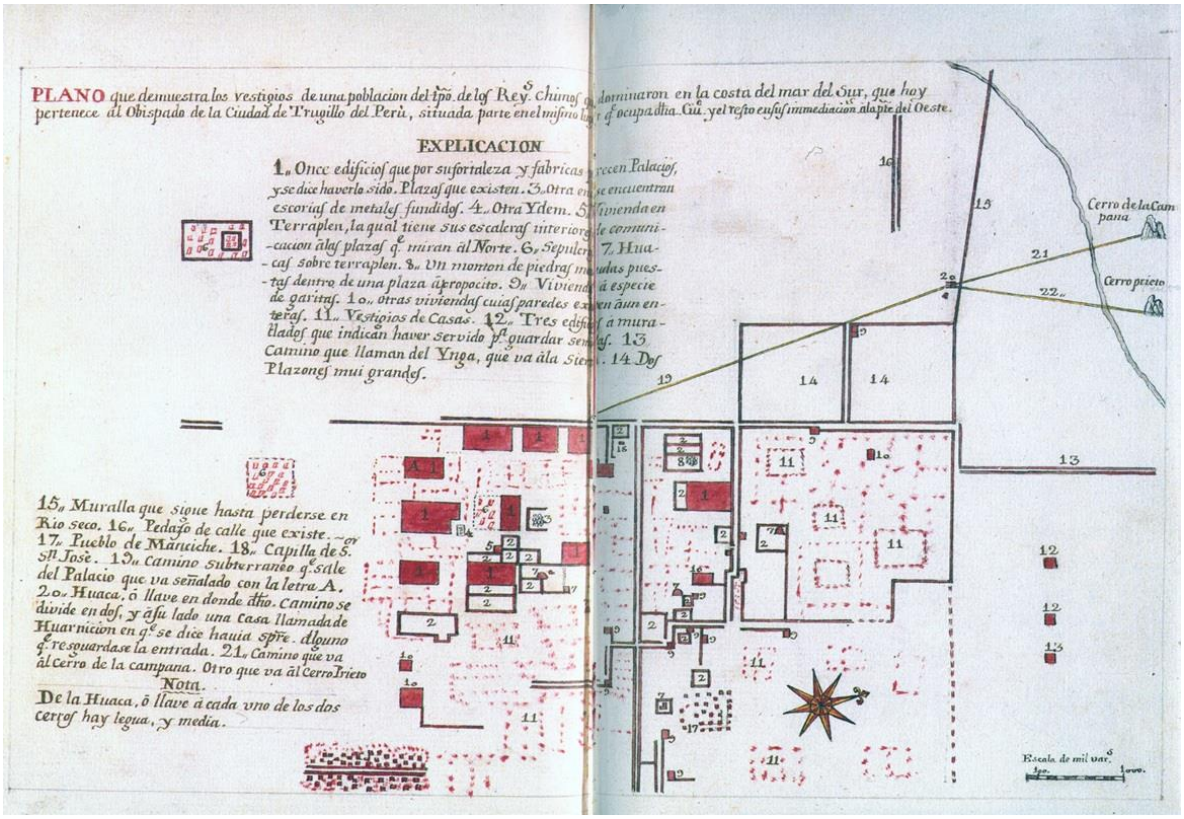


Figure 4.26 Plan of Chan Chan from the Codex Martínez Compañón

In addition to a detailed plan of *ciudadela* Rivero (Chol An), the Codex also includes a three-dimensional illustrated plan of Huaca del Sol with descriptions that allude to the number of burials found upon the *huaca* (Figure 4.27). Over 100 drawings of varied burials, artifacts, and

ceramics are also included in the final pages of the *Codex*: the 54 drawings of ceramic vessels are quite easy to chronologically assign and range almost the entire ceramic sequence of the Moche Valley and North Coast. In my own brief perusal of these data, it is clear that the vast majority are almost surely Chimú, Chimú-Inka, or Inka fine wares.

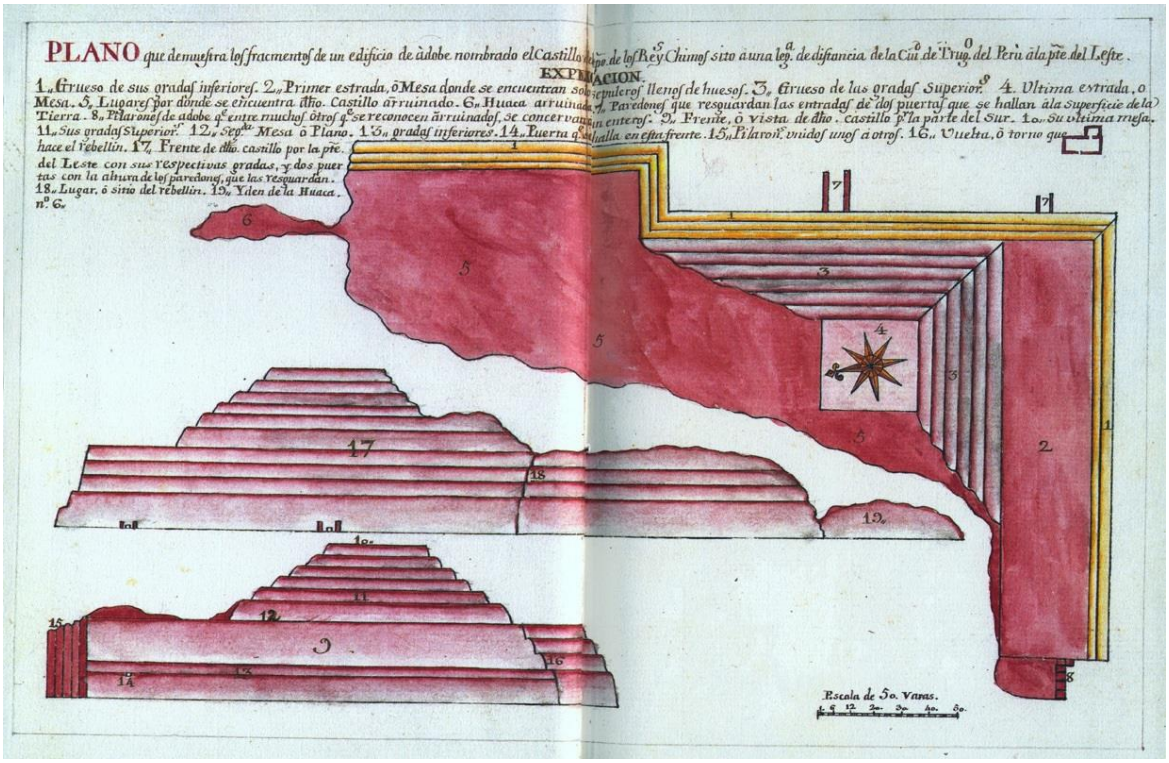


Figure 4.27 Plan of Huaca del Sol from the Codex Martínez Compañón

4.3.5.4 The Moche Valley *Chaupiyunga* during the Viceroyalty of Peru (1567 – 1763 CE)

A combination of (1) limited demographic data from 1567 and (2) brief discussions of *chaupiyunga* communities by Feijoo de Sosa in 1763 show that the Moche Valley *chaupiyunga* continued to be a demographic and political boundary well through the Viceroyalty of Peru. As was previously mentioned, there were possibly some 330 tributary households of *chaupiyungas* and *yunga mitmaquna* recorded in 1567 that would have included populations from the Moche Valley *chaupiyungas* (Julien 1993: 212). These households, and the approximately 1000 or so people within them, assumedly made up the old *guaranga* of *chaupiyungas* that was part of the Huamachuco province of the Inka Empire.

Recalling the servicing of the *tambo* at Collambay, we can also say that at least three *chaupiyunga* towns in the Moche Valley at that time: Collambay, Mochal, and Pugueda. Though we do not currently know where Pugueda was, we can guess from the locations of Collambay and Mochal that Pugueda was perhaps in the La Cuesta Valley between them. There were clear differences in the labor demands extracted from each community: Collambay provided five laborers, Pugueda provided three, and Mochal only provided two (Rostworowski 1987). The higher amount of labor from Collambay may simply be because the community was closer, but it is also possible that such demands would have correlated with available populations. Even more intriguing, Julien suggests that these *chaupiyunga* communities had not yet been resettled into the *reduccion* of Simbal when these data were recorded (Julien 1993: 212). Considering that Simbal is located at the edge of the Sinsicap Valley, it may be that this *reduccion* gravitated towards the town of Collambay because of its hypothetically larger size. This being said, it is curious that Mochal contributed so few laborers and is so far away from Simbal, especially given the community was allegedly the seat of the local noble in charge of the *chaupiyungas* for Huamachuco and the Inka regime (Netherly 1977: 317).

In order to get a vague idea of what the population of this region may have looked like at the time of Spanish arrival, I applied essentially the same methods to this 1000 person estimate as was applied earlier for the population of the Moche Valley (see Appendix G). Cook found that the northern highlands had lower decline rates than the North Coast, so the rates for his North Sierra category were used instead as the lower range (Cook 1981:106; Appendix G; Table G.5). I am hesitant to make any substantial claims given how questionable these data are. This being said, we can at least look at the estimates for 1532 and see that the population of this *guaranga* could have been double of that which was recorded in 1567. Given this number was a composite of the *chaupiyungas* of the Moche, Virú, and Chao Valleys in addition to the *yunga mitmakuna*, we could perhaps divide the number by four to arrive at a figure of between 400 and 500 people for the entire Moche Valley *chaupiyunga*. However, this figure is a guess within an estimate within another two guesses: I am doubtful it resembles much of anything grounded in reality. At most, we can simply say that any of these numbers are far more modest than those estimated for the Moche Valley *chala*. This would somewhat clarify my previous statements that the *chaupiyunga* could have been just as populated as the *chala* during the Chimú-Inka Phase: though this remains

a possibility, it seems more likely that the region remained a sparsely occupied demographic boundary during this period.

By 1763, the demographic and political landscapes of the Moche Valley *chaupiyungas* became far clearer. Simbal was the main demographic center of the Sinsicap Valley and assumedly most of the Moche Valley *chaupiyungas*: it had a population of 399 people, with 226 that were described as "mestizo" and 173 that were indigenous (Feijoo de Sosa 1763: 79-81). Though the "mestizo" proportion of the population was considerably higher, the size of Simbal was easily on par with most of the larger indigenous communities downriver (Appendix G; Table G.3). The only other settlement of notable size in the *chaupiyunga* was a sugarcane hacienda at Collambay with fields devoted to the Santa Clara Monastery: this hacienda housed 14 indigenous people and 26 African slaves for a total of 40 residents (Feijoo de Sosa 1763: 86). Outside of these two settlements, the *chaupiyunga* landscape was sparsely occupied and those few occupations that were recorded are mainly haciendas or *chacaras*. The largest of these was Menocucho at the final confluence: this hacienda was devoted to the Convent of San Agustin in Trujillo and housed 20 African slaves.

Thus, we can see that the Moche Valley *chaupiyunga* was a demographic boundary at the edge of the Trujillo-dominated *chala* in at least two ways. First, the entire Moche Valley *chaupiyunga* held less than 4% of the total population of Trujillo alone: making it a sparsely occupied demographic boundary at the edge of a densely occupied *chala*. Second, the composition of *chaupiyunga* communities was almost entirely composed of people identified by the Spanish as "mestizos", indigenous, or African slaves: the "white" Spaniards clearly preferred settling in the *chala* near the urban center of Trujillo. Despite this urban preference, these same "white" Spaniards also had landholdings further afield: Trujillo may have been home, but the status and authority of many families and institutions was perpetuated through holdings in the countryside up the valley.

Though the region may have been demographically sparse, authority over this *chaupiyunga* landscape lay with a surprising variety of political actors. At a broader regional level, the main settlements (e.g., Simbal and Collambay) of the Moche Valley *chaupiyunga* owed tribute to the Royal Crown but such tribute was collected through the Spanish authorities of the adjacent

province of Huamachuco (Feijoo de Sosa 1763: 79-80). However, the responsibility and authority for the "administration of justice" in the area lay with the Spanish authorities of Trujillo and not Huamachuco (Feijoo de Sosa 1763: 79-80). Further complicating an already complicated arrangement, Feijoo de Sosa recounts that a local Spanish noblewoman, Dona Florencia de Mora, waived the Royal tribute owed by seven of the indigenous communities in the *chaupiyungas* and adjacent highlands sometime in the late 1500s. The highland town of Sinsicap is referenced explicitly as being free of tribute responsibilities but apparently the original indigenous inhabitants of Collambay, and possibly Simbal, had their tribute waived as well (Feijoo de Sosa 1763: 20-21, 79-80). It would not be surprising if this act was perhaps one driver for the rise of Simbal, and the Sinsicap Valley *chaupiyunga* more generally: who wouldn't want to pay fewer taxes? This also may explain the apparent disappearance of the ever-elusive communities of Pugueda and Mochal, which remain unmentioned in neither texts nor maps.

Dona Florencia de Mora is a fascinating figure in the history of the region and was well-connected within the local webs of powerful Spanish families in Peru. On a practical level, she was the wife of the *Encomendero* of Huamachuco at the time, Don Juan de Sandoval: this was the connection that likely lent her some of the authority needed to waive this tribute. More importantly, she was also the daughter of Don Diego de Mora: a founding conquistador, the first Governor of Trujillo, and one of the most powerful Spanish landowners on the North Coast during the mid-1500s. Finally, her mother was Ana Pizarro Valverde: the older sister of the (in)famous conquistador Francisco Pizarro, thus making him Dona Florencia de Mora's uncle. For the most part, she committed her considerable family assets and aggregated influence to "pious" causes and she is generally remembered in Trujillo for her philanthropy (Feijoo de Sosa 1763: 21). She and her husband donated lands for the Hospital Santiago, now called the Hospital Belén, in Trujillo: one of the oldest hospitals in Peru. As was mentioned earlier, Dona Florencia de Mora also donated her holdings around Collambay to the Santa Clara Monastery in Trujillo (Feijoo de Sosa 1763: 21). These lands were obtained by her husband years before in the 1560s as part of a series of land claims that were supported by some of the indigenous highland nobles in the Huamachuco area under his authority (Boswell 2016:112-113).

This donation contributed to a broader pattern in which most of the non-indigenous landholders in the *chaupiyunga* appear to have been clergy by the time of the 1763 *Relación*. As

was previously mentioned, the Convent of San Agustin held authority over the sugarcane hacienda at Menocucho: a plot of land almost twice the size of that available at Collambay (Appendix G; Table G.4). Both of these haciendas were focused primarily on producing the highly profitable sugarcane that could be exported to Trujillo and then eventually elsewhere in the Viceroyalty or the broader Spanish Empire. This is an important point: these were not the "Haciendas de Pan-Llevar" or *chacaras* devoted more to local economies and sustenance, they were lands devoted to profiting and sustaining Catholic, and Spanish, institutions. Prior to donation, these lands would have been worked in the service of the de Mora family. Recalling that the lands of Collambay had previously been devoted to producing *coca* for the benefit of Inka Royalty, one could argue not much changed under the Spanish except the faces of the landholders and the required crop: an extractive purpose and a distant, but powerful, authority remained.

This pattern of external authority over fields in the *chaupiyungas* even extended to indigenous nobles as well: the hacienda of Quirihuac in the Middle Valley *chaupiyunga* was owned by the Don Gregorio Mora Chimo of Guaman (Feijoo de Sosa 1763: 87). These fields were described as only serving as *monte* and pasturage at the time but were generally considered *chacaras*: either (1) for the private use of the family of Don Gregorio Mora Chimo or (2) for the benefit of the entire community of Guaman. I would argue for the former, solely because Feijoo de Sosa is abundantly clear about when lands were communal and when they were privately owned. There is no context for when these lands were acquired but the fact that they were *monte* would perhaps imply that they were never sold or taken in the two centuries since the Spanish arrived. That these lands were on the south side of the river, the side that Netherly attributes to the Guaman *parcialidad*, also support such an assumption. Further support comes from the aforementioned rented lands of Zacachique belonging to the community of Mansiche. These were conspicuously located on the northern side of the valley, the side that would have corresponded with the northern *parcialidad* of Chimor (Mansiche and Huanchaco). In any case, it is notable that an indigenous family of the *chala* held authority over lands in the Middle Valley *chaupiyunga* as late as the 18th century. Clearly some vestige of the ancient legacy of Chimor, and even the Moche, persisted as that part of the valley remained under *chala* authority.

The authority of local *chaupiyunga* indigenous leaders and communities in this same landscape is unclear from the documents at hand. Feijoo de Sosa provides no exact figures for the

chacaras that would have sustained the community of Simbal, but he does mention they grew *maize* upon terraces in the surrounding landscape (Feijoo de Sosa 1763: 79-81). Given the size of the community and the land available to the similarly sized indigenous community of Moche downriver, one may expect a few hundred hectares of *chacaras* (Appendix G; Table G.4). This is a reasonable estimate given that the canals in the region during the 1970s supported around 250 hectares of farmland (Appendix B; Table B.1). In any case, Simbal was in the midst of a leadership crisis in the 1760s: two leaders, Don Agustin Alexandro Enrique Llaczacondor and Don Joseph Maxo, were in the process of litigating which of them was the rightful "Cacique" of Simbal (Feijoo de Sosa 1763: 79-81). Though not much is readily available about either figure, their surnames suggest this dispute was possibly an echo of ancient rivalries between the Inka and Chimor. The surname Llaczacondor appears to be Quechua: "llacsa" meaning to subjugate and "condor" obviously referring to the bird of prey (Cummins 2002: 97). The surname Maxo appears to have had origins in Quingnam and was recorded as a surname used in Huanchaco as early as 1616 CE (Huamanchumo 2013: 54). Though further research is needed to understand the exact nature of this dispute and details from the case, the surnames alone suggest that the competing claims of authority over Simbal were perhaps between regionally distinct families.

Finally, three entire volumes of the *Codex Martínez Compañón* were devoted to recording the various *flora* of the region and among the species illustrated is *coca* (Figure 4.27). The particular variety depicted is surely *Erythroxylum novogranatense* var. *truxillense* (also called Trujillo *coca*): the leaves are broadest at the tip and lack the lines parallel to the central vein like the other varieties (Plowman 1979). This variety is unique to northern Peru and is cultivated widely in the modern Moche Valley, specifically in the area around Collambay where it is referred to as *coca dulce*, or "sweet" *coca* (Boswell 2016: 42). This variety is still coveted in the region: many of my survey encounters with justifiably curious, sometimes angry, campesinos were easily diffused by sitting down for a conversation and sharing my sweet *coca*. Though it is not surprising that this variety was included in the *Codex*, it at least illustrates or confirms Martínez Compañón's familiarity with rural parts of the region. It seems likely that the *coca* plant that he had contracted someone to paint would have come from Simbal, Collambay, or some part of the Moche Valley or broader Trujillo *chaupiyungas*. It is curious, however, that Feijoo de Sosa avoids any discussion of *coca* whatsoever. It is unmentioned in his overview of the economic wealth of Trujillo (Feijoo

de Sosa 1763: 12-18) and in my moderately close reading of the rest of the document I found no mention of *coca* at all.

Figure 4.27 Depiction of *Coca* from the Codex Martínez Compañón

4.3.5.5 Discussion

This brief treatment of the Moche Valley under the Viceroyalty of Peru (1542 – 1824 CE) lends us yet another snapshot of the political and demographic landscape of the Moche Valley while also showing that the *chaupiyunga* continued as a borderland between the *chala* and *quechua*. After suffering decades of invasions, defeats, and subjugation by the Inka Empire, the demographic landscape of the Moche Valley was likely already broken by the time the Spanish first set foot on the beaches of Huanchaco. The Spanish only worsened an already dire situation

and, by the late 1500s, the sizes of the indigenous communities that remained in the Moche Valley were but a shadow of their former heights under the Kingdom of Chimor. Over the next two centuries, the Spanish town of Trujillo slowly climbed to regional dominance: serving as the demographic and political center of the greater area in a way somewhat akin to Chan Chan only centuries before. Even the Spanish use of haciendas somewhat echoed the rural palaces of the nobles and royalty of Chimor: demographically remote venues through which authority could be constructed over land, water, and people.

Similarly, the *chaupiyunga* remained a demographic and political boundary well through the entirety of the Viceroyalty. Though both demographic and political power notably shifted to the Sinsicap Valley for the first time, the *chaupiyunga* remained to be a comparatively sparsely occupied region and was inhabited by communities with distinct compositions from those in the *chala*. The political landscape also housed broader overlapping networks of authority that were cast from both the highlands and *chala* within the Spanish regime: tribute was owed to the province of Huamachuco, justice was served from the province of Trujillo, and tribute exceptions were gifted by a powerful Spanish family with ties spanning much of Peru. More localized authority over the lands of the *chaupiyunga* lay in a similarly diverse array of actors: Spanish institutions extracted sugarcane from *chaupiyunga* slopes, remnant indigenous *chala* nobles used ancient and overgrown *chacaras* as pasturage, and two (possibly *chala* and *quechua*) indigenous families clashed over authority in Simbal. Though *coca* may have faded in its importance, the *chaupiyunga* borderland persisted as a place between: an attribution we can now trace for over three millennia.

4.3.6 Insights from this Prehistory and History of the Moche Valley and its *Chaupiyungas*

The principal goal of this chapter was to take a deep dive into the prehistory and history of the Moche Valley and its *chaupiyungas* in order to better understand the nature and dynamics of any boundaries within the *chaupiyunga* borderlands. To this end, the synthesized archaeological and historical information helped identify the plethora of political, demographic, cultural, and economic boundaries that emerged within the Moche Valley *chaupiyungas* – as well as other *chaupiyungas* – over several millennia of prehistory and into the early centuries of the Viceroyalty

of Peru. The broader understanding of these boundaries afforded by this background information helps guide my interpretations of the survey material presented in Chapters 5 through 9 while also providing regional context for how the Upper Moche Valley *chaupiyunga* borderlands fit with adjacent *chaupiyungas*, the highlands, and the *chala* below. The syntheses of archaeological data presented in this chapter also permitted some preliminary insights into some of the observed relationships between population sizes, political centers/traditions, and cultivable land estimates in the Moche Valley. When combined with some of the insights lent from Chapter 3, these data allowed a preliminary assessment of the "contested *chaupiyunga*" hypothesis as well as broader speculation about the origins and development of political authority in the Moche Valley.

4.3.6.1 The Moche Valley *Chaupiyungas* as Borderlands through Prehistory and History

Though it is clear that the *chaupiyungas* of the Moche Valley could be described as "borderlands" for most of prehistory and at least up until the 18th century, the presence, absence, and nature of different boundaries and how they were woven together within the *chaupiyungas* varied in both time and space. Here I discuss the trends that emerged from the preceding pages in regards to the nature and dynamics of political, demographic, economic, and cultural boundaries in the *chaupiyungas* of the Moche Valley and *chaupiyungas* more broadly. Two notable insights emerge from this discussion. First, it is important to discern among boundaries that are defined by being between specific peoples, entities, etc. as opposed to boundaries that are defined as being at the periphery or edge of specific peoples, entities, etc. These are different arrangements that often result in different boundary interactions but peripheries often seem to become boundaries eventually. Second, it is clear that the histories of settlement in *chaupiyunga* landscapes are vital for understanding more localized borderland processes in their own context. Just as the rise of the Kingdom of Chimor in the *chala* cannot be understood without some appreciation of how Moche *huaca*-polities had already shaped the landscape, so too must we take a deeper temporal approach to understanding the *chaupiyunga*.

4.3.6.1.1 Political Boundaries in the Moche Valley *Chaupiyungas*

In later prehistory and history, the *chaupiyunga* was clearly a political boundary – whether geopolitical or administrative – between highland and coastal political traditions and entities. Such

intermediate positioning is best illustrated during the Chimú Phase when the *chaupiyunga* was a geopolitical boundary between Chimor and its highland neighbors. During the Chimú-Inka Phase and the Viceroyalty, the region transitioned to being an administrative boundary between highland- and coastally-based administrative units under the Inka Empire and then the Viceroyalty of Peru. This intermediate positioning often appeared to lend itself to being the source of conflict: whether between opposing geopolitical units or factions within a polity. During the Chimú Phase, the *chaupiyunga* was clearly a contested zone in which the authority of Chimor was constantly being tested by external highland threats: from local highland kingdoms to the great Inka Empire. Echoes of these conflicts even persisted through the political "unification" of *chaupiyunga* regions as they continued to be administrative boundaries. In the Moche Valley this could possibly be seen in the Llaczacondor-Maxo struggle over Simbal that was briefly mentioned by Feijoo de Sosa. More vivid are the rich histories recounted for Quivi that show that conflict and contestation could persist in these landscapes well after they were subsumed into larger political entities like the Inka or Spanish Empires. These accounts from Quivi also show that political authority over *chaupiyungas* could often become tangled with specific clashes and the rights over certain pockets of land that victories afforded. Residues of these histories could be seen in the small hamlets occupied by highland groups within the *chaupiyungas* around Quivi.

But the political boundaries encountered in *chaupiyungas* need not always be between larger kingdoms or empires, they can often be between much smaller and localized polities. During the Gallinazo Phase it appears that the *chaupiyunga* was a political boundary between smaller allied clusters of highland communities and their chala neighbors living in *huaca*-towns like Cerro Oreja. The prevalence of fortifications during this phase indicates the *chaupiyunga* was indeed contested as a boundary and could align well with the rich accounts from Quivi in how highland groups colonized and contested the rich farmlands that sat below them.

During earlier phases, the intermediate status of the *chaupiyunga* as a political boundary is far less clear and instead it appears more of a periphery at the edge of larger developments downstream. This could be true for the Guañape Phase when the *chaupiyunga* appears to be the eastern-most periphery of monumental construction traditions that became more pronounced further down-valley at Caballo Muerto. Even so, it also seems likely that the complex at Huaca Menocucho could have been its own political entity: possibly the first *chaupiyunga* polity in the

Moche Valley. The survey data collected by my dissertation project were well-situated to assess this possibility and it is discussed in Chapter 6. Though the data presented in the present chapter are admittedly unclear, the Moche Phase *chaupiyunga* would appear more a periphery to the Moche *huaca*-polities of the *chala* rather than a boundary between coastal and highland political traditions. The survey data presented later in Chapter 8 provide some clarification on this theme. Chapters 8 through 10 also go into considerably more detail comparing the *chaupiyunga* as a political boundary during the expansion of Moche *huaca*-polities and *huaca*-towns versus the later expansion of the Kingdom of Chimor.

4.3.6.1.2 Demographic Boundaries in the Moche Valley *Chaupiyungas*

The qualities of the *chaupiyunga* as a demographic boundary were very often tied to it being a more sparsely settled periphery at the edge of a heavily populated *chala*. Legacy survey data paints a picture of more dispersed settlement in the *chaupiyunga* and even those communities that did emerge would have been dwarfed by their neighbors down-valley. This is important context that can be lent to my appraisal of the "contested *chaupiyunga*" hypothesis later on in this chapter and at the conclusion of this dissertation. *Chaupiyunga* communities would have always been smaller and likely would have had to ally with larger neighbors in order to stand up to other larger neighbors. This sort of malleable sovereignty was bound to their population disadvantage.

The nature of settlement upon this peripheral demographic boundary did seem to change over time: from more dispersed occupations during earlier phases to more circumscribed communities during later phases. The question remains as to whether or not this is a result of the limited survey data for later phases (e.g., the Chimú Phase) or is part of a broader pattern of increased centralization of regional population into formalized communities. The survey methodologies and results presented in Chapters 5 through 9 address such questions and also illustrate how incoming political regimes and broader patterns of regional conflict likely influenced the nature and degree to which local communities, and thus populations, were more or less centralized in specific places.

Finally, several specific places in the *chala* landscape (e.g., Galindo, Cerro Oreja, Huacas del Moche, etc.) emerged as being areas to which populations were tethered, but no examples of such places were apparent from the legacy survey data from the Moche Valley *chaupiyungas*. As

will be seen in Chapter 6 through 9, similar places do exist in the Upper Moche *chaupiyungas* and they shaped local settlement patterns in profound ways over the course of the entire sequence. The ability to search for such places and then trace how and why communities and polities used them to bind themselves to certain parts of the landscape is a large benefit of the survey methodology I outline in the next chapter.

4.3.6.1.3 Economic Boundaries in the Moche Valley *Chaupiyungas*

First, the *chaupiyunga* predictably emerged from this overview of the Moche Valley as an important source for *coca* and a likely corridor for the movement of goods and people. As the only place where *coca* could be effectively grown in the Moche Valley, having access to *chaupiyunga* fields for *coca* was assumedly an element of its economic landscape that influenced political and demographic boundaries in the region. The examples from Quivi show how outright conquest was only one of many tools used to gain access to *coca*: distant communities could forge ties of exchange or fealty with *chaupiyunga* communities or even earn seasonal rights to fields through agreements or victory in conflicts. The control or monitoring of exchange or movement in the chaupiyunga is less clear from the historical documentation but it does appear in the legacy survey data through the presence of exchange "outposts" or "enclaves" noted during the Moche and Chimú Phases. These areas – namely Cruz Blanca and the ridge outposts above the Upper Moche Valley *chaupiyungas* – are important areas that were covered in the survey presented in this dissertation and are discussed in Chapters 8 and 9. It is also notable that the porosity of the chaupiyunga as an economic boundary seems to have been relatively unaffected by the degree to which the region was embroiled in conflict. Even with the fortified or defensive settlement patterns of the Gallinazo Phase or Chimú Phase, there was ample evidence for flourishing networks of coastal-highland exchange that were probably co-existing with otherwise dangerous landscapes.

Also tied to the *chaupiyunga* as an economic boundary is the "contested *chaupiyunga*" hypothesis from Chapter 3 in which the cultivation of fields of the *chaupiyunga* could limit the water access of the adjacent *chala* and thus be the source of conflict between *chala* and *quechua* groups. The canal and cultivable land estimates derived from the legacy survey data in this chapter and explored in Appendix C allowed me to assess (1) when and to what degree there would be shortfalls in the *chala* and (2) whether or not they were caused by excessive cultivation in the

chaupiyungas (see Appendix H for a detailed overview). Contrasting the more-or-less steady rise in likely cultivated areas in the *chaupiyunga*, a massive burst occurred in the *chala* during the Moche Phase and continued to grow into the Chimú Phase and stayed relatively high through the Chimú-Inka Phase (see Table H.1). This burst of canal expansions in the *chala* would have led to more shortfalls during second planting seasons than before but such shortfalls seem more tied to the florescence of *chala* political centers like Huacas del Moche or Chan Chan and not tied to increased settlement or canal expansion in the *chaupiyunga* (see Table H.5, Table H.6, Table H.7, Table H.11, Table H.12, and Table H.13). It is important to state that these estimates were made using modern canals and lacked the higher precision in estimating cultivable areas that is later provided in Chapters 6 through 9. Though the data from this dissertation cannot answer the question of whether a scenario like that described by the "contested *chaupiyunga*" ever existed, they do at least suggest a few centuries when it would seem most likely (see Chapter 9).

4.3.6.1.4 Cultural Boundaries in the Moche Valley *Chaupiyungas*

Finally, the degree to which these legacy datasets and previous field projects speak to the Moche Valley *chaupiyungas* as being cultural boundaries between the highlands and coast are mainly dependent on material culture or made on the level of individual communities. Case-studies like those discussed at Cerro Leon and Cerro Huancha show thriving communities of highland colonists that used diverse material culture assemblages and practiced lifeways that probably would have led them to be more "*chaupi*" than their ancestors even as their older highland identities were preserved. Material culture through ceramic assemblages thus emerged as one way to identify such diversity: with diverse highland and coastal assemblages being residues of the equally diverse array of interactions and affiliations that created them. These insights guided much of how I interpreted the assemblages that were recorded during my survey and were vital for the methodologies outlined in the next chapter. In terms of the Moche Valley *chaupiyunga* as being a cultural boundary between the highlands and the coast, it seems that the moment in which this most clearly had begun to occur was the Gallinazo Phase and that the creation of this cultural boundary was tied to the influx of highland colonies in the region. Though my survey results in Chapters 6 through 9 support this hypothesis, they also complicate the picture further by showing Salinar Phase communities "indigenous" to the *chaupiyungas* persisting through the wave of

colonization during the Gallinazo Phase and adapting to the new cultural boundary they found themselves in the middle of.

4.3.6.2 People and Politics in the Moche Valley

Along the meandering journey this chapter took towards understanding the *chaupiyungas* of the Moche Valley, it also presented a novel synthesis of a prehistory and history of people and politics in the Moche Valley that warrants further discussion. In truth, the preceding synthesis warrants further exploration than what I present here, but I am hesitant to go too far given the future adjustments that will likely be made to this dataset following the completion of the Moche Valley Settlement Database (MVSD) that I have been constructing in collaboration with Dr. Brian Billman. Nonetheless, I offer a few preliminary insights from the data at hand.

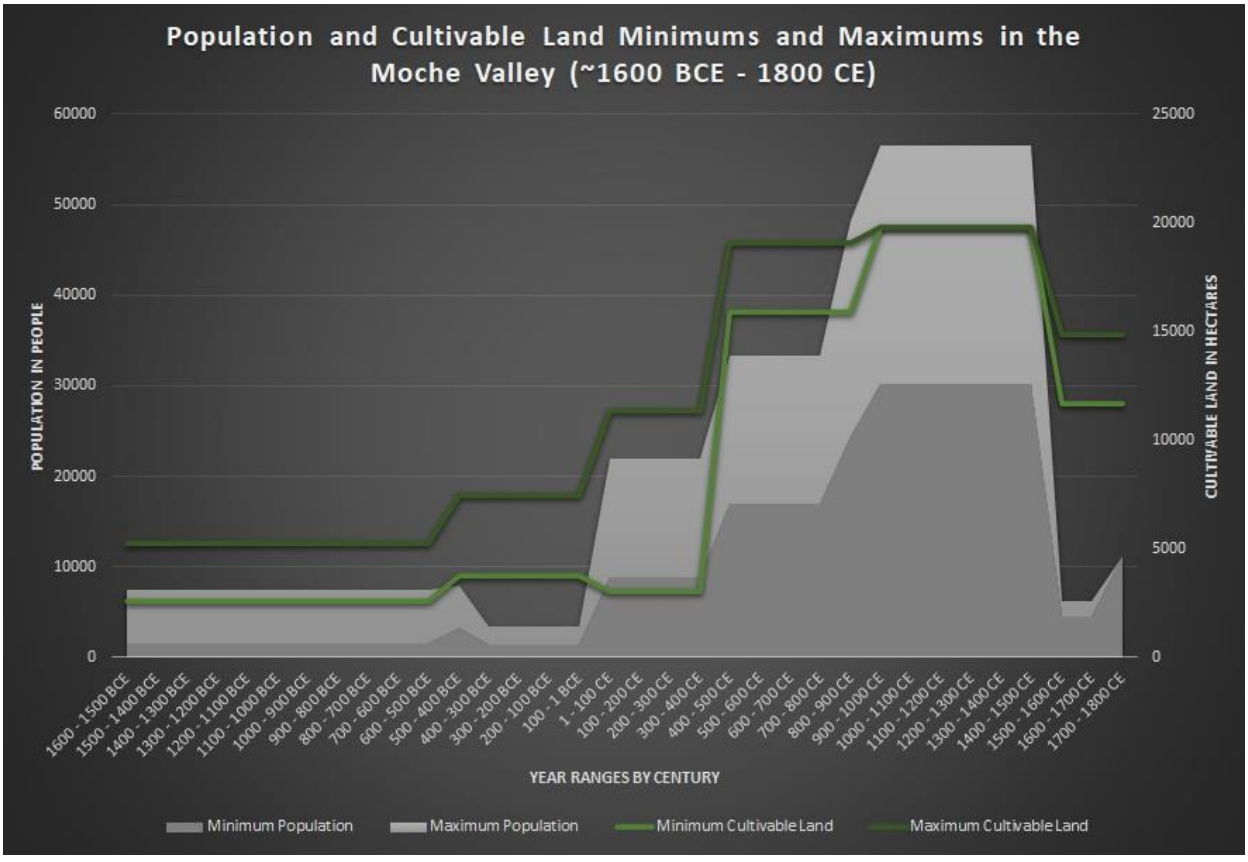


Figure 4.28 Population and Cultivable Land Estimates by Phase in the Moche Valley

Table 4.16 Population Estimates and Political Center Population Sizes by Phase in the Moche Valley

Population Estimates, Cultivable Land Estimates, and Population by Political Center in the Moche Valley

Century	Phase	Cultivable Land Estimates (ha)		Total Regional Population		Political Center (1)								Political Center (2)							
						Center Name	Internal Population		External Population		Internal Proportion		Center Name	Internal Population		External Population		Internal Proportion	
		Minimum	*Maximum*	*Minimum*	*Maximum*		*Minimum*	*Maximum*	*Minimum*	*Maximum*	*Minimum*	*Maximum*		*Minimum*	*Maximum*	*Minimum*	*Maximum*	*Minimum*	*Maximum*
1700 CE	Viceroyalty of Peru*	11681	14827	11194	11194	Trujillo	9289	9289	1905	1905	82.98%	82.98%							
1600 CE				4478	6233	Trujillo	3379	4209	1099	2024	75.46%	67.53%		9289	9289	1905	1905		
1500 CE	Chimu-Inka Phase	11681	14827			Chan Chan								3379	4209	1099	2024		
1400 CE																			
1300 CE																			
1200 CE																			
1100 CE	Chimu Phase*	19826	19826	30210	56530	Chan Chan	26000	46000	4210	10530	86.06%	81.37%							
1000 CE														26000	46000	4210	10530		
900 CE																			
800 CE				24503	48348								Galindo	7550	15100	9403	33248	30.81%	31.23%
700 CE																			
600 CE	Moche Phase	15895	19093	16953	33248	Huacas del Moche	6000	9000	10953	24248	35.39%	27.07%							
500 CE														6000	9000	10953	24248		
400 CE																			
300 CE																			
200 CE	Gallinazo Phase	3068	11373	8873	21909	Cerro Oreja	3500	7000	5373	14909	39.45%	31.95%	Pampa la Cruz	2000	4000	6873	14909	22.54%	18.26%
100 CE																			
0																			
100 BCE																			
200 BCE																			
300 BCE	Salinar Phase	3752	7440	1368	3420	Pampa la Cruz	344	860	1024	2560	25.15%	25.15%	Cerro Oreja	312	780	1056	2640	22.81%	22.81%
400 BCE																			
500 BCE				3168	7900	Cerro Arena (?)	1800	4450	1368	3450	56.82%	56.33%		1800	4450	1368	3450		
600 BCE																			
700 BCE																			
800 BCE																			
900 BCE																			
1000 BCE																			
1100 BCE	Guanape Phase**	2585	5254	1508	7415	Caballo Muerto (?)	0	4400	1508	3015	0.00%	59.34%		0	4400	1508	3015		
1200 BCE																			
1300 BCE																			
1400 BCE																			
1500 BCE																			
1600 BCE																			

4.3.6.2.1 Fates Intertwined: Populations, Political Centers, and Fields in the Moche Valley

Though these data are preliminary, compiling the general demographic estimates made in Chapter 4 can provide us some insights into how demography, politics, and cultivation were so often tied together in this landscape (Figure 4.28; Table 4.16). At this broadest level, we can see that demographic trends of growth and decline could often be tied to regional politics and cultivated land. The rise of regional demography following the abandonment of Cerro Arena corresponded with the rise of several *huaca*-towns across the valley. This growth continued as the first *huaca*-polities emerged and several new *huaca*-towns and other communities were founded over the course of the Moche Phase. The expansion of canals and cultivated lands that were associated with the varying *huaca*-towns and canal-*huacas* of the Moche political tradition were themselves doubtlessly vital in feeding this demographic growth (Appendix C; Appendix H). An even larger explosion of demography followed the rise of Chan Chan and the Kingdom of Chimor. Interestingly, this growth occurred even as the likely amount of cultivable land in the valley only modestly grew (Appendix C; Appendix H; Table H.1): suggesting more than just the local expansion of cultivable land was at play in supporting the growing urban center at the heart of Chimor. Though regional demography doubtlessly fluctuated within this timeline, the general trend for the Moche Valley was one of increasing demographic growth that started during the first millennium CE and continued up to the Chimú-Inka wars and the arrival of the Spanish. By the beginning of the 17th century, regional demography had plummeted due to a combination of (1) military and political defeats of the Kingdom of Chimor, (2) the spread of European illnesses, and (3) the forced resettlement of local communities by Inka and then Spanish regimes. Thus, even this catastrophic demographic collapse was at least partially tied to regional politics. The loss of sovereignty in the Moche Valley dissolved the bonds that held together the massive urban and political center at Chan Chan and the greater landscape that supported it.

A more detailed, but still preliminary, aggregation of these data with a specific focus on some of the political centers of the Moche Valley reveals even further insights and questions (Table 4.16). Comparing the proportions of regional population within these centers we can see a notable change from the Moche Phase to the Chimú Phase that was likely tied to the political landscape of the valley. Excluding the problematic demographic estimates from the Guañape Phase and the anomalous aggregation at Cerro Arena, the transition from *huaca*-towns to *huaca*-polities in the

Moche Valley was relatively subtle. These centers usually held somewhere between 25% and 35% of regional populations, with the majority of people in the Moche Valley actually living outside of these centers themselves. This seems to correspond well with the somewhat more fractured political landscapes these centers inhabited: they were usually the largest amongst peers but not necessarily as dominant as the urban centers of Chimor or the Spanish that would follow. This trend was particularly notable in the case of Huacas del Moche. Given the hypothesized inter-valley dominance of this *huaca*-polity, it seems surprising that its demographic weight in the local Moche Valley landscape was far more modest than Chan Chan or even the earliest decades of Trujillo. The demographic dominance of Chan Chan in these estimates is quite remarkable: between 80% and 90% of the *chala* alone would have been living within the urban center of the Kingdom of Chimor. This figure will likely be refined as more ground-truthing work with the MVSD and Chan Chan – Moche Valley Project survey data but I would be surprised if it fell under 75% even if one includes the communities of the *chaupiyunga*. Trujillo held a similarly central place in local demography throughout the Viceroyalty of Peru and would eventually grow into the dominant urban center and provincial capital that it is today.

These stark differences between the demographic landscapes associated with the Moche and Chimú political traditions could be related to how authority was being constructed at the centers of these traditions. Huacas del Moche may have emerged as a regional center whose agents expanded their authority over adjacent *huaca*-towns and communities, but this arrangement did not correspond with an overwhelming degree of demographic centralization around the center itself. Instead, people remained more dispersed in this landscape amongst the other *huaca*-towns and *huaca*-colonies: most assumedly housing noble families and/or communities who owed allegiance to Huacas del Moche. On one hand, the authority binding these communities to Huacas del Moche was perhaps just not strong enough to motivate enough families to move to the regional center. There were perhaps too many benefits of keeping local loyalties to a local *huaca* or noble family and the canals and lands to which they were bound. Conversely, perhaps the nobles and priests of Huacas del Moche did not have the capacity nor tools to consistently translate their authority into the power necessary to reshape the demographic landscape into an arrangement in which their centrality in the landscape was unquestionable.

A profound series of changes had occurred by the time the nascent dynasties of Chimor rose to power. This new Chimú political tradition reshaped how authority was built between subjects and regimes and was intent on placing venues of authority either (1) within or nearby the houses of the royal families at Chan Chan or (2) spatially separated from the larger communities of the Moche Valley. Late towns like Cerro la Virgen, Cerro Oreja, and even Katuay (as we will see in Chapter 9) thus lacked larger stages for local nobles to build authority between communities without going to Chan Chan or the more isolated rural palaces dotting the landscape. Simultaneously, regional population became aggregated within Chan Chan as it became the unquestionable political and demographic center of the Moche Valley. Future work on the settlement patterns and political landscapes of the Early Chimú sub-phase and even the latter century of the Moche Phase could clarify the extent to which such changes were forced through coercion or conquest by the royalty of Chimor. Whatever the case, the ultimate consequence of the increasing interconnections between demography and politics in the Moche Valley landscape was the demographic collapse that corresponded with the collapse of the Kingdom of Chimor. This collapsed then paved the way for the urban center at Trujillo and the modern demographic and political landscapes we inhabit today.

4.3.6.2.2 Of Hosts and *Huacas*: A Hypothetical Narrative for the Rise of Noble Families in the Moche Valley

A good starting point for this final discussion of political authority in the Moche Valley is through comparing and contrasting the two most wide-reaching political traditions that emerged from the valley itself: the Moche and Chimú. From the overview in this chapter, it should be clear that the tools at the disposal of the nobles and royalty operating within, and shaping, these traditions were quite different. Such differences were historically situated in ways that had consequences for how and where the authority of certain individuals or families could be mobilized. The Moche Political Tradition emerged from a landscape in which *huacas*, or at the very the least *tablados* upon *huacas*, were the preferred venue through which nobles could negotiate authority with (and over) their communities. This importantly included the authority needed to be able to play the part of a host within a community: a role that Moche nobles used to mobilize the labor that was their main source of power. The Chimú Political Tradition began only after the *huaca* had been domesticated into the noble or royal palace and, as a result, the palace

itself could become the venue through which this now-ancient authority of being a generous host could be mobilized. This innovation permitted the nobility and royalty of Chimor with far more direct access to their realms of authority, and the fruits of the power it lent, than their predecessors: when the palace and *huaca* became one, so too did the houses of powerful families and the community at large. Put simply: while Moche nobility were forced to negotiate their authority with their community through the *huaca*, Chimú nobles and royalty claimed the *huaca,* and thus the community, as part of their own household.

Despite these differences, the common thread that connects these traditions is that both eventually permitted powerful families with the authority to excise their communities from playing a larger role in the political landscape. It is likely that canal-*huacas* and rural palaces would have yielded goods that benefited the broader communities of those noble or royal families who had a hand in the construction of these stages of authority. The required obligation of generosity was part of the political game these families had to play. However, many of these constructions were venues through which noble or royal families, and not the broader communities, could wield authority over land and people to gain wealth and prestige. It is important for us to not be seduced by the altruistic propaganda of regimes like those in Chimor or Cuzco. Noble and royal families may have justified the imbalance in the authority they wielded through the powerful language of generosity within their communities or community-family, but their ultimate purposes trended towards becoming more extractive and more expansive. The use of canal-*huacas* and rural palaces are traces of such purposes: the goal was the spatial separation of the communities of subjects from the stage of authority of the families of the regime. This separation itself tilted the negotiation of authority in the favor of these powerful families or individuals: the stage was not that of the community, it was that of the regime. By entering this spatially segregated arena, subjects were thrust into a place where they owed deference before any negotiations of authority had even begun. If anything, this is the one process that could be distilled from the political histories and landscapes embedded in the Moche Valley: a process in which powerful families usurped and then isolated their stages of authority, separating these stages from the communities from which that authority was ultimately derived. Given that this isolation was spatially enabled, informed, and enacted: this was a political process was rooted in, and inseparable from, the landscape itself.

But when and how was the authority to be host afforded to certain families in the first place? And how did *huacas*, communities, and landscapes become bound to each other in a way that could be usurped by powerful families? Though the answers to these questions are far out of my reach in this dissertation, one hypothetical story stands out as compelling. It begins in older landscapes and has roots that we can trace back to the Guañape Phase, possibly earlier. This was an age when communities came together to celebrate, reinforce, and literally build their bonds with each other at the varied temples and temple complexes in the landscape. These fruits of community labor could often serve as monuments to adjacent mountains or landscape features, an association that suggests a much deeper (possibly Paiján Phase) antiquity to the meaning of such mountains and landscape features as gathering places. Certain landscape features, and the temples or monuments to them, thus became symbols of inter-community interaction, cohesion, and a shared association with one another. This binding of people with place proved to be powerful and long-lasting: mountains like Cerro Galindo, Cerro Oreja, Cerro Jesus Maria, and many others became symbols of such binds. The construction of temples associated with these mountains may have also corresponded with that of canals, which would have had ample water to feed the fields that sustained the growing populations that came together to build them. So began a millennia-long epic of a saga built through a repeated landscape metaphor: just as the river sprung from the mountain so too did the canal spring from the temple or mound. Adding to this, these gatherings between communities at mountains and mounds doubtlessly would have led to unions between individuals and families. It is here that we could perhaps see a starting point for the bundling of concepts of shared ancestry and heritage with places, *huacas*, and mountains themselves. This shared landscape ancestry tied a broader idea of community with a broader landscape that surrounded it.

The next chapter in this story is a dark one: during the Salinar Phase many of these bonds seem to have been partially severed and conflicts amongst communities flared with far more frequency. Communities began to focus inward, and individual families starting playing larger and more exclusive roles in the activities occurring in community-based public architecture. Some of the larger compounds with meeting rooms at Cerro Arena suggest that certain households had the authority to host gatherings themselves: using their fancier, and sometimes foreign, plates and bowls to serve and their modest patios to host. Were such households the forerunners of the noble families who would shape the political landscapes of later phases? Whether specific households

persisted in such positions for so long remains unclear, but it is clear that this inward focus did not come without costs. The reduced, and then complete absence of, investment in places where multiple communities could come together correlated with a far higher frequency of conflict and warfare. Such correspondence could have created a feedback loop for more inward focus and more conflict: as more conflicts erupted, more communities felt the need to reinforce bonds of "us" in contrast to "them", and less space was given for non-violent inter-community interaction. Importantly, the water that coursed through the canals used by these communities would have still been ample to feed the fields that supported them: the conflicts that characterized this phase were almost surely not over any existential threat of resource scarcity. Instead, they were perhaps motivated by the pettier squabbles that would arise from the lack of space that was devoted towards non-violent inter-community interactions. Even through this, however, the bonds that communities held to past landscapes were not completely severed. Many older communities and places continued to be occupied while others still were engaged with through burial to create an even deeper bond between place and ancestry than may have existed before. The fixtures in the landscape that tied different communities together may have been abandoned, but their legacy and meaning were far from forgotten.

The final chapter of this story before we arrive to the rise of noble families during the Moche Phase is the Gallinazo Phase. It is during this time that these aforementioned landscape fixtures were most visibly revived within a new vessel that bound together community and landscape far more masterfully than any meeting hall or small plaza: the *huaca*. Bundled within these constructions was a new concept of community that united the divergent trends of the preceding centuries: the inward focus on community seen during the Salinar Phase with the embrace of the broader landscape seen during the Guañape Phase. Looking inwards while expanding and incorporating outwards, *huaca*-towns ballooned in their size and extents as the ideas of what a community was and could be expanded past aggregated settlements or fortified walls and back into the broader landscape itself. The construction of a *huaca* like that at Cerro Oreja was bundled with multiple meanings at multiple scales: shared family ancestry through the cemetery below, unified attachment to place through the community around, shared destiny in the surrounding landscape through the mountain above. In this way, it is the ambiguity of the term *huaca* that makes me prefer it over more sterile words like "platform mound" or "adobe pyramid". Its vagueness aptly captures the varying scales and qualities of the peoples, places, and things that

were situated upon, buried beneath, and found around these adobe structures. Communities and families, gods and ancestors, landscapes and idols, mountain and mound, river and canal: all were tangled in the concept of the *huaca* and wrapped together in space and time within the *huaca*-town.

But beneath this seemingly glorious revival of landscape ancestry traditions with Guañape Phase roots, this newer concept of *huaca* was still bound to the community-centric politics of the Salinar Phase and thus was likely tangled with the ambitions of the powerful families that had begun to take a foothold in these communities. In fact, the largest *huaca*-towns of Cerro Oreja and Pampa la Cruz had deep roots in the Salinar Phase. Perhaps the true birth of the *huaca*-towns, though most visible in the Gallinazo Phase, had occurred slightly earlier. Whatever the case, the power of the *huaca* was one that was probably tangled with these families but, importantly, was not necessarily owned or controlled by them. These were not yet the burial places or palaces of nobility: they were stages for smaller gatherings while also the monuments to a broader idea of what a community was. It is in the former that we possibly reach the end of this story and the beginning of the later stories of the Moche and Chimor. Though the gatherings and the authority may have been limited, the Gallinazo Phase appears the first point when the *huaca* could have served as the venue for one domain of privilege, and authority, that would define the political landscape of the Moche Valley for the next millennium: that of being a host. As canals and fields expanded throughout this landscape and water became more and more scarce during the second planting seasons (Appendix H), this privilege of hosting likely gained a greater weight among the people who identified with certain *huaca*-towns as their communities. Hosting the gatherings to expand and maintain canals and fields would have become a vital role in ensuring the success of a *huaca*-town and the broader community around it. In this way, the role of being a host could have been an entry point that influential families used to eventually become the nobility of future generations: feeding guests created subjects.

5.0 PROJECT OBJECTIVES AND METHODOLOGY

5.1 Revisiting Research Questions

Marshalling the discussions of borderlands (Chapter 2) and the landscape (Chapter 3), people (Chapter 4), and ceramic traditions (see Appendix A) of the Moche Valley and its *chaupiyungas*, we can form several research questions aimed at elucidating some of the possible borderland dynamics that shaped the Upper Moche Valley *chaupiyunga* landscape. Among these questions, broader inquiries regarding the nature of political and demographic boundaries and how they were tangled together within this region are (1) the most easily accessible and (2) the focus of this dissertation. Questions regarding economic and cultural boundaries of the *chaupiyunga* are also put forth and addressed, but are ultimately somewhat secondary to the main focus of this dissertation on politics and demography.

- Demographic Boundaries – Was the region a sparsely occupied and somewhat fluid demographic boundary to the *chala* for most of its prehistory? Even if the population of the *chaupiyunga* was always smaller than neighboring regions, at what points did demographic densities or settlement patterns change? To what degree were these changes in settlement patterns indigenous developments in the region? To what degree were such changes associated with specific polities or communities in adjacent regions?

- Political Boundaries – How did the region change as a political boundary between the *chala* and *quechua* over time? How often was its political landscape bound to the polities of the *chala* (e.g., Moche *huaca*-polities, the Kingdom of Chimor) and *quechua* (e.g., local highland polities, the Inka Empire)? To what degree was conflict within the region associated with *chala* or *quechua* political actors?

- Economic Boundaries – How did the *chaupiyunga* change as an economic boundary over time? Did canal expansions in the region correspond with times of increased influence or expansion from the *chala* or *quechua*? When does it seem most likely that adjacent ridges were being used for pasturage *monte* or for movement routes from the *quechua* above?

- Cultural Boundaries – At what points was the *chaupiyunga* a cultural boundary and to what degree was it connected to the *chala* or *quechua* over time? Did any uniquely *chaupiyunga* cultural traditions (e.g., ceramic traditions) emerge in the region or does it appear to have been more shaped by those traditions of neighboring regions?

Homing in from these broader questions, we can also ask three more specific sets of questions about borderland processes, political landscapes, and the importance of certain places.

1. A Contested *Chaupiyunga* – Recalling the hypothesized contested *chaupiyunga* borderland process that is perhaps unique to the study area (see Chapter 3): we may expect that increased settlement and land-use in the Upper Moche Valley *chaupiyunga* would correspond with evidence for *chala-quechua* tensions, or even conflict, over the *coca* and water of the region. When, if ever, may this borderland process have occurred in prehistory? Could such a borderland process account for any conflict or political tensions that have been observed in the region? If not, why may this process have been avoided or have never occurred?

2. Political Landscapes of the Moche and Chimú – Given the demonstrated differences between the Moche and Chimú Political Traditions and their corresponding political landscapes in the Moche Valley (see Chapter 4): how, if at all, did the polities of these traditions build authority differently in the Upper Moche *chaupiyunga*? To what degree can any differences be explained by inherent differences between the traditions themselves? To what degree can they be explained by the temporally distinct landscapes that the polities associated with these traditions interacted with?

3. Tethering to Place – Certain parts of the Moche Valley landscape repeatedly saw remarkable continuity, whether through re-occupation or continued engagement through burial, over at least three millennia of the region's prehistory (see Chapter 4): can such continuity also be recognized in the Upper Moche *chaupiyunga*? To what degree can such continuity be attributed to certain political traditions or specific communities?

5.2 Methodology

The broad temporal and spatial perspective afforded by a full-coverage pedestrian survey provides an ideal lens through which such a broad array of questions could begin to be addressed. Information collected on the location, density, and occupational histories of ancient settlement in the region was a vital element in reconstructing demographic landscapes and settlement patterns. Specifically, systematic surface collections were used in order to estimate surface sherd densities and develop demographic estimates for different phases and different communities. Adding to this, information on the distribution of corporate wares, nodes of political authority (e.g., adobe *huacas* and palaces), and fortifications or defensive features all helped inform the study of the broader political landscapes of the region. The PARFAM team collected these data over two field seasons: (1) the full-coverage survey was conducted in the Upper Moche *chaupiyunga* from April to November in 2017 and (2) the analysis of 16,399 of the sherds collected during this survey was conducted from April to August in 2018. What follows is a summary of the methodologies that guided the work of these two field seasons and a quick summary of their results.

5.2.1 Survey Methodology and Results

The first phase of PARFAM was a 2017 full-coverage pedestrian survey within a 39km^2 zone that stretched from the final confluence of the Moche River and up to the mountains around the modern town of La Tranca (Figure 5.1). As the final confluence was a highly visible landmark at the lower edge of the Moche Valley *chaupiyunga* proper, it seemed a logical starting point for survey. The upper boundaries of the survey area were admittedly arbitrary and simply based on time constraints. The initial plan was to continue the survey up several of the ridge routes that lead to the adjacent Otuzco and Carabamba Highlands, but such coverage was heavily limited by the damaged roads and increased vegetation following the 2017 ENSO event. What follows is (1) a quick summary of previous surveys in the region, (2) an overview of the PARFAM survey methodology, and (3) a very broad overview of some of the survey results.

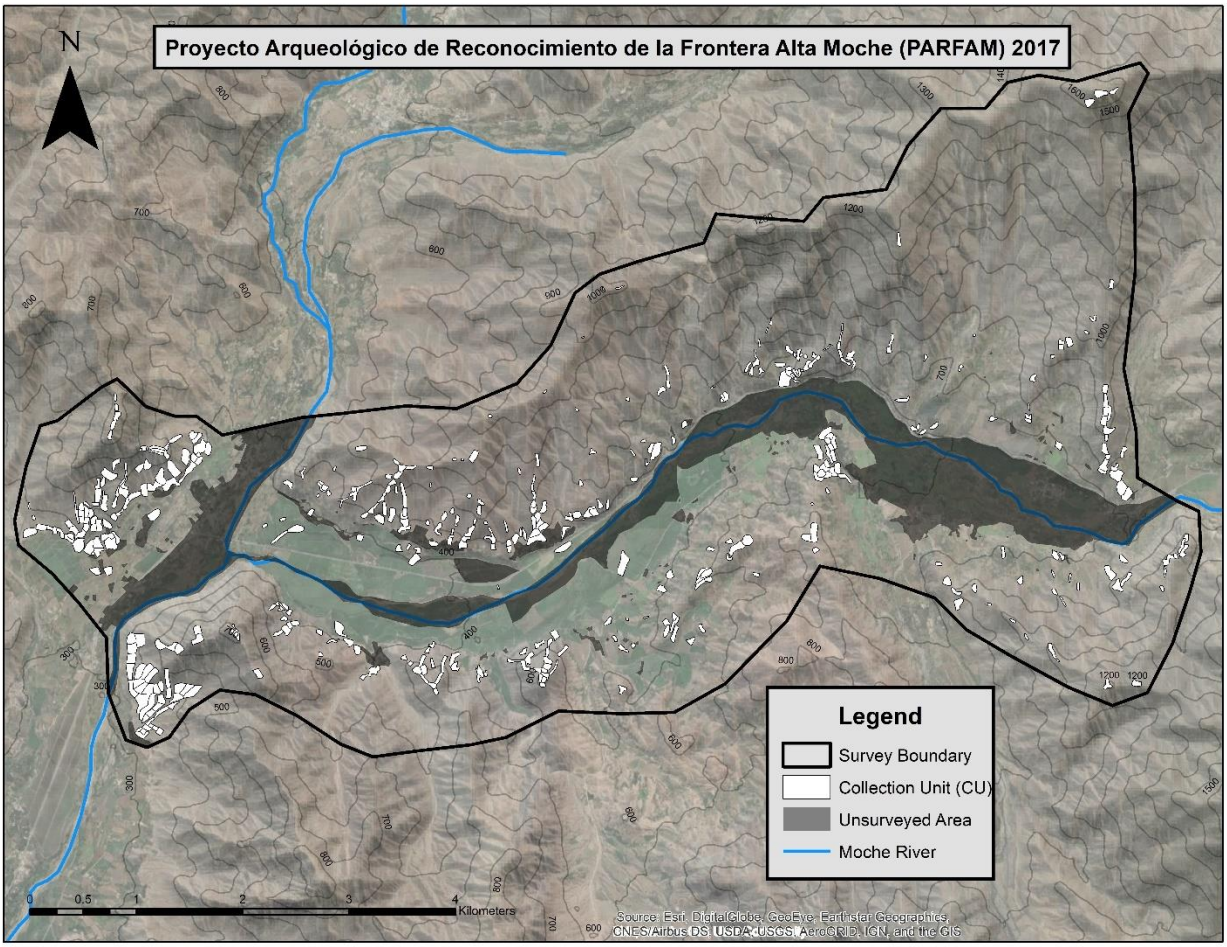


Figure 5.1 Survey Limits, Collection Units, and Surveyed Area for PARFAM 2017

5.2.1.1 Previous Surveys in the Region

One consequence of the more limited scope of PARFAM following the 2017 ENSO event was that the survey was mostly covering ground that had already been covered by previous projects. Between 1977 and 1980, the members of the Prehistoric Fortification Project directed by Theresa and John Topic surveyed and recorded several of the larger sites in the Upper Moche *chaupiyunga* as part of a broader regional project (Topic, J. and Topic, T. 1978, 1979a, 1979b; Topic, T. and Topic, J. 1982). This survey yielded data that was used in a few important publications on coastal-highland interaction and fortified frontiers in the Moche Valley *chaupiyunga* (Topic, J. and Topic, T. 1985, 1987; Topic, T. 1990; Topic, J. 2013). Though foundational, the survey was not systematic and the published data reporting was often too opaque to either (1) securely locate the sites being described and/or (2) cross-check temporal assignments

with the ceramic chronology I developed in Appendix A. For example: the prehistoric fortified settlement of Siete Vueltas was assigned a "Moche V" occupation by the Topics (Topic, J. and Topic, T. 1987: 53) even though surface materials at the site are very clearly exclusively from the Chimú Phase. Upon further investigation, I believe they were likely referring to the much smaller Gallinazo/Moche Phase hamlets and *huaca* located a half a kilometer to the west and downhill from the actual fortified settlement of Siete Vueltas. More worrisome, however, are the inconsistencies that often emerge within their discussions of their own data. For example: the "Moche III-IV" site of Huacamochal (later described here as Huaca El Castillo) was first reported explicitly as an "unfortified settlement" but then, some five years later, was specified as being "fortified" with a "low wall… and partial dry moat." (Topic, J. and Topic, T. 1982: 5, 1987:52) Twenty years after this, the Topics' discussion of the "ritual" nature of Moche warfare was partially based on a lack of fortifications before the Middle Horizon. Curiously, this discussion of Moche warfare had no mention of Huacamochal or any of the other fortified or defensive "Moche III-IV" (i.e., pre-Middle Horizon) sites that they had described in their previous works (Topic, T. and Topic, J. 2009: 36-43). In sum, though the work done by the Topics remains useful as a vague guide to some of the main settlements in the region, there are problems and inconsistencies that need to be clarified before their work can be used in regional settlement pattern analyses.

In 1990, Brian Billman included the Upper Moche *chaupiyunga* in his full-coverage and systematic survey of much of the Moche Valley (Billman 1996). His survey took a site-based approach to recording ancient settlement in the valley and he leaned on diagnostic ceramics (often a blend of the corporate and domestic wares I defined in Chapter 5) when assigning chronological phases to sites (Billman 1996). Though the region was technically included in his dissertation, the settlement patterns of the Upper Valley *chaupiyungas* were understandably tangential to his main focus on the larger political developments occurring in the Middle Valley *chaupiyunga* and Lower Valley *chala*. In addition, Billman's dissertation research focused on earlier periods: leaving the systematic investigation of Chimú Phase settlement patterns as a yet-unexplored avenue in the region. Recognizing the potential for further work with his survey data, Billman graciously gave me access to his dissertation notes, field forms, and survey maps which I promptly digitized and did some preliminary analyses with (Figure 5.2; Mullins 2016).

At many points, having these previous data on hand proved quite useful. Many of the sites recorded by Billman in 1990 have long since been destroyed or partially destroyed and thus Billman's notes provide invaluable context. Those sites that were destroyed were completely obscured from the landscape – via modern construction upon them or bulldozing – and could not be recognized by any pedestrian survey. Those sites that were partially destroyed were either (1) partially cut into by modern settlement/cultivation or (2) had surface architecture cleared for cultivation but still were recognizable via surface artifact remains. In the PARFAM survey area, most of the damaged sites had been cultivated (e.g., parts of Mochal – Los Gentiles) and could thus still be detected using the survey methods that I applied. In a few limited cases, the specific archaeological materials reported by the Topics, Billman, or other scholars at certain sites were absent from my own collections. Though it is possible that I simply missed such material, I anecdotally found that these "absences" of material occurred more frequently with Guañape domestic and corporate wares and, to a lesser extent, with some Moche corporate wares. Given both are quite distinct and easily identifiable, I would guess that looters, hikers, or the far too common "informal" surveys done by some archaeologists are the most likely culprits for the absence of these materials. In any case, having several sets of data ready to help double-check my work and fill in gaps was an invaluable boon to the PARFAM survey and the subsequent analyses that follow.

Though site-based survey approaches like Billman's are common in the Andes and have great utility for reconstructing regional settlement patterns (e.g., Wilson 1988; Billman 1996; Boswell 2016), I took an approach based on ceramic densities for a few reasons. The identification and delineation of a "site" is a somewhat arbitrary process and can often succumb to biases towards areas with standing architecture while ignoring less elaborate or more ephemeral occupations (Dunnel and Dancey 1983). Though useful in many instances, standing architecture and/or area alone can be a far more complicated indicator of occupational density than it may seem (Drennan, Berrey, and Peterson 2015:14-16, 25-33). Recalling the occupational histories of Cerro Arena and Cerro Oreja, there is a ready example of these issues from the Moche Valley itself. Cerro Arena was composed of over 200 hectares with standing architecture while Cerro Oreja covered a little over 20 hectares of standing architecture. Given such a disparity, one may assume that Cerro Arena was the demographically larger and more heavily occupied settlement of the two. In reality, however, Cerro Arena was occupied only for a few decades while Cerro Oreja was occupied with

a much greater intensity and for over at least two millennia! In the latter case, the density of occupation at Cerro Oreja is less apparent from architecture alone and more apparent from the absurd density of surface artifacts (>100 sherds/m^2 in many areas). In fact, I wonder if some of the issues in interpreting Cerro Arena could have perhaps been avoided if demographic estimates at the site were more based on surface artifact densities.

On the other end of the spectrum, a dependence on standing architecture can often obscure more ephemeral occupations like field camps or sherd scatters. Tracing such occupations was of particular interest to this project given the demonstrated likelihood that such field camps were likely being used in the *chaupiyunga* at points in the past. In this latter realm, Billman's survey was admirably thorough and he detailed many such ephemeral occupations and camps.

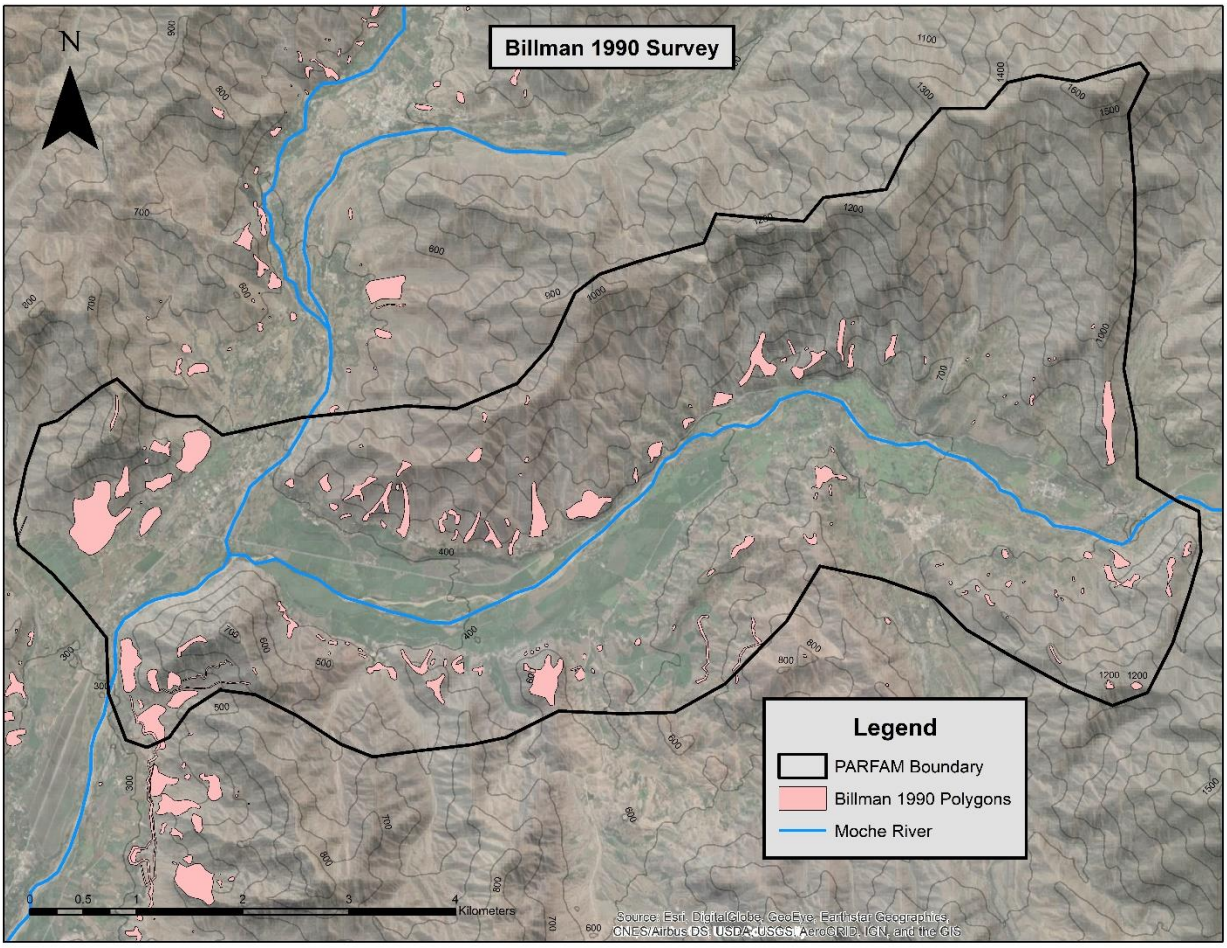


Figure 5.2 Brian Billman's 1990 Survey within the Survey Area

5.2.1.2 PARFAM Survey Methodology

Following survey work done in analogous Andean *chala-chaupiyunga* regions by colleagues at the University of Pittsburgh (Ikehara 2015; Cervantes 2020), the PARFAM survey methodology was designed to collect data on the surface densities of ceramics that were then used as a proxy for occupational density. The starting point for such a methodology is a rather intuitive connection between (1) the refuse being left behind by a population and (2) the size of the population itself. As Drennan and Peterson state: "other things being equal, larger populations leave more garbage on the landscape than smaller populations do" (Drennan and Peterson 2011:57). Among modern rural communities in both Colombia and Peru, the lack of centralized refuse retrieval and disposal usually means that household refuse will cluster within 50 or so meters of households themselves (Drennan and Boada 2006; Ikehara 2015: 248-254). Ceramic sherds are a very common form of refuse found in archaeological contexts amongst groups who were using ceramics as their principal tools for cooking, serving, and storing goods. Especially in domestic contexts and with cooking wares, ceramics were broken and discarded quite often: leaving a durable trace of ancient refuse patterns that is more-or-less easily accessible by archaeologists. The density of ceramic refuse within a given archaeological context can then be used to inform the general density of ancient human occupation. Compounding this utility of ceramic sherds in reconstructing demographic landscapes, these same materials can be correlated with domestic or corporate ware traditions that can then be associated with certain time periods, broader communities of people, and specific political traditions (see Appendix A). As a result, the collection of data on densities of ceramics can be (1) informative of the density of human occupation and (2) allow such occupations to be distributed into the more specific temporal, cultural, or political contexts in which they may best fit.

Guided by these insights and with the ultimate objective of reconstructing regional demography, the principal task of this dissertation was to record the variable surface densities of ceramics as they were distributed across the landscape. As our goals in this end were similar, I adopted a survey methodology that was modeled after, and thus closely resembled, that of Cervantes and Ikehara (Cervantes 2020:79-90; Ikehara 2015: 41-56). Each day, 1-2 crews, each with 2-3 people, would set out to survey a pre-determined section of the valley. My own familiarity with the region and with Billman's previous survey data was obviously helpful in allowing me to

orient myself when coming across larger archaeological settlements, *huacas*, or citadels. This being said, every attempt was made at not biasing my own survey strategy by gravitating towards such areas, especially because I was interested in any occupations that may have been missed by previous work. Using georeferenced aerial imagery maps taken from GoogleEarth and handheld GPS units as guides, crews walked ~25-50m transects in an orientation that was highly dependent on the terrain. Walking on straight or consistently oriented transects was frequently made difficult by obstacles like modern settlement, dense sugarcane fields, and challenging topography. In most cases, the priority was to cover the necessary area as completely as possible. Survey in the more "vertically dynamic" parts of the valley (e.g., hills and mountains) was often done by hiking along ridges, up quebrada washes, and, where safe, skirting along the slopes between.

While walking these transects, crew members would stay alert for any surface artifacts or possible architectural features. Upon a single ceramic sherd being found, other survey members were alerted in anticipation of perhaps finding more sherds. After a threshold of 4 sherds had been exceeded, the transects were abandoned for a more thorough exploration of the extents of the possible occupation and the delineation of a Collection Unit (CU). The goals of establishing a CU were (1) to determine the extents of an occupation with specific attention to the densities of surface sherds and (2) to give any relevant non-artifact-based context to the resulting collections. The first goal was the most time consuming: great attention was paid to the composition of surface sherd assemblages and any increase or decrease in their densities. This was assessed through a preliminary counting of sherds within $1m^2$ areas while also noting the wares that seemed to have been present. The CU area was then found, drawn, and labeled on a tablet field map by following a combination of topography, aerial imagery, and GPS units (see Figure 5.3). Though there was no minimum size for a CU, my desire for more precision within sites led me to choose 1 hectare as a "maximum". Simultaneous with this delineation, a CU form was filled out to record some basic information on nearby vegetation, preservation, visibility of surface material, cultural/chronological context, and any additional comments (Figure 5.4). This part of the CU form was crucial for making statements about the nature of the occupations in question. Taking note of the usual domestic debris (e.g., debitage, farming/digging implements, marine shells, faunal remains, etc.) allowed me to see that the vast majority of the contexts being recorded were domestic occupations. That being said there were also a handful of stand-alone tombs, an isolated *huaca*, and a few other non-habitation contexts that were recorded.

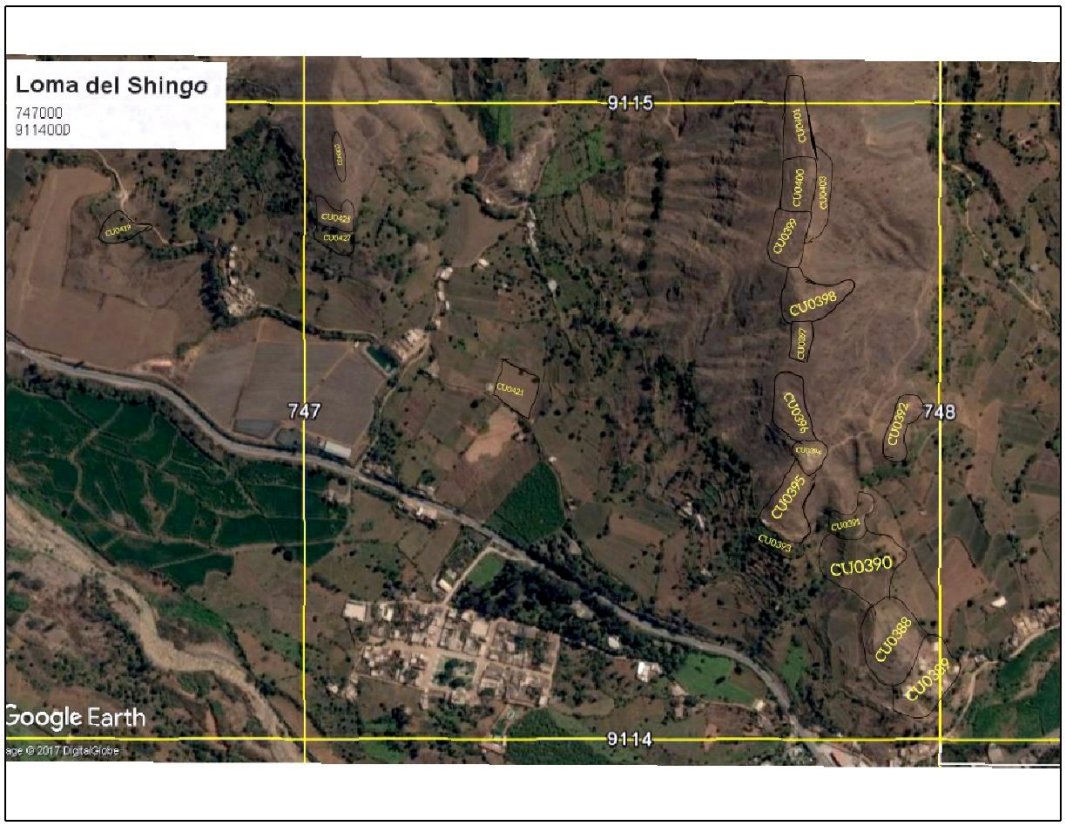
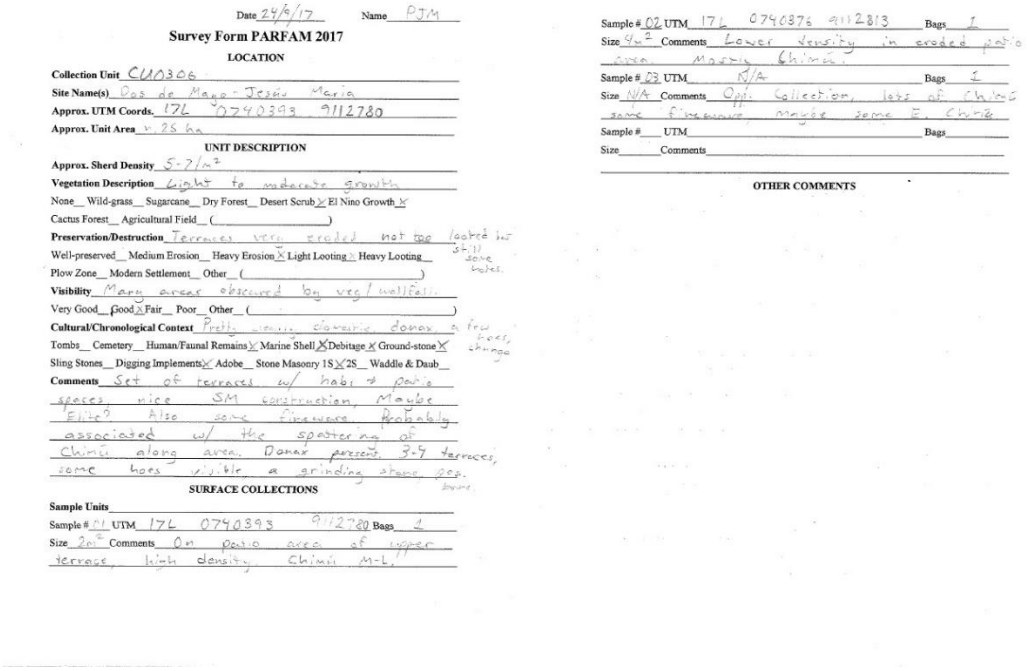


Figure 5.3 Example of a Tablet Field Map with CUs Outlined and Labeled



Date 24/6/17 Name PJM

Survey Form PARFAM 2017

LOCATION

Collection Unit CU0306

Site Name(s) Dos de Mayo - Jesus Maria

Approx. UTM Coords. 17L 0740393 9112780

Approx. Unit Area v. 25 ha

UNIT DESCRIPTION

Approx. Sherd Density 5-7/m²

Vegetation Description Light to moderate growth

None__ Wild-grass__ Sugarcane__ Dry Forest__ Desert Scrub X El Nino Growth X

Cactus Forest__ Agricultural Field__ (_____)

Preservation/Destruction Terraces very eroded not too looted but still some intact.

Well-preserved__ Medium Erosion__ Heavy Erosion X Light Looting X Heavy Looting__

Plow Zone__ Modern Settlement__ Other__ (_____)

Visibility Many areas obscured by veg / wall fall.

Very Good__ Good X Fair__ Poor__ Other__ (_____)

Cultural/Chronological Context Prob. many diagnostic donax a few hoes, chunga

Tombs__ Cemetery__ Human/Faunal Remains X Marine Shell X Debitage X Ground-stone X

Sling Stones__ Digging Implements X Adobe__ Stone Masonry 1S X 2S__ Waddle & Daub__

Comments Set of terraces w/ habit & patio spaces, nice SM construction, Maybe Elite? Also some fineware. Probably associated w/ the spattering of Chimú along area. Donax present. 3-4 terraces, some hoes visible a grinding stone, pos. bowls

SURFACE COLLECTIONS

Sample Units

Sample # 01 UTM 17L 0740393 9112780 Bags 1

Size 2m² Comments On patio area of upper terrace, high density Chimú M-L

Sample # 02 UTM 17L 0740376 9112813 Bags 1

Size 9m² Comments Lower density in eroded patio area. Mostly Chimú.

Sample # 03 UTM N/A Bags 1

Size N/A Comments Opp. collection, lots of Chimú some fineware, maybe some E. Chorrillos

Sample # ____ UTM _____ Bags _____

Size _____ Comments _____

OTHER COMMENTS

Figure 5.4 Example of a Survey CU Form Used During PARFAM 2017

Within each of these CUs, one or more Sample Units (SUs) were then used to (1) obtain controlled and density-based samples of surface ceramics and/or (2) make an opportunistic collection of diagnostic ceramics. The objective of the first type of SU was to obtain a sample of 30 sherds: this would make it possible to estimate proportions of the sherds from different wares and/or phases with error ranges of at most around 9% with a 66% confidence level. Following the general assessment of sherd density made when establishing the CU, the decision was then made whether to do an SU that was either (1) a general collection or (2) a systematic collection.

General collections have been used by other researchers with similar methodologies (e.g., Ikehara 2015: 51; Drennan, Teng, et al. 2003) to save time when surveying areas with lower densities of surface artifacts. In lieu of making the multiple or exceedingly large dog-leash collections for these lower densities, we would simply collect any material found within the CU until the aforementioned threshold of 30 sherds was met. The idea here is that, given the low densities, such a collection can be seen as being more-or-less representative of the entire CU. For PARFAM, densities lower than 3 sherds/m^2 were deemed general collections and were divided into five categories depending on the approximated surface density of sherds noted when delineating the CU itself: 2 sherds/m^2, 1.5 sherds/m^2, 1 sherd/m^2, .5 sherds/m^2, and .1 sherds/m^2. The final category was reserved for those CUs in which the 30-sherd minimum could not be met. General collections had to be used for densities greater than 3 sherds/m^2 only in a few rare cases: mostly landowners telling us to leave before a CU could be completed.

In those CUs with ceramic densities exceeding 3 sherds/m^2, one or more SUs would be taken within measured areas in order to make a systematic collection to trace sherd densities within the CU. Following from Ikehara's adaptation of earlier methodologies, these systematic collection SUs were taken using variable areas in order to reach the 30-sherd goal given the density of material at hand (Ikehara 2015:50-51; Drennan, Teng, et al. 2003; Haller 2008). This was vital given the time constraints associated with obtaining too large a sample. For example: a $5m^2$ sample in a CU where ceramic densities exceeded 100 sherds/m^2 would yield over 500 sherds for a single SU. As such, a variety of pre-made "dog-leashes" were carried by each survey crew ($5m^2$, $2m^2$, $1m^2$, and $.25m^2$) to tailor the area of the sample to the densities present at any given CU. In any given CU, the goal was usually to take 2-3 SUs in order to properly capture any internal variation of ceramic densities and/or different occupations. A UTM coordinate from a hand-held GPS was

taken at center of each SU "dog-leash" and was recorded along with SU size and any other relevant comments on the context of the unit or materials (Figure 5.4).

Opportunistic collections made up the final type of SU. These collections were not done systematically in any way that could meaningfully reflect surface sherd densities and were instead oriented towards more opportunistic collections of special finds and/or diagnostic ceramics within a specific CU. Usually this was done at the closing of a CU: a bag and tag would be made and 5-10 minutes would be spent looking for small sample of 5-10 diagnostic sherds. Such collections were done for two main reasons. First, and most importantly, opportunistic collections allowed me to at least assess the presence-absence of material that was more diagnostic of tighter chronological phases or political traditions (e.g., Virú vs. Moche corporate wares). This was needed because it was very clear that the vast majority of the material being collected in systematic SUs were body sherds of domestic wares and could only be chronologically placed into very large phases and were not associated with specific political traditions. Without these additional data, some of the main themes of this dissertation would remain entirely inaccessible with the material at hand. Second, a few of the traditions explored in Appendix A were woefully under-reported in previous publications and thus would benefit from a more robust sample of rim drawings or photographs. Though the total number of rims and diagnostic sherds collected in the survey was modest and the context of these materials was not through excavation, the resulting data would at least provide a start. All of the artifacts collected from every type of SU were promptly bagged and tagged to be washed later. SU tags contained much of the relevant context associated with the artifacts and served as another set of internal redundancies of data collection for the project (Figure 5.5).

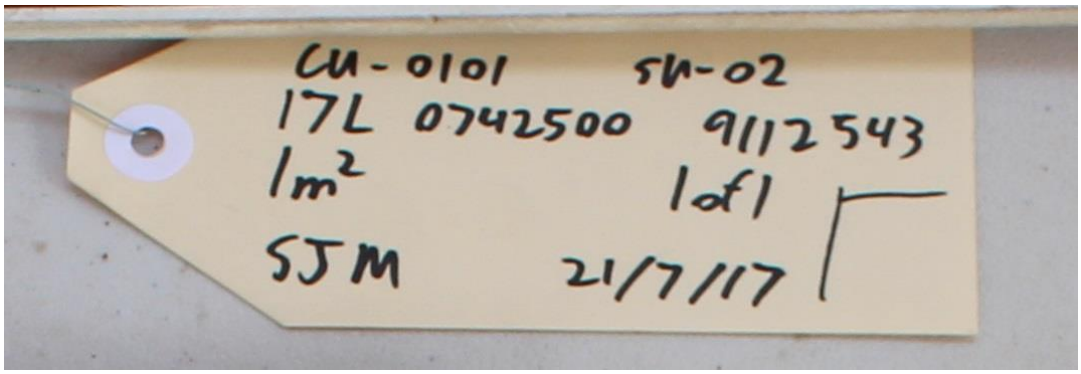
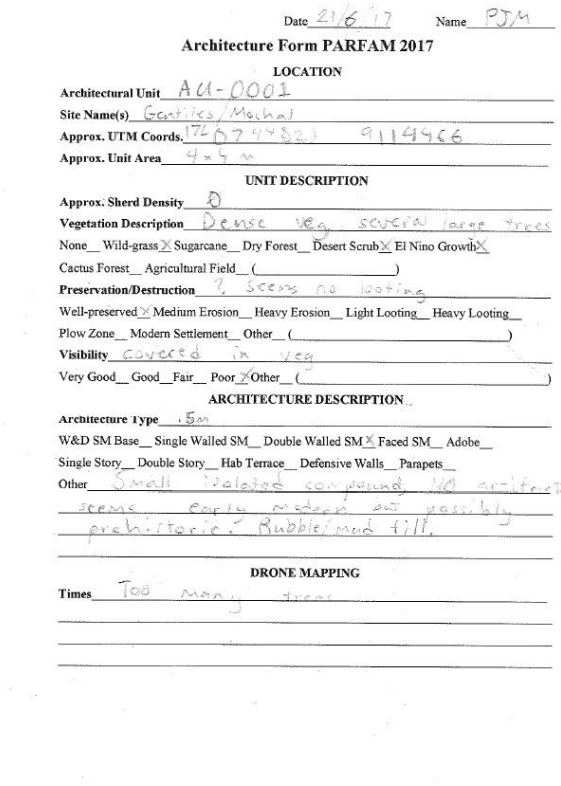


Figure 5.5 An Example of an SU Tag Used During PARFAM 2017



Date 21/6/17 Name PJM

Architecture Form PARFAM 2017

LOCATION

Architectural Unit AU-0001

Site Name(s) Gentiles/Machai

Approx. UTM Coords. 17L 0749821 9114966

Approx. Unit Area 4×5 m

UNIT DESCRIPTION

Approx. Sherd Density 0

Vegetation Description Dense veg, several large trees

None__ Wild-grass X Sugarcane__ Dry Forest__ Desert Scrub X El Nino Growth X

Cactus Forest__ Agricultural Field__ (_____)

Preservation/Destruction ?, seems no looting

Well-preserved X Medium Erosion__ Heavy Erosion__ Light Looting__ Heavy Looting__

Plow Zone__ Modern Settlement__ Other__ (_____)

Visibility covered in veg

Very Good__ Good__Fair__ Poor X Other__ (_____)

ARCHITECTURE DESCRIPTION

Architecture Type .5m

W&D SM Base__ Single Walled SM__ Double Walled SM X Faced SM__ Adobe__

Single Story__ Double Story__ Hab Terrace__ Defensive Walls__ Parapets__

Other Small Platform compound, NO artifacts seems early modern but possibly prehistoric. Rubble/mud fill.

DRONE MAPPING

Times Too many trees

Figure 5.6 An Example of an AU Form Used During PARFAM 2017

Though very basic information on architecture was collected in CU forms, a handful of architectural features had no associated artifacts and thus got their own designation as Architectural Units (AUs). Only 18 of these were recorded and they mainly consisted of relic canals, fortifications, and terraces (see Figure 5.6). Given the lack of ceramic material, their attribution to a specific phase was often ambiguous and could only sometimes be guessed via nearby CUs.

A master CU and SU log was also maintained in the field in order to have a third set of redundancies (CU Form, SU tag, Master CU-SU sheet) with which to help cross-check data later and settle any inconsistencies. I cannot stress enough how important such redundancies were to have pre-arranged within the survey. This was the single most effective way to combat the inevitable human error that occurs after long days of hiking in heat over difficult terrain while laden with backpacks full of ceramics (see Figure D.30). Upon returning to the field house, all

forms and tags were double-checked to ensure no mistakes had been made. Tablet maps were also immediately geo-referenced and digitized into the master database in ArcGIS.

Finally, aerial photography using a Phantom 3 Advanced quad-copter was initially intended to be a key part of the project. Though several of the larger communities and *huacas* were mapped before the ENSO rains using this method, much of the area remained unmapped due to (1) the decreased surface visibility caused by ENSO-related *monte* and (2) hiking capacity limits. The first was found to greatly decrease the quality of the maps that could be produced: after attempting a post-ENSO map, it became clear that the *monte* would distort both the DEM and Orthophotos. Far more impactful were the hiking capacity limits: bringing the Phantom 3 along with all of its related material meant sacrificing a backpack for carrying sherds and thus limiting the area that could be covered and CUs made in a given day. Time was the most valuable resource during the 2017 field season due to the ENSO delays and such sacrifices were unacceptable for the goals of the project. The solution I nominated for these problems, for better or worse, was patience. The hope was that the ENSO scrub would be reduced during the lab season (2018) and there would be ample time to return to map the relevant areas. Neither of these hopes ended up coming to fruition but the limited maps that were produced are included where relevant. A more systematic mapping and architectural analysis program was implemented in later field seasons but was not able to be included in this dissertation due to time constraints.

5.2.1.3 General PARFAM Survey Results

By the closing of the 2017 field season, we had recorded 473 Collection Units with 849 Sample Units within the survey area (Figure 5.1). Of these 473 CUs, a little less than two thirds were general collections: there were 171 systematic collections and 302 general collections (Table 5.1). Looking to the 849 SUs taken within these CUs there were: 302 general collections, 389 systematic collections, and 158 opportunistic collections (Table 5.1). Each general collection was its own CU and SU and thus those numbers were (thankfully) identical. Meanwhile, most of the 171 systematic collection CUs had their own opportunistic collection SU and each had an average of two systematic collection SUs.

The average CU size was 0.37 ha (σ = .25 ha) with a range of .02 – 1.6 ha. It proved difficult at times to approximate CU area in the field: 10 CUs ended up being slightly larger than 1 ha and 7 CUs were over 1.1 ha. Though the latter were unfortunate, they all either (1) were general collections with lower densities of sherds or (2) had 2-3 systematic collection SUs and thus a relatively good sample of sherd densities. As such, I did not see any reason to redraw or divide the CUs, as I was relatively confident that they were representative of the surface sherd densities they were meant to record.

Table 5.1 PARFAM Collection Unit (CU) Data

PARFAM Collection Unit (CU) Data			
CU Type	**SU Type**	**CU Count**	**SU Count**
Systematic		171	
	Systematic		*389*
	Opportunistic		*158*
General		302	
	General		*302*
Total	***NA***	***473***	***849***

While the coverage of the hilly flanks of the Upper Moche *chaupiyunga* was total, the valley floor presented many difficulties and was only partially covered by the survey (Figure 5.1). This was mainly done because of (1) the dense ground cover and impassability of many sugarcane fields and (2) the paucity of material ever found within them. The vast majority of the valley floor is devoted to sugarcane cultivation and the resulting fields are notoriously difficult to navigate and have very reduced ground visibility. Satisfying coverage of a sugarcane field required it to have just been cleared and this led to a sort of *ad hoc* approach to surveying sugarcane fields: if the area had just been cleared and sugarcane burnt, we took advantage of the moment and surveyed. However, even those fields that could be surveyed were almost always devoid of ceramic material. In those that did have a few sherds, they were often too pulverized and eroded to assign to any ware category with confidence. Obtaining a better understanding of valley floor occupations under modern sugarcane fields is a conundrum that is worthy of investigation and is particularly vital for understanding earlier phases. That being said, it would likely require some manner of coring/auger program and negotiations with the often-hostile sugarcane companies: both of which were outside of the scope of this dissertation.

The locally owned and non-industrial sugarcane fields and the other *chacaras* were quite straightforward to survey and often yielded ceramic material. For example: Billman recorded the Chimú Phase community of Mochal – Los Gentiles as being around 3 ha in size by following architectural features like the habitation terraces and fortifications around the site. By recording the surrounding pineapple and sugarcane fields, I found the occupation to have been over two times that size: almost 8 ha of moderate sherd densities and domestic debris. This being said, many of these fields had somewhat lower densities and this was probably the most extreme example of fields having expanded the size of a previously recorded site.

In general, the total occupied area of settlement in my own survey (~175 ha) is only slightly larger than that recorded by Billman (~160ha) in the same area. A quick visual comparison between the results of the two surveys shows that there was considerable overlap with only a few subtle differences in how certain occupations were drawn (Figure 5.1; Figure 5.2). In fact, the main differences seem to be simply a result of (1) the higher precision with which I could trace occupied area with the modern tools at my disposal and (2) the inclusion of a few smaller occupations that were missed or unrecorded. A more thorough comparison between these two datasets will be reserved for future work aimed at integrating and expanding the results of (1) the present survey, (2) Billman's 1990 survey, and (3) the unpublished results of the Harvard Chan Chan – Moche Valley Project survey in the lower valley *chala*.

5.2.2 Ceramic Analyses and Results

The second phase of PARFAM was the classification of the 16,399 pottery sherds that were collected in 2017. This was initially done at the field house in Casa Blanca, Poroto following a modified version of the Virú Valley sequence. This modified sequence was then eventually consolidated into the ceramic chronology and ware categories defined in Appendix A and developed for this dissertation. Wares were sorted into their respective categories, and each artifact was input into an excel spreadsheet with the relevant CU and SU information along with any additional comments. All rim sherds were drawn (1,564) and all decorated sherds were noted and photographed: these were compiled by ware and a sample can be found in Appendix D.

The most difficult wares to differentiate were two pairs of wares: (1) Guañape and Huacapongo Polished and (2) Castillo and Rubia. For the Guañape and Huacapongo Polished wares, I quickly recognized that many sherds that were clearly Guañape lacked the associated quartz inclusions recognized in coastal or *chala* assemblages. Without these inclusions, the similarities in the techniques used in both wares (e.g., scraped interiors, inconsistent firing, etc.) meant that body sherds could be easily confused if they lacked some of the more diagnostic characteristics (e.g., decorations, patterned burnishing, etc.). For the Castillo and Rubia wares, the body sherds are often indistinguishable for reasons described in Appendix A. To resolve these issues in the rare cases when they arose for either pairs, I was sometimes forced to lean on diagnostic sherds found in the associated SU, broader CU, or associated opportunistic collection SU. In fact, resolving such issues was part of the motivation for having opportunistic collections. Most of the time there were minimal or no overlapping occupations, so I could assign such ambiguous wares with relative confidence. In those few cases with overlap, I simply split the ambiguous sherds according to the proportions of diagnostics from either ware. This was done with the intention of reaching what would be the most likely distribution if more detailed analyses were conducted.

The result of these efforts was a database of all 16,399 sherds that could be sorted by ware, CU, and SU. The overwhelming majority of sherds collected were domestic wares and only some 2.5% could be assigned to one of the nine corporate ware categories (Table 5.2). The domestic and corporate wares of later phases of the Moche Valley sequence were overwhelmingly more represented in the *chaupiyunga* assemblages than those from earlier phases: only some 13% of the total collection could be assigned to either the Guañape or Salinar Phases. In addition to wares, I also tabulated the frequency of more specific decorations within the broader ware traditions that were noted in Appendix A as correlating with more discrete phases or ware sub-traditions (Table 5.3). This allowed the tentative identification of some Chimú-Inka Phase decorations noted earlier for Tomaval-Estero wares or the vague subdivision of generally Moche, and some likely Moche V, wares within the Moche Phase.

The complete absence of Virú Negative corporate wares made any confident differentiation between the Gallinazo and Moche Phases difficult with the material at hand. These phases are thus combined in my later discussion of the data: creating the "Gallinazo/Moche Phase" as a "phase"

in of itself. This was a difficult decision to make but was deemed necessary given the ambiguity of the domestic wares used across these phases and the fact that around 97.5% of all the collected material was composed of such wares. Corporate wares were a bit more useful in this regard: the presence of Moche wares was an easy way to identify Moche Phase occupations. Though Moche and Quinga wares tended to be separate, they did overlap in a few communities (e.g., Cruz Blanca) and thus it was ill-advised to argue for a Gallinazo Phase occupation on Quinga wares alone. As such, my later discussion of the settlement patterns of these combined phases does focus on highlighting those parts of communities that I believe had earlier Gallinazo Phase vs. later Moche Phase occupations. Such details could be better clarified through more intensive surface collections, a better ceramic chronology, and excavation.

Table 5.2 PARFAM Sherds by Wares Identified from Appendix D

PARFAM Sherds by Ware		
Ware Category	**Sherd Total**	**% Total**
Domestic Wares		
Guañape	395	2.41%
Huacapongo Polished	1939	11.82%
Early Highland	1761	10.74%
Castillo	4050	24.70%
Late Highland	2251	13.73%
Rubia	3621	22.08%
Tomaval-Estero	1521	9.27%
Unclassified	446	2.72%
Sub-Total	*15984*	*97.47%*
Corporate Wares		
Ancón Fine	5	0.03%
Salinar Fine	4	0.02%
Quinga	158	0.96%
Early Highland Fine	22	0.13%
Virú Negative	0	0.00%
Moche Fine	117	0.71%
Transitional-Early Chimú	8	0.05%
Middle-Late Chimú	99	0.60%
Chimú-Inka	2	0.01%
Sub-Total	*415*	*2.53%*
Total	***16399***	***100.00%***

The same general approach was taken for the Chimú and Chimú-Inka Phases. The vast majority of Tomaval-Estero, Rubia, and Late Highland wares were impossible to separate into Chimú or Chimú-Inka Phases and thus these two phases were combined for the purposes of this dissertation. This being said, around 30 sherds were found to have some of the attributes noted in Appendix D as being possibly Inka-influenced or belonging to the Chimú-Inka Phase. These likely Chimú-Inka Phase occupations, in addition to those that were determined likely Early Chimú via Transitional-Early Chimú wares, are noted in the subsequent discussions of the communities that were identified after generating the Chimú and Chimú-Inka Phase settlement patterns.

Table 5.3 PARFAM Diagnostic Sherds by Phase

PARFAM Diagnostic Sherds by Phase		
General Phase	**Specific Ware/Phase**	**Count**
Guañape Phase		
	Guañape	43
Salinar Phase		
	Salinar	127
Gallinazo and Moche Phase		
	Quinga	158
	Early Highland	206
	Moche (General)	123
	Moche V (Likely)	9
Chimú and Chimú-Inka Phase		
	Early Chimú (Likely)	8
	Chimú	353
	Late Highland	200
	Chimú-Inka	29

The result of these issues was that the material was best divided into four broader phases (Table 5.4): the Guañape Phase (1600 – 500 BCE), the Salinar Phase (500 – 1 BCE), the Gallinazo/Moche Phase (1 – 900s CE), and the Chimú/Chimú-Inka Phase (900s – 1600 CE). The Guañape Phase was relatively straightforward and occupations were defined by the presence of Guañape domestic wares and Ancón Fine corporate wares. The Salinar Phase was only slightly more complicated, but occupations were defined by the presence of Huacapongo Polished domestic wares and Salinar Fine corporate wares. Technically, some occupations that dated to the Salinar Phase in the Moche Valley could have included Quinga wares: a kaolin bowl was noted at

Cerro Arena (see Appendix A). However, this was the sole Salinar Phase context where this ware was recorded. It seemed more prudent to assign Quinga wares to the Gallinazo and Moche Phases given the ample record of their use at sites like Cerro Leon and Cruz Blanca. Either way, Quinga corporate wares were found in incredibly light quantities compared to associated domestic wares so I was confident this decision would have a negligible effect on any resulting settlement patterns.

Table 5.4 PARFAM Wares Organized by the Four Defined Phases and Date Ranges

Wares by Phase			
Phase	**Domestic Wares**	**Corporate Wares**	**Date Range**
Guañape Phase			1600 - 500 BCE
	Guañape		
		Ancón	
Salinar Phase			500 - 1 BCE
	Huacapongo Polished		
		Salinar Fine	
Gallinazo and Moche Phase			1 - 900 CE
	Castillo		
	Early Highland		
		Moche	
		Quinga	
Chimú and Chimú-Inka Phase			900 - 1600 CE
	Tomaval-Estero		
	Rubia		
	Late Highland		
		Transitional-Early Chimú	
		Middle-Late Chimú	
		Chimú-Inka	

Occupations belonging to the Gallinazo/Moche Phase were defined by the presence of Castillo and Early Highland domestic wares in addition to Moche, Quinga, and Early Highland corporate wares. Combining these two phases made these occupations simpler to define, even if the resulting settlement patterns were often palimpsests that had to be detangled a bit with a closer look at specific parts of specific communities. Finally, those occupations belonging to the Chimú/Chimú-Inka Phases were defined by the presence of Rubia, Tomaval-Estero, and Late Highland domestic wares in addition to Transitional-Early Chimú, Middle-Late Chimú, and Chimú-Inka corporate wares. The date of this composite of phases was extended to 1600 CE to account for the likely continuity of domestic wares through the first decades of Spanish rule. These

two composite phases (Gallinazo/Moche, Chimú/Chimú-Inka) definitely put limits on the interpretations that follow from this dissertation but did at least allow for some comparisons between the Moche and Chimú political traditions in the *chaupiyunga*.

5.3 Reconstructing Landscapes

These field and lab seasons of PARFAM produced a dataset that could then be refined to reconstruct some of the prehistoric landscapes in the Upper Moche Valley *chaupiyunga* across four phases that spanned between ~1600 BCE and (at most) ~1600 CE. Specifically, the dataset was refined to model (1) the demographic landscape, (2) the political landscape, and (3) the degree of tethering to certain places. All of these reconstructions could then be marshalled towards addressing some of the questions, specifically the final three, that were asked earlier in this chapter.

5.3.1 Demographic Landscapes

The first landscape to reconstruct was the demographic landscape. Gaining some understanding of how many people were living where and when was one of the most central goals of this dissertation. Reconstructing these demographic landscapes over time required two further refinements of the PARFAM data: (1) the development of relative and absolute population proxies and estimates and (2) the use of density-based cluster analyses to define local communities, local community clusters, and supralocal communities within the survey area. In addition to these refinements, I also attempted to reconstruct *chala* and local highland affiliations within these communities through the proportions of *chala* and highland wares.

5.3.1.1 Relative and Absolute Demographic Proxies and Estimates

To begin, the locational, chronological, and sherd density data from PARFAM was combined to obtain a relative population proxy called an Area-Density Index or ADI. The first step to getting to the ADI was determining the different sherd densities per ware and phase in each CU. To this end, the proportions of different wares in the systematic collections were used to distill

the relative densities (sherds/m^2) of each of the different wares for each CU. These data were then simplified/combined into of the four different phases in each CU. For example: a hypothetical CU was recorded as having 10 sherds/m^2 with the 30-sherd sample evenly split between Castillo, Early Highland, and Huacapongo Polished wares. This CU would then have 3.33 sherds/m^2 for each of those wares and a total of 3.33 sherds/m^2 belonging to the Salinar Phase and 6.67 sherds/m^2 belonging to the Gallinazo and Moche Phases.

The resulting densities then had to be standardized by the total area of each CU and the potential length of time represented by each different ware/phase. The first value, the ADI, was calculated by dividing the density of sherds/m^2 by the area (in hectares) of each CU to arrive at a value of sherds/m^2/hectare. This value is used to describe the relative density of a certain ware/phase in any given part of that CU in a way that allows for meaningful comparisons with ADIs of the same ware/phase from other CUs in the survey zone (Drennan and Peterson 2011; Drennan, Peterson, et al. 2003; Ikehara 2015: 82-83). The second value, the ADI/century, was calculated by dividing the ADI of a CU by the number of centuries that represent the phase or ware in question. This value essentially standardized by time in order to allow for meaningful comparisons of the ADI/century of CUs belonging to different time periods. Continuing the hypothetical: if the aforementioned CU was a total of .5 ha in size, then the Salinar Phase (500 – 1 BCE) at that CU would have an ADI value of 6.6 sherds/m^2/hectare and an ADI/Century value of 1.32 sherds/m^2/hectare/century.

The end goal of all of these efforts was to have an index, the ADI/century, that could be used as a more effective tool for comparing occupational densities across time and space within the survey zone. As it is describing occupational densities, this index is essentially a relative measure of demography for any given CU or the PARFAM survey area more generally. Most of the demographic estimates mentioned in Chapter 4 lacked these considerations of occupational densities and the length of specific phases and were thus limited to giving us very vague ideas of possible snap-shots of regional demography or the populations of certain communities. The nuance lent by taking all of these factors into account can be seen when these simpler demographic measures (number of sites/collections, total occupied area) are put side-by-side with the ADI/century values for PARFAM (Figure 5.7).

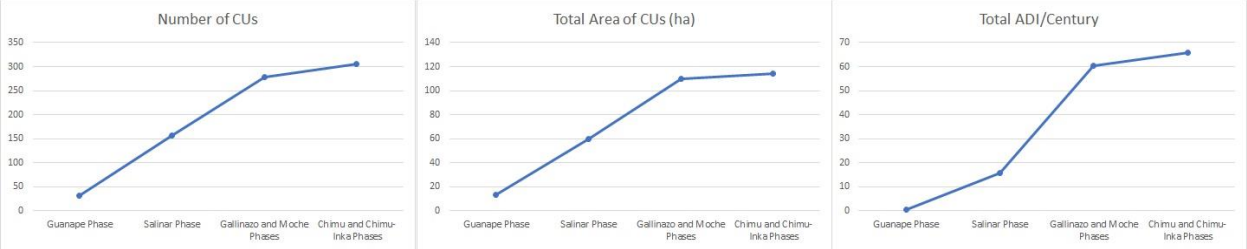


Figure 5.7 Graphs of Relative Population Proxies by Phase
From the left to right: Number of CUs, Total Area of CUs (ha), and Total ADI/Century

The resulting ADI/century values, though useful as relative proxies for comparison within the survey data, can also be multiplied by other proxies to arrive at absolute population estimates that allow for broader comparisons. I initially had planned on using the proxies developed by Ikehara in the Nepena Valley but quickly found that they likely would not have been appropriate for the sherd densities found in the Moche Valley. Ikehara's numbers were generated through estimating people per m^2 of roofed area within a sample of sixteen groupings of compounds in his survey area (Ikehara 2015: 84-86, 248-254). Using a range of one person per 4-6 m^2 of roofed area, he then divided the population estimates those ranges yielded by the corresponding ADI/century values to arrive at a multiplier proxy that could be used to translate ADI/century into an absolute population estimate. He then took 75% of this value to account for the likelihood that occupations did not span the entirety of the phases being described. This resulted in three proxy multipliers: (1) a minimum of 5.369, (2) a 10% trimmed mean of 6.711, and (3) a maximum of 8.053 (Ikehara 2015:85). Using these multipliers, he arrived at rough estimates of people per century – which is essentially a temporally standardized population estimate – within specific communities or across the region as a whole.

Though these multipliers seemed appropriate for the Nepena Valley, when applied to the PARFAM survey dataset they produced somewhat alarmingly low demographic estimates (Figure 5.8). For example: the approximately 9-hectare settlement of Loma del Shingo that was occupied during the Chimú and Chimú-Inka Phases would have had a range of 33 to 50 people with Ikehara's proxy. This yielded an absolute population density of 4 people per hectare that seemed quite low given this was an aggregated hilltop settlement.

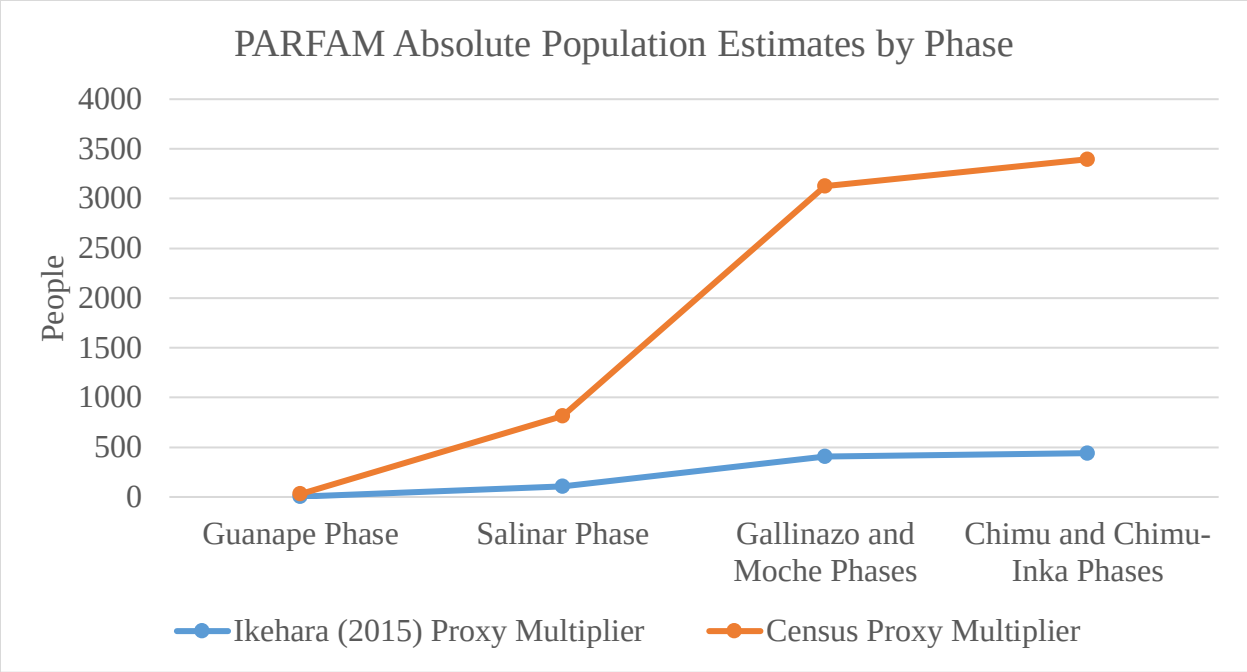


Figure 5.8 PARFAM Absolute Population Estimates by Phase

Given that these absolute population estimates seemed a bit low, I turned to the 2017 census data of the survey area to make some alternative demographic estimates that could perhaps serve my own survey data better. The modern demographic landscape of the survey area is one characterized by a mixture of isolated and/or dispersed communities of farmsteads along with more aggregated communities that could be described as villages and towns. This arrangement more-or-less fit with the expected settlement patterns of the latter two millennia of the survey zone: a handful of villages and towns amongst otherwise more dispersed settlements. The 2017 census data importantly recorded both the total population and the number of houses (occupied and/or unoccupied) within each community. Using aerial imagery, I traced polygons around those communities that were visible within the survey area and then assigned these spatial data with the values (e.g., total population, number of houses) from the 2017 census data. Though admittedly rough and in need of refinement through ground truthing, these spatial data played a role in how I justified my use of Kernel Density cluster analyses in defining communities in the next section.

The maximums of people per hectare of occupied area obtained from the census data were problematic because they usually came from the smaller and more dispersed communities recorded in the census (Table 5.5). For example: the actual maximum was 137 people per hectare of occupied area and this was recorded at the dispersed community of El Arquito that had a total

population of 66 people. The second lowest maximum of 95 people per hectare of occupied area belonged to the community of Mochalito that had a total population of 63 people. These large numbers seemed more likely to be a result of certain occupied areas not being visible in the aerial imagery in a way that skewed the ultimate numbers. An independent measure of relative population density can be seen in the fact that most of the communities had somewhere around 3 people per house. Thus, most of the variability was produced by densities of houses or people and was a product of the areas calculated from the polygons I traced. Though larger towns were quite straightforward to trace and I am confident in the majority of the polygons I produced, these issues led me to use the inter-quartile range as a way to excise such outliers from the dataset.

Table 5.6 PARFAM Absolute Population Estimate Proxy Multiplier Calculations

PARFAM Absolute Population Estimate Proxy Multiplier									
Archaeological Data (Chimu/Chimu-Inka Phase)				**Absolute Population Estimates (People/Ha)**			**Multipliers (Pop Estimate / ADI/Century)**		
Area Name	*CU Number*	*CU Area (Ha)*	*ADI/Century*	*Minimum*	*Average*	*Maximum*	*Minimum*	*Average*	*Maximum*
Loma del Shingo	399	0.48	1.38	17	26	37	12	19	27
Loma del Shingo	400	0.44	0.61	15	24	33	25	39	55
Loma del Shingo	401	0.30	0.27	10	16	22	38	60	83
Loma del Shingo	403	0.36	0.18	13	20	28	70	109	152
Loma del Shingo	402	0.38	0.28	13	21	29	47	73	102
Siete Vueltas	273	0.36	0.44	13	20	28	29	45	63
Siete Vueltas	272	0.27	0.34	9	15	21	28	44	61
Siete Vueltas	274	0.51	0.23	18	28	39	77	119	166
Cerro Katuay	167	0.22	0.09	8	12	17	82	127	177
Cerro Katuay	168	0.42	0.86	15	23	32	17	26	37
Cerro Katuay	169	0.37	1.25	13	20	28	10	16	22
Cerro Katuay	170	0.30	0.21	10	16	23	51	79	111
Cerro Jesus Maria	39	0.68	0.90	24	37	52	27	41	58
Cerro Jesus Maria	40	0.54	0.95	19	29	41	20	31	43
Cerro Jesus Maria	58	0.62	2.08	22	34	47	10	16	23
Cerro Jesus Maria	59	0.48	0.73	17	26	37	23	36	51
Cerro Jesus Maria	60	0.64	0.61	23	35	49	37	58	81
Dos de Mayo	65	0.31	0.14	11	17	24	80	124	173
Dos de Mayo	68	0.46	0.47	16	25	35	34	53	75
Dos de Mayo	70	0.51	0.23	18	28	38	78	121	169
Dos de Mayo	74	0.41	0.41	14	22	31	35	54	76
Cerro El Brujo	406	0.69	0.78	24	37	52	31	48	67
Cerro El Brujo	407	0.27	0.26	9	15	20	36	56	79
Arquito	355	0.10	0.14	4	6	8	26	40	56
Arquito	359	0.13	0.22	5	7	10	21	33	46
Arquito	363	0.41	0.27	14	22	31	54	85	118
Arquito	364	0.31	0.41	11	17	24	26	41	58
Arquito	365	0.13	0.06	5	7	10	74	115	161
10% Trimmed Mean	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	***39***	***60***	***84***
75% Occupancy	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	***29***	***45***	***63***

This interquartile range was used to arrive at lower- and upper-range values of people per hectare of occupied area within the survey zone while the 10% trimmed mean was used to calculate the middle or "average". This produced three different values: (1) a lower-range of 35, (2) an average of 54 and (3) an upper-range of 76. The resulting three values were then applied to 28 collection units within 7 different single-occupation communities across the survey zone (Table 5.6). These absolute population estimates were then divided by the corresponding ADI/century

value in order to arrive at the proxy multipliers for each collection unit. The 10% trimmed mean of these values was then multiplied by 75% in order to arrive at three values: (1) a lower range of 29, (2) an average of 45, and (3) an upper range of 63. Looking back to Loma del Shingo, these values produced a much higher range of estimates that seemed far more reasonable for the settlement: somewhere between 177 and 384 people. This would produce a density of around 22 to 48 people per hectare which seems about on par with the size of the ridge and number of compounds visible from available maps.

As they fit better with the survey area, the latter proxy was used for the rest of my discussion but the tools (via proxy multipliers) are provided for any curious or skeptical reader who thinks my estimates are far too high. Though these absolute estimates may have their issues, the relative estimate provided by the ADI/century is a far more reliable measure that has great utility in the demographic comparisons between communities and phases within the PARFAM survey area that follow.

5.3.1.2 Defining Communities

The focus on sherd densities in the survey methodology meant that any unit of analysis that would vaguely equate to smaller and/or larger communities of people had to be generated from the density data itself. Simply put: it did not make sense to use a CU in the same way that Billman and others had used sites as units of analysis. The methodology here instead uses multiple scales of communities as the units of analysis and these units must be extracted from the data through analyses of spatial clustering within the landscape. Communities can be vaguely defined here as being the outcome of patterned interactions between households (Peterson and Drennan 2005; Ikehara 2015: 87). Generally speaking, the degree and intensity of these inter-household interactions has consequences for how such households, and the people within them, are spatially distributed across the landscape (Peterson and Drennan 2005). Such interactions play out at multiple and often shifting scales across the landscape: described as occurring from local to supralocal scales by Peterson and Drennan (2005). Since the scale at which I am working is somewhat smaller than that usually used by larger regional survey projects, I later adopt a different nomenclature to prevent confusion. However, the general principles of their approach remain an important line of reasoning for guiding my approach.

The starting point for defining the most localized scale of a community is the intuitive logic that a cluster of nearby households would be expected to have more interactions with each other on a day-to-day basis than they would with distant households that are located several kilometers away (Peterson and Drennan 2005). In the Upper Moche Valley *chaupiyunga*, the small community and PARFAM home of Casa Blanca outside of the town of Poroto presents a good example of such a community. Casa Blanca is composed of a cluster of households within a small area: around 105 people living in 31 houses across 2 hectares. The localized and day-to-day interactions between households and individuals are part of what define this cluster of households as a community: from the errant conversations while waiting for the morning bus to the more intense coordination necessary for loading a truck with sugarcane harvested nearby. The localized nature of these interactions allows the community that hosts these interactions to be described as a local community. Importantly, it is not the size of the community that makes it a local community: it is the scale of the interactions. The larger town of Poroto hosts a similar variety of day-to-day interactions that allow it to be defined as a local community, it is just composed of a larger cluster of households within a slightly larger area: around 796 people living in 275 houses across around 12 hectares. At this scale, my definition of what a local community is does correspond with that of Peterson and Drennan (Peterson and Drennan 2005). With a local community so defined, how may we then describe the interactions between the households of people in Poroto with the smaller local community of Casa Blanca down the road?

For these larger scales of interactions between people, the scale of community being described must also be larger: going from the local and eventually to the supralocal. Day-to-day interactions may define a local community, but most local community and household members are also interacting with other communities in the broader landscape. Such interactions may be expected to occur at a lower frequency due to the longer distances involved, but the interactions are still articulating communities of people nonetheless. In fact, the centers of larger communities can often be consequential in shaping the surrounding landscape and the location of local communities within it (Peterson and Drennan 2005). We can see such interactions by returning to the examples of Poroto and Casa Blanca. Located just down the road from one another, these two local communities are clearly intertwined and, even if interactions may not be occurring on a day-to-day basis, the households of both communities are surely interacting with some frequency. Such

interactions can create a larger community – something I later will call an extended local community – that links together the households of both of these local communities.

However, it is important to note that these interactions can often be lopsided in where they occur: in our example, inter-community interactions surely take place more often in Poroto than in Casa Blanca. While Casa Blanca has a lone bodega and a small recreational area for more local use, Poroto houses several bodegas and a large plaza for inter-community gatherings like the Fiesta Patronal de la Virgen del Carmen. In fact, Poroto is a good example of how the central places in these larger scales of communities can often be more laden with nodes of political authority (e.g., police stations, municipal buildings, etc.), places of cultural significance and supra-community-building (e.g., a main plaza, largest church, etc.), and a wider variety of economic resources (e.g., more bodegas, banks, etc.).

5.3.1.3 Modeling and Identifying Communities

It is through articulating these different scales of interaction between and within households and communities that we can arrive at the units of analysis that are used in this dissertation in lieu of sites: local communities, extended local communities, and local community clusters. Given that the frequency of the interactions that make communities is spatially informed, spatial cluster analyses that group densities of people within the landscape are a common way in which such communities can be defined. Following the methodology put forth by Peterson and Drennan, I used the PARFAM surface sherd densities and distributions by phase as the starting dataset. CUs were transformed into collections of raster cells with a .01 ha resolution (10 by 10m) in ArcGIS with the sherd densities of different phases being assigned the z-values of each raster cell. Areas in which no artifacts were found were assigned z-values of 0 in order to represent the absence of material and occupations in the cluster analyses that followed.

Through interpolation and smoothing, these data can then be used to create three-dimensional surfaces that essentially are modeling the demographic landscape in a similar way that elevation point data can be used to create models of topography. The contours of the different topographies of regional demography are then assessed with the goal of determining clusters at different scales that would correlate with local or supralocal communities. Inverse-distance

interpolations at varying different powers have been commonly used to create such models because of the intuitive way in which they can calculate the interplay between distance and density (Peterson and Drennan 2005; Ikehara 2015). This being said, my own earlier work with the inverse-distance interpolation (IDW) tool in the ArcGIS suite revealed some concerning inconsistencies in how such interpolations were calculated by the program. This especially was apparent when compared to the same method using the Surfer program used by fellow researchers at the University of Pittsburgh.

Given these issues with the IDW tool in ArcGIS, I elected to use a simpler distance-based cluster analysis that would capture similar interactions: kernel density cluster analyses through the Kernel Density (KD) tool. This tool calculates the density of points or values within a specific radius around a certain point. This value is then assigned to the cell that corresponds with that point and the process is repeated for every single point and cell within the area selected, creating a smoothed raster surface in which values are higher in areas with higher densities while values are lower in areas with lower densities. The degree of smoothing is largely determined by the input radius that determines the catchment of the resulting analysis. For example: a wider catchment dilutes the strength of densely populated areas so that the resulting values may be lower than those that would be produced by a lower catchment. This dilution also spreads out the effect of such densely populated areas so that outlying areas have values that may be higher than those that would be produced by a lower catchment. The result is a distance-based tool for clustering that is somewhat analogous to the inverse-distance interpolation tool. Instead of using varying powers of interpolation to access different scales of interaction and clustering, kernel density analyses use varying radiuses to a similar effect.

This quality did lend some advantages to kernel density analyses: I could specify the spatial extents of the clustering that I was hoping to capture in my resulting models. At the local community level, the goal was to identify clustering at the most locally-situated scale: something that is most often simply aimed at drawing clusters around somewhat contiguous occupations. For the PARFAM data, this would mean contiguous or semi-contiguous sets of CUs with occupations of the same phase. Since the survey methodology used 50-meter transects to identify these occupations, these clusters of CUs were best modeled through setting a 50-meter radius for the KD analyses. The clusters distilled from the resulting contours were meant to represent the most

local scale of interactions that I could identify and were thus used as local communities. This was the smallest unit of analysis for my proceeding discussions of settlement patterns and a unit that would vaguely correlate with what other projects may call sites.

Above the local community level, the goal was to identify larger scales of interactions and clustering that may have bound more distant households and local communities together. Peterson and Drennan argued that these face-to-face interactions are far more limited after about a kilometer, leading me conduct KD analyses with both 1000-meter and 500-meter radii (Peterson and Drennan 2005: 10). I ended up choosing a 500-meter radius when defining the upper ranges of interaction because the 1000-meter radius seemed to smooth the data a bit too much and the 500-meter radius was more appropriate for the smaller (~39km^2) survey area.

Within the resulting contours, I attempted to capture clustering at two different and somewhat larger scales. The first scale used a smaller contour that captured more populated and tighter clusters or extensions of local communities. This essentially separated the landscape into two categories: (1) collections of highly populated local communities that extended into one other and has residents that were likely interacting more often one another and (2) a broader landscape of less populated local communities that are more dispersed and probably were interacting less with neighbors. As such, this scale was less describing supralocal communities and more describing what I call extended local communities. The second scale used a larger contour that captured as many local communities as possible and attempted to show how they clustered around the largest of the local communities in the landscape. Using this larger contour expanded the boundaries of the larger local community clusters and allowed them to capture any outlying local communities that would have been interacting with them.

In order to test these methods within a more-or-less "known" context, I applied them to the digitized and georeferenced modern 2017 census data from the Upper Moche *chaupiyunga* that was used in the previous section for population estimates. Instead of population densities, the densities of houses per hectare were input in order to imitate what may be visible to an archaeologist of the future. The goal was to see how the local communities, extended local communities, and local community clusters I identified would compare with my own general knowledge of community divisions or linkages in the survey area. The Moche River was used as

a dividing line where necessary just because of the obstacle to interaction it presented in the absence of bridges.

To begin, the identification of local communities was not particularly informative because the tracing of polygons of settlement had already created these local clusters (Figure 5.9). That being said, a closer look at communities like Casa Blanca shows that the 50-meter KD analysis did allow us to group together the three main portions of that local community. Simultaneously, it also allowed the more dispersed settlement in areas like Soledad and El Arquito to be correctly modeled as being composed of several smaller local communities. In sum: the largest contour from the 50-meter KD analysis does seem to capture more localized clusters where it should while also being able to discern more dispersed sets of local communities that should not be clustered together at such a localized scale.

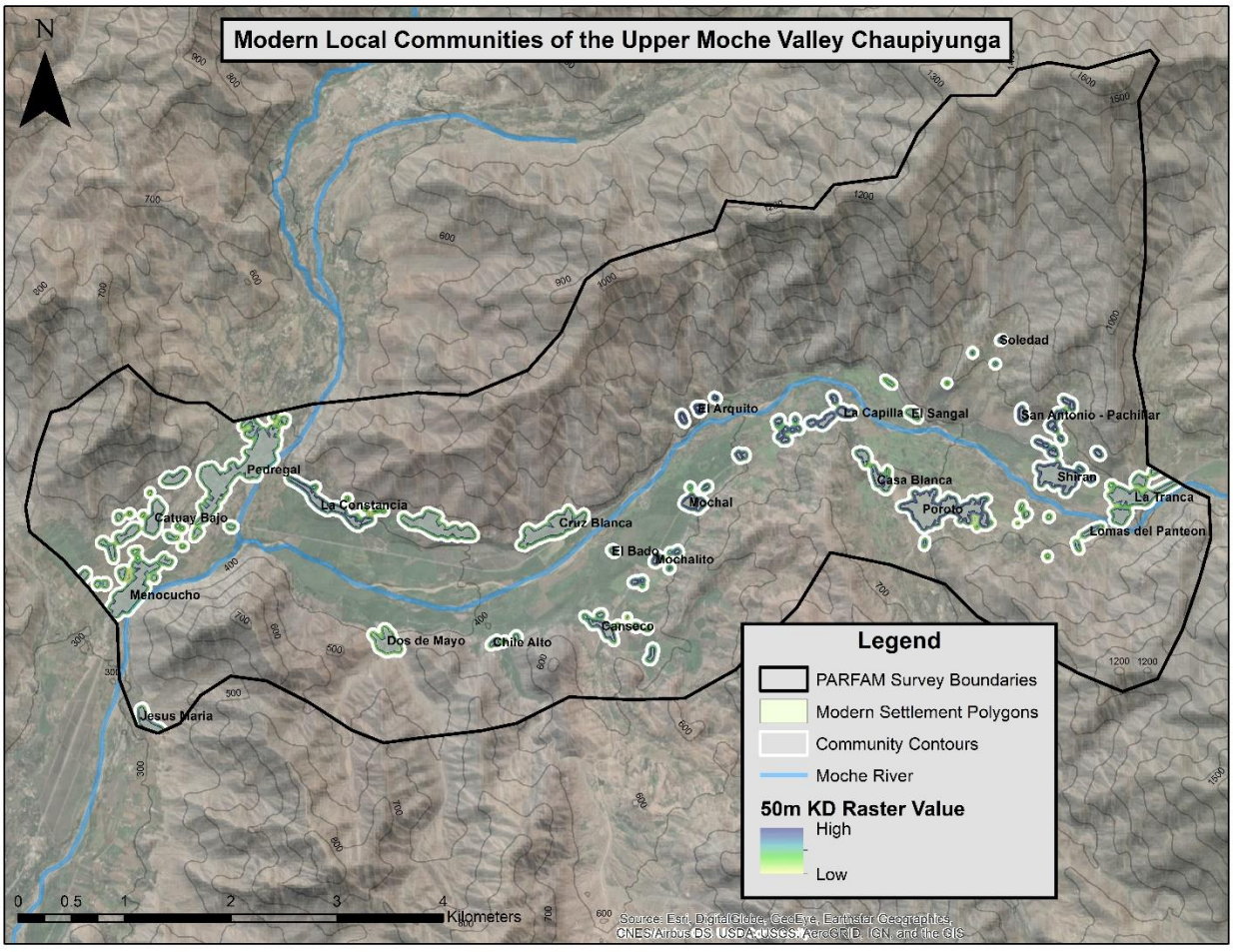


Figure 5.9 Modern Local Communities of the Upper Moche Valley *Chaupiyunga*

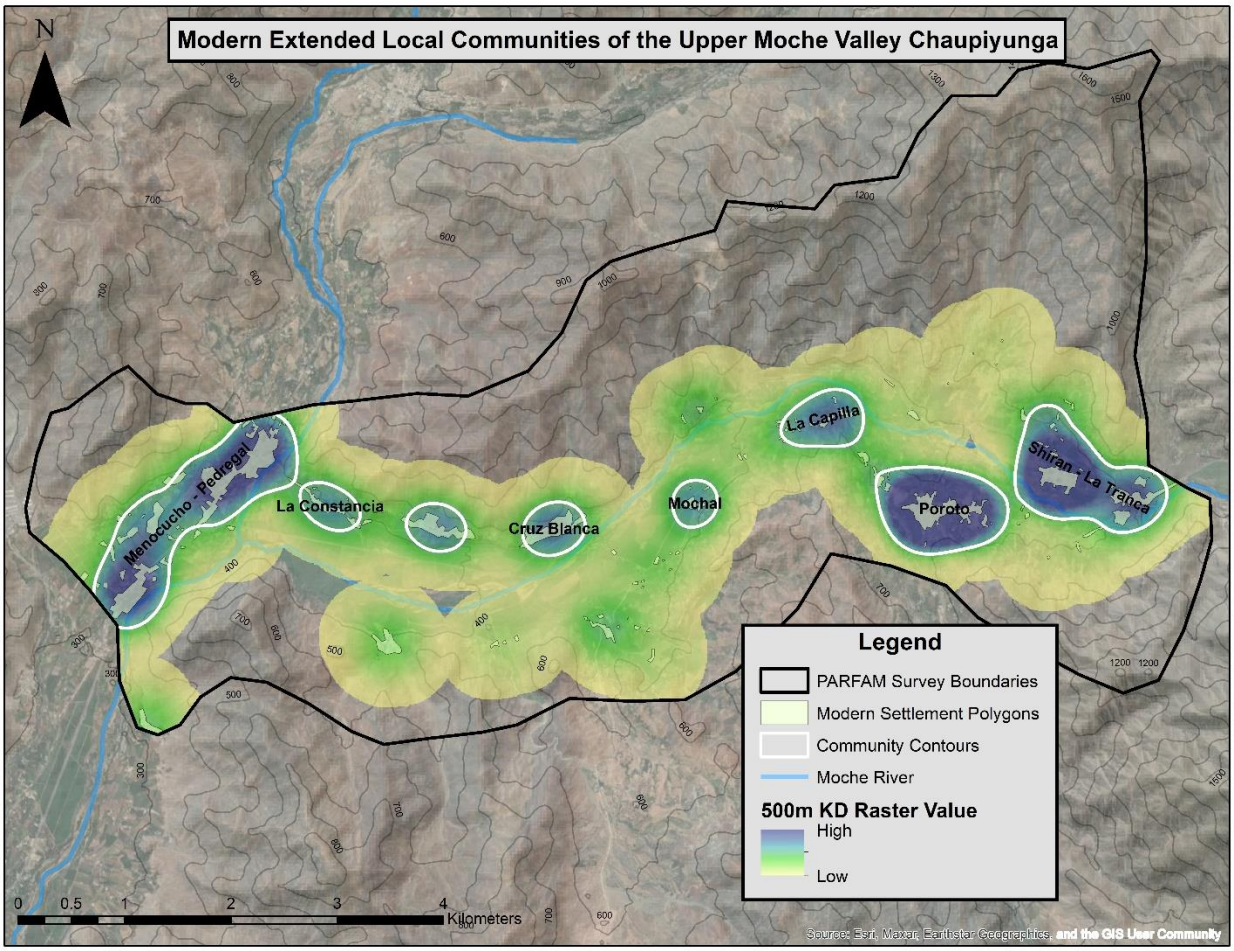


Figure 5.10 Modern Extended Local Communities of the Upper Moche Valley *Chaupiyunga*

The extended local communities that I identified were informative and effectively grouped together several of the larger local communities (e.g., Poroto and Casa Blanca, Shiran and La Tranca, etc.) while also leaving most of the more dispersed and lightly settled local communities (e.g., Dos de Mayo, Canseco, Soledad, etc.) out of such extensions (Figure 5.10). I describe these latter communities as being "rural". The households and people within rural local communities obviously interact with those in the larger extended local communities near them on a regular basis, but these interactions were not causing them to gravitate towards population centers as strongly as elsewhere. Such gravitation may explain the clear pattern of settlement along the roads leading to Poroto or the main highway. Even so, these isolated rural local communities would probably best be described as adhering to the agricultural landscape: most family members of rural households work in nearby fields. In sum: the smaller contour extracted from the 500-meter KD analysis is effective at (1) lumping together the larger and more populated local communities into

appropriate extended local communities while (2) leaving the smaller and more dispersed "rural" local communities on their own. This separation was the main utility of using this extra scale.

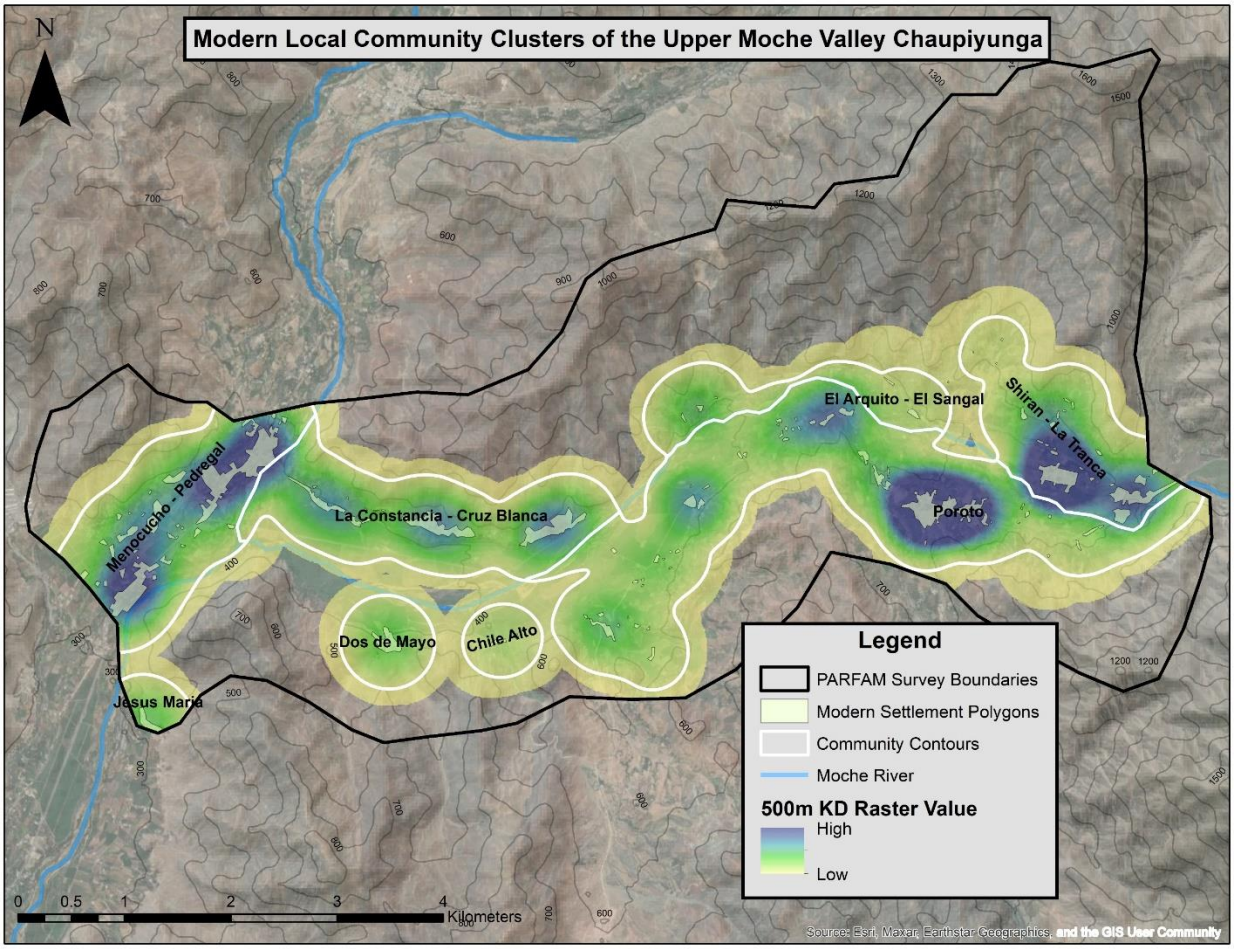


Figure 5.11 Modern Local Community Clusters of the Upper Moche Valley *Chaupiyunga*

Finally, the largest scale of local community clusters effectively captured all but one of the previously identified local communities and was able to link together many of the other local communities surprisingly well (Figure 5.11). While delineating these local community clusters, it became clear that using the river as a dividing line was appropriate in some cases but problematic in others. For example: the local community cluster of La Constancia – Cruz Blanca is isolated from the large Pedregal – Menocucho and Poroto local community clusters because there are, at most, only small foot bridges that cross the river near where these local community clusters may connect. Thus, the river seems an appropriate dividing barrier for these local community clusters. On the other hand, Shiran and Poroto are spatially separate but are eventually linked by one of the

larger bridges in the area and thus could perhaps be portrayed as one larger local community cluster.

Even with these potential shortcomings, the resulting local community clusters represented the demographic landscape quite well. The local community cluster of Poroto captured the long straggle of rural local communities lining the road that leads to the large town. Even without Shiran added to the estimated house count, Poroto was still the largest local community cluster in the survey area: capturing its central role as the main community in the larger District of Poroto that spans much of the survey zone. Notably, the three to four large local community clusters in the survey area more-or-less correlated with the territorial distribution of the three modern political districts that overlap in the *chaupiyunga*: Poroto – Shiran with the District of Poroto, Menocucho – Pedregal with the District of Laredo, and La Constancia – Cruz Blanca with the District of Simbal. Technically Pedregal is a part of the District of Simbal but its proximity to Menocucho made the linkage between these two communities inevitable in demographic models. Thus, we can begin to see how demographic and political landscapes are often, but not always, overlapping. Finally, Dos de Mayo, Chile Alto, El Arquito, and El Sangal remained separated from the larger local community clusters: accurately capturing the isolated existence of the local communities in these areas. In sum: the larger contours produced by the 500-meter KD analysis were able to accurately capture almost all of the local communities and assign them to an appropriate local community cluster.

5.3.1.4 Farmsteads, Camps, and/or Field Houses

One important part of the prehistoric, and historic, demographic landscape that was less apparent from the census data was the presence of individual farmsteads, small camps, and/or field houses. Since many of these (except individual farmsteads) were mostly unoccupied, they were not counted in the census house counts and were also difficult to see using the aerial imagery available. Though less apparent in the modern data, the methodology that I followed allowed these occupations to be readily apparent in the prehistoric data. While assessing the local community reconstructions I found that all of the phases, except the problematic Guañape Phase, had a host of miniscule local communities that had very low (ADI/century <.1) values for the relative demographic proxy. Even using the lower range of my likely higher absolute demographic

estimates, such local communities would represent a household at most but the vast majority were less than 3 people per century. The proxy multipliers of Ikehara produced absolute population estimates that were all less than one person per century.

Thus, it was clear that these tiny local communities were capturing somewhat different interactions than the more formal settlements would have. At the very most they were capturing a single farmstead and at the very least they were capturing an area in which a few ceramic vessels had been broken. The best analogy for these occupations were the modern farmsteads, camps, and/or field houses I would sometimes come across in my survey and those that had been recounted in both the archaeological and historical record. Though this distinction is left out of my own analyses, two types of these ephemeral occupations could possibly be discerned through further research. First, the majority of these ephemeral occupations were located just above likely cultivated areas and thus could perhaps be described as the sorts of field houses or temporary field camps that would align with my aforementioned analogy. This being said, a few of these farmsteads or camps were too far away from likely cultivated areas to be effective field houses. Instead, they probably were some second type of ephemeral occupation that was more associated with travel along the adjacent ridge routes or even shepherd camps for grazing flocks of camelids on the *monte* sometimes growing on nearby hills.

5.3.1.5 Approximating *Chala* and Highland Origins/Affiliations

Finally, knowledge of the multiple *chala* and highland ceramic traditions from Chapters 4 and 5 allowed me to approximate general proportions of these different wares within local communities. Though a larger suite of data points is needed to argue for likely *chala* or highland origins, ceramic data are still somewhat useful for articulating the possible ties that the local communities of the *chaupiyunga* had with neighboring regions and pottery traditions. For example: the assemblage of the Gallinazo Phase highland colony of Cerro Leon had a 23% Castillo wares vs. 77% that would fit into what I call Early Highland wares (Ringberg 2012:253). The more ambiguous Chimú Phase fortified community of Loma del Shingo had closer to a 50/50 split of highland and *chala* wares that seemingly fit with its more complicated occupational history (Melly 1983). These proportions of highland and *chala* wares can then be somewhat informative of local community affiliations, possibly origins, for these two phases.

The surface sherd samples taken in PARFAM were ideal for accessing such proportions as they were taken to be representative of the SU or CU as a whole. Following from the descriptions of highland and *chala* ceramic traditions outlined in Chapter 5, I was able to reconstruct proportions of highland vs. *chala* wares for all of the different communities identified for the final two phases. Using Cerro Leon as an analogy I assumed that if the majority (over 75%) of wares within a local community were highland, then that local community could be somewhat confidently identified somewhere on a spectrum between being a highland colony to having very strong ties to groups, and potters, in the local highlands. On the other end of the spectrum, I could make a similar argument about those communities with over 75% *chala* wares. If I encountered closer to 50% highland and 50% *chala* wares within an occupation, I took that to indicate that the local community being described had a much more ambiguous or shifting set of broader affiliations with the adjacent *chala* and highlands.

5.3.2 Political Landscapes

The second landscape that needed to be re-constructed was the political landscape. Many of the questions concerning the political landscape could only be addressed through understanding (1) the nature of conflict in the region over time, (2) the varying ways in which political authority was built and (3) how such authority interacted with demography across different regimes. These issues were accessible through combining the aforementioned demographic estimates and community modeling/identification methods with a suite of landscape classification models, demographic centralization measures, visibility analyses, and relatively simple maps showing the distribution of certain artifacts or architectural features within the landscape.

5.3.2.1 Conflict

Exploring the possible landscapes of conflict in the Moche Valley *chaupiyunga* was done in two main ways. First, demographic distributions were modeled to see when more defensible landscape areas were being chosen. Second, more focused discussions of the fortified areas of each phase can help determine the degree to which regional demography may have been living inside of, or at least walking distance of, these fortified areas or refuges.

The first of these involved distributing the demographic estimates for each phase using the landscape classification models that had been previously developed in Chapter 3. The goal here was to see what proportion of the regional population at any given phase was living in more defensible parts of the landscape. In this analysis, High Ridge/Mountain Slopes and High Ridge/Mountain Tops were determined to be the more defensible parts of the landscape (Figure 5.12). Valley Hills could have technically been occupied for defensive reasons but the persistent preference for this zone likely overlapped with a number of other concerns like: (1) being adjacent to, but not upon, agricultural fields and/or (2) avoiding areas with high river overflow or flood risks. In any case, these demographic distributions in defensible parts of the landscape served as useful relative proxies for comparing conflict between phases: allowing me to identify which phases showed higher preferences for defensible areas and thus had landscapes that were more likely to have been molded by endemic conflict.

This vague measure was better paired with the more site-specific data regarding the presence/absence of fortifications and the degree to which demography may have been clustered around fortified features. Some general data on fortifications (the presence of parapeted walls, sling stones, etc.) were accessible via a combination of aerial imagery in addition to the field notes taken during PARFAM and during Billman's 1990 survey. Identifying the presence of fortifications provides one clear indicator that conflict had shaped the landscape. This being said, determining the degree to which communities had constructed fortifications around themselves, or had older nearby fortifications that could serve as refuges, seemed a better way to assess the severity of said conflict.

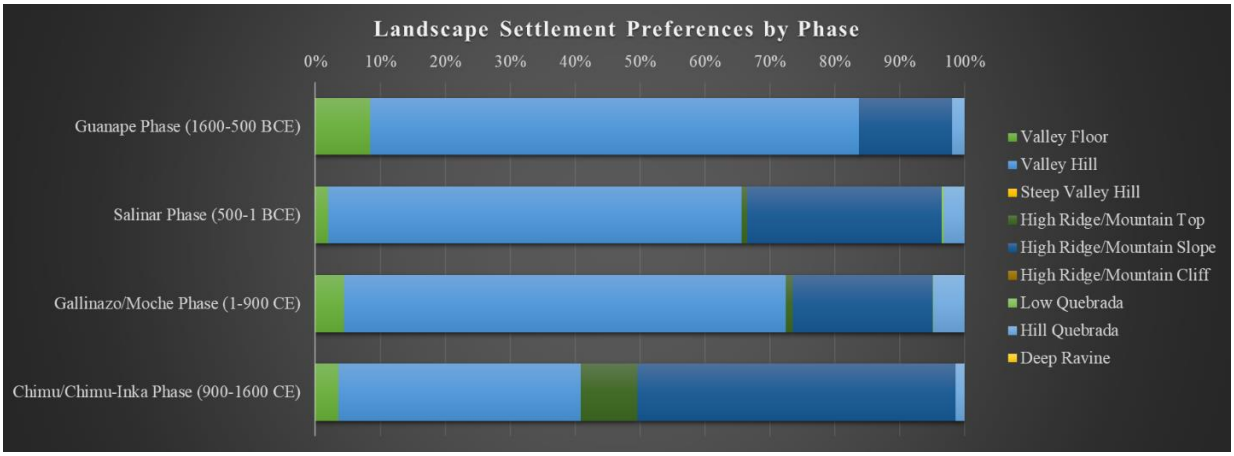


Figure 5.12 Landscape Settlement Preferences by Phase

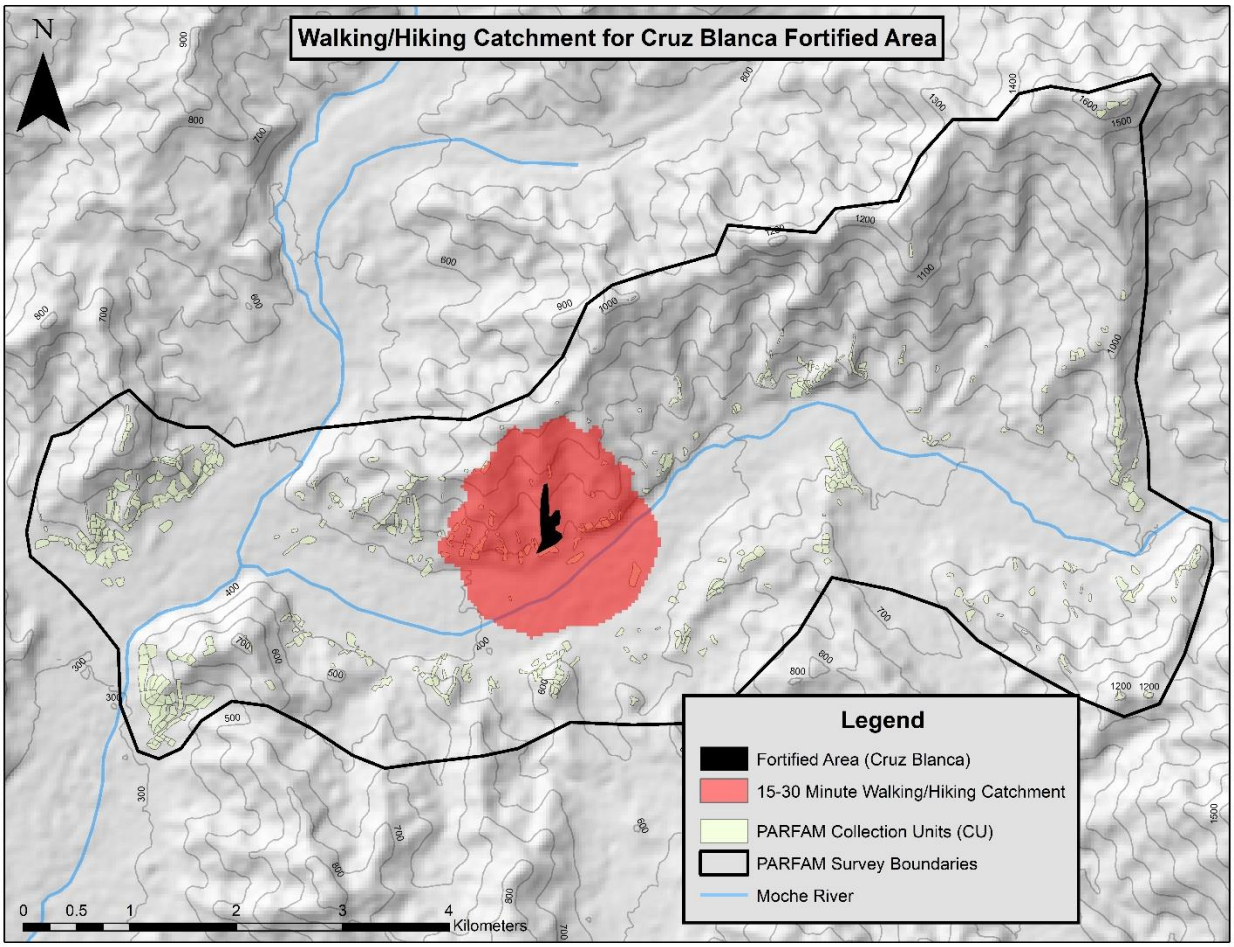


Figure 5.13 Walking/Hiking Catchment for Cruz Blanca Fortified Area

This was done by simply drawing polygons around fortified areas and assigning them to their respective phases: with earlier constructions persisting into subsequent phases because they still could have been re-used by later communities. A reverse cost-distance raster was then generated using a 30-meter DEM and the Tobler hiking function in order to simulate the different catchments of travel times to these fortified areas. Though the exact travel times produced by applying the Tobler hiking function are often a bit misleading in my experience, I prefer using such a cost-distance approach because it is able to take the dynamic topography of the region into account. My experience hiking the mountains of the region led me to choose a cut-off of 15 minutes as a sort-of walking/running distance catchment for outlying communities: this cut-off is more likely representative of anywhere between 15 and 30 minutes of walking/hiking in reality (Figure 5.13). I could then distribute nearby demography into three zones for each fortified area during each phase: (1) within the fortified area, (2) within quick walking/hiking range, and (3) outside of

quick walking/hiking range. For each phase, and even each individual fortified area, I could then calculate the proportion of population in each of these zones. This allowed me to make comparisons between phases in regards to what proportions of regional demography were living within, nearby, and further away from fortified areas.

5.3.2.2 Political Authority

The different methods of reconstructing the landscapes of political authority in the Moche Valley *chaupiyunga* depended on the manner of authority that I was attempting to describe. First, more indirect authority was reconstructed simply by modeling the distribution of corporate wares associated with certain political traditions. More direct nodes of authority (e.g., *huacas*, ceremonial terraces, palaces, citadels) were described using centralization measures that helped articulate the degree to which demography was clustering around such nodes.

To begin, indirect authority was measured through the ubiquity of certain corporate wares within local communities, local community clusters, and supralocal communities. This was done because most of these corporate wares were collected in opportunistic collections and by themselves lacked any meaningful density or frequency measurement within a CU. Instead, a vague measurement of ubiquity was calculated by pairing the presence-absence of these wares with the ADI/century values from the corresponding community and phase. This was essentially a measure of how many people in each community were living in CUs in which such corporate wares were being found and thus with whom some manner of indirect authority was most likely being built. Since this sort of indirect authority was most visible for the Gallinazo and Moche Phases through the Quinga/Early Highland and Moche corporate wares, this phase saw the focus of these analyses. The measures of indirect authority for the Chimú and Chimú-Inka Phases were a bit more ambiguous because (1) the Midde-Late Chimú bowls were better determined as "corporate" wares via their proportions in comparison with other forms and (2) I only found a handful of possible Chimú-Inka or Transitional/Early Chimú wares and no Inka-style aryballos.

More direct forms of authority were a bit easier to reconstruct because they were focused in certain nodes: *huacas*, ceremonial terraces, palace compounds, and/or fortified citadels. The latter (fortified citadels) were already more-or-less described within the previous measures of

conflict and were thus left out of these analyses. The goal of characterizing these other nodes of direct authority was to understand how centrally they were located in the demographic landscape. For example: this would allow us to differentiate between the possible canal-*huacas* and *huaca*-towns of the Moche or the different types of provincial and rural palaces of Chimor.

One useful measure for assessing whether populations were clustering within/around certain areas is a centralization degree index called a B-value. This value was initially developed to measure the degree of demographic centralization within supralocal communities (Drennan and Peterson 2008; Drennan 2009). In this methodology, the demographic center/peak of the supralocal community is identified and then a series of rings of exactly the same areas are made around that point: each ring representing parts of the landscape that are further and further away from the center of the community. The aggregated ADI/century values within each ring are then calculated and can be graphed to show to what degree people may be clustering around that area that was modeled as being central to the supralocal community. A graph with higher proportions at the rings near the center would show more centralization while a graph with even proportions across the rings would show little or no centralization. The B-value is then essentially a numeric representation of this purpose of the graph: a B-value closer to 0 is produced when people are distributed evenly across the landscape (little or no centralization) while a B-value closer to 1 is produced when populations are focused close to the modeled center of the supralocal community (high centralization).

This B-value was the inspiration for a very rough measure I developed called the Time-Distance Centralization Index or TDCI for short. For this measure, I placed a center where a *huaca* or palace may have been located, and then created a series of concentric rings that represented different windows of travel time-distances to the center in question. These travel time windows were calculated in analogous ways to those in the analysis of fortified zones. The goal of this measure was to take account for movement within and through a landscape but still attempt to describe how centralized people were in certain parts of the landscape with a single index. ADI/century values were distributed between these rings of travel time-distances and aggregated in a graph in essentially the same way a B-value would be. The TDCI is then the numerical representation of this graph. A TDCI closer to 0 would mean that people were distributed evenly at different time intervals radiating from the center in question. A TDCI closer to 1 would mean

that people were focused within a shorter time-distance from the center in question. A TDCI closer to -1 would show people were distributed away from the center in question, possibly isolating it.

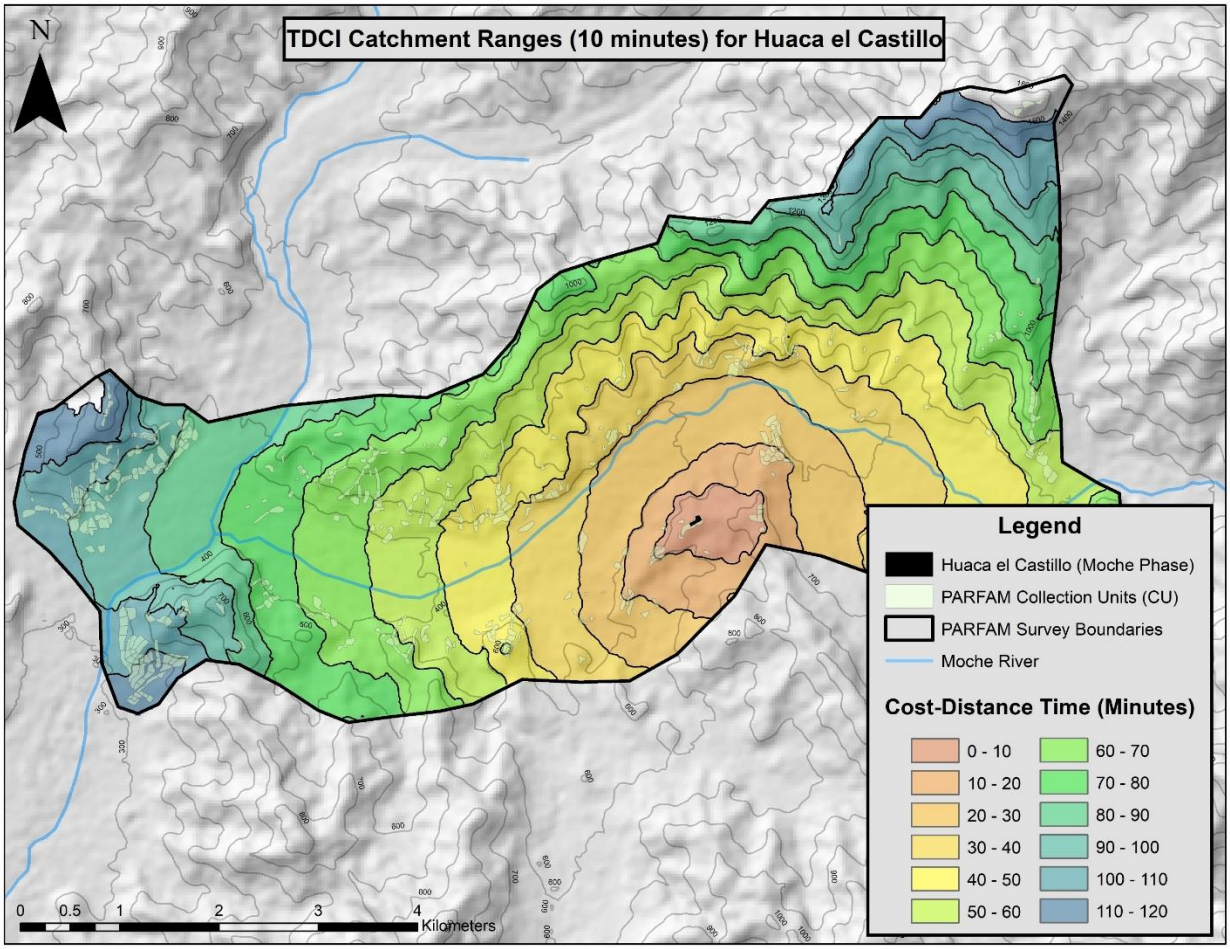


Figure 5.14 TDCI Catchment Ranges in 10-Minute Windows to Huaca el Castillo

At the largest scale TDCI, I used 12 10-minute windows with the furthest representing a total of between 2 to 4 hours of travel time: a half to full day for a full trip (Figure 5.14). The idea here was to try and capture how central the *huaca* or palace may have been in the wider *chaupiyunga* demographic landscape. Any node of direct political authority with a high TDCI at this scale would perhaps suggest the presence of a *chaupiyunga*-wide political center or at least an area in which most people were living. I call these Regional TDCI because they are attempting to describe the entire region in question. At the more local scale, I used 12 5-minute windows with the furthest being a total of around 1-2 hours of travel time: under a half-day trip (Figure 5.15). The idea with this was to try and capture how central a *huaca* or palace may have been with closer

communities. Nodes of direct political authority with a higher TDCI at this scale may be expected to be smaller centers akin to *huaca*-towns while those with a lower TDCI at this scale were more likely rural palaces or canal-*huacas*. I call these Local TDCI because they are attempting to describe more local relationships of centralization.

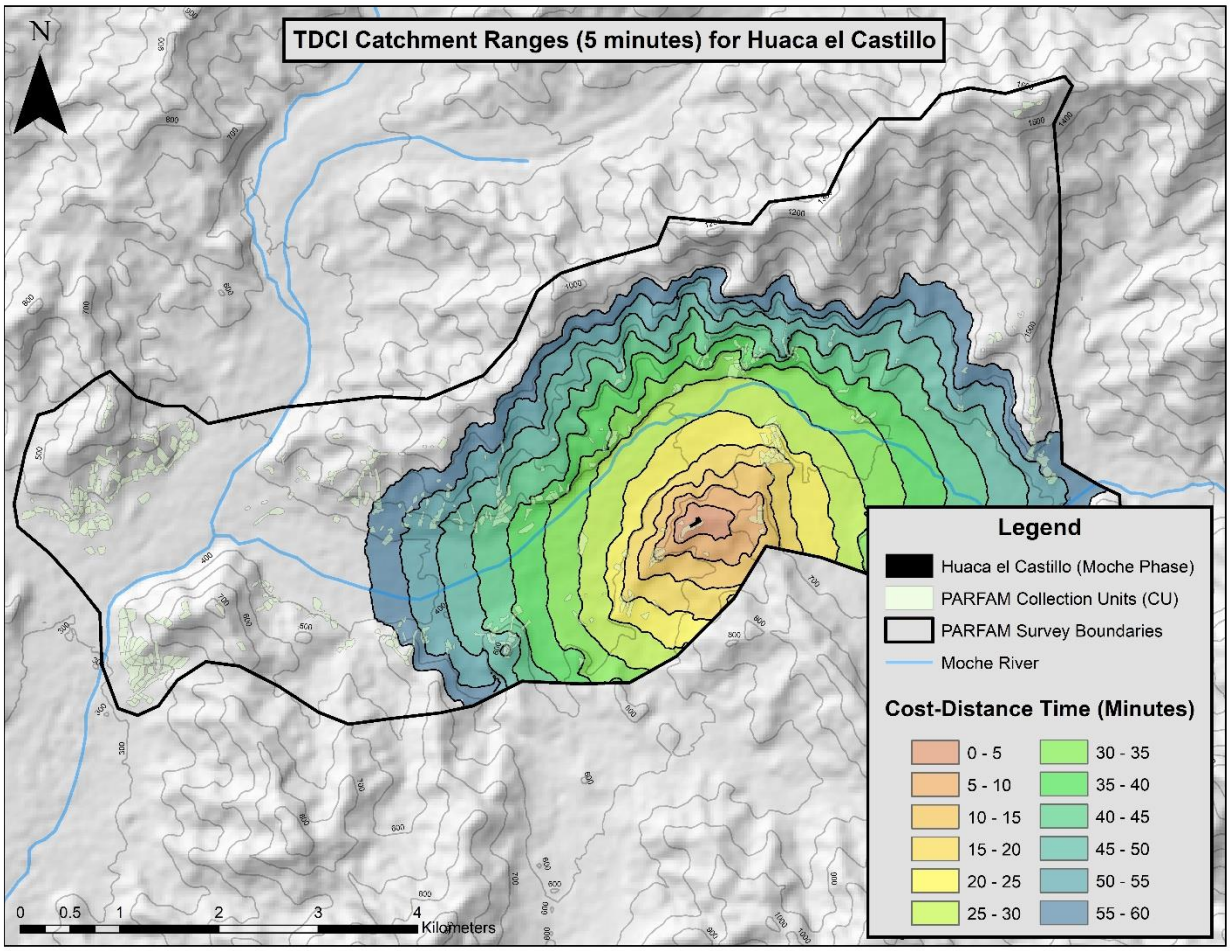


Figure 5.15 TDCI Catchment Ranges in 5-Minute Windows to Huaca el Castillo

It is very important to re-iterate that the TDCI is not a B-value. In truth, the TDCI is a quite crude measurement for testing whether or not a place was central or isolated within a demographic landscape. The utility of it comes from the fact that it can give a quick and easy value to describe how populations are distributed across a time-distance graph. On the other hand, a B-value is a far more detailed and effective measure that can be used at describing how people were distributed in relation to a landscape and can be compared across case-studies. An important difference is that B-values are standardized by the area of the concentric rings themselves. A TDCI is standardized

by time-distance rings and these can ultimately compose very different areas, making them less straightforward in a more detailed comparison. A TDCI is not a replacement for a B-value but it does give a quick – yet perhaps vague – idea of whether or not people were tending to live near a certain place or not.

5.3.2.3 Vision, Conflict, and Political Authority

A final way in which the political landscape could be reconstructed was through (1) modeling the visual demographic weight of certain places and (2) analyzing the structure of broader networks of inter-visibility. Having access to wider viewsheds and visual connections with other communities can provide vital advantages in times of conflict: allowing enemies to be seen and allies to be alerted. Moreover, these visual connections can often be structured in ways that reflect how political authority may be distributed across the landscape. Nodes of authority, or strategically located places nearby, were and are often constructed to be visually central within their surrounding political landscapes. My previous work on inter-visibility networks in the Moche Valley highlighted how several Chimú/Chimú-Inka fortified settlements were likely central visual hubs within a broader and cohesive defensive network and political landscape within the valley (Mullins 2016, 2019). What remained to be seen was whether such networks could be recognized in earlier landscapes and how specific nodes of authority (e.g., *huacas* and palaces) may have articulated within them.

Since the most basic unit of analysis, the CU, was a polygon, I had to establish my own method for reconstructing (1) viewsheds from polygons instead of points and (2) building intervisibility networks between the collections of CUs that made up communities. Put simply: the goal of these analyses was to assess viewsheds and visual connections from and between entire spaces instead of just individual points. The ArcGIS software at my disposal only provided tools for modeling vision from points, so I had to take a brute-force approach using models that could automate the calculation of thousands of point-based viewsheds. I began by exploding every CU polygon into a collection of 10 by 10-meter raster cells and converting these cells into points. The thousands of resulting points (17,478 to be exact) were then given 2-meter offsets to simulate the height of a person standing upon a small elevated area (e.g., household, platform, boulder, etc.) and viewsheds were calculated from every point. The resulting viewsheds were then aggregated

and consolidated by CU where they were converted into a binary raster that illustrated areas that were visible or not visible from any place within the polygon of the CU itself. These viewsheds could then be mobilized for modeling (1) the visual weight of certain parts of the landscape and (2) the visual inter-connections between communities by phase.

Combined with the demographic approximations afforded by my survey data, these viewsheds could be used to reconstruct what I call a "demographically weighted" viewshed. This viewshed is similar to a cumulative viewshed but is instead based on density of occupation: each raster cell represented the cumulative ADI/Century value of every CU that could see the cell for any given phase. Given that ADI/Century values were meant as a proxy for demography, the resulting viewshed could be used to simulate which parts of the landscape were consistently seen by the most people over the course of a phase. This demographically weighted viewshed obviously misses out on the more mobile quotidian aspects of life for the people of the Moche Valley: the viewsheds afforded during daily journeys to fields, canals, the river, or other communities are difficult to access. However, the demographically weighted viewshed does provide a good representation of what was visible from communities and the households or camps that composed them. At the broadest level, this viewshed provided some anecdotal insights into what parts of the landscape were most visible to the most people living in the *chaupiyunga* at different phases throughout prehistory. More specifically, however, I could overlay the viewshed with community polygons, and nodes of authority, to understand which of these could be seen by the most people over the course of a phase.

The structure of inter-visibility networks and the centrality of certain communities within them can provide two more avenues for understanding how vision, conflict, and political landscapes may have been intertwined. Complex Network Analysis (CNA) provides several tools to help characterize visual networks via network-wide measures of centralization and cohesion. When applied to inter-visibility in landscapes of conflict, these measures can reflect some of the political realities of how defensive settlement was arranged within the landscape (Arkush 2011; Mullins 2016). More cohesion within a network means more nodes could see one another, while more centralization means specific nodes were more favored over others. Both cohesion and centralization can be useful in times of conflict. More cohesion within visual networks is very useful in times of conflict: it allows for mutual inter-visibility between communities that can be

used to provide support or for neighbors to be monitored. More centralization within visual networks can be a result of a variety of arrangements. Centralized nodes can simply be providing information for surrounding settlement that is less strategically placed in the landscape (e.g., fortified towns, lookouts, etc.). Additionally, such nodes could also be associated with more asymmetrical arrangements of political authority within landscapes with more panopticon-style intents (e.g., citadels, administrative centers, etc.). It is important to be clear that these measures are not completely mutually exclusive: even a completely centralized network still has a relatively high cohesion value (Mullins 2016). Specific nodes can also be addressed using measures of centrality with higher centrality values meaning that the nodes in question had more connections than others within the same network.

All of these viewsheds and CNA measures were calculated by phase and simplified into a series of tables (Appendix E). Though useful to a certain extent, the results of these analyses are generally approached with caution as they only focus on the survey area. The demographically weighted viewsheds and visual networks between communities past the confluence are likely accurate, but those at the confluence are incomplete because they ignore the known settlement in the Middle Valley *chaupiyunga*. Though referred to at an *ad hoc* basis in discussions of conflict and political authority in each phase these issues preclude any more detailed treatment. Future work on integrating my own survey data with that of Billman (updating that seen in Mullins 2016) will be aimed at gaining a better understanding of the visual networks over time and in the valley as a whole.

5.3.3 Tethering to Place

Finally, understanding the degree to which past landscapes shaped future ones was important for beginning to understand whether communities in the *chaupiyunga* were often "tethered" to certain places. Though I had trouble accessing this "tethering" through quantifiable measures, I attempted to measure it via calculating the degree to which communities were locally centralized around two main features of landscapes from the preceding phase: (1) larger communities and (2) nodes of political authority (e.g., *huacas*).

For this I repurposed TDCI in order to understand the degree to which communities were gravitating towards, or at least near, the larger communities or *huacas* from previous phases. Local communities that were larger (ADI/Century > 0.1) were chosen because smaller camps and more ephemeral occupations were assumed to be less impactful on future landscapes than those settlements that could be easily characterized as hamlets, villages, or towns. This being said, a more thorough investigation of the impact that these ephemeral occupations may have had on future landscapes is definitely warranted. In any case, the adobe or stone-masonry *huacas* within the survey zone were chosen because in Chapter 4 they were noted as being possible tethering locations for many communities in the Lower Valley *chala*. For both of these types of places, a tethering TDCI was approximated from a series of 6 2.5-minute windows with the furthest being a total of 15 to 30 minutes of travel time. This smaller range was chosen to better capture more localized re-occupation or continued occupation of specific places and not just a general area around them. The expectation was that, in some cases, these places from past landscapes would serve as tethers that may bind people to certain parts of the landscape. The resulting tethering would produce relatively a higher TDCI when such places were compared with others that were not continuing to shape demography in subsequent phases.

6.0 THE GUAÑAPE PHASE (~1600–500 BCE): THE *HUACAS* OF THE CONFLUENCE

6.1 Introduction

The Guañape Phase (1600 – 500 BCE) was the first phase of regional prehistory in the Upper Moche Valley *chaupiyunga* during which both demographic and political landscapes were somewhat visible. The most notable elements of this phase were varied *huacas* built around and above the final confluence. All of these *huacas* were bound to one another through shared axes of orientation while two were also visually linked to more distant landscapes of the adjacent *chala* and *quechua*. Outside of these *huacas,* only a handful of limited occupations were detectable at a few places above the valley floor and likely represent only a fraction of the actual demographic landscape in the past. Though interpretations of this demographic landscape are problematic, Huaca Menocucho likely emerged as a demographic center and was also moderately centrally located amongst the other limited Guañape Phase occupations in the *chaupiyunga*. Thus, it would seem that Huaca Menocucho could have been some Guañape Phase analogue or precursor to the later *huaca*-towns that dominated the valley during first millennium CE. The clustering of people and *huacas* around the confluence also suggests that the confluence itself, and perhaps not necessarily the *chaupiyunga* landscape more broadly, was an important locus of activity and movement during this phase. Moreover, the axis of orientation shared by the *huacas* of the confluence also suggests a somewhat distinct world-view, and possibly even a role in a broader political or cultural landscape, when compared with differing axes followed by *huacas* of neighboring groups in the Lower Valley *chala* and even Middle Valley *chaupiyunga*.

6.2 The Demographic Landscape

It is important to preface any discussion of Guañape Phase demography by being very clear about the limits of the data at hand. My trepidation about any making any confident statements about the demographic landscape of this phase has three main sources.

First, as discussed earlier (Chapter 4), a more thorough survey methodology using augers, shovel probes, or coring would have likely been necessary to get a better idea of Guañape Phase demography in the area. Most of the occupations of this phase were very likely within the floodplain of the valley floor and were thus either (1) long-since destroyed or (2) buried under sediment. Though a few smaller fields around the valley floor floodplain yielded traces of such occupations (e.g., below Huaca la Constancia), the vast majority of the area is covered by sugarcane fields that consistently yielded next to no ceramics. Unlike Ikehara's experience in the Nepena Valley, surface collection in valley floor floodplain fields proved to be far less effective at capturing earlier occupations in the Moche Valley *chaupiyunga*.

Second, the lines between some Guañape and Salinar Phase domestic wares and body sherds were considerably blurred and it was difficult to distinguish between the two without diagnostics. I often had to discern Guañape Phase occupations through the absence of necked jars in opportunistic collections and this distinction probably meant that later Guañape Phase occupations (where necked jars began to appear) were lumped into Salinar Phase ones at times. Simply put: Salinar Phase ceramics were far easier to discern than Guañape ones and this likely led to an under-representation of Guañape Phase ceramics in certain areas. Though these issues made it tempting to simply lump these two phases together, many Salinar Phase ceramics and occupations were distinct enough to warrant the separation of the phases.

Finally, I remain skeptical as to whether using sherd densities to understand demography for this phase is appropriate in the first place. Using the proxy multipliers discussed in the previous chapter, the largest settlement of this phase, Huaca Menocucho, has alarmingly low estimates: 7-14 people. This could simply be a result of a more ephemeral or seasonally-based occupation at the site. For example: instead of 7-14 people being spread out over every year for 11 centuries, it could have been 100-200 people for a few months out of the year for only a few centuries. Also, it is likely that Guañape ceramics were just one part of a larger Guañape Phase domestic assemblage that was probably more dominated by perishables than the assemblages of later phases. This would mean that the phase itself would probably need a separate proxy multiplier: Guañape Phase ceramics would be a smaller part of household refuse than the ceramics of later phases. The latter two phases were the focus of this dissertation, so I left the development of such a proxy multiplier to future work.

Given these issues, I only briefly review the demographic landscape and include just the ADI/Century values because I believe that my results have inherent limits when it comes to absolute populations. Though these issues make a comparison of the Guañape Phase population estimate values themselves with other phases inappropriate, the more general spatial patterns (e.g., local communities, extended local communities, local community clusters) are comparable. Internal comparisons within the phase can also be made with some caution. Such internal comparisons and analyses allowed me to identify a number of local communities, extended local communities, and local community clusters. I was also able to make comparisons between the densities of occupations within these varied scales of communities. At all scales, the resulting demographic landscape of the *chaupiyunga* was dominated by the local community and *huaca* complex of Huaca Menocucho.

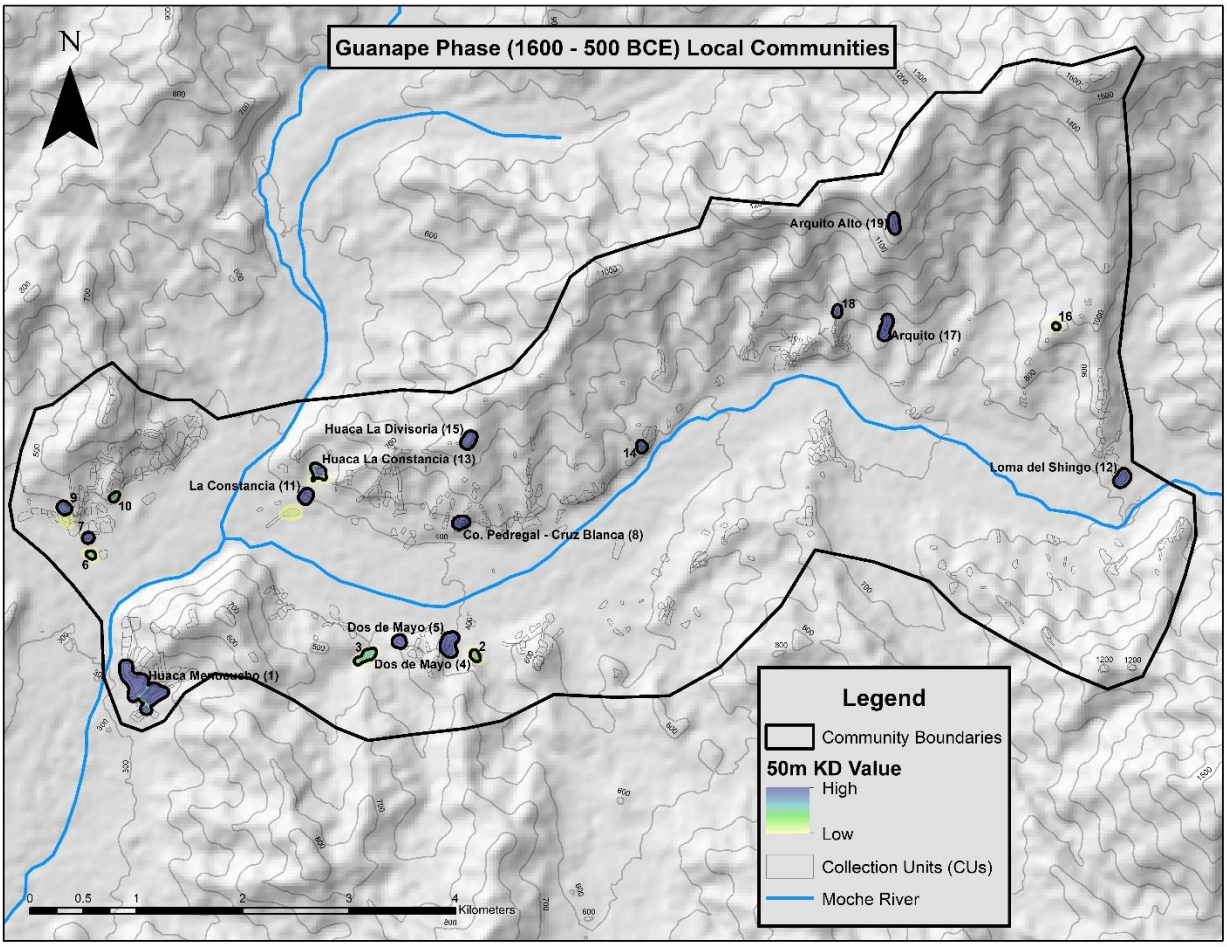


Figure 6.1 Guañape Phase Local Communities

6.2.1 Local Communities

In total, 19 local communities were identified for the Guañape Phase (Figure 6.1; Figure 6.2). This was done using a very low contour of the 50m KD analysis raster that captured all but two of the CUs with Guañape Phase sherds. These CUs were distinguished as "unaffiliated" and had negligible densities. Though they were not big enough to fit into the local community category, it is important to note that these unaffiliated collection units were still included in all subsequent analyses. The unaffiliated collection units of later phases were quite easily characterized as traces of ephemeral occupations (e.g., camps, field houses, etc.) that were so light they didn't make the cut as local communities. This could be the case for the Guañape Phase as well, but both unaffiliated collection units were located close to the valley floor (one at Katuay and one below Huaca la Constancia) and very well could have been traces of much larger occupations that had been obscured by the processes described in the previous section. Either way, these unaffiliated collection units made up a miniscule .14% of regional populations and were thus difficult to adequately discuss.

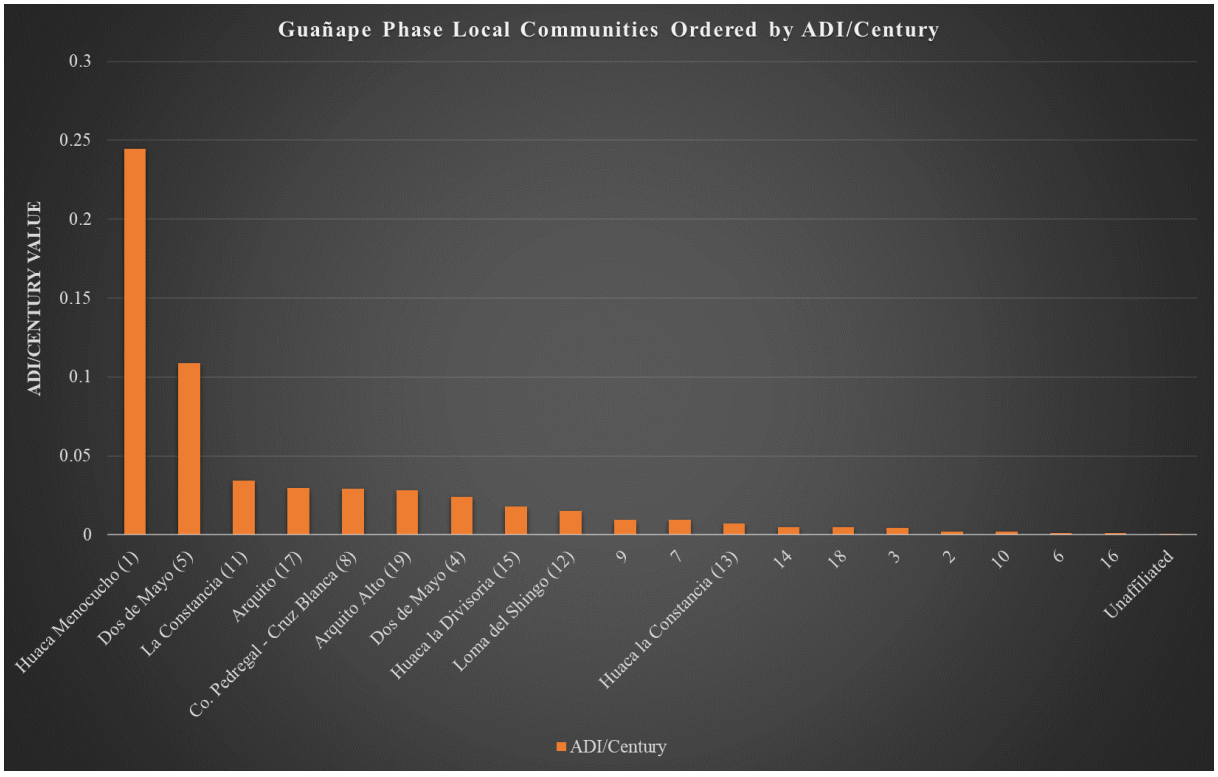


Figure 6.2 Guañape Phase Local Communities Ordered by ADI/Century

The area around Huaca Menocucho represents the largest local community in terms of both spatial extents and the relative density of occupation (Figure 6.2). This community would have contained around 42% of the Guañape Phase population that was within the survey area and is over two times larger than the second largest local community. This community, Dos de Mayo, has around 18% of the population in the area and is one of four smaller local communities located in that area. Following Dos de Mayo are a series of 7 or so local communities each containing between 6% and 3% of the population in the area. These are relatively dispersed across the landscape but include local communities associated with *huacas* at Huaca la Constancia (6%) and Huaca la Divisoria (3%). Arquito (5%) and Arquito Alto (5%) are both located along a ridge that leads to the neighboring La Cuesta Valley *chaupiyunga* and eventually the Otuzco Highlands. An exceedingly light occupation is also present at the base of Loma del Shingo (3%) which is the earliest recorded occupation that far up the Moche Valley.

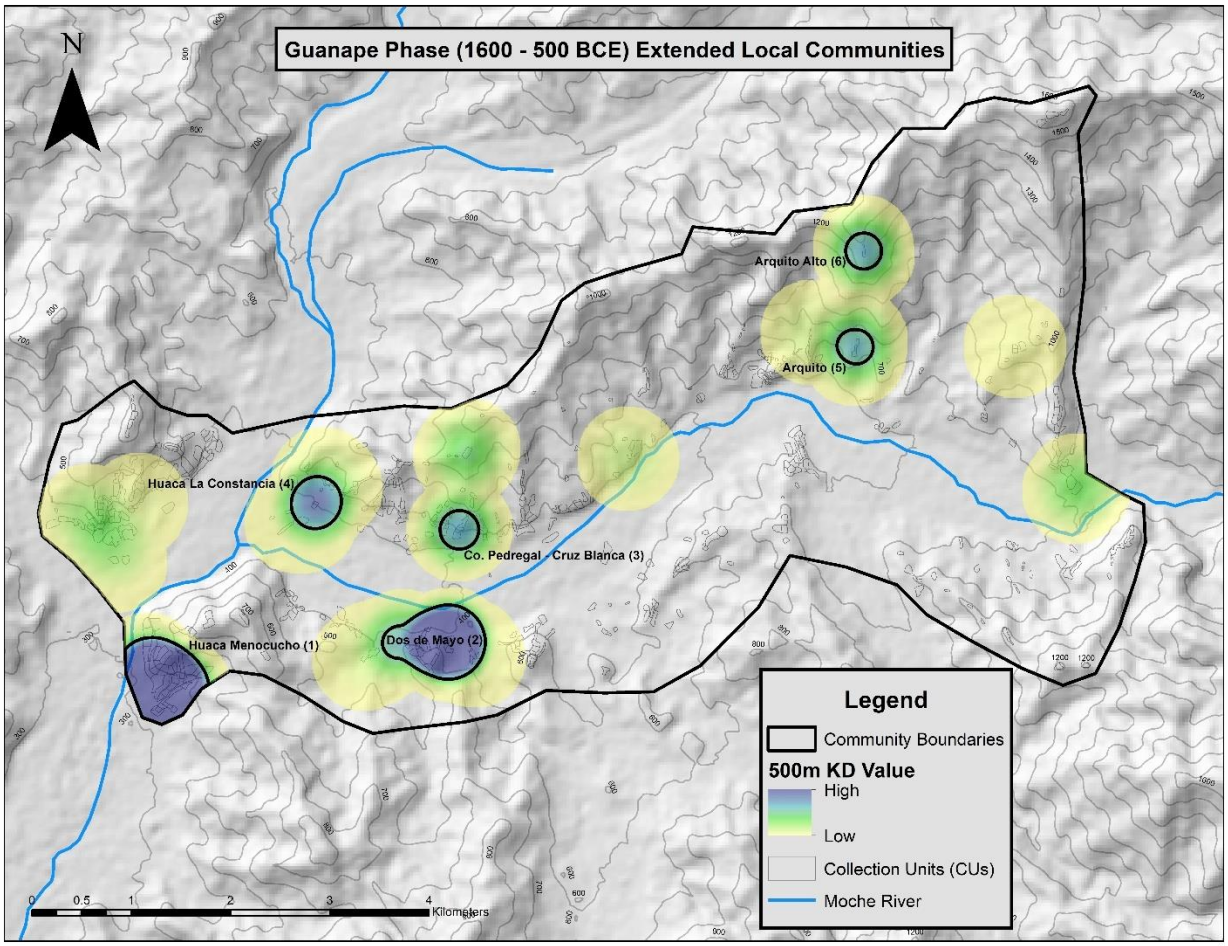


Figure 6.3 Guañape Phase Extended Local Communities

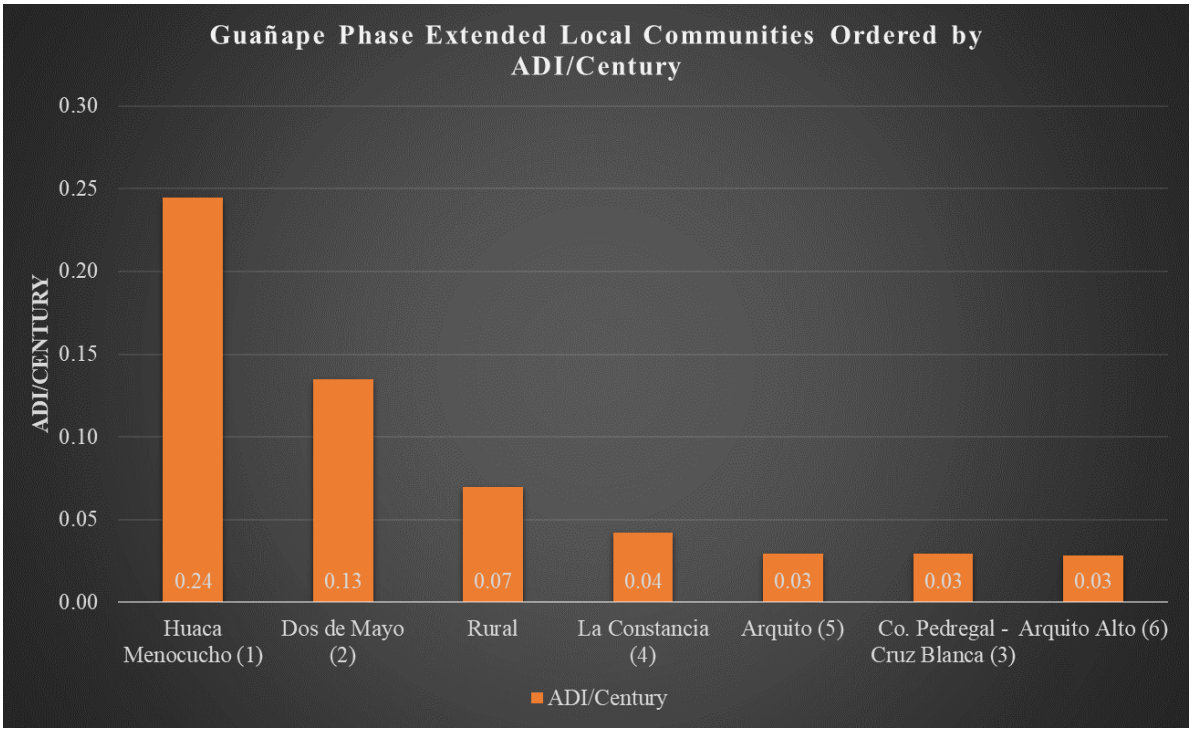


Figure 6.4 Guañape Phase Extended Local Communities Ordered by ADI/Century

6.2.2 Extended Local Communities and Local Community Clusters

Given the issues with the demography of this phase, I lumped together my interpretations of extended local communities and local community clusters. I interpreted extended local communities as aggregations of the collection units, and thus local communities, within the more densely occupied parts of the landscape. Using a relatively higher contour in the 500m KD raster, I was able to identify 6 extended local communities with the remaining occupations being categorized as rural (Figure 7.3; Figure 6.4). Huaca Menocucho remained unchanged as the largest (42%). This was unsurprising since the previously identified local community had already aggregated all of the occupations around the *huaca* complex itself. The extended local community of Dos de Mayo (23%) aggregated together a few of the local communities in that area and thus subtly increased the size of the resulting community. The other extended local communities were essentially just aggregations of some of the larger local communities that were previously identified. Notably, Huaca la Divisoria is missing from this set of communities: a reflection of the very light occupation and low sherd densities around the *huaca* itself. Around 12% of the recorded

population of the area, including that at Huaca la Divisoria, was categorized as rural due to the lower densities and more dispersed nature of those occupations.

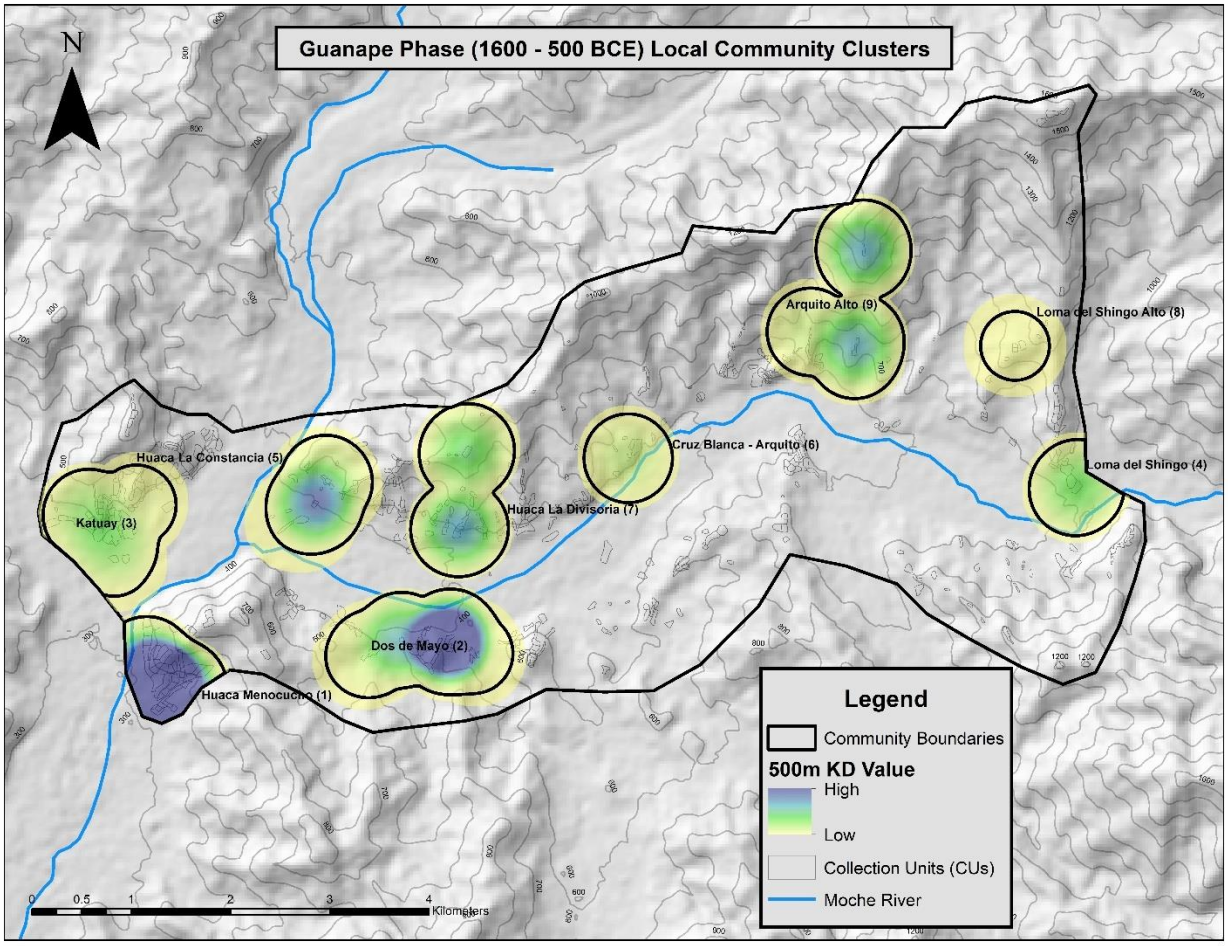


Figure 6.5 Guañape Phase Local Community Clusters

Local community clusters were interpreted as being the broadest clustering of local communities and occupations within the landscape: the goal was to have no rural outliers. Using close to the lowest contour in the 500m KD raster, I was able to identify 8 local community clusters with no rural outliers (Figure 6.5; Figure 6.6). Though I do not think that these local community clusters are comparable with those of later phases, I think that this method best captured the most important clusters of occupation in the *chaupiyunga* and confluence during the Guañape Phase. Huaca Menocucho and Dos de Mayo remained relatively unchanged as the first and second largest local community clusters in the survey area. The two ridge occupations around Arquito were unsurprisingly lumped together (11%). More interestingly, Huaca la Divisoria was linked with the

"larger" occupation around Cruz Blanca below (8%) instead of with the nearby local community cluster around Huaca la Constancia (7%). A new local community cluster congealed out of the dispersed and light set of occupations around Katuay (4%): illustrating the utility of this broader catchment in articulating the connections between more ephemeral occupations. To a similar effect, a few other light occupations at Loma del Shingo and Cruz Blanca – Arquito emerged as local community clusters that had such light and isolated occupations that they did not aggregate with any of the larger local communities in the area.

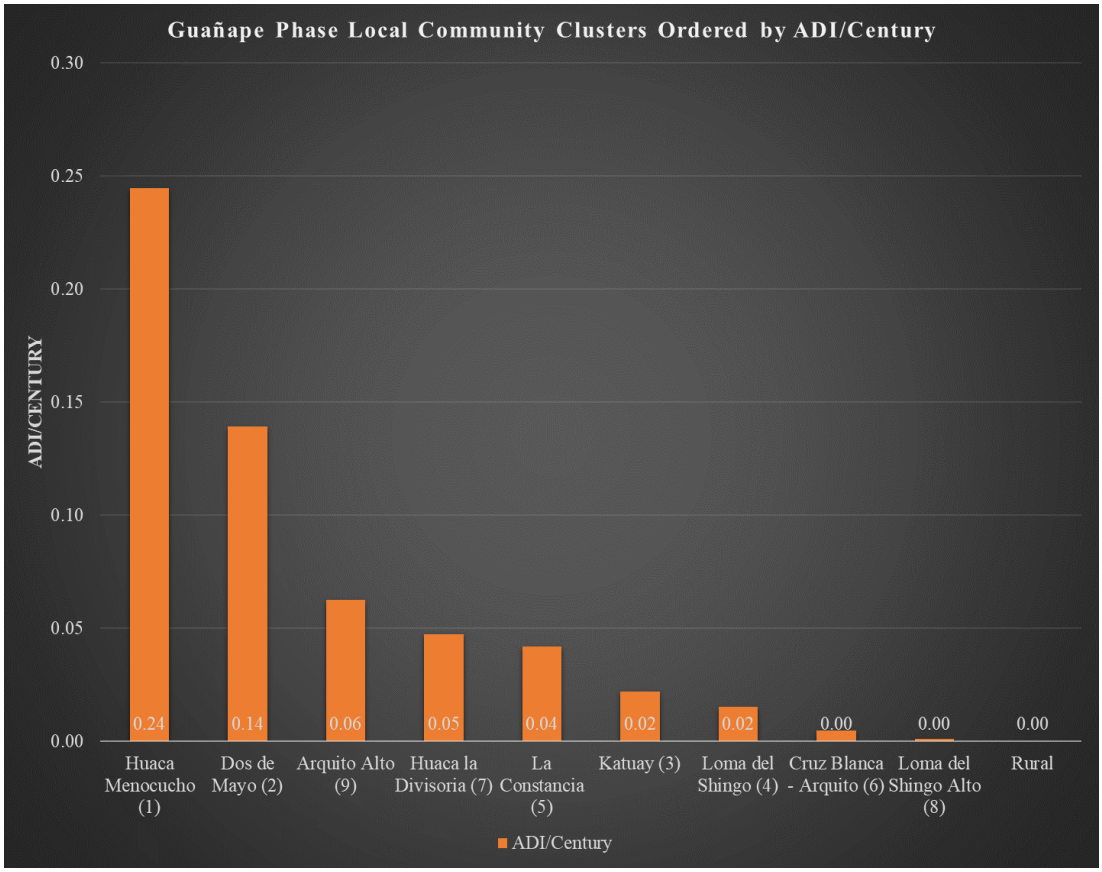


Figure 6.6 Guañape Phase Local Community Clusters Ordered by ADI/Century

6.2.3 Discussion

Even with the inherent limits of these data, a few important insights can be gleaned from noting the patterning in the location and size of some of the different scales of communities that were reconstructed. First, only two general areas/communities were consistent in their placement

at every different scale. Huaca Menocucho was consistently the largest community at every scale and its size makes it somewhat safe to argue that the community would have dominated the demographic landscape of the study area for much of the Guañape Phase. If anything, the extents and size of Huaca Menocucho I present here are likely an under-estimate: there is a large Salinar Phase occupation outlined in almost exactly the same area in the next chapter. Similarly, Dos de Mayo was consistently the second largest community and was also consistently around a third to half the size of Huaca Menocucho. The smaller size and more dispersed nature of this community notably corresponded with its lack of a dedicated *huaca* or *huaca* complex and instead a ceremonial terrace complex. These differing qualities are discussed in more detail in the subsequent section but lead me to characterize Dos de Mayo as a looser amalgamation of households or hamlets while Huaca Menocucho may be closer to something akin to a contiguous village. This being said, the lack of clarity in absolute demographic estimates precludes any actual discussion of community size: it is unclear how either community would have compared to a likely contemporary like Gramalote downriver.

Outside of these two likely communities, the demographic picture is far less clear and any discussion far more tentative. The consistent occupations in the area around Huaca la Constancia would lead me to believe it may have been a community that was essentially a much smaller analogue of Huaca Menocucho. The lower occupation from the *huaca* was in a small field amongst larger sugarcane fields: possibly traces of a larger village that has long-since been destroyed by millennia of cultivation in the area. However, the fact that this community cluster was smaller than the aggregated rural communities is informative as to how small it actually was: a third the size of Dos de Mayo. Most of the other communities were quite clearly camps or more ephemeral occupations. For example: the scant domestic terraces of Arquito Alto were located some 600 meters above the valley floor. Though I wouldn't be surprised if a spring or small reservoir would emerge from further exploration of that high ridge, the location of that occupation led me to consider it more a re-visited camp than a settlement *per se*. In fact, it was the only part of the survey area that yielded Guañape Phase sherds that seemed to be made from highland paste: perhaps an indication to the origins of its occupants.

Finally, a casual observer of the demographic landscape that was reconstructed in this section may be able to anecdotally claim that the several of the larger occupations of this phase

were located relatively close to the confluence. I decided to measure this possible clustering with a bit more precision through obtaining a TDCI to represent the degree of centralization around the confluence. The TDCI model I constructed used the river confluence as the node and measured the density of occupations within 30-minute intervals to get a coarse-grained and regional understanding of any centralization (Figure 6.7). The resulting value was high (TDCI = .7), with around 86% of the people in the survey area being located within the first two 30-minute windows (i.e., under a 1–2-hour walk) from the confluence. Past this point, the *chaupiyunga* proper remained relatively unsettled.

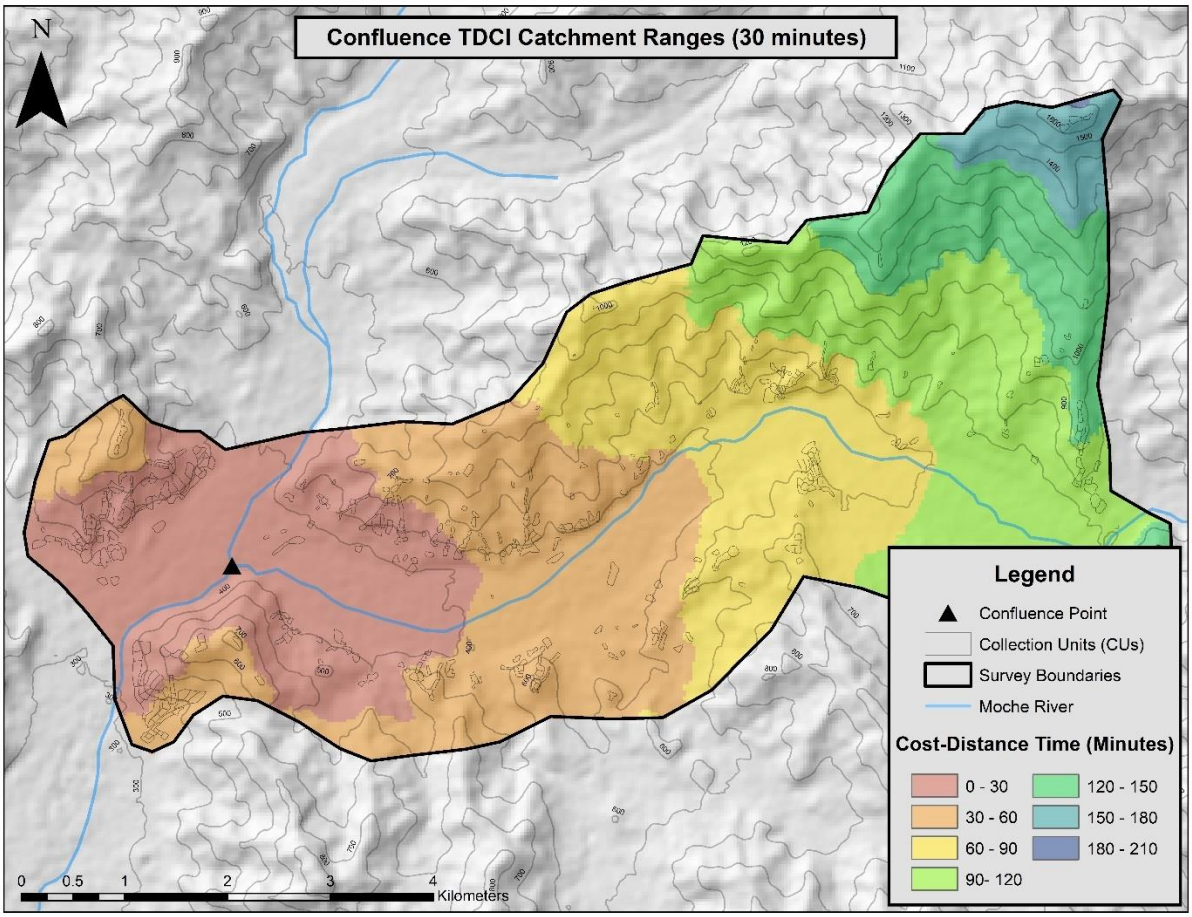


Figure 6.7 TDCI Catchment Ranges for the Confluence

In sum, the demographic landscape of the survey area during the Guañape Phase suggests at least one village (Huaca Menocucho) and one cluster of households/hamlets (Dos de Mayo) amongst a wider and dispersed array of more lightly occupied areas. While most of these areas were probably just as lightly occupied as the data suggest, at least one (Huaca la Constancia) may

have been more densely occupied but has since been destroyed. Finally, the vast majority of regional populations were concentrated in and around the final confluence of the Moche River and the Upper Moche Valley *chaupiyunga* proper remained only sparsely settled.

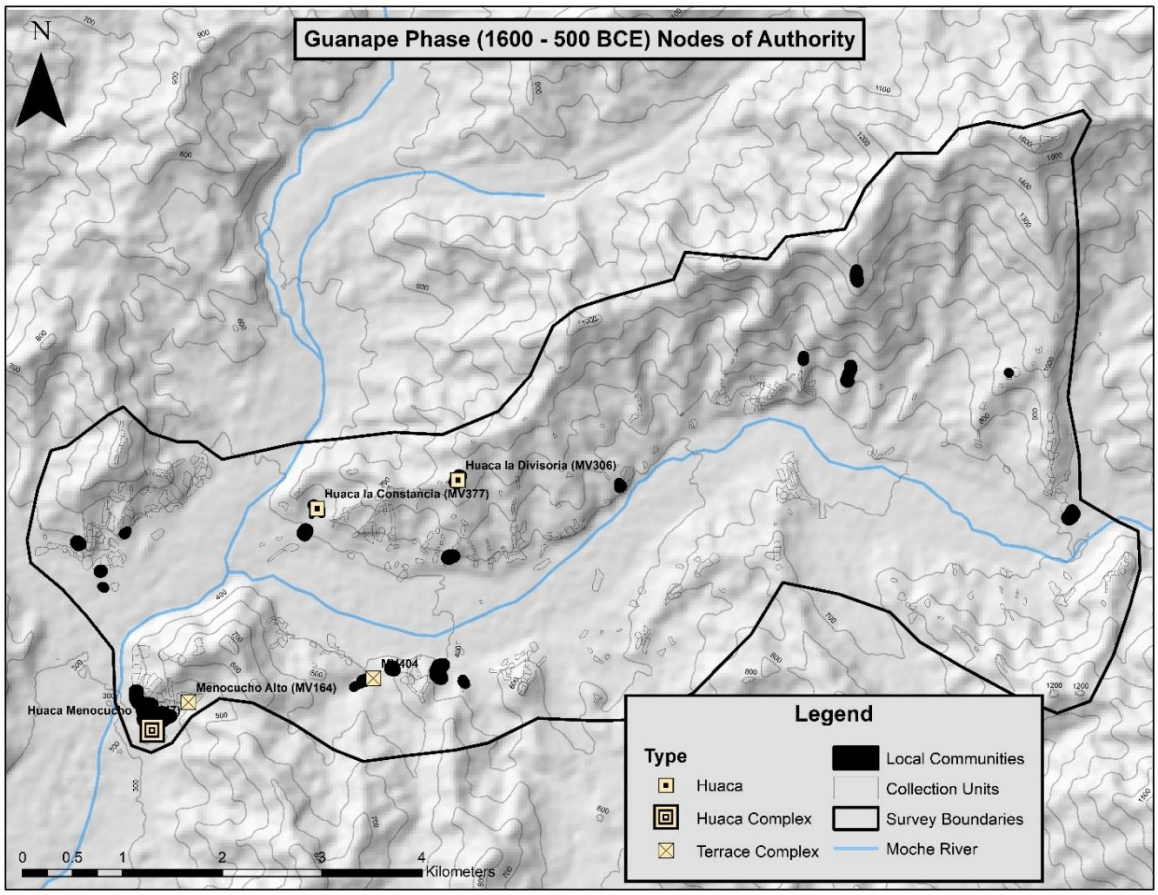


Figure 6.8 Guañape Phase Nodes of Authority

6.3 A Landscape of *Huacas*

Though Guañape Phase demography was relatively unclear, the adobe and stone-masonry *huacas* of this phase were the best-mapped and least destroyed of any others in the survey area. Using the demographic information, the centrality of these possible nodes of authority within the demographic landscape was assessed: revealing the *huacas* and ceremonial terraces of Huaca Menocucho as being the most central. Additionally, the higher quality maps of the *huacas* of this phase allowed me to build more substantial arguments as to how these *huacas* fit into the broader

landscape around the *chaupiyunga* and their relation to the *huacas* and landscapes of the adjacent *chala* and *quechua*. Though they had some interesting internal variability that may suggest changing traditions of authority over time or distinct realms of use, the *huacas* of the confluence were united in sharing a common axis of orientation that was distinct from contemporary *huacas* downriver.

Table 6.1 Guañape Phase Nodes of Authority

Guañape Phase Nodes of Authority				
Site Name	**Site Type**	**Total Estimated Construction Volume (m^3)**	**TDCI**	
			Regional	*Local*
Huaca Menocucho	Huaca Complex	55404	0.49	0.49
Menocucho Alto	Terrace Complex	500	0.49	0.60
MV-404	Terrace Complex	875	0.31	-0.24
Huaca la Divisoria	Huaca	3550	0.23	-0.30
Huaca la Constancia	Huaca	3915	-0.26	-0.60

6.3.1 Nodes of Authority in Relation to Demography

Combining my own survey data with that of Billman, I identified 5 different areas that may have served as nodes of authority: 1 *huaca* complex, 2 stone-masonry *huacas*, and 2 sets of ceremonial terraces (Table 6.1; Figure 6.8). Though only some of the *huacas* were sufficiently mapped for the more detailed discussion that is provided in the next section, all of these places were included as possible nodes of authority in order to measure the degree to which demography may have clustered around them. The most immediately clear results of these analyses revealed that the *huaca* complex and adjacent ceremonial terraces of Huaca Menocucho stood out as being somewhat centrally located in relation to surrounding demography at both regional and local levels. This was a somewhat unsurprising finding given that 42% of the people in the survey area were focused within the community of Huaca Menocucho itself.

All of the other *huacas* and ceremonial terraces were less centrally located and some were even somewhat isolated: producing either a lower or a negative TDCI at both regional and local levels. In fact, all but those around Huaca Menocucho produced a negative TDCI at a local level. This essentially meant that these *huacas* and ceremonial terraces had fewer occupations within their immediate surroundings (30 minutes to an hour) than they did further away (1-2 hours). A

closer look revealed that these consistently negative values were mainly a result of the dense occupation around Huaca Menocucho moving from being within a closer rung at the regional scale to a further rung at the local scale. This being said, I do not see such a pattern as discounting the goal of the measure: the community at Huaca Menocucho was far more tied to its own *huaca* complex and ceremonial terraces than to any of the others nearby.

Finally, it is worth noting that all of these possible nodes of authority were quite close to the confluence. Recalling the model that was used in the previous section to assess centralization around the confluence: all of these possible nodes of authority for the Guañape Phase were located within the first ring. This meant that all of the *huacas* and ceremonial terraces were within a 30-minute to an hour walk from the confluence itself.

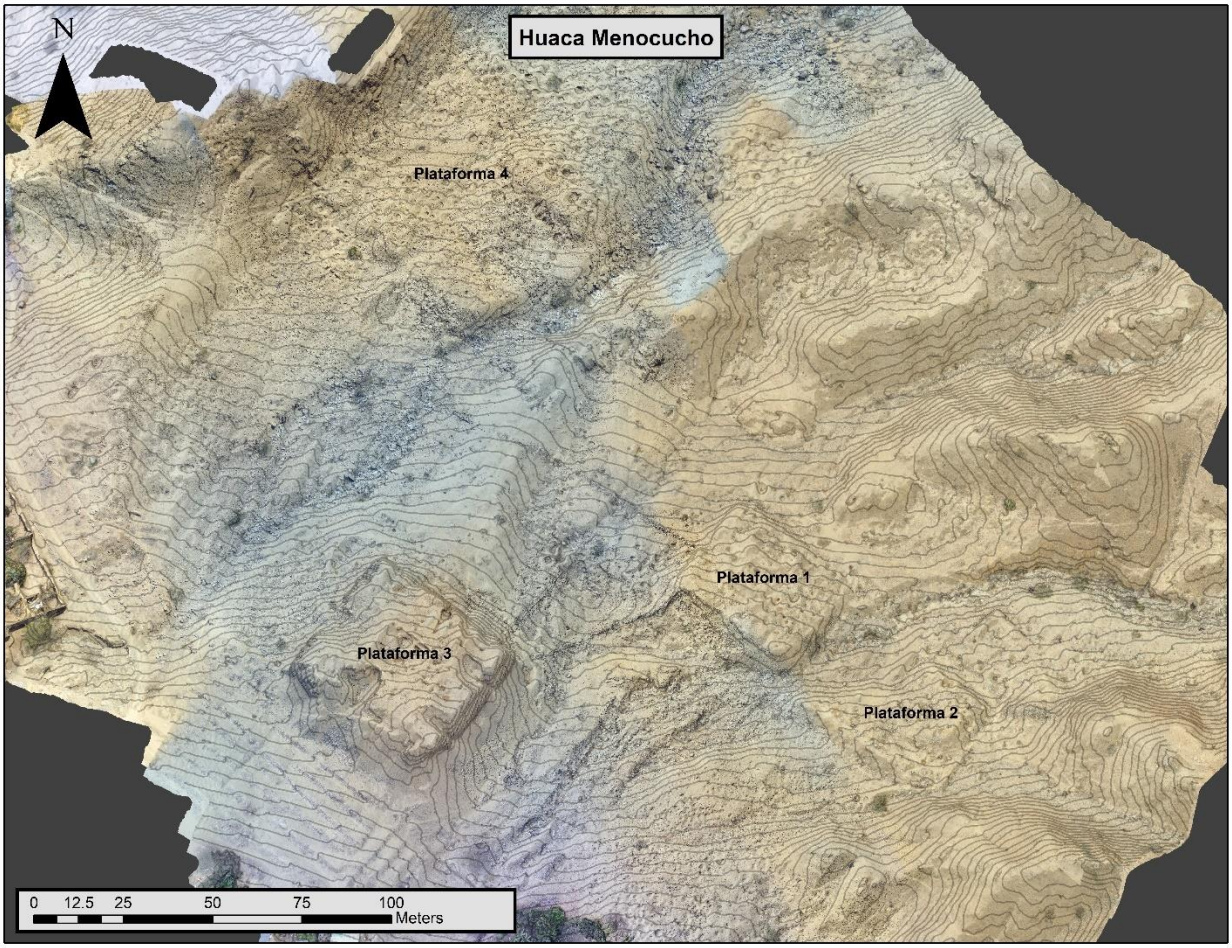


Figure 6.9 Orthophoto Map of Huaca Menocucho Complex

6.3.2 *Huacas* of the Confluence

The available drone maps of two relatively well-preserved *huacas* (Huaca la Constancia and Huaca la Divisoria) and one *huaca* complex (Huaca Menocucho) allowed for a somewhat more detailed discussion of these *huacas* in relation to one another and to the broader landscape. This was done through a description and comparison of (1) their general formats, (2) their axes of orientation, and (3) their available viewsheds of the surrounding landscape. The dimensions provided in the following discussion were taken from the drone imagery and should be approached as approximations that require some field clarification. The orientations were taken from tracing discernable walls or platform edges from the drone imagery and were calculated using the Linear Directional Mean tool in ArcGIS. I conclude by comparing these three *huacas* of the confluence with two likely contemporaries: Huaca de los Chinos in the Middle Valley *chaupiyunga* and Huaca de los Reyes in the Lower Valley *chala*.

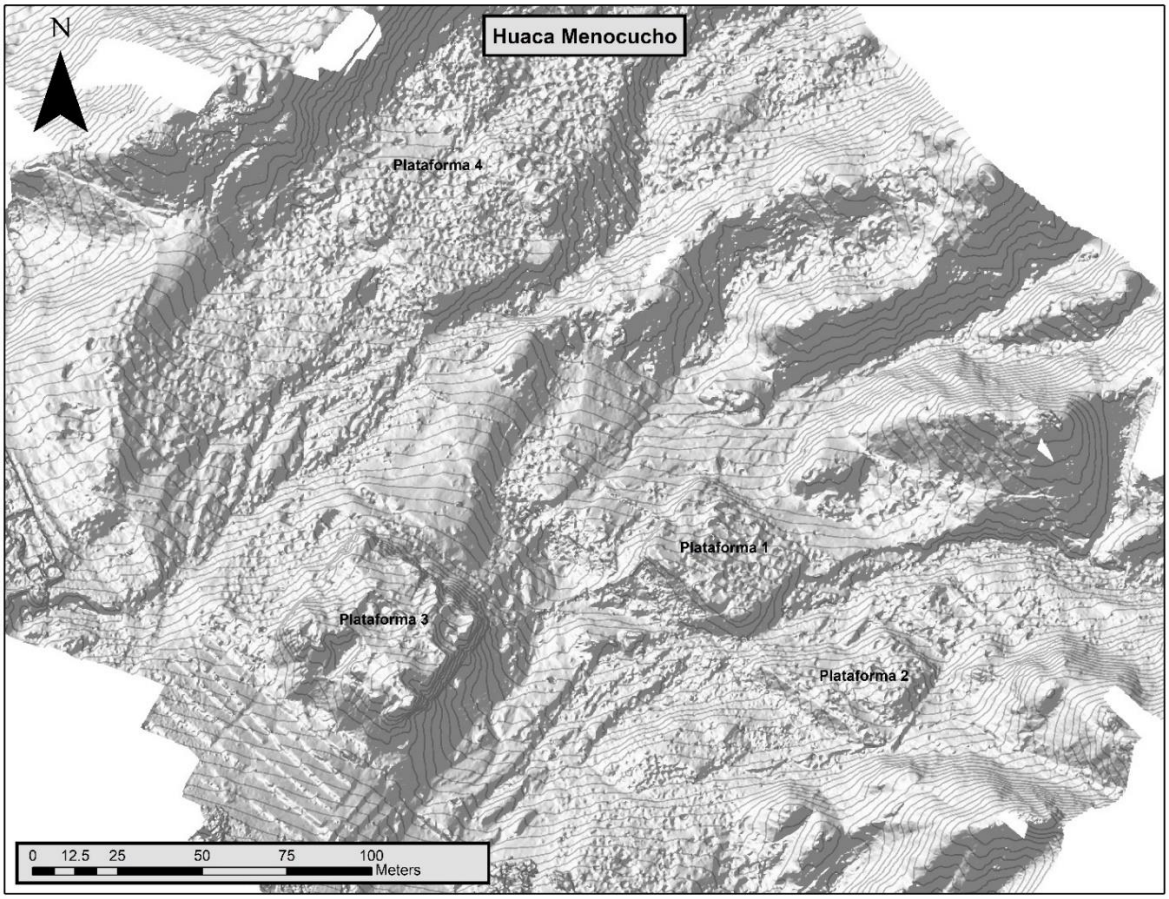


Figure 6.10 DEM Map of Huaca Menocucho Complex

6.3.2.1 Huaca Menocucho

To begin, the *huaca* complex at Huaca Menocucho was composed of at least four adobe or stone-masonry platform *huacas*. I refer to these *huacas* here as Plataformas 1 through 4: following previous mapping work conducted at the site by Prieto and Maquiera (Figure 6.9; Prieto and Maquiera 2015). Many of these *huacas* have been heavily looted and all but Plataforma 3 had been somewhat eroded by the adjacent runoff from at least two millennia of ENSO rains (Figure 6.10). This meant that the general formats of these *huacas* were far less clear from the surface than the others I discuss. This being said, they were clear enough to at least determine orientation and possible viewsheds.

Figure 6.11 Orthophoto Map of Plataforma 3 at Huaca Menocucho

Plataforma 3 is the most iconic of the site and is locally called Huaca Menocucho: it is a 50x43 meter platform reaching up to 15 meters in height and constructed of cylindrical adobes

(Figure 6.11). A large and approximately 12x15 meter enclosed space is visible upon the top of this *huaca* and this room was probably surrounded by a series of either heavily eroded and looted rooms or maybe just patio areas. The front of the *huaca*, which I later argue faces down-valley to the SW, has a series of low terraces that almost appear to form a low set of ramps that lead to the base of the *huaca* itself.

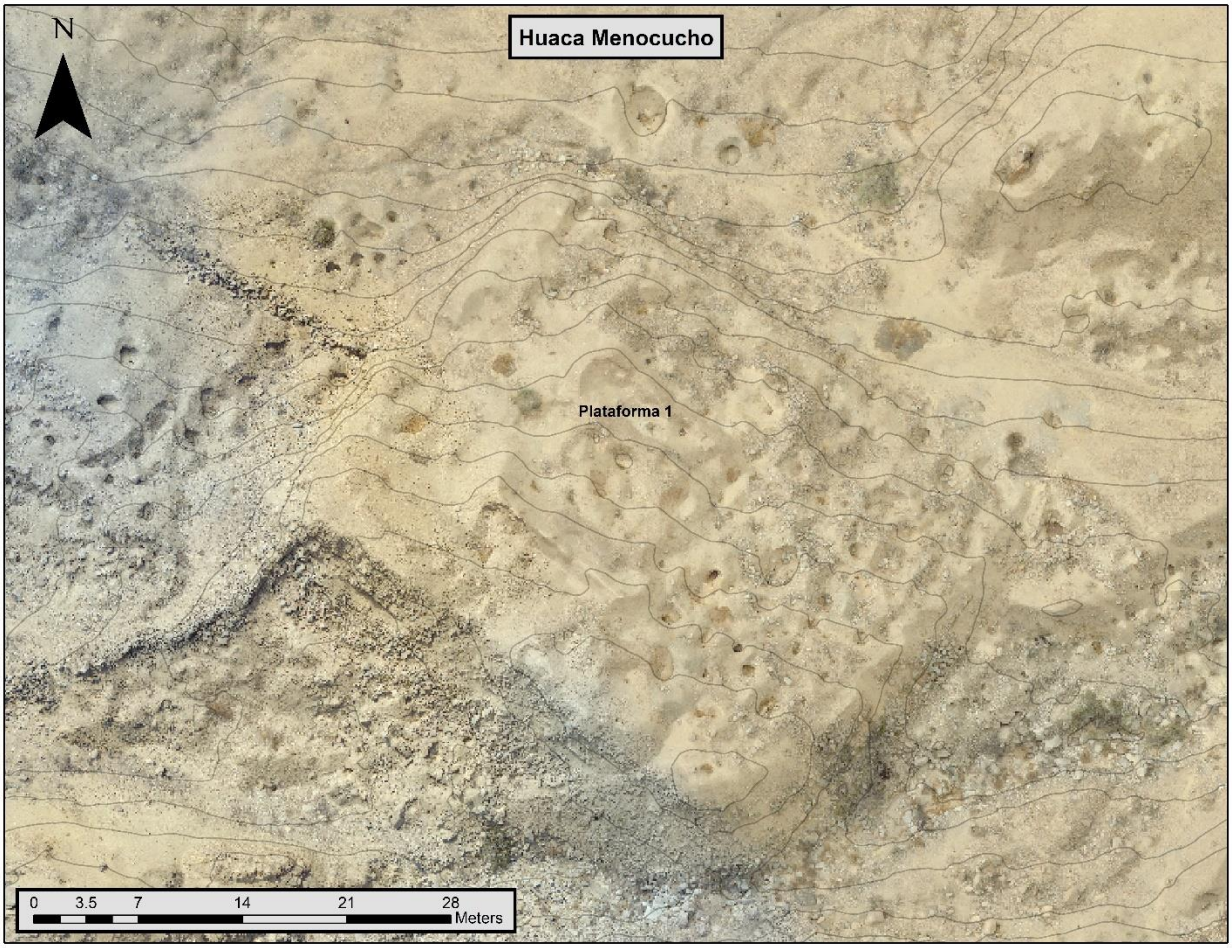


Figure 6.12 Orthophoto Map of Plataforma 1 at Huaca Menocucho

Plataforma 1 is located almost directly to the east and was a stone-faced *huaca* measuring somewhere around 31x41 meters and about 2 meters in height (Figure 6.12). This platform also appears to have a small room atop it that measured around 13x12 meters and its SW side is too heavily eroded to discern if any more structures were located upon the platform. Plataforma 2 is just adjacent to the SE of Plataforma 1 and was a similarly stone-faced construction of around 36x46 meters but was so heavily damaged by erosion that it is difficult to be sure of its precise

dimensions (Figure 6.13). A large elevated space is apparent on its SE side that measured approximately 20x20 meters and was at least 2 meters above the already 2-meter-high platform.

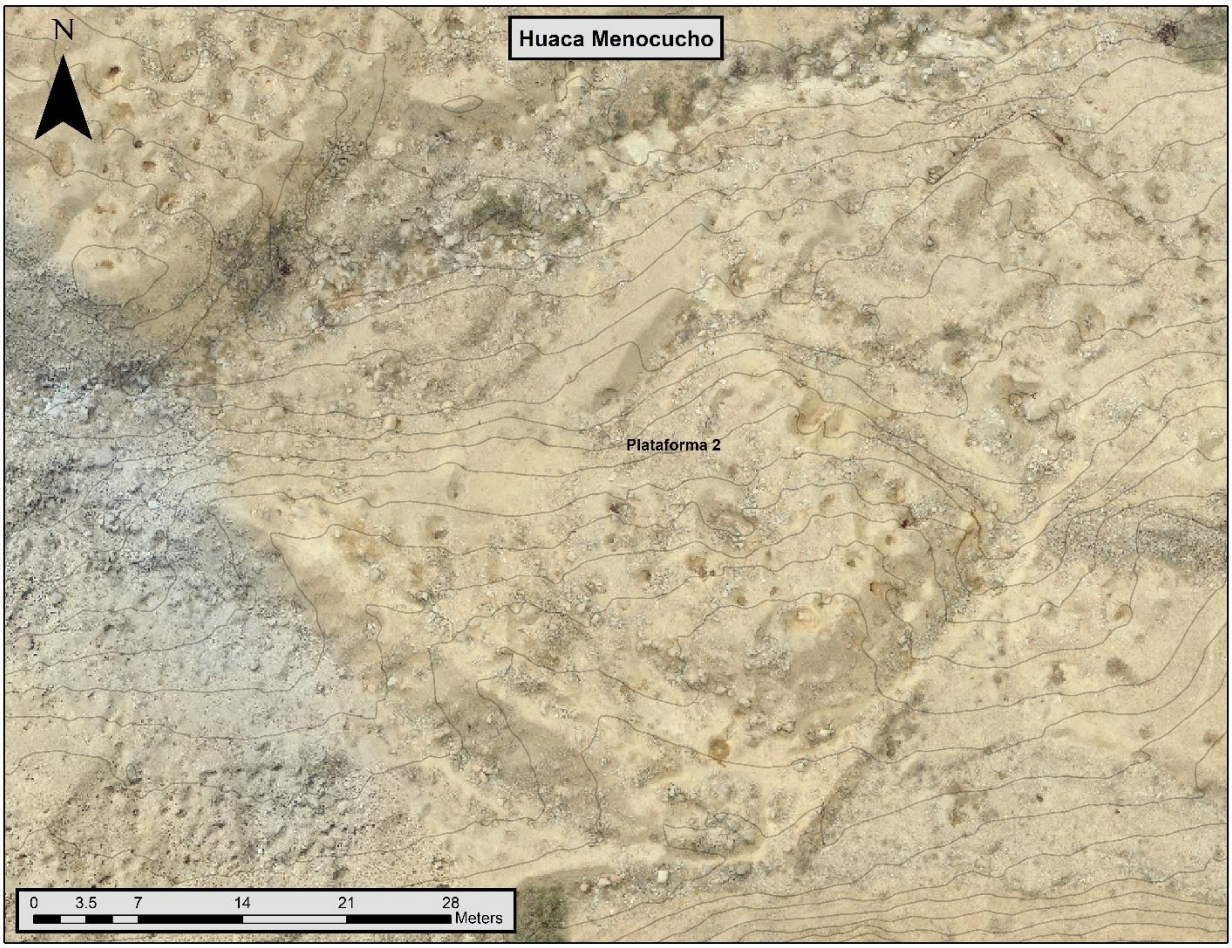


Figure 6.13 Orthophoto Map of Plataforma 2 at Huaca Menocucho

The final *huaca*, Plataforma 4, is to the north of the other three huacas and is better described as a series of low stone-masonry terraces abutting an adjacent ridge to extend into a quebrada that leads up Cerro Jesus Maria (Figure 6.14). The drone imagery that I had access to only incompletely captured Plataforma 4 and was reconstructed with a bit more luck by Prieto and Maquiera (2015:95, 99-100). This being said, I was able to note that it was at least 55 meters wide and over 150 meters long: built up in a series of at least three terraces each around 2 meters high. The looting in this part of Huaca Menocucho is some of the most intense that I have ever encountered in the Moche Valley: the aerial imagery alone is more reminiscent of a cratered moonscape than an archaeological site. This area is also far more tied to the Salinar Phase

occupation of the area and I remain skeptical of whether or not it should realistically be assigned to the Guañape Phase.

Figure 6.14 Orthophoto Map of Plataforma 4 at Huaca Menocucho

Thus, at least two-three different "types" of *huacas* were likely present at Huaca Menocucho: a tall adobe platform with at least one room at its top, two moderately sized stone-masonry platforms with rooms or secondary platforms at their tops, and a set of large platform terraces. The first two of these could simply be variations of the same theme with different construction methods: one with the much earlier cylindrical adobes and the other faced with stone. Generally, most of these constructions (at least Plataformas 1 through 3) are all thought to have dated to the earlier part of the Guañape Phase and were likely contemporary with the larger Caballo Muerto complex and the community of Gramalote located downstream in the *chala* (Prieto and Maquiera 2015; Nesbitt 2012; Prieto 2015). This being said, Nesbitt did note some of the later

conical adobes in remodeling events at Hauca Menocucho (Nesbitt 2012:62). My own collections at the site lent no clarity to any of these chronological questions: I only found Guañape plainwares scattered among many Salinar plainwares. This being said, I would not be surprised if Huaca Menocucho was somewhat consistently occupied for the majority of the Guañape Phase given (1) the large size of the community and (2) the continued Salinar Phase occupation in the vicinity.

Though Plataforma 4 is oriented at a subtly different angle, all four *huacas* share a general orientation upon an axis that runs NE-SW (37.9°-41° N) and NW-SE (129.1°-125.8° N). Both Plataforma 3 and 4 seem to be facing one of the two directions of the NE-SW part of this axis: either to Cerro Jesus Maria above or the Middle Valley *chaupiyunga* below, or both. Plataformas 1 and 2 seem more aligned with each other upon the NW-SE part of this axis but this is admittedly unclear given that both were so affected by looting and erosion.

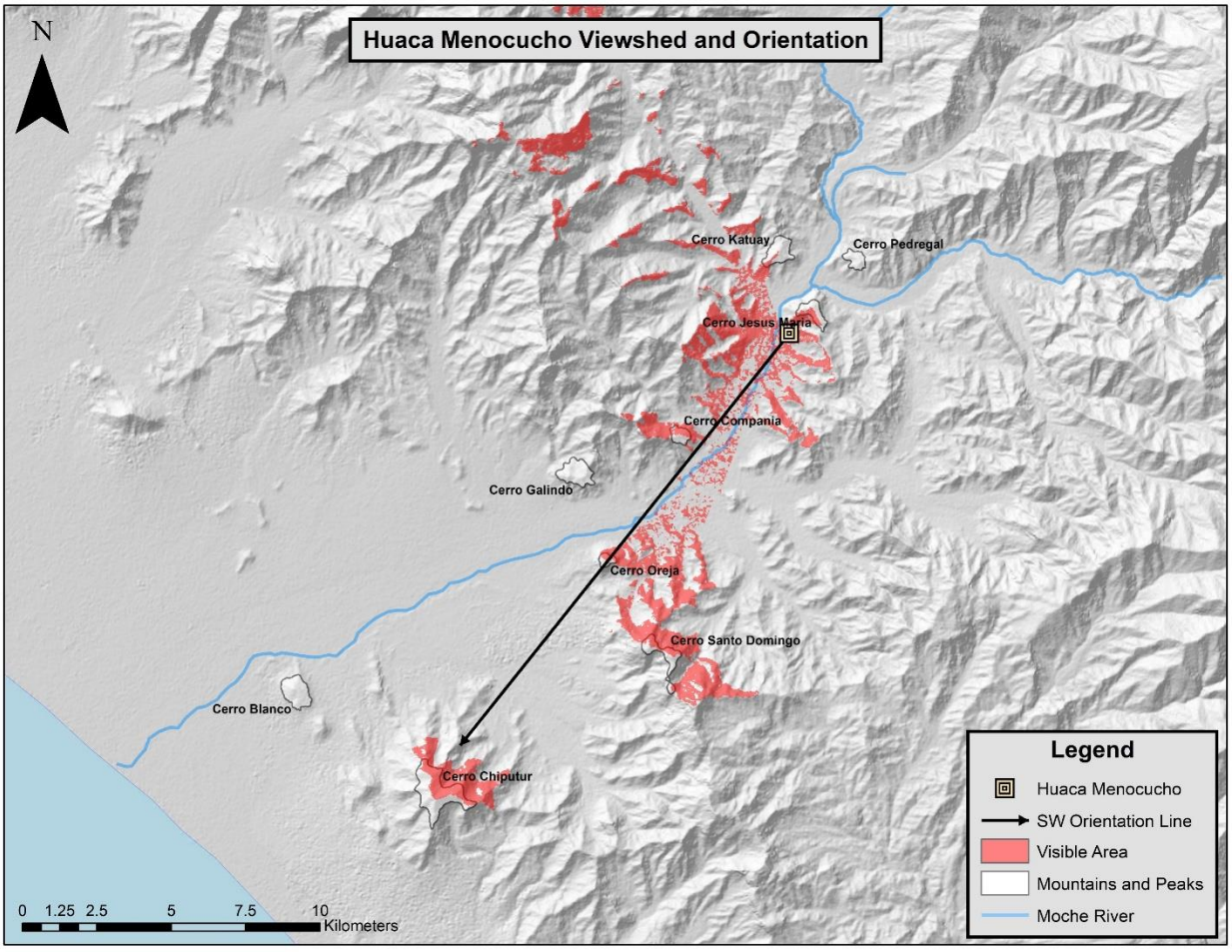


Figure 6.15 Huaca Menocucho Viewshed and Orientation

The viewsheds available to all of these *huacas* are similar and reach quite far if one is oriented to the SW following the axis that guided construction at the complex. An orientation toward that direction permits vision over the majority of the Middle Valley *chaupiyunga* and several of the more auspicious mountain peaks of the Lower Valley *chala* (Figure 6.15). If one follows the exact orientation of Plataforma 3 while standing upon the construction, the line of sight superimposes Cerro Oreja just below the high *chala* peak of Cerro Chipitur in the distance (Figure 6.16). The mountains of Cerro Compania and Cerro Santo Domingo also bracket this view to the NW and SE respectively. This same sight line, and the overall orientation of Huaca Menocucho upon its NE-SW axis, more-or-less follows the linear directional mean of the Moche River between the confluence and the gates of the *chala* at around 38.6° N. Though the river itself was no doubt following a subtly different path during the Guañape Phase, I think this value more-or-less represents the NE-SW orientation of most of the Middle Valley *chaupiyunga* itself. The backdrop if one looks behind the *huacas* is more limited but equally as striking: the twin peaks of Cerro Jesus Maria loom above and block all vision off of the Upper Valley *chaupiyungas* or highlands that lie beyond. Even now, Plataforma 3 is clearly silhouetted and enveloped by the slopes of Cerro Jesus Maria to any traveler approaching the *huaca* complex: this *huaca* complex is very clearly bound to the mountain into which it was built.

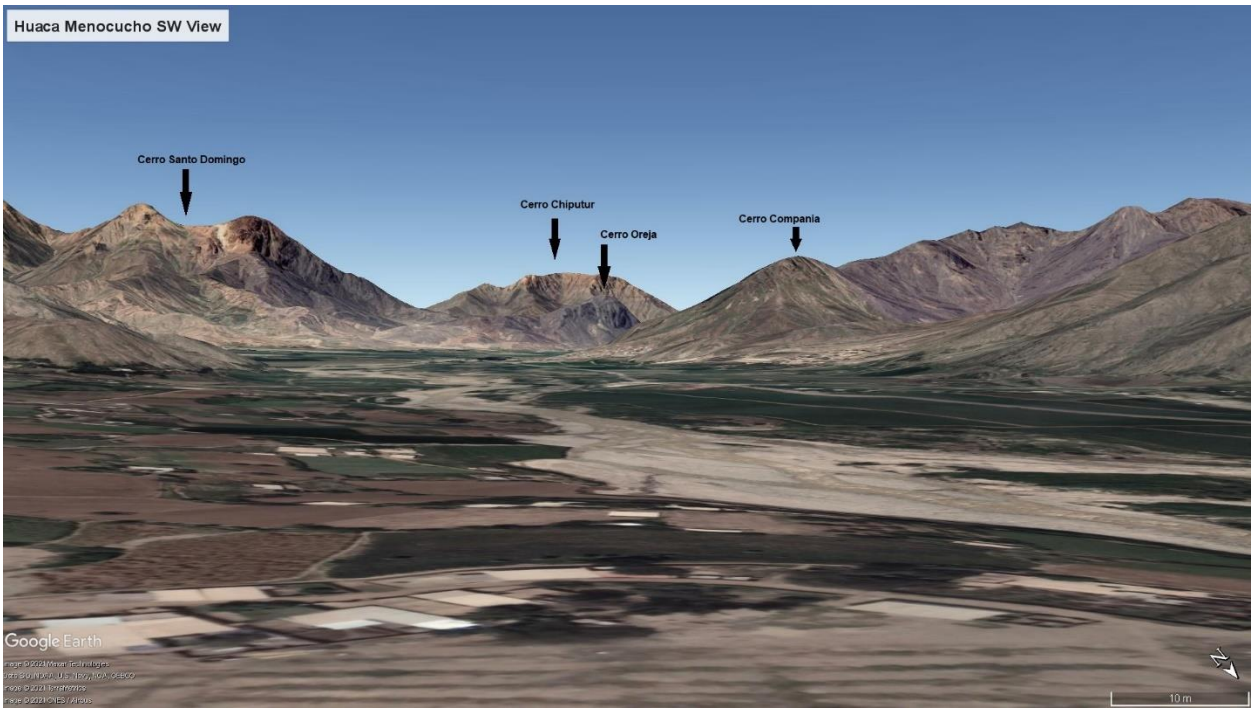


Figure 6.16 View to the Southwest from Huaca Menocucho

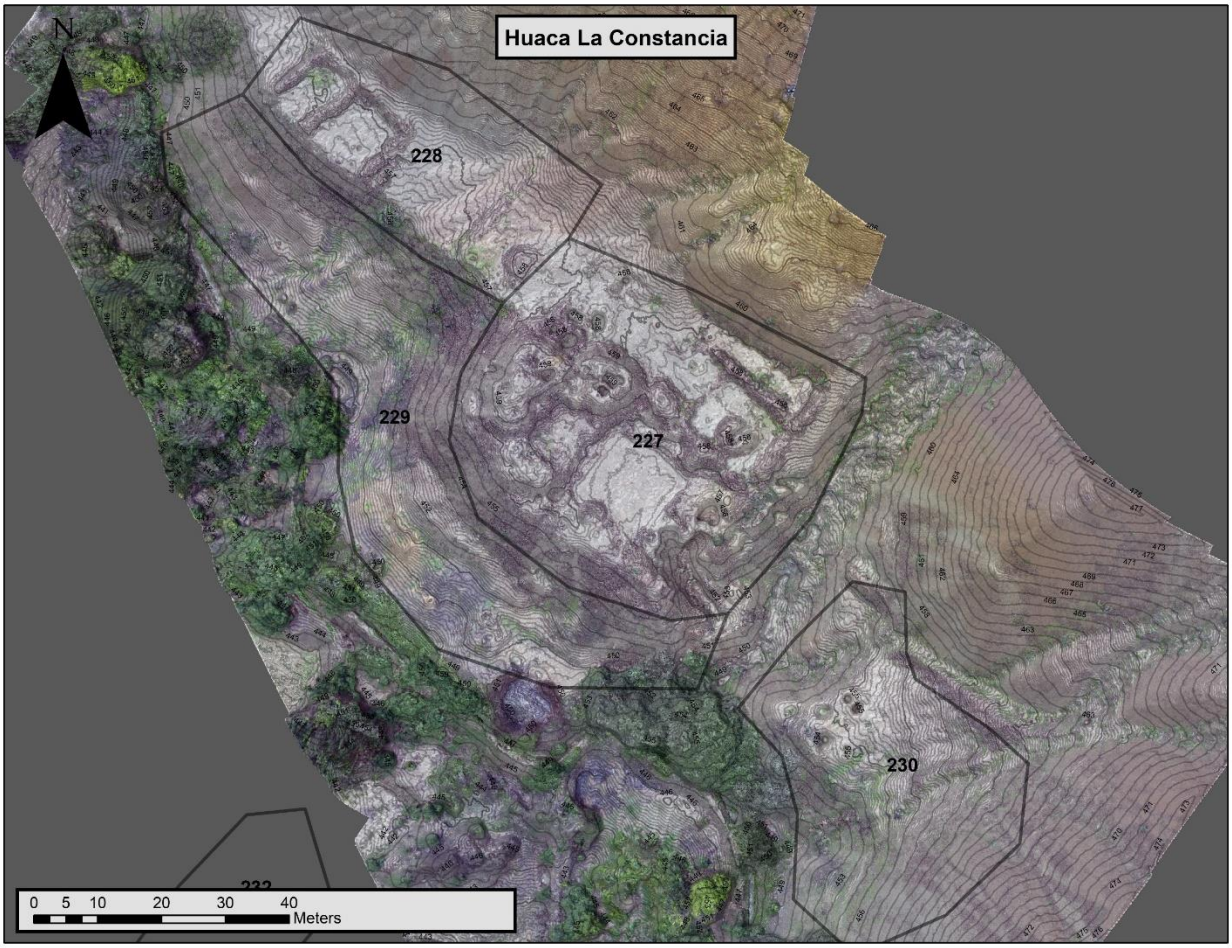


Figure 6.17 Orthophoto Map of Huaca La Constancia

6.3.2.2 Huaca la Constancia

Located on the other side of Cerro Jesus Maria and across the confluence, the smaller Huaca la Constancia was nestled between the two final ridges radiating out from Cerro Pedregal (Figure 6.17). Though it was a stone-masonry construction much like Plataformas 1 and 2 at Huaca Menocucho, Huaca la Constancia adhered to the u-shaped format followed by some of the larger *huacas* downriver. The base of the *huaca* is a 4-2-meter-tall platform measuring approximately 25-30 meters (depending on where one is) by around 45 meters that juts out from the SW edge of Cerro Pedregal. This platform has a 14x14 meter plaza sunken less than 10-20 centimeters on its SE side. This plaza is flanked by two long 6x15 meter platforms that are each around a meter in height. Moving NW through the sunken plaza, one steps a bit less than a meter up into a smaller elevated 8x8 meter plaza space that itself is flanked by two more 6x15 meter platforms each a little

over a meter high. These are connected by the tallest and final apogee of the u-shaped *huaca*: a 15x12 meter platform around 2 meters high. Thus, this *huaca* has two layers of encounters molded by the u-shaped format within it: one at the larger sunken plaza below and another at the smaller elevated plaza above.

This logic of movement through Huaca la Constancia follows a SE-NW direction if one was proceeding from the sunken plaza to the highest platform. A person upon the platform would face SW and any observer or procession in the plazas below would face NE. Given that the plaza spaces afforded more room than the platforms: more eyes would have likely been looking up towards the NE than down towards the SW. More generally, the *huaca* itself adheres to axes that follow NE-SW (44.3° N) and NW-SE (132.4° N): both of these axes are within 3° of those that guided the orientation of the *huacas* at Huaca Menocucho.

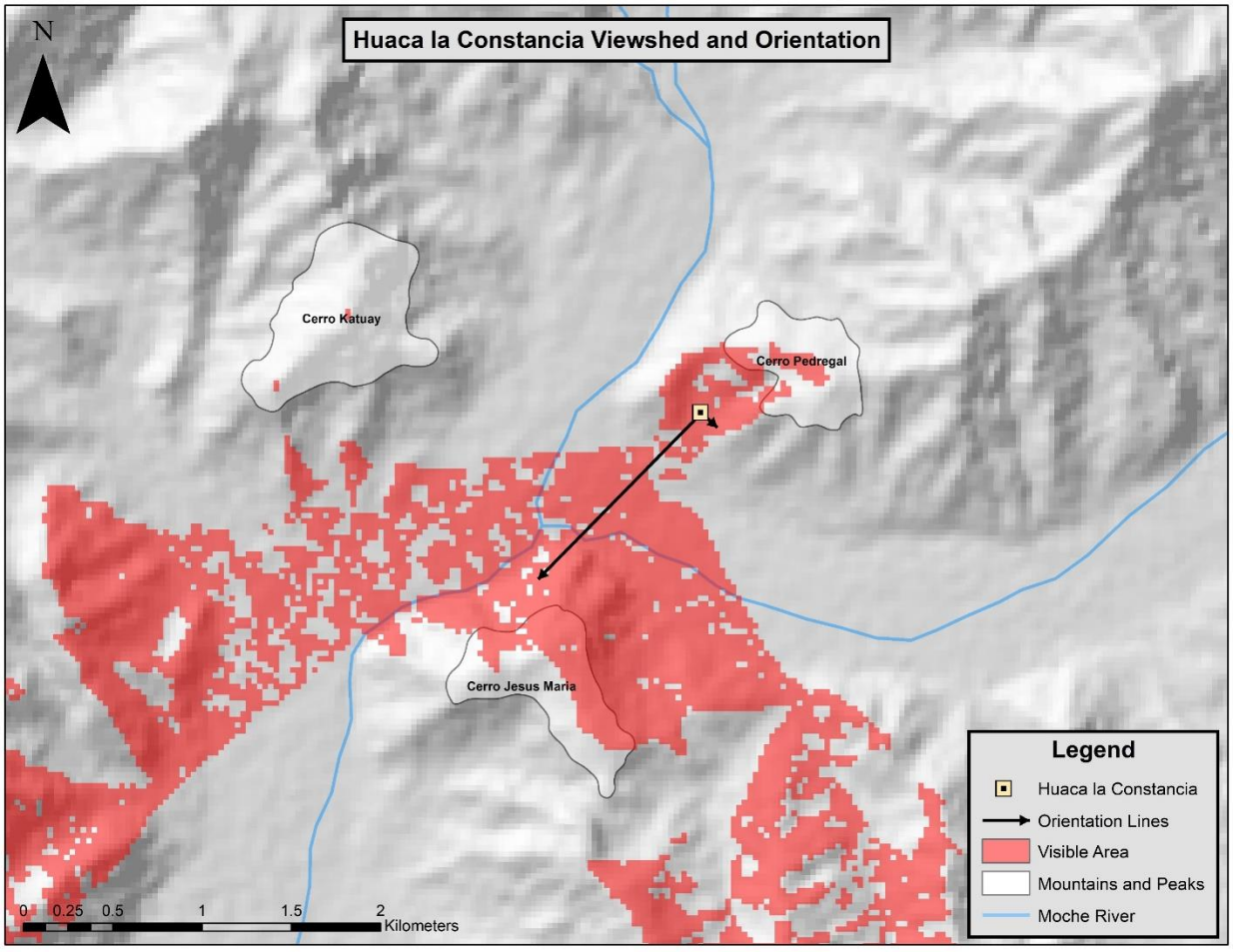


Figure 6.18 Huaca La Constancia Viewshed and Orientation

The viewsheds available to Huaca la Constancia were limited almost entirely to the surrounding valley floor around the confluence and the adjacent twin peaks of Cerro Jesus Maria (Figure 6.18). However, views of either of these areas were not afforded within the main SE-NW orientation of the *huaca* itself. In fact, views to the NW and SE were effectively blocked by the two ridges of Cerro Pedregal in which the *huaca* was nestled. Even the NE view is blocked by the boulder field leading up to the peak of Cerro Pedregal: the only "view rich" orientation upon the broader axis of the *huaca* was instead to the SW. Following this orientation immediately would confront a viewer with the NE side of Cerro Jesus Maria and the confluence of the Moche River adjacent to the mountain. Interestingly, the river confluence was revealed to have a linear directional mean of around 46° N, only a little over 1° off of the orientation of the *huaca* itself. Though the orientation and even location of this confluence may have been subtly different in the past, this value does more-or-less capture the general orientation of this part of the valley.

This being said, views to the SW would have likely been partially obscured to any observer within either of the two plazas. This obstruction would be caused by the platforms that flanked the plazas themselves: the platforms seemingly mirroring the visual obstruction by the two ridges of Cerro Pedregal that enveloped the *huaca* upon its SE-NW directional axis. This means that only those individuals standing upon the platforms themselves would have had more-or-less unhindered views of the great mountain and the confluence to the SW. Those within the plazas would have been surrounded by platforms silhouetted by the mountain peaks and slopes that loomed above.

Figure 6.19 Paths Radiating from Huaca la Divisoria

6.3.2.3 Huaca la Divisoria

Perched upon an unnamed peak along the broader ridge dividing the Upper Moche and La Cuesta Valley *chaupiyungas*, Huaca la Divisoria is truly the most remarkable of the *huacas* of the confluence. This stone-masonry u-shaped temple was built at 770masl: nearly 400 meters above the valley floor and a 30–60-minute hike up steep terrain (Figure 6.19). The peak upon which Huaca la Divisoria was built is at the union of three ridge paths. The path to the west leads down to Cerro Pedregal and eventually to Huaca la Constancia and the confluence. The path to the south leads down parallel to Cruz Blanca and eventually drops off onto the valley floor just across from Dos de Mayo. The final path to the northeast leads further up the main ridge and towards the La Cuesta *chaupiyungas* or, eventually, the Otuzco Highlands. At this crossroads, a 48 by 35-meter platform was built up one to two meters to serve as the base of a u-shaped *huaca* opening up to the NE (Figure 6.20). Around 12 meters into entering the *huaca*, one is confronted by a 16x15 meter plaza sunken no more than 10-20 centimeters into the ground. This plaza is flanked by two 25x10 meter platforms that each are a little over a meter tall. Moving through the sunken plaza, one briefly steps back up on to the main platform and then is confronted by a third, and final, 13x20 meter platform that stands 3 meters above. Though not very clear in the aerial imagery, I also noted

at least two 4x3 meter rooms that were nestled behind this final elevated platform on the SW edge of the *huaca*.

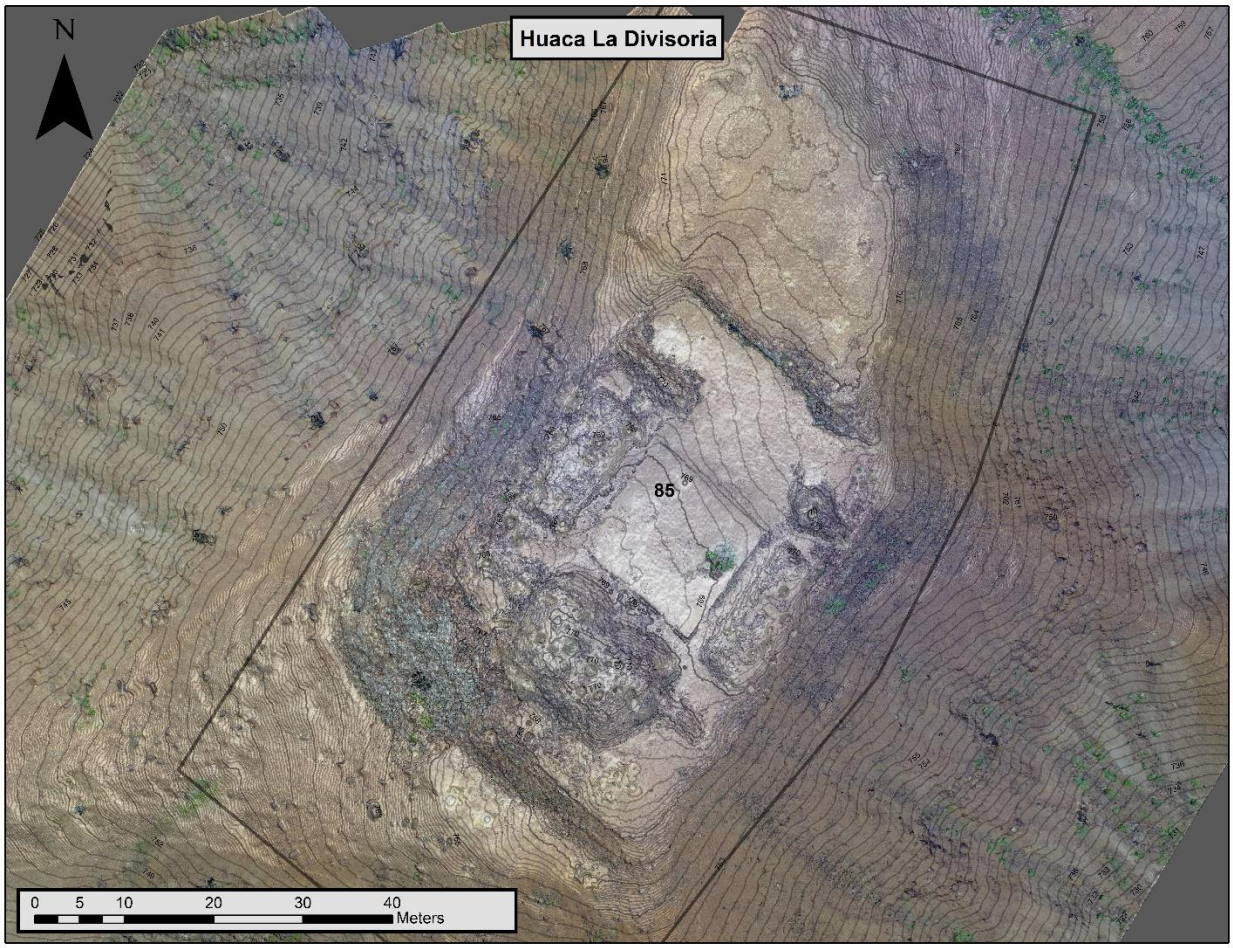


Figure 6.20 Orthophoto Map of Huaca La Divisoria

The logic of movement through Huaca la Divisoria was probably oriented in a NE to SW direction if one proceeds into the sunken plaza and up to the final platform. This would mean that those upon the platform may have been facing NE while those in the sunken plaza or entrance area would have been facing SW. If more people were in the plaza than in the platform above, this would mean more eyes were facing down-valley to the SW than towards the highlands to the NE. More generally, the *huaca* itself is oriented upon a NE-SW (39° N) and NW-SE (130.5° N) axis: this axis of orientation is within 1° of that used in Huaca Menocucho and within at most 5° of that used at Huaca la Constancia.

The viewshed offered to Huaca la Divisoria is immense and often overwhelming. The commanding views of the confluence, Upper Moche *chaupiyunga*, and La Cuesta – Sinsicap *chaupiyunga* are only surpassed by the wide array of auspicious peaks and landscape features visible in the distance (Figure 6.21). The edge of the Carabamba Plateau, Cerro Urpillao in the Otuzco Highlands, Cerro Jesus Maria just adjacent, Cerro Oreja and Cerro Chipitur of the Lower Valley *chala*, and even some of the mountains of the Avendaño pass all fall within the sight of Huaca la Divisoria. Huaca la Divisoria was also highly central within the visibility network modeled for the survey area and had a relatively high centrality value of .67 (Appendix E). This centrality can also be seen in the demographically weighted viewshed model, where Huaca la Divisoria was visible by some 42% of occupation during that phase: essentially the entire survey area except Huaca Menocucho and a few other smaller local communities (Appendix E).

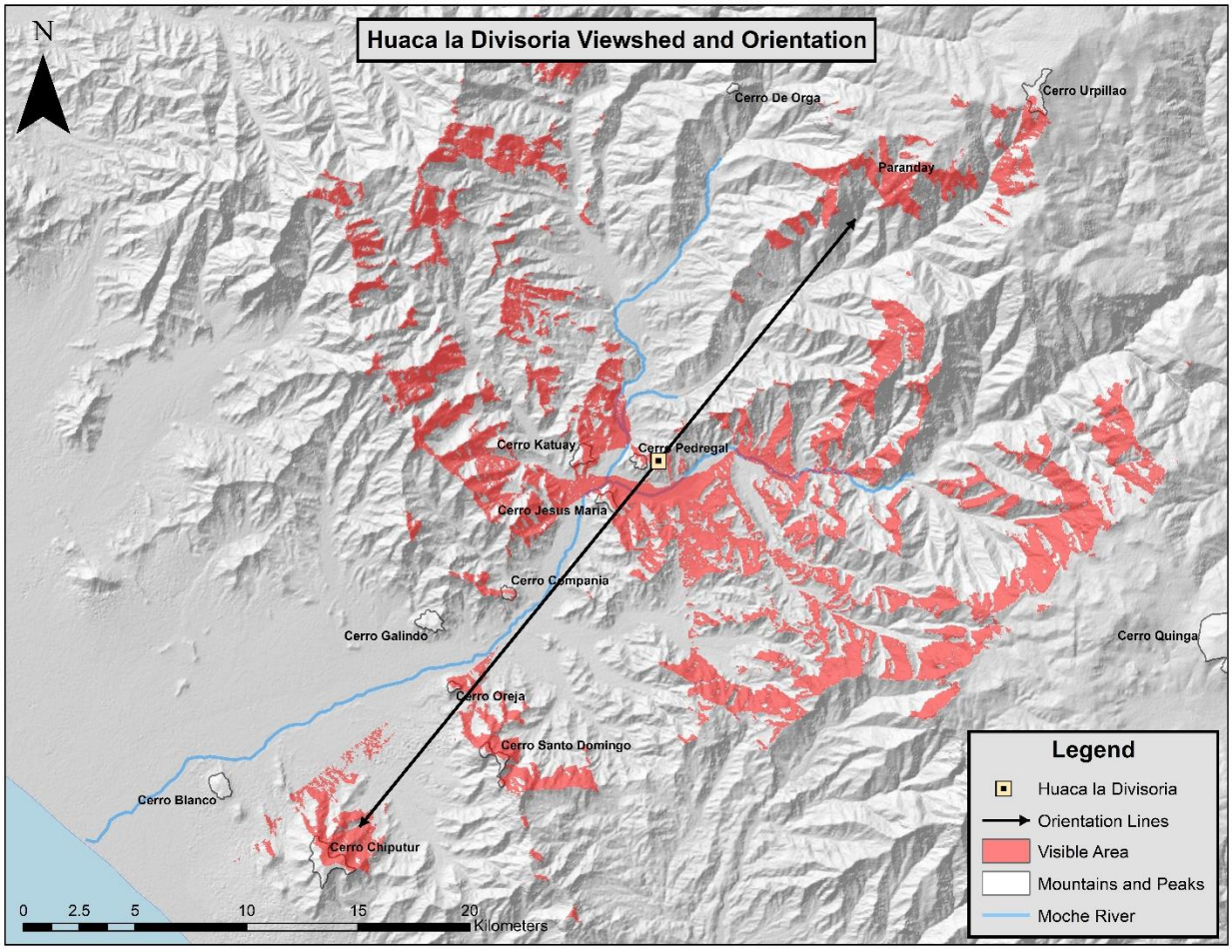


Figure 6.21 Huaca La Divisoria Viewshed and Orientation

Following the SW-NE axis of the sight somewhat limits the array of landscape features in sight but does afford a now-familiar palimpsest of auspicious peaks for the *huacas* of the confluence (Figure 6.22). Looking to the SW: Cerro Chipitur again takes center stage in the background, while the peak of Cerro Oreja is joined by the twin peaks of Cerro Jesus Maria in the foreground to the NW. The additional twin peaks of Cerro Santo Domingo seemingly mirror those of Cerro Jesus Maria in the more distant foreground to the SE. Unlike the other *huacas*, a view of the adjacent highlands is afforded with viewsheds to the NE: the peak of Cerro Urpillao is visible but the exact line of vision is more aligned with the mountains around the modern highland town of Paranday. Thus, following this exact SW-NE axis from Huaca la Divisoria provides views that essentially connect the mountains of the highlands with those of the *chaupiyunga* and *chala* below: a connection mediated by a *huaca* squarely within the *chaupiyunga*. Finally, it is also important to note that, at close to 800masl, only the heaviest winter fogs could have possibly obstructed these views in the earlier hours of the morning (see Chapter 3.6.2). More importantly, unlike the *huacas* of the valley floor, the view of the night sky from Huaca la Divisoria would have been equally unhindered by fog or any looming peaks in the surrounding landscape. This would have permitted an ideal location through which celestial observations could be made for the vast majority of the calendar year.

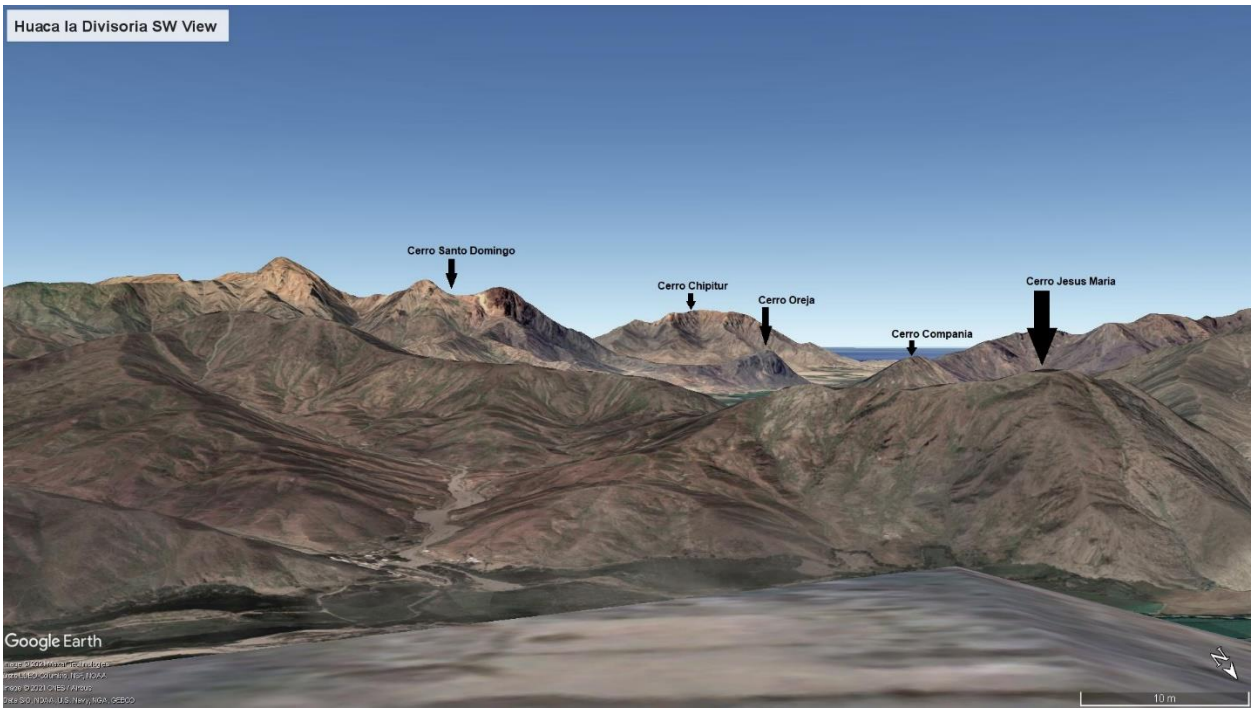


Figure 6.22 Southwest View from Huaca La Divisoria

Thus, it would seem that this unnamed peak presented the perfect venue through which a multitude of connections and unions could be bundled into one *huaca* at Huaca la Divisoria. First, it was located at the joining of three ridge paths that each led to important or occupied places in the Guañape Phase landscape. Second, it was afforded a view that overlooked the final confluence of the Moche River: a joining of two rivers to create the one that was the lifeblood of all those who lived below. Third, both the broader viewshed and the more specific axis of orientation of the *huaca* connected the auspicious peaks of the highlands and *chala* with those of the *chaupiyunga*. Importantly, these connections were made upon a location embedded in the *chaupiyunga*. Finally, even the u-shaped format of the *huaca* replicates this same concept of union as the platforms flanking the sunken plaza joined together at the taller platform and apogee of the monument itself. All of these unions could be vaguely defined as being places or moments akin to *tinku*: a joining or meeting of many things into or upon one.

I argue that the repetition of these different *tinku* reveal one meaning, and role, of this *huaca* in the Moche Valley landscape of the Guañape Phase. This was a vessel, and place, through which the peoples and landscapes from the *chala*, *chaupiyunga*, and highlands could all be bound together within a set of unions that were shaped by the layout, orientation, and viewsheds of the *huaca* itself. Experiencing this set of unions at its nexus was only available to those who made the trek up to the *huaca* itself and were guided in how to read the ensemble of orientations and views playing out before, and above, them. Though it is impossible to say who had the authority to guide such an experience, the locus of this unique realm of mediative authority was the *chaupiyunga*.

6.3.2.4 Distant *Huacas* Down-River

Over the course of the Guañape Phase, a multitude of other ceremonial platforms were built down-river from the *huacas* of the confluence (see Chapter 4.2.4.3) that can serve as points of comparison. A brief look at two of the largest of these, Huaca de los Reyes and Huaca de los Chinos, helps highlight some of the common threads shared between all of the *huacas* of the Moche Valley. More importantly, however, this comparison also illustrates the uniqueness of the *huacas* of the confluence.

Starting with Huaca de los Chinos in the Middle Valley *chaupiyunga*: this mixed stone-masonry and adobe *huaca* complex was composed of a series of platforms and plazas the proceeded to get smaller and higher as one moved through the construction (Figure 6.23). It was bound to and nestled below an adjacent mountain, Cerro el Castillo, in a way that was very similar to Huaca Menocucho and Huaca la Constancia. It also followed a palimpsest of u-shaped encounters that permeated throughout the *huaca* in a way that was somewhat akin to Huaca la Cosntancia and Huaca la Divisoria, albeit at a much grander scale. Though visible from Huaca Menocucho, neither the *huaca* nor adjacent mountain were visible from either Huaca la Constancia or Huaca la Divisoria. This being said, the SW sight line from Huaca la Divisoria does pass within a few hundred meters of Huaca de los Chinos even if the view itself is obscured by Cerro Jesus Maria. Though it would superficially seem that Huaca de los Chinos was oriented on a similar axis, the actual orientation was closer to NE-SW (64.7° N) and NW-SE (153.2° N): this was at least 20° off of clustering of axes shared by the *huacas* of the confluence.

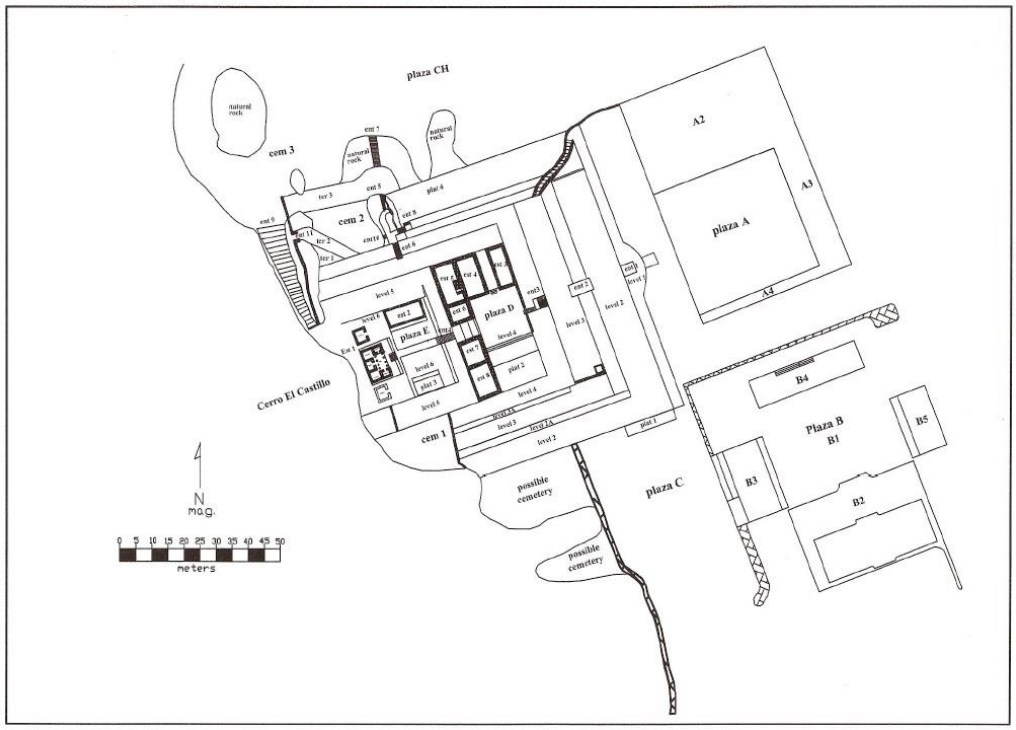


Figure 6.23 Map of Huaca de Los Chinos (adapted from Pleasants 2009)

A few kilometers down-valley in the *chala* and past the gates of the Moche Valley, Huaca de los Reyes was one of the most ornate constructions that was part of the larger Caballo Muerto complex (Figure 6.24). This specific *huaca* was described in detail earlier (see Chapter 4.2.4.3)

and vaguely followed some similar conventions as were used in Huaca de los Chinos but with the added use of colonnades and far more commitment to axial symmetry in its construction. Though not necessarily adjacent to a large mountain, it does at least have a few adjacent hills and sits within the distant shadow of Cerro Galindo. In any case, none of the *huacas* of the Caballo Muerto complex are either visible or aligned with any of the *huacas* of the confluence. Huaca de los Reyes itself followed an axis that appears almost exactly due E-W (91° N) and N-S (181.9° N). This orientation is profoundly different than that of either Huaca de los Chinos or the *huacas* of the confluence. The broader Caballo Muerto complex itself also adhered to this E-W and N-S axis throughout the long occupation and multitude of different constructions at the site over the course of the Guañape Phase (Nesbit 2012). This internal consistency within Caballo Muerto is then somewhat similar to that which I observed at Huaca Menocucho: it would seem that orientations and broader axes of these *huaca* complexes are more bound to the places themselves than any specific occupation over time.

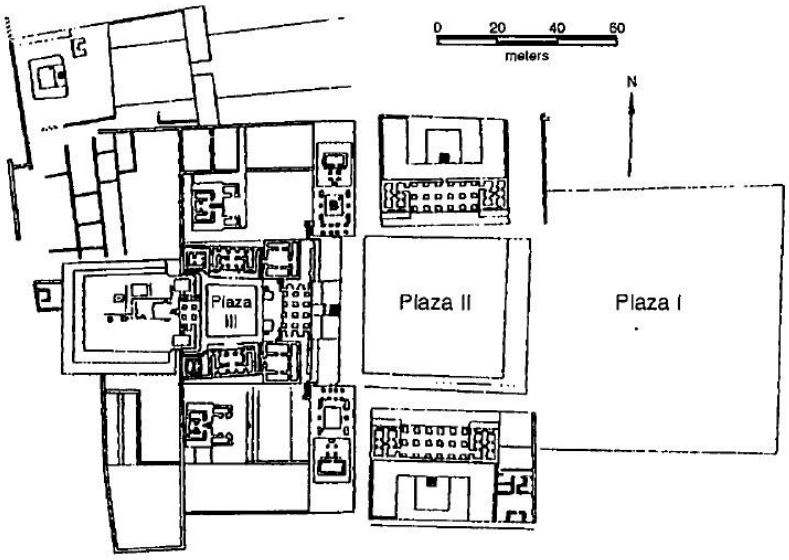


Figure 6.24 Map of Huaca de Los Reyes (adapted from Billman 1996)

6.3.3 Discussion

This closer look at the *huacas* of the confluence afforded us an understanding of how these varied constructions may have fit into both the local demographic landscape and the broader

landscape of *huacas* and mountains throughout the Moche Valley during the Guañape Phase. With its mixture of adobe and stone-masonry *huacas*, Huaca Menocucho emerged as the most demographically central node in which any authority could have been constructed during this phase. What exactly this authority may have been is unclear, but the apparently magnetic effect the *huaca* complex had on local demography could identify it as a precursor for the *huaca*-towns of latter centuries. The other two *huacas* were not remotely demographically central, were solely stone-masonry constructions, and followed a distinct u-shaped format that was absent from Huaca Menocucho. The lower Huaca la Constancia was visually isolated while Huaca la Divisoria uphill was positioned to be a possible place of *tinku* between the peoples and landscapes of the *chala*, highlands, and *chaupiyunga*. The variation in layout or construction of these different *huacas* could have had a variety of sources: from subtle shifts in local traditions of authority even to periods of external influence from the *chala* below. Permeating through these differences, an adherence to a shared *axis mundi* oriented these constructions with a persistent, underlying, and guiding logic towards seeing and perceiving the surrounding landscape in a way that was distinct from those downriver and unique to the *chaupiyunga* landscape. Though surely bound to the river and to the confluence, this axis also served as a guide for the visual connections that could most readily bind distant and adjacent *huacas*, peoples, and auspicious peaks together within the *chaupiyunga* landscape and the confluence. However, this was a logic that could only be understood from a perspective rooted in the *chaupiyunga*: the first recognizable evidence for a distinctly *chaupiyunga*, or at least confluence-focused, perspective left to us by the people who lived in the region.

6.4 Cultivation, Canals, and Huacas

Though no Guañape Phase canals or fields were preserved within the study area, we can at least make a few educated guesses to establish upper and lower range estimates of how much land was available. These estimates were made regarding which areas of the landscape could have been cultivated and where any canal expansions may have been built. The lower range was developed simply by tracing the floodplain of the valley floor using the earlier developed TPI (see Chapter 3.4). I began with the valley floor as a base-line under the assumption that these floodplains were

either (1) sporadically cultivated through smaller-scale canals or (2) filled with riverine forests similar to the possible relic stands that were noted earlier (see Chapter 3.8.4). Either would have served as important sources for subsistence amongst these earlier communities of the *chaupiyunga*. This outline served as the lower range of possibly cultivable, but not necessarily cultivated, land for the Guañape Phase and more broadly was a base-line for all of the estimates that would follow (Figure 6.25). I also split the valley floor into two possible categories according to where settlements and *huacas* were positioned: (1) areas with adjacent populations seemed more likely to have some floodplain agriculture while (2) areas where a lack of adjacent populations seemed more likely to still have stands of riverine forests.

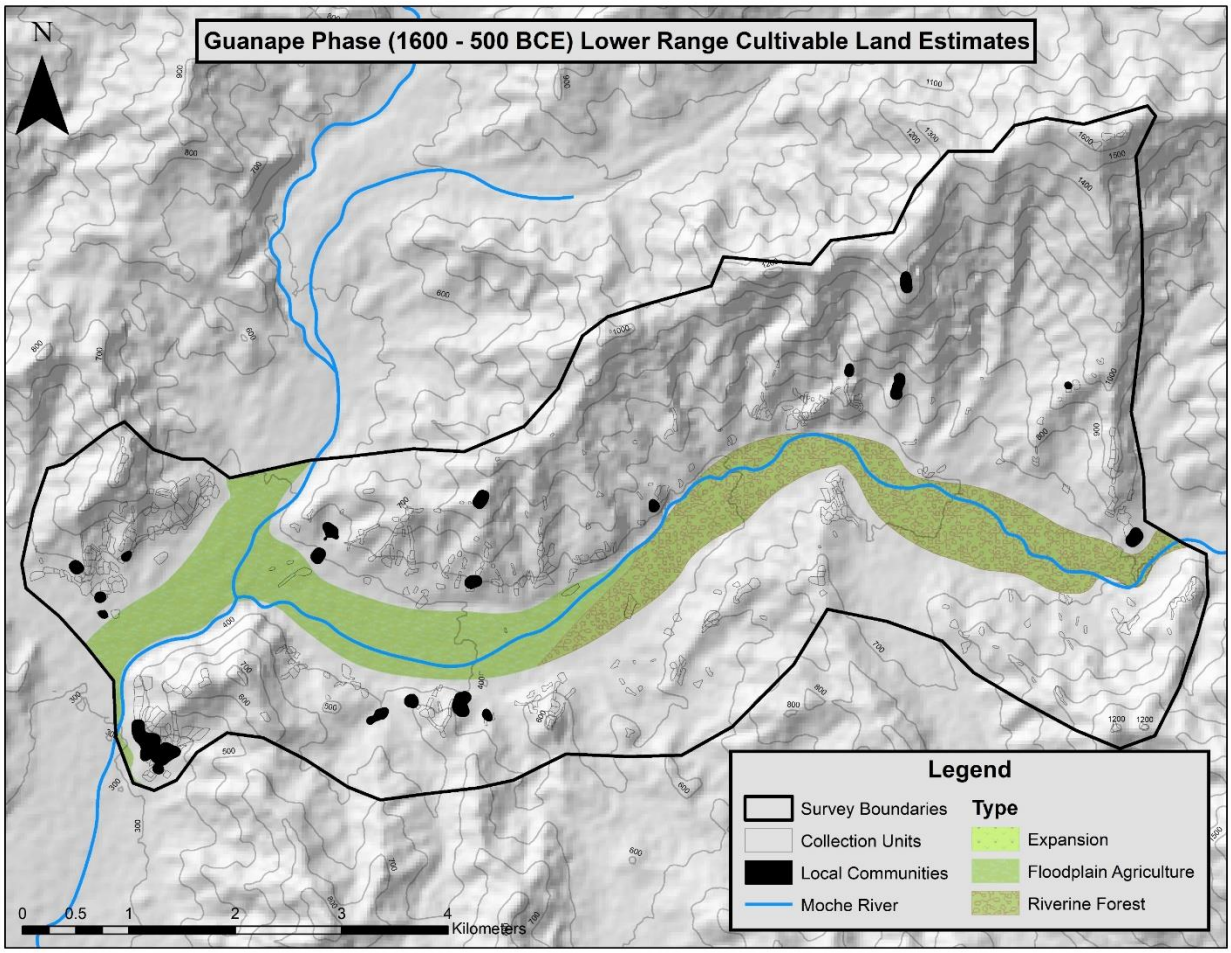


Figure 6.25 Guañape Phase Lower Range Cultivable Land Estimates

The upper range was estimated by following the settlement patterns themselves: this followed the general logic that people would perhaps build above cultivated areas and the canals

that watered them. Working from this assumption, I used the previously developed figures for the maximum cultivable land (see Chapter 3.8.2) in concert with a 10m contour interval extracted from a DEM of the area. I would then trace the appropriate contour below any substantial set of local communities or a *huaca* in order to estimate what part of the river an intake may have been drawn to feed water to such areas. This led me to draw small expansions at three different areas for the Guañape Phase: (1) just under Huaca la Constancia, (2) just under Dos de Mayo, and (3) just under Huaca Menocucho (Figure 6.26).

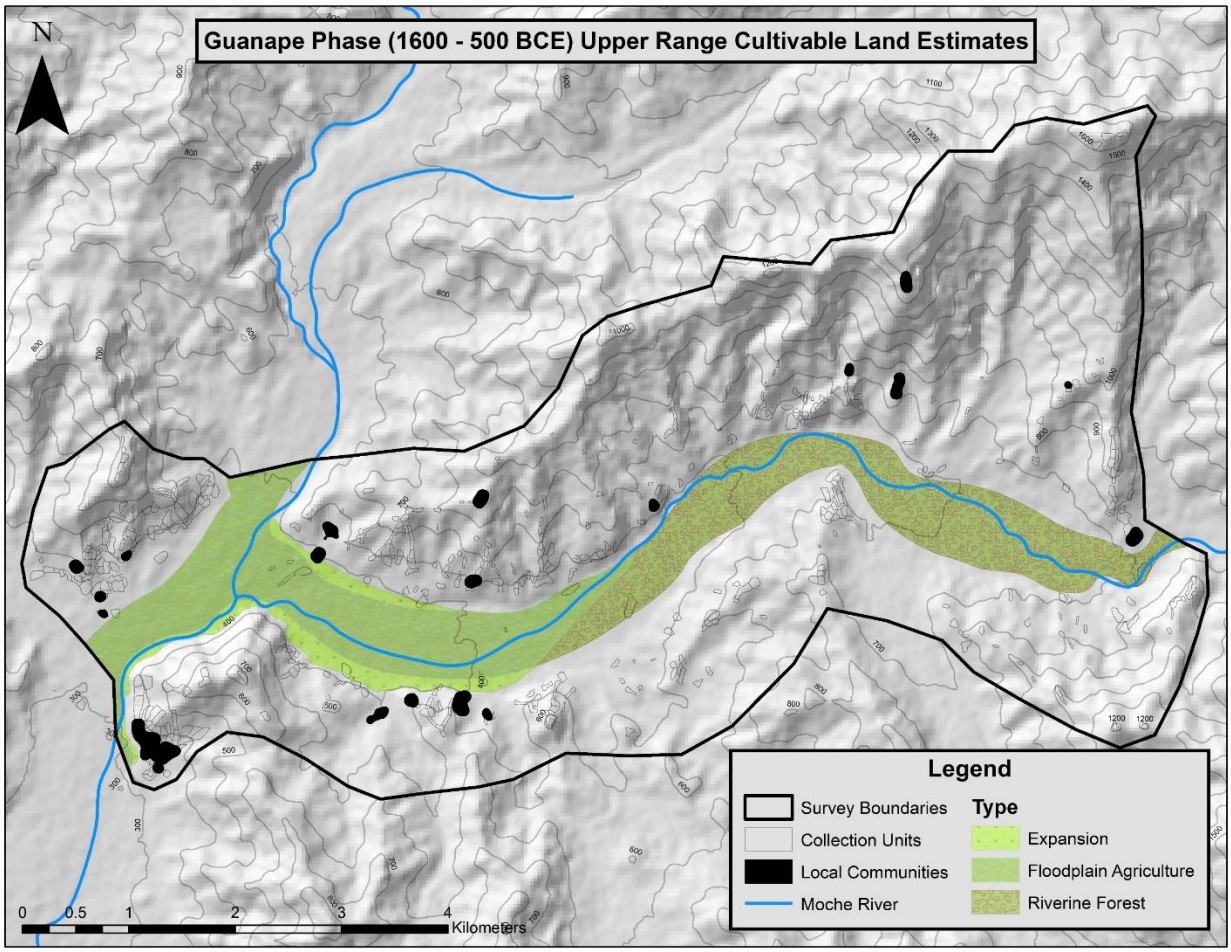


Figure 6.26 Guañape Phase Upper Range Cultivable Land Estimates

These estimates required a bit of guesswork but they do provide us with a few interesting insights into the possible cultivated landscape of this phase (Table 6.2). First, the amount of land offered on the valley floor within the survey area was considerable: some 328 hectares or so if one assumes only those areas near settlement were being cultivated and the rest were still forests.

Wilson developed an array of rough estimates on carrying capacities offered by single-cropping an Andean staple like maize that can be informative as to how much land this really is (Wilson 1985: 326). Using his lowest, and earliest, estimate of 2.275 people/hectare for a single-crop cycle, the valley floor would have had the potential to feed around 750 people just from the cultivable land alone. This number seems even higher when we recall that many of the cultivated lands of Huaca Menocucho actually would have been outside of the survey zone and well into the Middle Valley. Even if we (very) generously assume that Dos de Mayo and Huaca la Constancia had populations of 100-200 people each, the valley floor alone would have provided more than enough land to support these communities.

For this reason, I am somewhat skeptical that any larger "long" canals or expansions would have been built during this phase in the *chaupiyunga*. Even if these canals were built, it seems exceedingly unlikely that their construction was motivated by anything akin to population pressures. No pressure would have been present given there was plenty of land on the valley floor for the 1-2 communities that may have called the *chaupiyunga* their home during the Guañape Phase. Even if there were two to three more communities on the valley floor that I was unable to detect in my survey, there would still be plenty of land and water to simply move up-river and open up smaller canals and associated fields for cultivation.

Table 6.2 Guañape Phase Cultivation Estimates

Guañape Phase Cultivation Estimates			
Estimate Name	**Landscape Description**		**Area (Ha)**
	Part/Name	*Category*	
Lower	Valley Floor	Floodplain Agriculture	328
	Valley Floor	Riverine Forest	313
Higher	Valley Floor	Floodplain Agriculture	328
	Valley Floor	Riverine Forest	313
	Dos de Mayo	Expansion	55
	La Constancia	Expansion	18

6.4.1 ENSO Overflow and Canals

Given these issues, we can then ask: why would any expansions or longer canals been built if they were not necessarily "needed"? Though a confident answer to this question is impossible

given the fact that we don't even know if such canals existed, I can follow a few anecdotal observations I believe are insightful. Recalling the ENSO flood overflow model and the settlement patterns of the Guañape Phase more generally (see Chapter 3.9.1 and Chapter 4.2.4): the areas in which many Guañape Phase monuments were built were some of the same general areas that proved relatively susceptible to overflows during the 2017 event. Though the majority of the Upper Moche *chaupiyunga* seemed resistant to overflows, the one area that did witness them was just before the river confluence: an area just up-valley from the occupations of Dos de Mayo, Huaca la Constancia, and Huaca la Divisoria. Given that such ENSO overflows can often rip up fields, I wonder if canal construction was perhaps an early attempt to minimize such risks/damages by bringing fields away from the river and its areas of overflow: it is much easier to repair an intake of a canal than it is to completely re-soil a new field. Even if ENSO overflows were not a catalyst for longer canals, these events would have presented periodic challenges to the numerous Guañape Phase communities who settled the Middle Valley: this area was specifically susceptible to such overflow events (Chapter 3.9.1).

6.4.2 Rivers, Canals, Mountains, and *Huacas*

Following this already tenuous thread further, we can recall the long-lasting and tangled associations between platform mounds (*huacas*), adjacent mountains, rivers, and canals in the prehistory of the Moche Valley. These connections are varied but intertwined: *huacas* were often visually or spatially connected with mountains, canals and *huacas* were often contemporary constructions, canals are obviously extensions of rivers, and rivers ultimately spring from the mountainous landscapes above. Thus, a *huaca* could be seen as a referent to a mountain and a canal as a referent to a river: the canal being birthed from the *huaca* in a similar way to how the river was birthed from the mountain. These are associations in the Andes that have been shown to have remarkably deep pasts and persistence to the present (Palacios 2017).

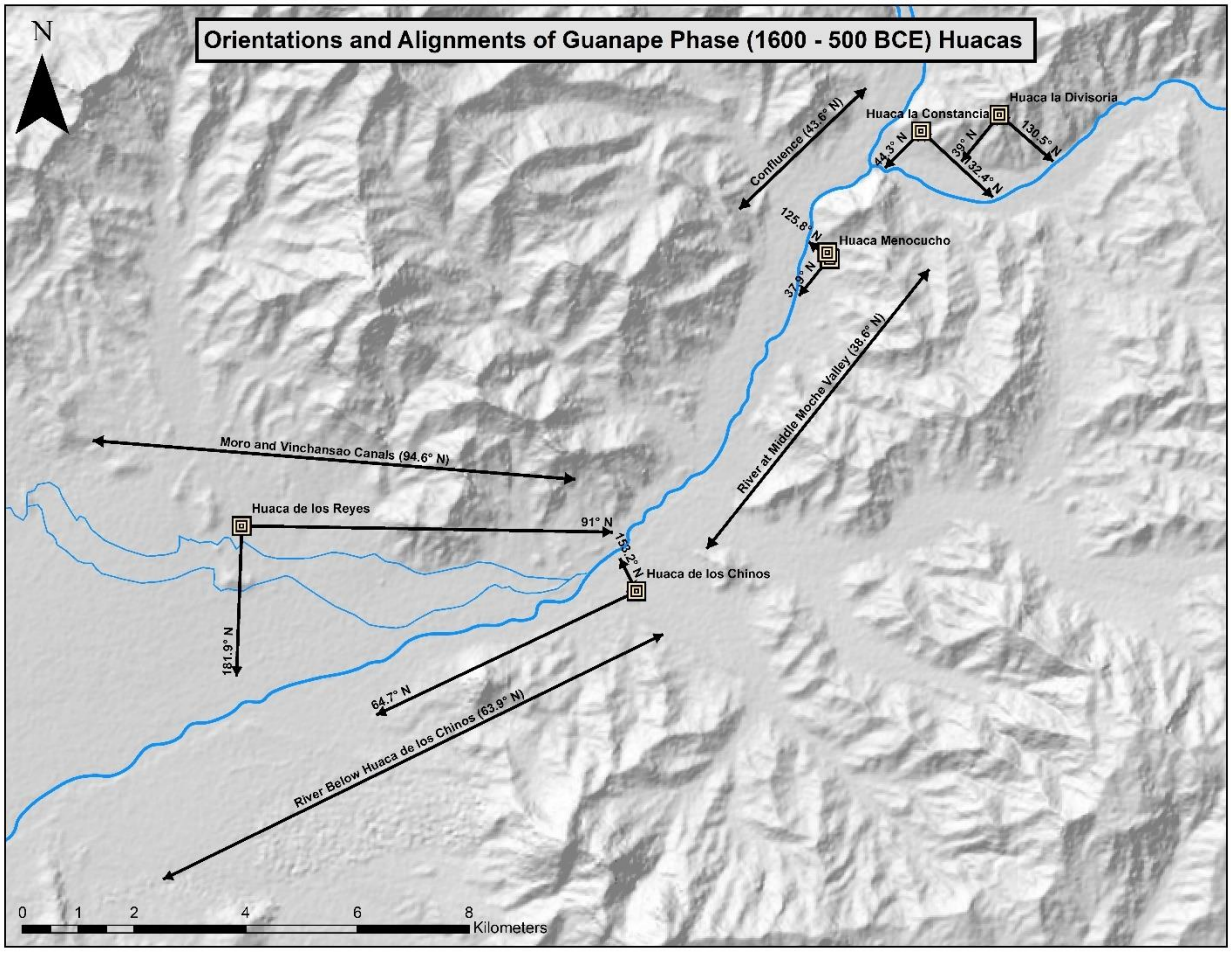


Figure 6.27 Guañape Phase Huaca Orientations in Relation to Modern Canals and the Moche River

With these associations in mind, we can then also revisit the varied orientations of the Guañape Phase *huacas* and *huaca* complexes: specifically, the aforementioned trend that these orientations appear bound to <u>place</u> and not to discrete occupations or sub-phases. The orientations of many of these *huacas* were clearly tied to views or associations with nearby and distant mountains but, given the logic outlined above, we should also maybe expect them to have associations with the nearby river or at least any hypothetical canals. The common axis shared by the *huacas* of the confluence allow these *huacas* to meet all of these conditions: their axis mirrors that of the union of the rivers and thus effectively binds river, mountain, and *huaca* together (Figure 6.27). Though Huaca de los Chinos is aligned with the river as it runs downstream from around where the *huaca* was built, Huaca de los Reyes is not even remotely aligned with the Moche River at any similar point (Figure 6.27). This could simply be reflective of the river having a more directly E-W path at that area during the time in which Caballo Muerto was occupied. This is a

believable possibility but also one that would likely have affected any possible river alignments at Huaca de los Chinos. Otherwise, we could perhaps follow the aforementioned logic to guess that Caballo Muerto was instead aligned with a hypothetical long canal: after all, a canal would have been an acceptable referent for a river. Following the E-W orientation of the varied *huacas* of Caballo Muerto, we do arrive very close to the orientations of the first segments of the modern Vinchansao and Moro canals. This correspondence leads me to believe that Caballo Muerto was more likely aligned with a long canal than with the river itself.

Thus, I think it is likely that the orientation and layout of these *huacas* and *huaca* complexes were meant, in part, to describe (1) the general orientation of nearby segments of the Moche River and/or (2) the general orientation of any longer canals that were built off of the river. This would be vital knowledge for any adjacent community given that the orientation of the *huacas* themselves could be used to describe both the location and directional flow of one of the most basic necessities for life and prosperity: water.

Through constructing these *huacas* as information-laden fixtures in the landscape, communities could ensure that future generations would have the necessary tools to rebuild older canals and be able to correctly orient themselves to the broader landscape and the river around which their lives were built. Though surely useful for periodic repairs and annual guidance, such a tool would have been invaluable in the event that ENSO-related river overflows or *huaicos* managed to completely destroy certain segments of canals or uproot fields. The large size and durable construction of these *huacas* may have even been meant to fortify the general layout of these structures in surviving the torrential rains of ENSO events. Such sturdy construction could ensure that the information-rich layout of the *huacas* themselves persisted through such events: allowing these structures to serve as guides for their communities just when such guidance was needed the most. This final purpose, though equally as speculative as the others, has some weak support from recent archaeological evidence at Caballo Muerto: there were consistent remodeling episodes after many ENSO events (Nesbitt 2016).

To be abundantly clear, I am in no way arguing this was the sole motivation behind (1) why Guañape Phase people came together to build *huacas* or (2) how these people decided upon the axes or orientation that their many *huacas* would follow. These axes were also bound to many

of the other realms in which these people perceived of the landscape around them: the broader *axis mundi* established between the *huacas* of the confluence is a good example of the multiplicity of meanings and uses that could be bundled within these *huacas*. Elsewhere, I have argued that the lower *huacas* at Caballo Muerto and Huaca de los Chinos were likely also associated with the equinoxes and the solstice, respectively (Mullins 2022). Finally, even this proposed connection between *huacas* and canals at a place like Caballo Muerto continues to be speculative without better evidence for the existence of such canals. However, it does at least seem safe to say that the orientation of some *huacas* was following nearby segments of the Moche River and that these same orientations afforded nearby mountains as reference points.

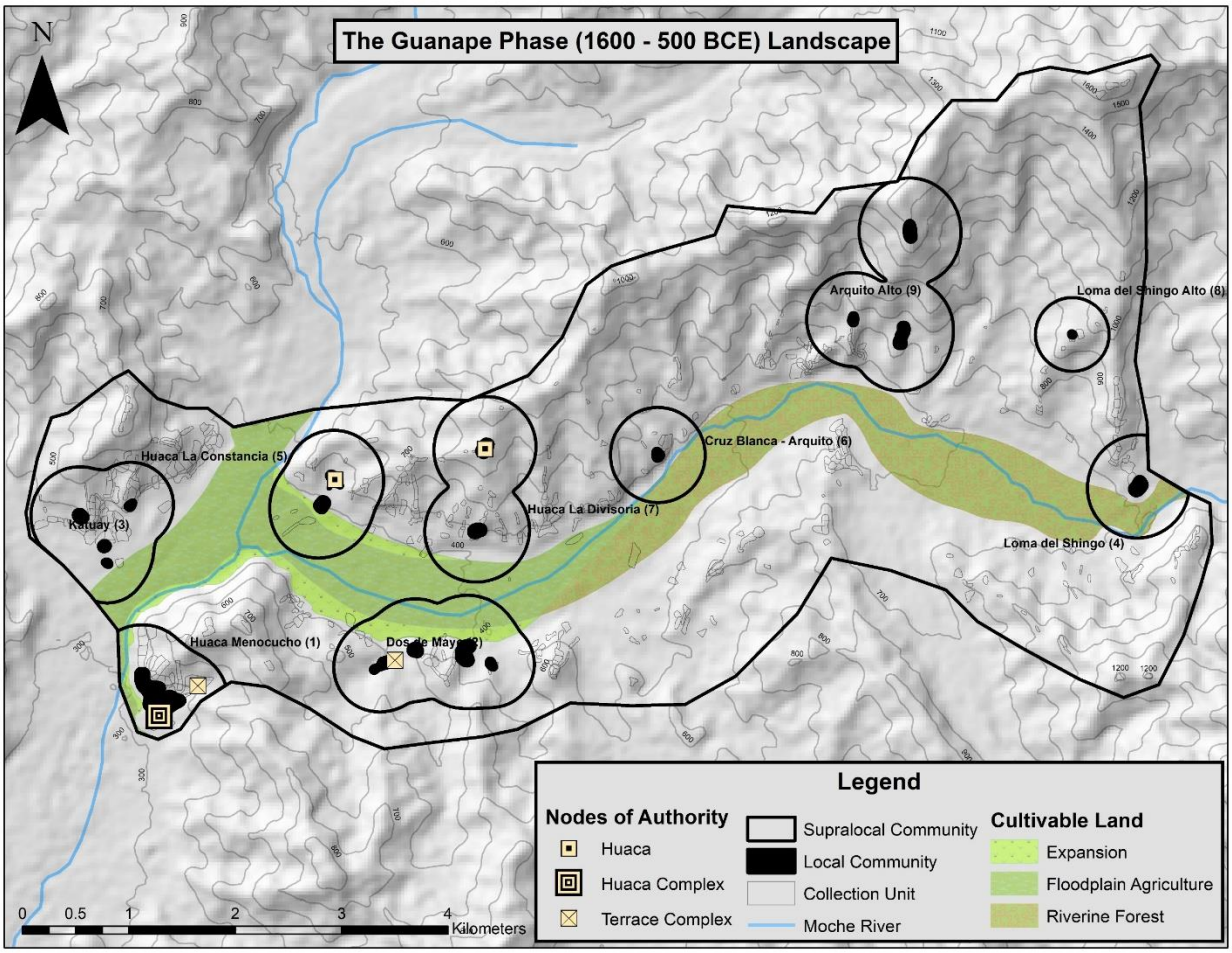


Figure 6.28 The Guañape Phase Landscape of the Upper Moche Valley *Chaupiyunga*

6.5 An Early Borderland

To conclude, the Upper Moche Valley *chaupiyunga* of the Guañape Phase could be described as a borderland upon which several different boundaries with different characteristics were likely tied together (Figure 6.28). First, the *chaupiyunga* lands around and past the confluence appear to have been much more sparsely settled than the larger number of settlements noted down-valley. Even the confluence itself perhaps had only a few communities who would have called it home: the rest of the occupations in the area seemed far more ephemeral and possibly even seasonal. Thus, much of the Upper Moche *chaupiyunga* landscape could be described as a sparsely inhabited demographic periphery – rather than a boundary *per se* – to a more densely occupied Middle Valley *chaupiyunga* and Lower Valley *chala*. This wasn't a particularly surprising finding and was merely a confirmation of the previous work done by Billman in the area. Economic and geographic boundaries could have also been tied to this demographic boundary: the lack of communities upriver would suggest that the deeper parts of the *chaupiyunga* remained riverine forests and were untouched by early cultivation. This is obviously a bit more speculative but still seems likely, especially given the lack of any Guañape Phase *huacas* up-river from the confluence.

The insights provided by a deeper look into the *huacas* that were built around the confluence also suggest that this area was some manner of political and/or cultural boundary and perhaps not simply a periphery. The *huacas* themselves exhibited a blend of many traditions of construction that could be traces of connections with some of the larger *huacas* and *huaca* complexes downstream. At most these connections could be hints of political influence and at least they could be simply residues of local *chaupiyunga* residents borrowing or adopting some of the traditions of their neighbors. Such positioning may suggest the area was more peripheral than necessarily "between" anything. Even so, the shared axes of all of these *huacas* bound them to each other, to the river confluence, and to the broader *chaupiyunga* landscape. This set of connections was most elegantly shown at Huaca la Divisoria: a uniquely situated *huaca* and place that could visually connect the landscapes and peoples of the Lower Valley *chala*, Middle Valley *chaupiyunga*, and local highlands. That this connection was being made through the confluence and the Upper Valley *chaupiyunga* suggests a remarkably deep antiquity for the role of communities in the region as being involved with such mediations between and with their

neighbors. Though further research is needed fully contextualize any contemporary monumental traditions in the local highlands, it seems likely that the *huacas* of the confluence occupied a sort of political and cultural boundary mediating this highland landscape with the wide-reaching traditions of the *chala* below.

7.0 THE SALINAR PHASE (~500–1 BCE): CONFLICT AND CONTINUITIES

7.1 Introduction

During the Salinar Phase (500 – 1 BCE) regional settlement patterns became far more visible and revealed a landscape that, though somewhat fractured by conflict, still adhered to many of the larger communities of the past. The demographic landscape of the Salinar Phase was both familiar and new: Huaca Menocucho continued to be occupied, two new mountaintop communities emerged past the confluence, and Dos de Mayo shifted closer to the mountain above. Outside of these more densely occupied areas, the landscape was awash with an assortment of smaller hamlets and camps. The shift of many of these communities uphill into higher and more defensible locations was paired with some evidence for early fortifications and defensive ditches: both changes suggesting that the *chaupiyunga* landscape could periodically be a violent one. Public architecture was less understood for this phase and some of the older *huacas* of the confluence, albeit abandoned, continued to be visible to nearby communities. Although the *chaupiyunga* proper began to see far more evidence for smaller occupations than the previous phase, the confluence continued to be the focus of demography in the survey area. In fact, the *chaupiyunga* likely remained a quite similar, albeit more fractured and violent, borderland as what it had been before.

7.2 The Demographic Landscape

Unlike the Guañape Phase, the material record of the Salinar Phase was far more visible and the use of ceramic refuse as a demographic proxy seemed far more appropriate. While Guañape Phase sherds were often found intermingled with other occupations, on top of or around huacas with clear Guañape Phase occupations, or dispersed on heavily eroded or isolated locations (e.g., Arquito Alto, etc.). In contrast, Salinar Phase sherds were often found in their own discrete contexts that were very clearly habitation terraces or compounds: leaving no doubt that the refuse

being left was very clearly “domestic” in nature. Additionally, the Salinar domestic ware tradition more clearly included the array of forms expected in a ceramic domestic assemblage (see Appendix A). Thus, it seemed more likely that Salinar Phase domestic wares were playing a more analogous role in everyday household activities to those of later time periods.

The two results of this increased certainty were ADI/Century values that could (1) be more confidently compared with subsequent phases and (2) be used to make some estimates at absolute population ranges. Though the ability to make comparisons with subsequent phases were very useful in the next two chapters, the absolute population estimates lent only limited clarity. The total ADI/Century during this phase was approximately 15.7, producing a range of 455 to 989 people for this phase. Looking at the small fortified local community of Cerro Pedregal (ADI/Century = 2.53), these estimates would give that community a population of between 73 to 159 people. This seems a believable estimate given the size of the community as it was spread out upon the hill and would allow us to describe it as a small village. That these estimates are moderately believable makes it far more useful to talk about populations in absolute ranges during this phase than what was realistic during the Guañape Phase.

The following discussion of the demographic landscape outlines the layers of communities that emerged from the analyses of survey data of this phase. While Huaca Menocucho remained the largest community at all scales of analysis, it shared the landscape with 2-3 other communities that could be considered as being something akin to villages. The rest of the landscape was characterized by far more dispersed occupations that ranged between aggregations of households to smaller camps.

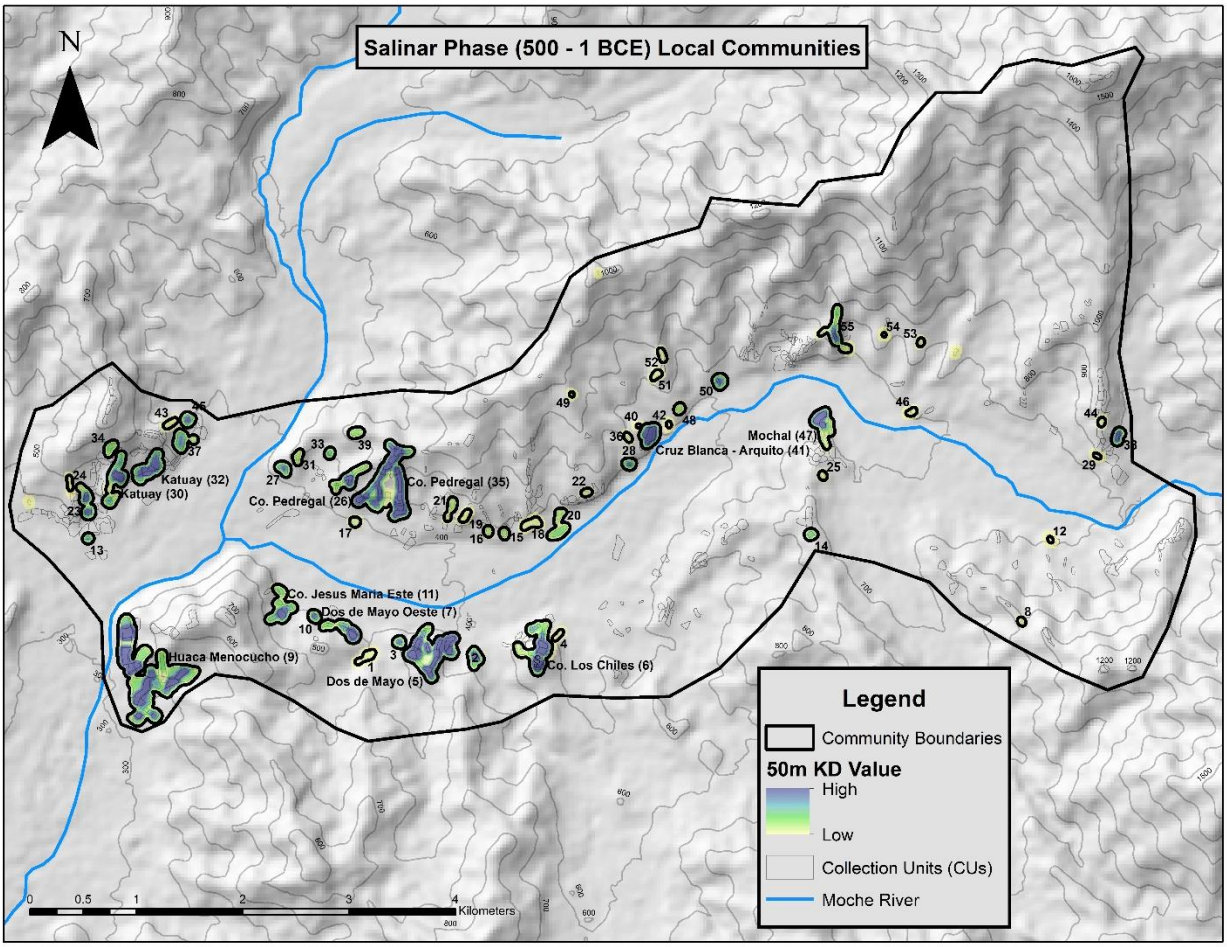


Figure 7.1 Salinar Phase Local Communities

7.2.1 Local Communities

In total, 55 local communities were identified for the Salinar Phase (Figure 7.1; Figure 7.2; Figure 7.3). Because of the high volume of local communities during this phase, a community size histogram by population proves to be a more effective way of illustrating these data (Figure 7.4). The communities were outlined using the lowest contour of the 50m KD analysis raster and the 3 unaffiliated CUs of this phase made up an even smaller proportion (.01%) of the total population than those of the previous phase. It is immediately apparent that the overwhelming majority of these local communities were very lightly occupied or only trace occupations. A closer look at this trend is afforded by using a histogram with intervals of .5 ADI/Century (Figure 7.3): 52 of these local communities (including the aggregated unaffiliated CUs) have under a .5 ADI/Century value.

Of these, 49 had ADI/Century values that were under .1 and thus were better categorized as something between an individual household and an ephemeral camp. Further supporting the more ephemeral nature of these occupations: all 49 combined represented only .68 ADI/Century or 4.3% of the populations recorded for this phase.

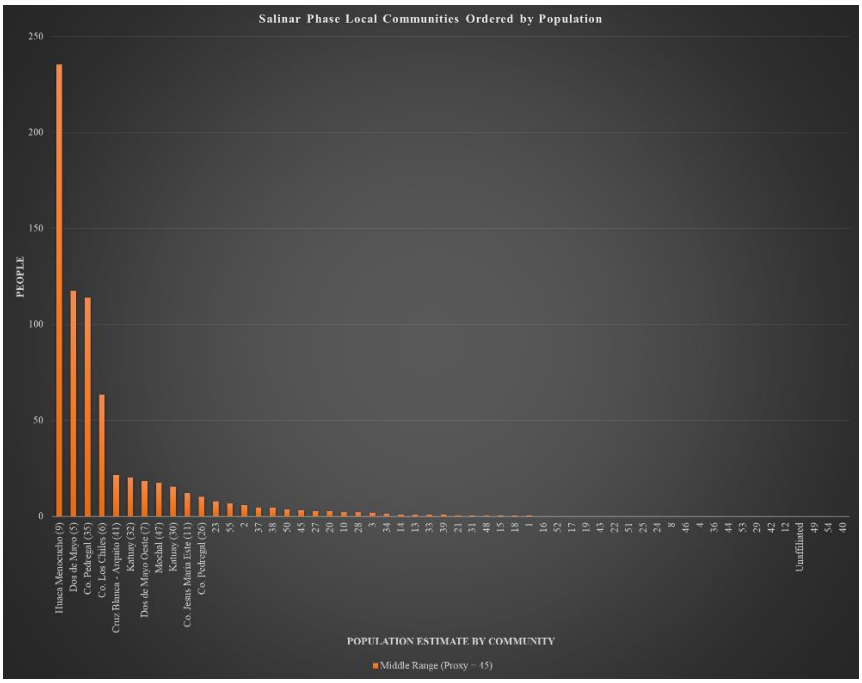


Figure 7.2 Salinar Phase Local Communities Ordered by Population

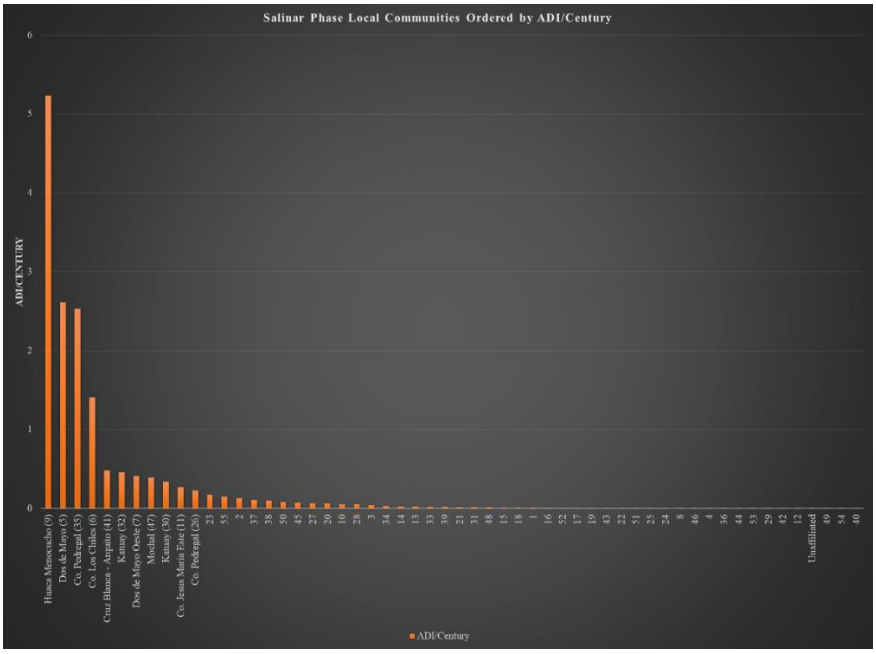


Figure 7.3 Salinar Phase Local Communities Ordered by ADI/Century

These ephemeral occupations could be compared to the 12 slightly larger, but still small, local communities that ranged between .1 and .5 ADI/Century each. All 12 of these local communities could be combined to have around 3.24 ADI/Century and consisted of some 20.6% of the total population for this phase. These occupations, between .5 and .1 ADI/Century, seemed better described as somewhere between individual households/farmsteads and small hamlets. That several of these 12 local communities combined as extended local communities in the next scale of analyses supports such a characterization.

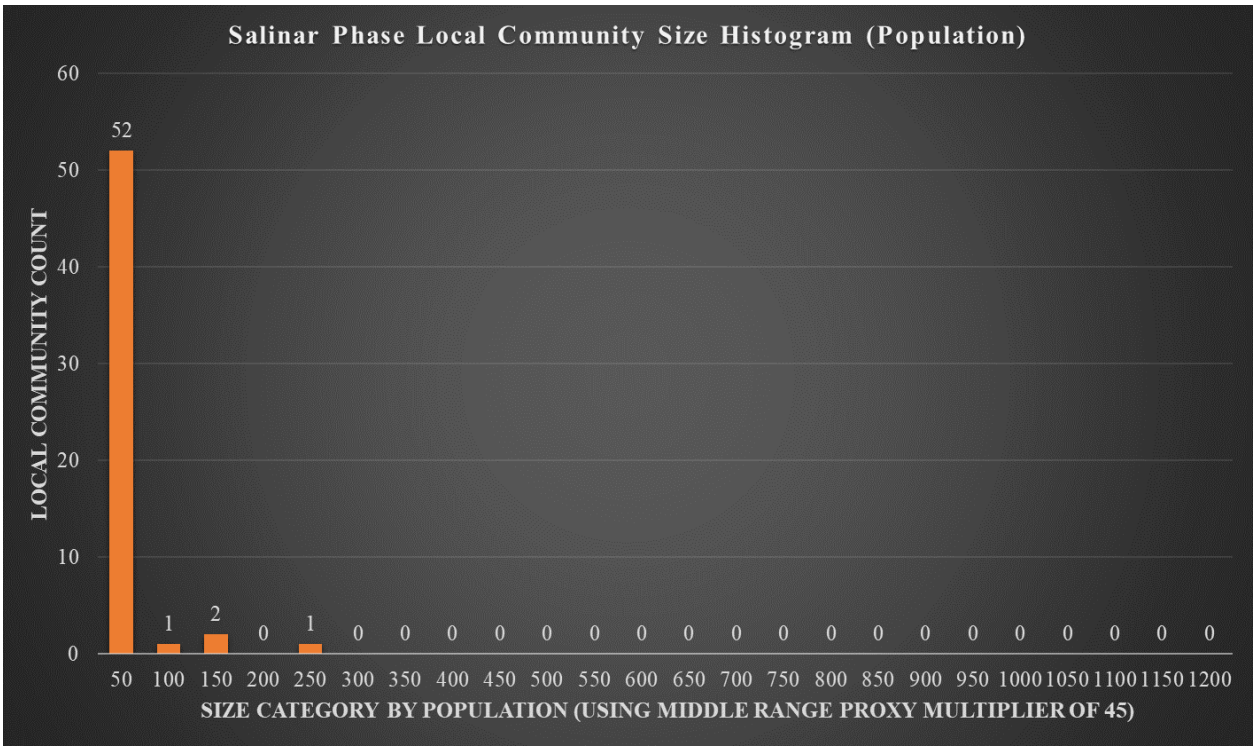


Figure 7.4 Salinar Phase Local Community Size Histogram

Outside of these much smaller local communities, four larger (but still quite small) local communities make up the vast majority (around 75%) of regional population. Two of these are familiar: Huaca Menocucho (33.3%, ADI/Century = 5.23) and Dos de Mayo (16.7%, ADI/Century = 2.61) are still the largest local communities and have contour boundaries that somewhat overlap with their previous Guañape Phase analogues. The new community of Cerro Pedregal (16.1%, ADI/Century = 2.53) emerged on the peak above Huaca la Constancia and was just slightly smaller than Dos de Mayo. Huaca Menocucho could probably be characterized as a medium-sized village

and would have perhaps had an absolute population ranging somewhere between 152 and 330 people or around 30 to 66 families. The other two local communities were about half this size with populations ranging between 76 and 165 people or around 15 to 33 families. Adjacent to Dos de Mayo, a much smaller mountaintop local community emerged at Cerro los Chiles (9%, ADI/Century = 1.4): about half the size of its neighbor.

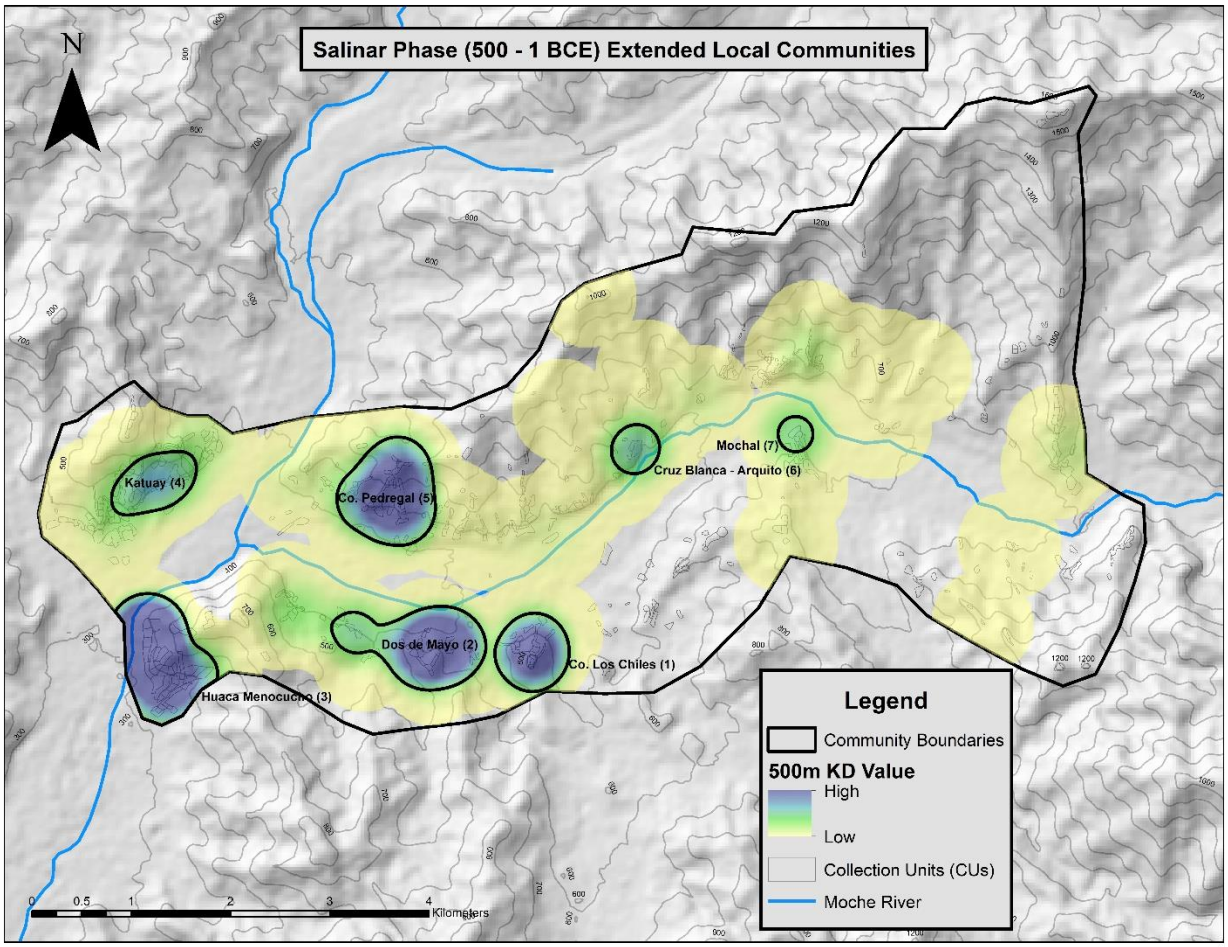


Figure 7.5 Salinar Phase Extended Local Communities

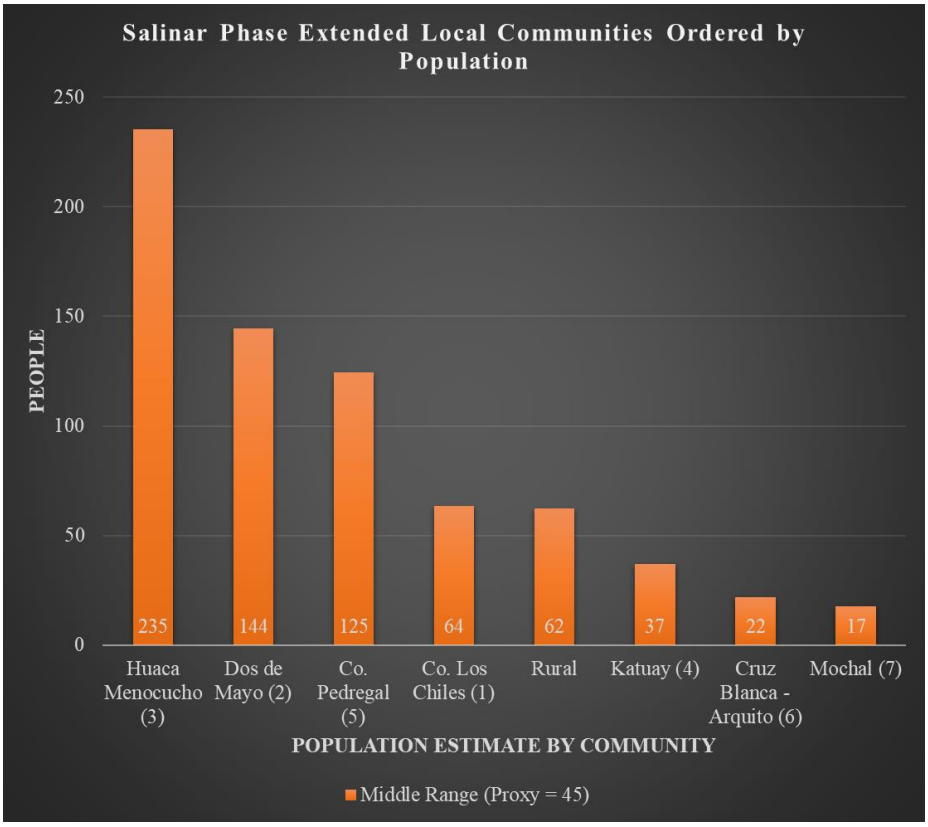


Figure 7.6 Salinar Phase Extended Local Communities Ordered by Population

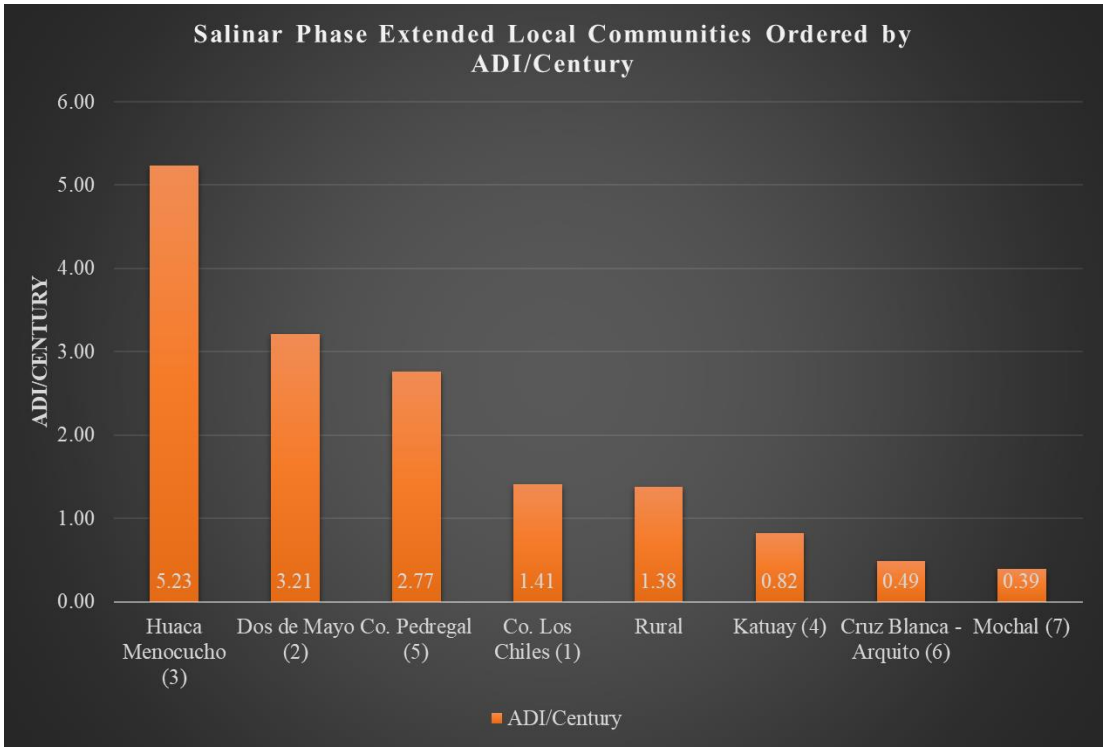


Figure 7.7 Salinar Phase Extended Local Communities Ordered by ADI/Century

7.2.2 Extended Local Communities

A total of 7 extended local communities were identified for the Salinar Phase with the rest of the occupations being categorized as rural (Figure 7.5; Figure 7.6; Figure 7.7). Four of these extended local communities were aggregations of the occupations around the four larger local communities previously identified for the Salinar Phase. While Huaca Menocucho remained the same, the contours for the other extended local communities aggregated a few surrounding settlements. The new contour for Dos de Mayo (20.4%, ADI/Century = 3.21) led to the most growth and incorporated a nearby hamlet and some camps. Cerro Pedregal (17.6%, ADI/Century = 2.77) and Cerro los Chiles (9%, ADI/Century = 1.41) had more minimal gains from these new contours: a smaller hamlet and few surrounding camps, respectively. All four of these extended local communities could still be regarded as basically being small villages and simply had a few more surrounding households or occupied areas thrown into them.

The final three extended local communities of Katuay (5.3%, ADI/Century =.82), Cruz Blanca – Arquito (3.1%, ADI/Century = .49), and Mochal (2.5%, ADI/Century .39) all were essentially collections of three of the local communities that were in the .5-.1 ADI/Century range. These ADI/Century values suggest that these contours were capturing very low-density occupations that together likely not much more than a few households at most. Around 8.8% of regional population was considered rural (ADI/Century = 1.38) and included all of the camps and/or farmsteads that were not captured by any of the contours for identifying local community clusters.

7.2.3 Local Community Clusters

Finally, a total of 9 local community clusters were identified for the final phase using the broadest contours that aggregated all but .5% (ADI/Century = .08) of the total population in the survey area. Huaca Menocucho remained unchanged at the top while the new contours generated for this scale aggregated Dos de Mayo and Cerro los Chiles into one larger local community cluster (31.5%, ADI/Century = 4.94). This local community cluster had a contour that captured most of the southern portion of the *chaupiyunga* past the confluence: including a westward straggle of

smaller occupations that seemed suggestive of field camps or single households following a canal. Cerro Pedregal also moderately grew in size (18.5%, ADI/Century = 2.9) with a new contour that incorporated the remaining more ephemeral occupations in its vicinity. Additionally, a new contour aggregated all of the dispersed and light occupations around Katuay (7.7%, ADI/Century = 1.21) to outline a new local community cluster that was a bit larger than the extended local community noted there before. Mochal (2.5%, ADI/Century = .39) and Cruz Blanca – Arquito (4%, ADI/Century = .63), were defined by contours that gave them relatively similar properties as before: both represented arrangements that were, at most, single hamlets surrounded by a few camps. The remaining local community clusters were so lightly occupied that they all would likely better be described as rural: camps and isolated farmsteads.

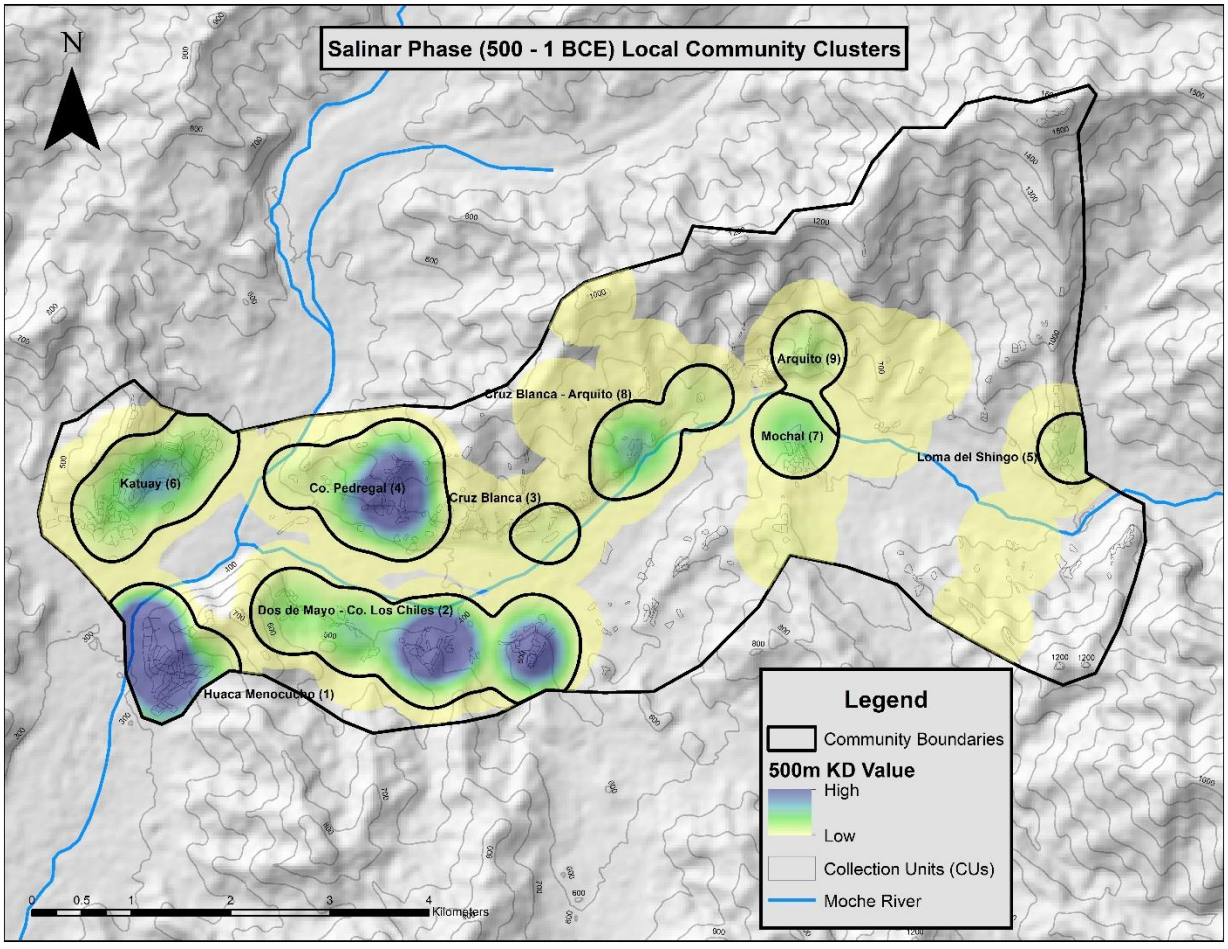


Figure 7.8 Salinar Phase Local Community Clusters

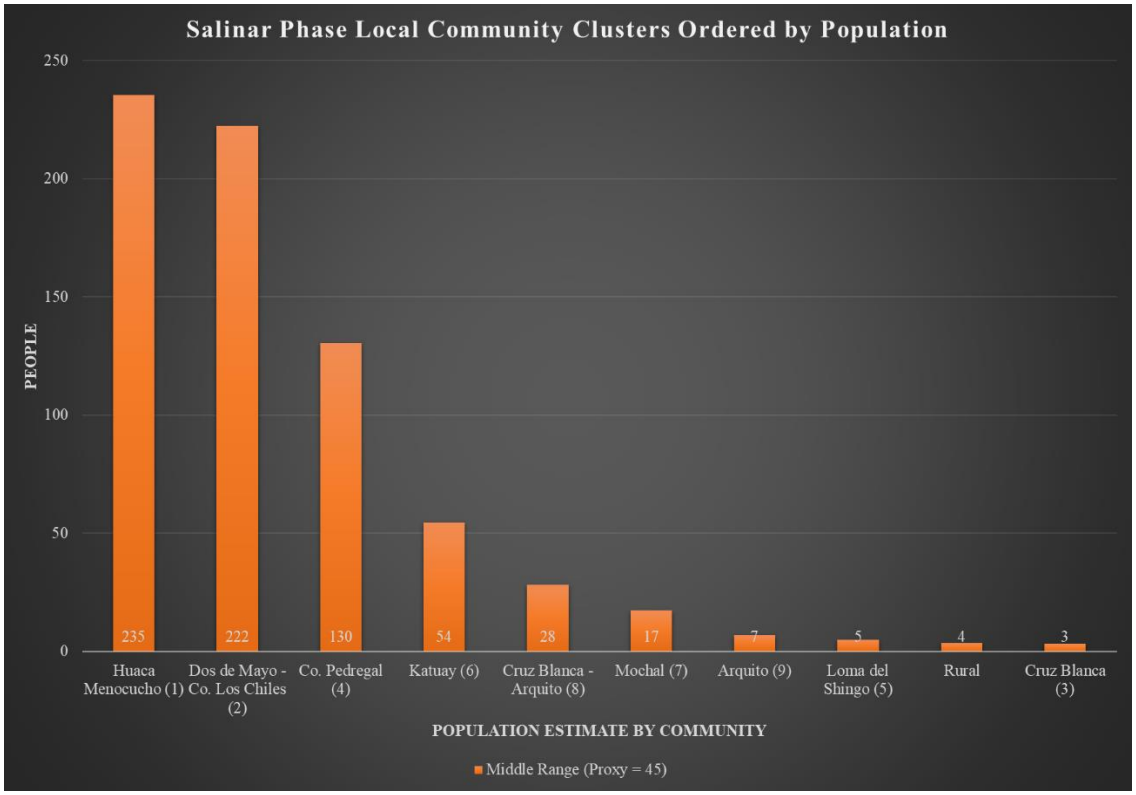


Figure 7.9 Salinar Phase Local Community Clusters Ordered by Population

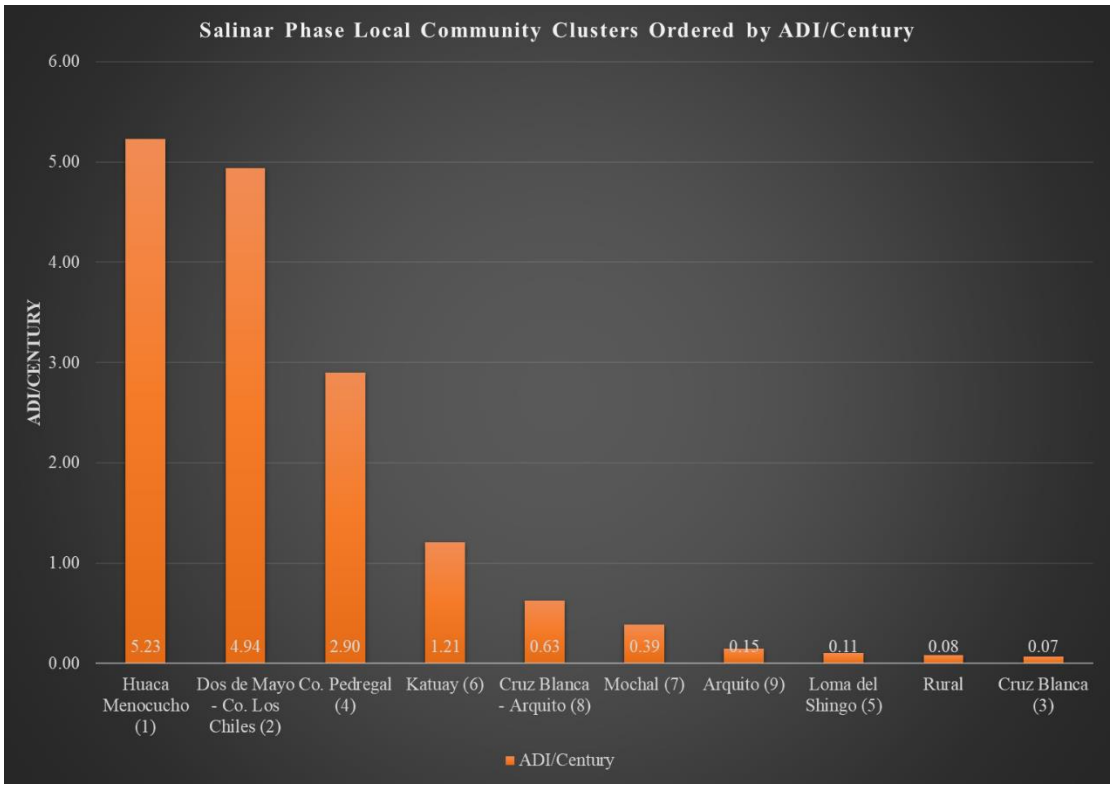


Figure 7.10 Salinar Phase Local Community Clusters Ordered by ADI/Century

7.2.4 Discussion

In sum, the demographic landscape of the Upper Moche *chaupiyunga* during the Salinar Phase can be described as composed of three to four more-or-less aggregated communities, one dispersed community, and a wider dispersal of more isolated farmsteads, camps, and other more ephemeral occupations. Huaca Menocucho remained as the largest village in the area, though it held a less dominant place in the Salinar Phase landscape than its precursor held during the Guañape Phase. On the other side of the confluence and Cerro Jesus Maria, the two villages of Dos de Mayo and Cerro los Chiles were clustered together at one end of a longer spread of field camps to make up a larger community cluster that was about the same size as Huaca Menocucho. Across the river, Cerro Pedregal stood as a small village surrounded by a few hamlets and farmsteads occupying the general area above the older Huaca la Constancia. Crossing the river once more to the northwest, the area around Katuay was occupied by a dispersed series of camps and hamlets to create a much smaller community than any of its more nucleated neighbors.

This concentration of the four largest local community clusters around the confluence meant that there was a greater degree of demographic centralization in that area during the Salinar Phase (TDCI = .81) than was observed during the Guañape Phase (TDCI = .7). Additionally, this centralization was far more than the result of one large community (like Huaca Menocucho) but instead was the product of a number of different communities settling in and focusing upon the area. In contrast, moving past the confluence and into the *chaupiyunga* proper reveals a landscape in which most communities, local or otherwise, were lightly occupied and dispersed. More broadly, both confluence and *chaupiyunga* landscapes were remarkably full of such light occupations: at the scale of extended local communities, we could describe around 20% of regional demography as either being (1) rural or (2) part of an extended local community that was basically rural. Past the confluence, these rural occupations were the only ones that existed. Though, unlike the Guañape Phase, we can more confidently say that the *chaupiyunga* proper was surely occupied during the Salinar Phase, these occupations illustrated no more than a one or two hamlets and a broad array of ephemeral camps or farmsteads.

Thus, the *chaupiyunga* remained a sparsely occupied and diffuse demographic boundary – periphery really – to a more thoroughly occupied confluence during the Salinar Phase. Scattered

families may have built their homes in or occasionally ventured through or into the Upper Moche *chaupiyunga* hills, but there seem to have been very few larger aggregations of people permanently settling the *chaupiyunga* landscape of the survey area at this time.

7.3 The Political Landscape

The political landscape of the Salinar Phase was one defined by increased evidence for conflict and decreased evidence for the construction of large *huacas* like those seen during the Guañape Phase. Increased evidence for conflict can be seen during the Salinar Phase in two ways: (1) twice as many occupations were present in defensive areas like high ridge/mountain slopes and (2) five different areas with Salinar Phase occupations had defensive features like dry moats or fortifications. Unlike the detail with which the *huacas* of the confluence could be reconstructed for the Guañape Phase, the possible nodes of authority for the Salinar Phase were far less clear in the survey data due to site destruction and a lack of drone imagery. This being said, their centrality in regional demography was assessed and produced results that suggested a lack of a central place in which nearby communities could come together.

7.3.1 Embattled Communities in the *Chaupiyunga*

To begin, understanding the degree to which regional settlement patterns favored more defensible parts of the landscape was one way to begin characterizing how intensely conflict was shaping regional demography. Such understandings can be lent through setting up comparisons with other phases, especially those (like the Guañape Phase) that have no other lines of evidence for conflict. However, it is important to remember that the demographic distributions of the Guañape Phase were likely biased against the valley floor due to the issues of taphonomy outlined in earlier chapters. Thus, I also chose to compare the observed distributions with two versions of "expected" distributions that were based on what it would look like (1) if people settled evenly across the entire survey area or (2) if people settled evenly across all collection units. These expected distributions could help elucidate whether the patterns observed from the phase in

question were remarkable when compared with (1) the broader landscape available in the survey area or (2) the narrower landscape that was actually occupied in prehistory within the survey area.

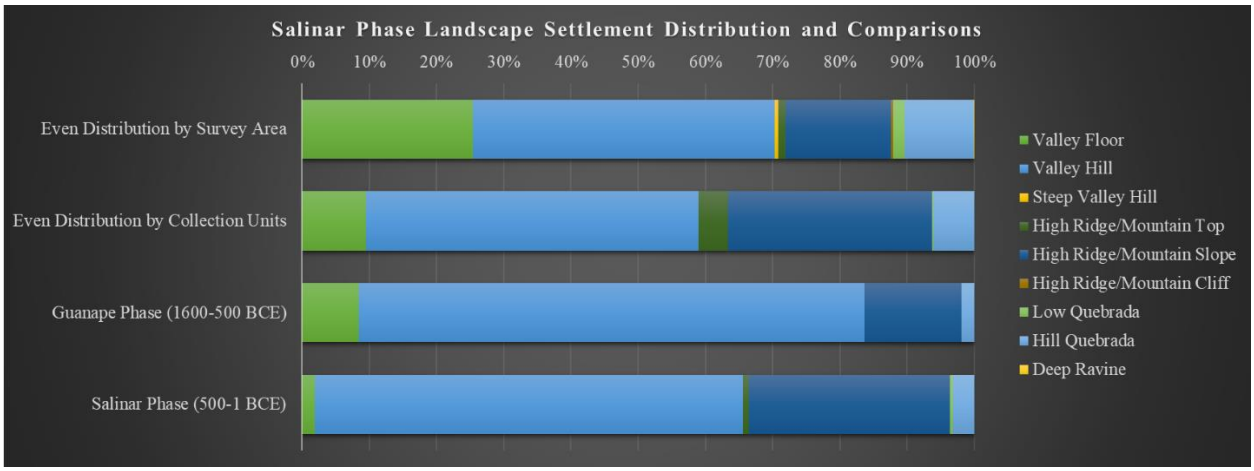


Figure 7.11 Salinar Phase Landscape Settlement Distributions and Comparisons

The results of these analyses suggested that the Salinar Phase did show a greater preference towards defensible parts of the landscape (i.e., high ridge/mountain slopes) but was still more-or-less focused on adjacent hills (Figure 7.11). This preference towards high ridge/mountain slopes was almost twice that observed during the Guañape Phase in addition to that expected if settlement was distributed evenly across the landscape. Notably, it was almost exactly the same as that expected if settlement was distributed evenly across all collection units. This latter finding is probably more likely a product of biases introduced by later phases. As we will see, the Chimú/Chimú-Inka Phase showed a remarkable amount of settlement in defensive areas and thus more collection units were placed in these zones. In any case, we can least say that Salinar Phase occupations showed a greater tendency towards defensible places like high ridges and mountain slopes than what was observed during the Guañape Phase occupations. Both phases, however, still favored the lower hills and slopes just adjacent to the valley floor.

Though later re-occupations muddy the picture considerably, the Salinar Phase appears to be the first phase during which fortified features were observed in the survey area. Five areas with fortified features were noted and traced, but only two, Cerro Pedregal and Dos de Mayo, were unambiguously Salinar Phase in origin (Figure 7.12). Cerro Pedregal is a fortified hilltop village or hamlet that featured a series of four defensive ditches on its northwestern approach ridge, 2-3 ditches on its eastern approach ridge, and at least 2 ditches on its southern approach ridge (Figure

7.13). Both northeast and eastern approaches also had fortified walls of 1-2 meters in height paired with these ditches. The peak of Dos de Mayo is a series of hilltop platforms surrounded by a series of 2-3 long fortified walls paired with dry moats that are mainly focused on the southern ridge approaches (Figure 7.14). The longer northeast and northwestern approaches to Dos de Mayo also had ambiguous defensive ditches that require further clarification (Figure 7.15). Cerro los Chiles had similar set of layered fortified walls and dry moats but had a later Chimú/Chimú-Inka Phase re-occupation that makes it difficult to say with certainty whether these fortifications were Salinar Phase in origin (Figure 7.16). The defensive features on a high ridge at Katuay and one around Arquito were the least clear of the bunch: both were essentially a set of defensive ditches and walls with relatively higher densities of Salinar Phase sherds nearby.

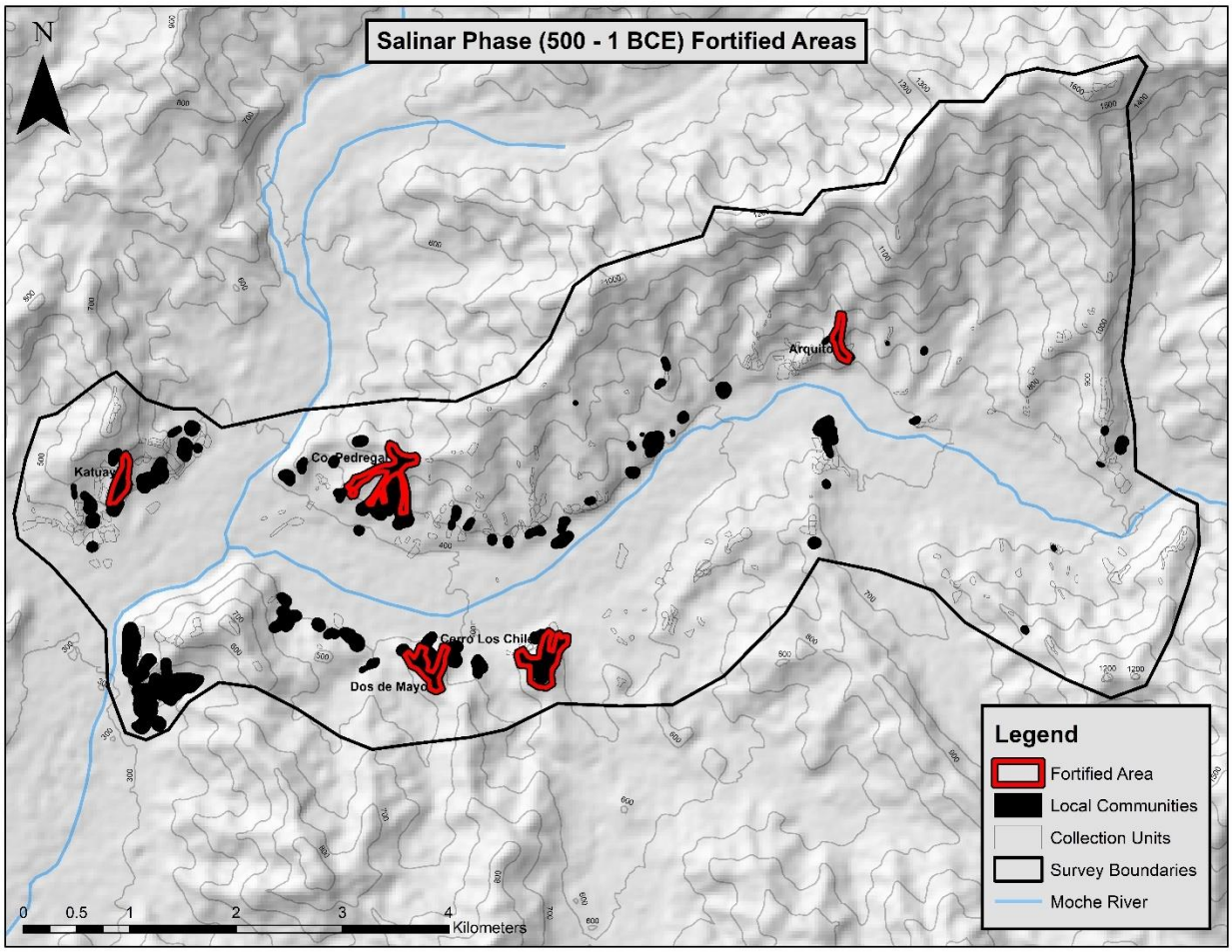


Figure 7.12 Salinar Phase Fortified Areas

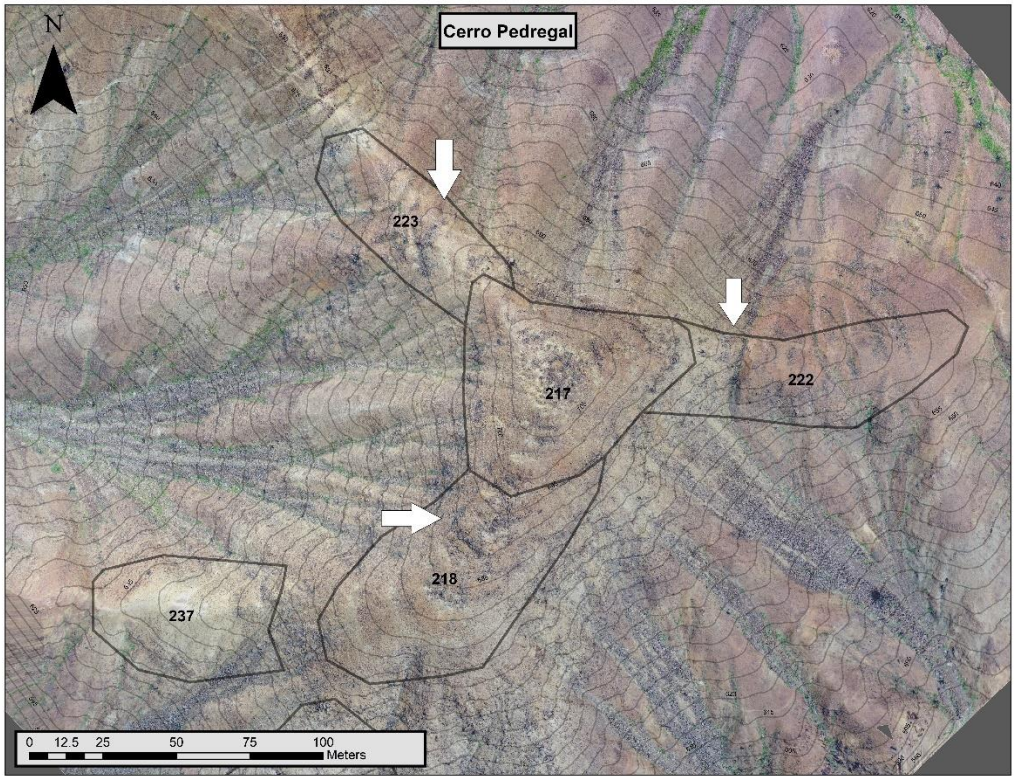


Figure 7.13 Orthophoto Map of Cerro Pedregal

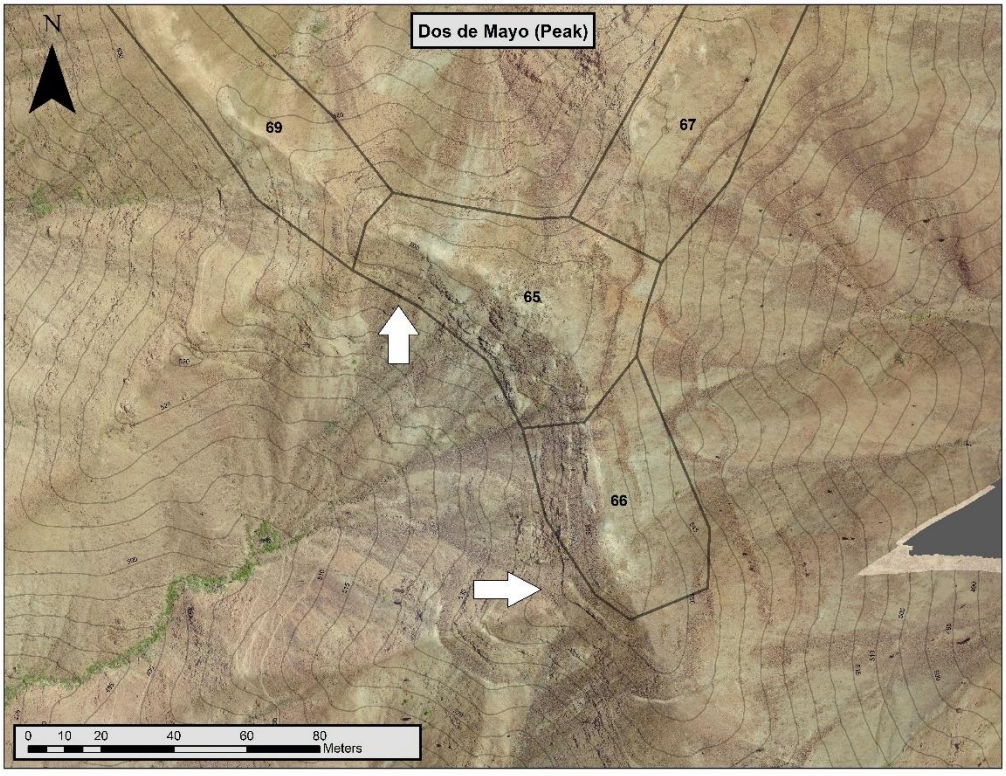


Figure 7.14 Orthophoto Map of the Peak of Dos de Mayo

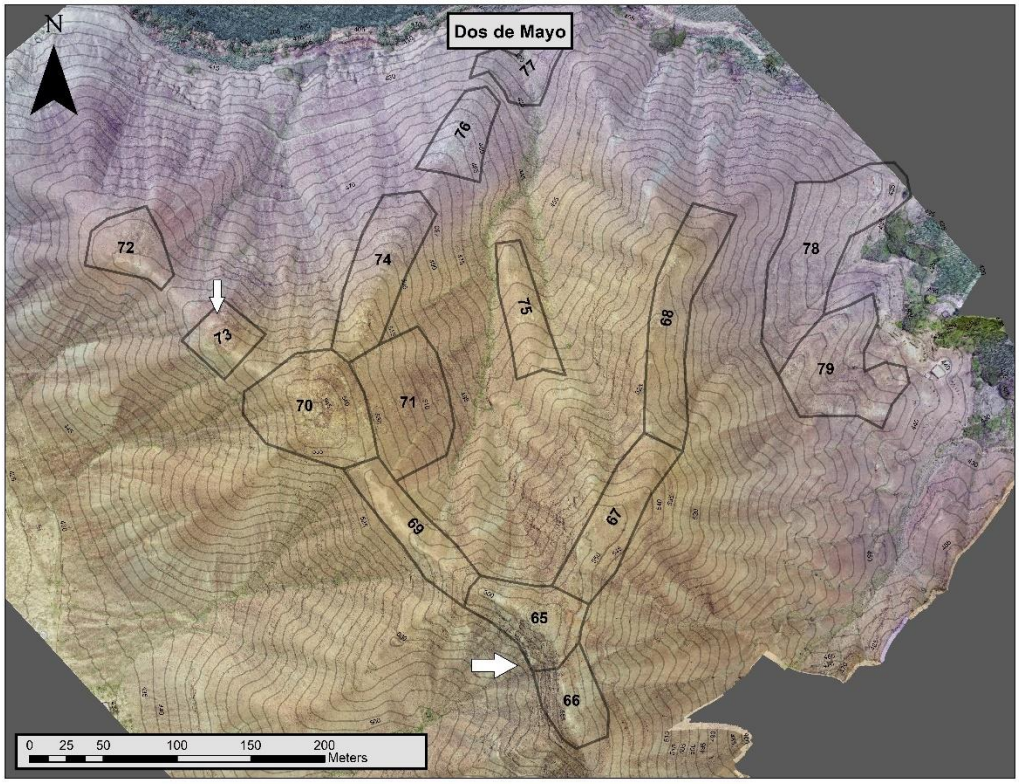


Figure 7.15 Orthophoto Map of Dos de Mayo

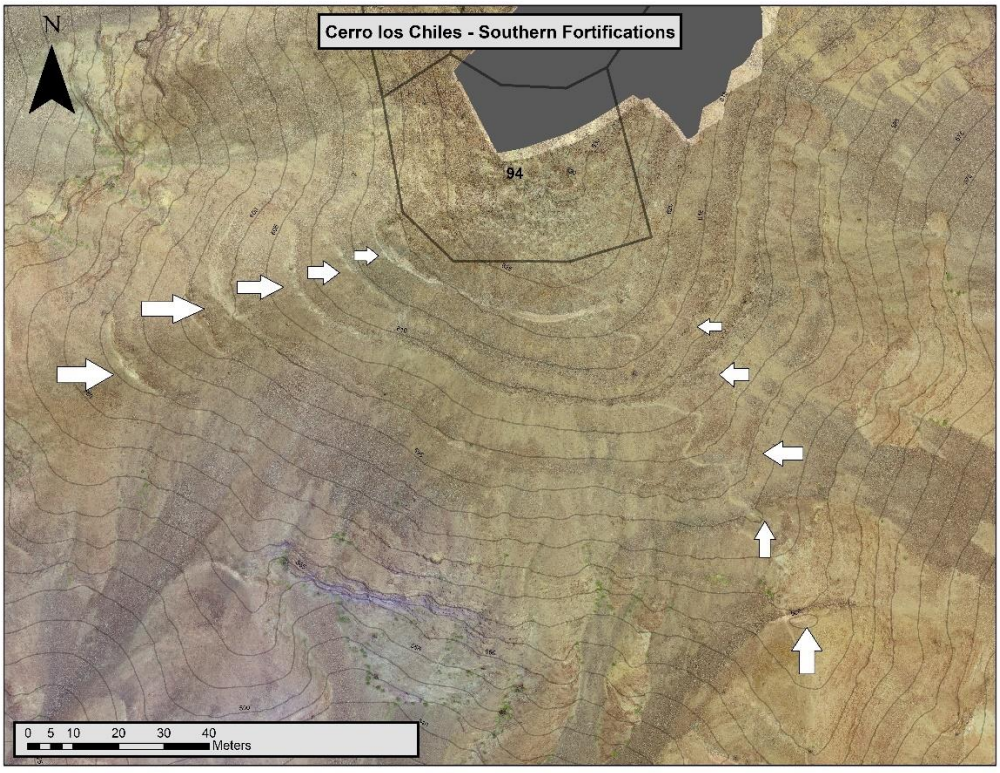


Figure 7.16 Orthophoto Map of the Southern Fortifications of Cerro los Chiles

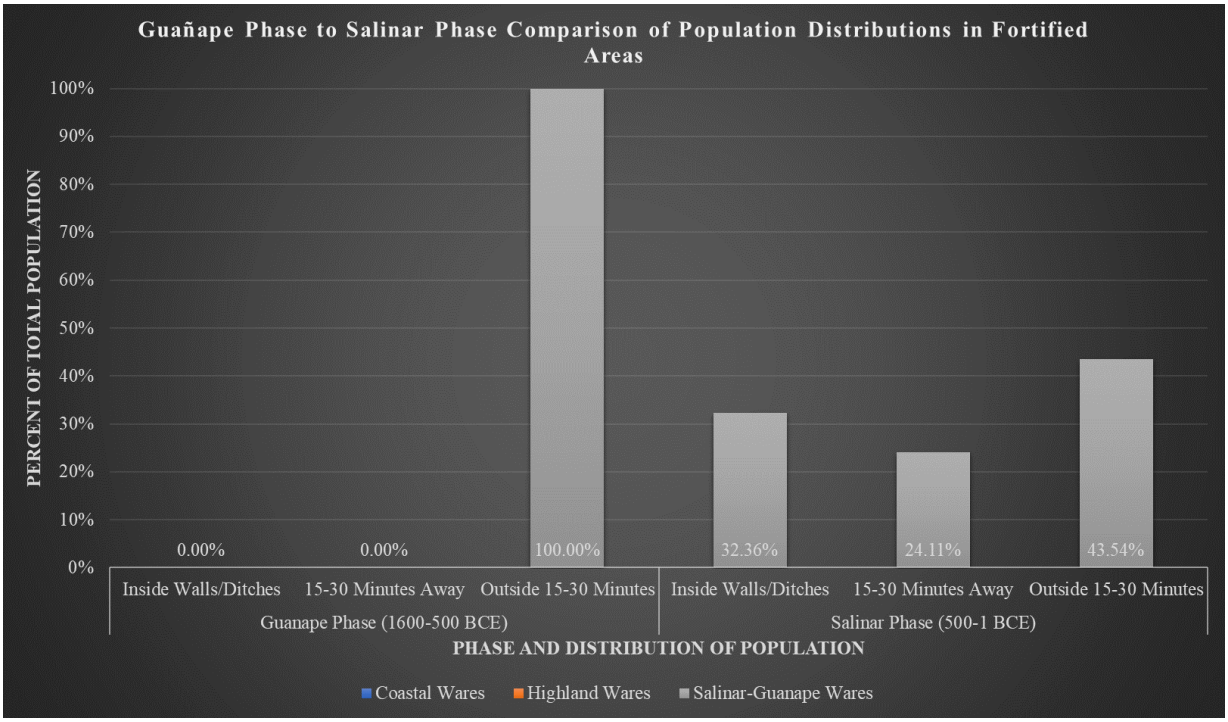


Figure 7.17 Guañape Phase to Salinar Phase Comparison of Population Distributions in Fortified Areas

Turning to how regional populations were distributed within and around these fortified areas, we can see that around a third of the occupations of the Salinar Phase were actually located behind these defensive features (Figure 7.17). Another quarter of occupations were within a quick hike/walk (15-30 minutes away) and around 40% were outside of this range and not clearly associated with a nearby fortified area. Combining the first two ranges yielded catchments that more-or-less corresponded with three of the larger local community clusters that had been previously identified (Figure 7.18). This basically meant that all but one of the largest local community clusters had their own fortified areas nearby that they could go to if the need presented itself. This even seemed to apply to the relatively dispersed set of occupations around Katuay. Most notably, however, the largest local community cluster at Huaca Menocucho appears to have been bereft of a nearby fortified area to go to. Though the reason for this lack of fortifications is unclear, the community does have some naturally defensive elements: the nearby river as a barrier on one side and the steep mountain of Cerro Jesus Maria on the other. Recalling that other Salinar Phase fortifications were noted in the adjacent Sinsicap Valley *chaupiyunga* at Cerro Cantegallo (Briceño and Billman 2014:213-216), it is also possible that *chaupiyunga* landscapes were a bit more treacherous while those inland from the confluence were less prone to conflict. Perhaps these

naturally defensive features were considered enough for the residents of a larger community like Huaca Menocucho to feel safe.

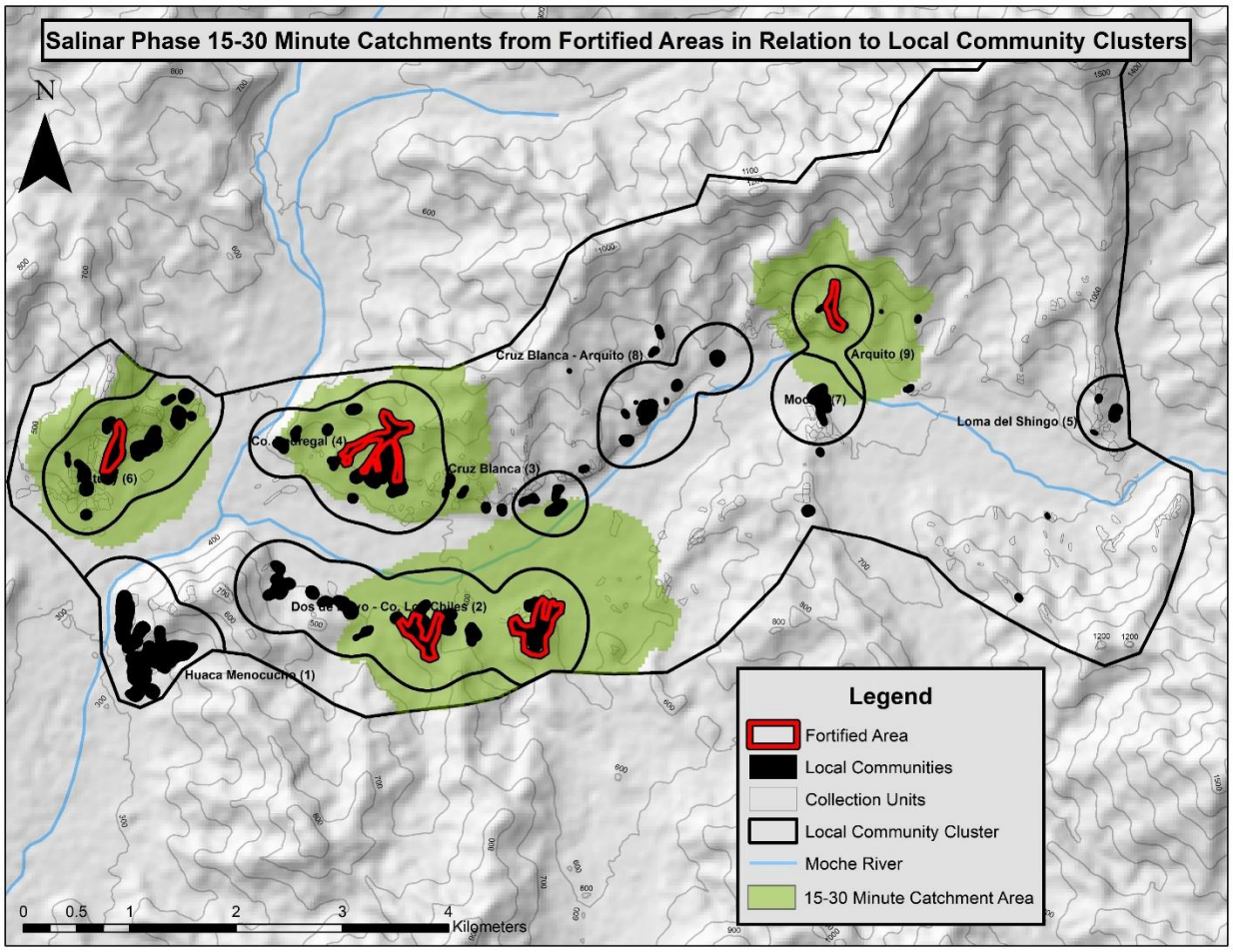


Figure 7.18 Salinar Phase 15-30 Minute Catchments from Fortified Areas in Relation to Local Community Clusters

Visual centrality within the surrounding landscape of communities seems to have been an important element of at least two of these fortified areas. Both Dos de Mayo (.72) and Cerro los Chiles (.72) were relative outliers in how high their centrality values were in relation to most of the others within the broader *chaupiyunga* inter-visibility network (Appendix E; Table E.3). Though these two areas seem to have had very advantageous viewsheds of the occupied areas of the chaupiyunga during the Salinar Phase, neither is within sight of the larger community of Huaca Menocucho. In terms of visual weight, several of the local communities around Katuay stood out mainly due to the fact that they could see both (1) Huaca Menocucho and (2) several of the larger communities past the confluence (Appendix E; Table E.8). Cerro Pedregal was also consistently

higher up in centrality measures (.46) but not nearly to the extremes as Dos de Mayo and Cerro los Chiles (Appendix E; Table E.3). Network-wide measures are less informative due to the incompleteness of the network itself but the Salinar Phase network was quite cohesive (.34) and actually the most centralized (.39) of any of those calculated (Appendix E; Table E.1). This was almost twice as cohesive and about the same amount of centralization as that previously observed during the Chimú/Chimú-Inka Phase (Mullins 2016:351-353). The higher cohesion is mainly because all local communities were included and not just defensively oriented ones, but the higher centralization was notable and likely a reflection of the more central nodes like Dos de Mayo and Cerro los Chiles within the Salinar Phase network.

7.3.2 Terrace Complexes as Nodes of Authority?

Evidence for any nodes of possible political authority was ambiguous during the Salinar Phase: I only identified one possible set of hilltop terraces while Billman noted four other terrace complexes (Figure 7.19; Table 7.1). The only hilltop terraces I identified were atop Dos de Mayo: these were a set of 2-3 evened out terraced spaces culminating at the highest point of the hill and around which the bulk of the fortifications at the site were built (see Figure 7.14 for a low-quality rendering). Following his fieldnotes, I noted that those described by Billman followed a similar pattern but I was unable to find them during my survey. In the cases of MV397 and MV459 they appear to have been destroyed by subsequent modern activity in the area but the other two terrace complexes were too obscured by ENSO brush to properly identify. This reveals how subtle these features were in the landscape when compared to the large *huacas* of the Guañape Phase: even amongst thick ENSO *monte*, a large u-shaped temple is quite visible. In fact, the extent to which these terrace complexes should be considered as nodes of authority, or even public architecture for that matter, is unclear. To me it seems equally likely that they were just hillside or hilltop terraces that could have been built for a variety of roles: the terraces atop Dos de Mayo could very well have just been flat places to set up camp during times when raids were expected. Better maps and aerial imagery will assist these interpretations in the future.

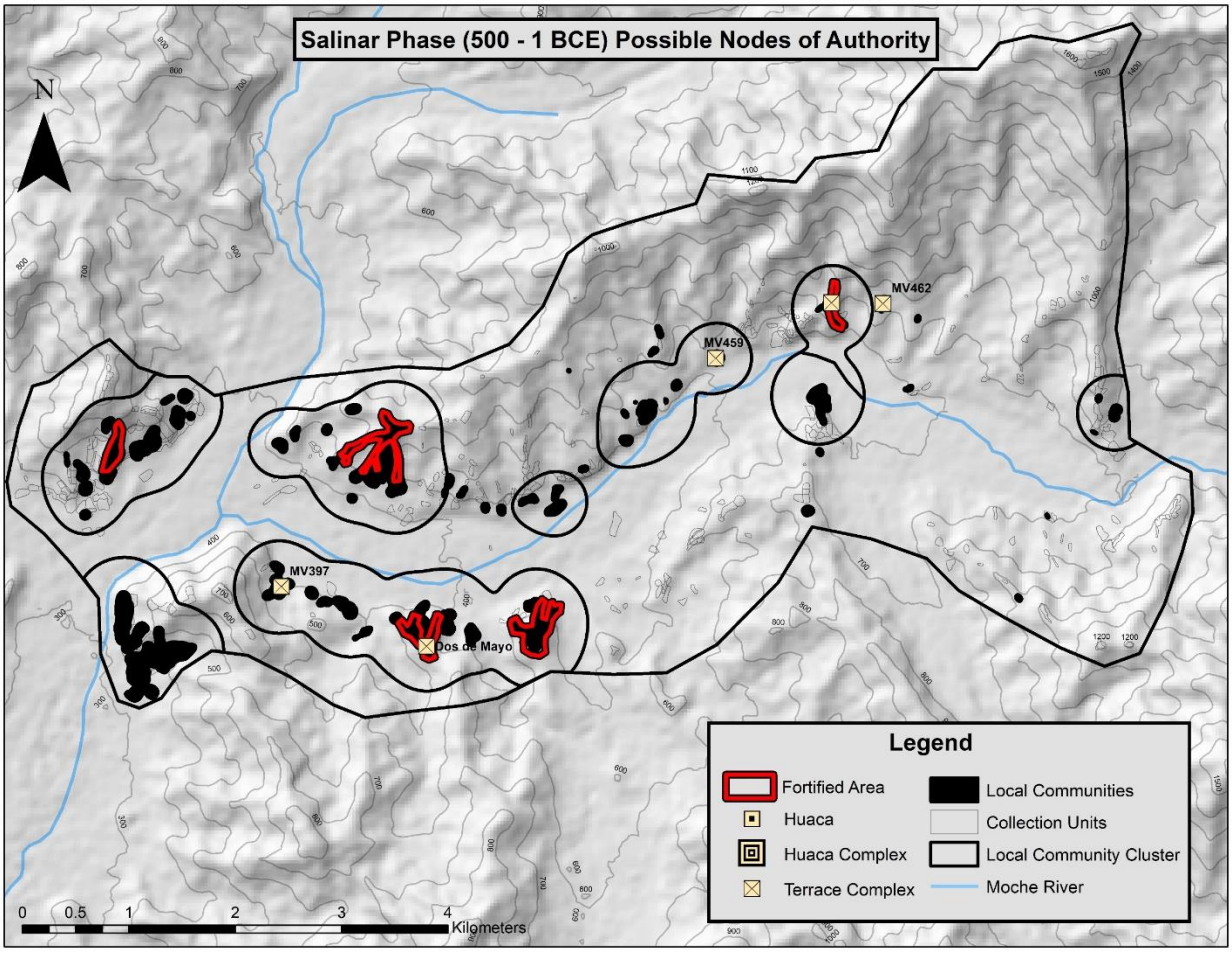


Figure 7.19 Salinar Phase Possible Nodes of Authority

Despite this lack of clarity, I was at least able to model how central these terrace complexes were in the broader landscape. A first glance at the resulting TDCI reveals that only one complex, that at MV 397, was somewhat central at a regional scale but conversely not remotely central at a more local scale (Table 7.1). This basically meant that there were lots of people in the general vicinity but none of them were living immediately adjacent to the set of terraces. I suspect that this high regional TDCI was more a result of the close proximity of MV397 to the confluence, but it is possible that this set of terraces could have served as a meeting place for the three larger adjacent local community clusters. Outside of this one set of terraces, most of the other were either not clearly central or relatively isolated in both regional and local landscapes. Of the four largest local community clusters that were outlined, it is notable that Dos de Mayo was the only one that had terrace complexes within the contours used to aggregate demography. Though the terraces at the peak of Dos de Mayo were somewhat apart from the broader spread of occupations that made up

that local community cluster, they were somewhat visually central. According to the demographically weighted viewshed for the Salinar Phase, around 40% of the occupations during that phase could see the Dos de Mayo terraces (Appendix E; Table E.9). That local community was also one of the more visually central within the broader inter-visibility networks of the *chaupiyunga* during that phase. Thus, at most we can simply say that there was no equivalent, in centrality within a community or without, to the older Guañape Phase *huaca* complex at Huaca Menocucho in the broader *chaupiyunga* landscape during the Salinar Phase. The few possible stages of authority that may have existed were small and not very centrally located in the broader *chaupiyunga* or even within their own communities.

Table 7.1 Salinar Phase Nodes of Authority

Salinar Phase Nodes of Authority			
Site Name	**Site Type**	**TDCI**	
		Regional	*Local*
MV397	Terrace Complex	0.43	-0.15
Dos de Mayo	Terrace Complex	0.23	-0.07
MV459	Terrace Complex	-0.18	-0.65
MV464	Terrace Complex	-0.42	-0.27
MV462	Terrace Complex	-0.43	-0.32

7.3.3 Discussion

In sum, the political landscape of the Salinar Phase is one that can be mainly defined by increased evidence for conflict and a decrease in evidence for centrally-located or large public architectural constructions or possible stages of authority. First, some communities appear to have made subtle shifts to more defensible areas in the landscape while also either (1) building fortifications around the cores of the communities themselves or (2) living nearby areas with fortifications available. However, the severity of this conflict should not be overstated. Defensive concerns were not intense enough to force most of the people in the area to live behind walls nor did they preclude the multitude of smaller farmsteads and camps from being used and distributed across the landscape. These features would suggest more sporadic outbursts of violence, maybe raiding, rather than the sustained conflicts that seemed to be characteristic of later phases. Even

so, the question remains open as to who exactly these fortifications were defending from. The fact that Huaca Menocucho remained unfortified could suggest that the lands up-valley from the confluence needed such features more often than those down-valley: perhaps aggressors were coming from the highlands? Contemporary with this increased evidence for conflict, the ambiguous terrace complexes of the Salinar Phase were not particularly large nor were they centrally located within the broader demographic landscape. Dos de Mayo was the only local community cluster that would have conceivably had access to such terrace complexes, though it seems possible that communities like Hauca Menocucho or Cerro Pedregal could have used the older *huacas* nearby in some limited capacity that left no surface evidence. However, with the *huacas* of the confluence more-or-less abandoned, there were no nodes that could be actively used to bind the surrounding landscape and people together while linking both to the distant highlands and *chala*.

7.4 Tethering to Old Places

Along this vein, a final set of analyses were undertaken to understand the degree to which Salinar Phase demography could have been tethered to the *huacas* and/or the larger communities of the Guañape Phase (Table 7.2; Table 7.3). It quickly became apparent that the resulting TDCI required more nuanced interpretations than those produced for other purposes. For *huacas* and other nodes of authority: the resulting tethering TDCI were better situated by comparing them to TDCI of a comparable scale but from their previous (in this case Guañape Phase) landscapes. For those analyses looking at tethering to previously occupied local communities: these TDCI were better contextualized by understanding the ADI/Century values of (1) these past communities and (2) any tethering occupations of subsequent phases. These data allowed me to better understand what exactly these higher TDCI meant: the difference between a small camp being replaced by a large community and a large community being replaced by a small camp. The overall goal was to see if similar places had consistently high tethering TDCI over the entirety of the sequence.

Starting with the Guañape Phase *huacas*, only Huaca Menocucho had very limited evidence for any nearby demography having slightly tethered to it nearby. Even so, this tethering

TDCI of .28 was miniscule when compared to the previous Guañape Phase TDCI of .93 at the same scale of analysis. This simply confirmed a point that the settlement patterns had already suggested: the *huacas* of the confluence were no longer occupied and the heart of the *huaca* complex at Huaca Menocucho was no longer the center of that community in the Salinar Phase. This being said, it is noteworthy that both remained visible and present within this same landscape. The *huaca* complex at Huaca Menocucho was obviously just below the Salinar Phase community of the same name and, while not central to the community, could have conceivably still been used on occasion. The Salinar Phase community at Cerro Pedregal was essentially built between the older *huacas* at Huaca la Divisoria and Huaca la Constancia and had visual connections to both. As a result of its commanding location in the *chaupiyunga* landscape, Huaca la Divisoria would have also still been visible from basically every larger Salinar Phase community except Huaca Menocucho. This can also be seen by its persisting higher value for the demographically weighted viewshed: around 47% of all occupation during the Salinar Phase could still see Huaca la Divisoria (Appendix E; Table E.7). Thus, some of these *huacas* were almost surely abandoned but it seems doubtful that their physical presence in the landscape would have been forgotten.

Table 7.2 Salinar Phase Tethering to Past Nodes of Authority

Salinar Phase Tethering (Nodes of Authority)		
Guañape Phase Node	**Tethering TDCI**	**Guañape Phase TDCI**
Huaca Menocucho	0.28	0.93
Menocucho Alto	-0.04	0.26
MV404	-0.49	-0.72
Huaca la Constancia	-0.56	0.33
Huaca la Divisoria	*None*	1.00

Instead of the strongest tethering being to the *huacas* of the Guañape Phase, it was the larger communities themselves that seemed to be more likely anchors for Salinar Phase demography. The Guañape Phase local community at Huaca Menocucho exhibited a high tethering TDCI of .81 with a correspondingly high Salinar Phase ADI/Century of 5.23 that encapsulated the entirety of the later community in the area. This essentially confirmed that the Guañape and Salinar Phase occupations at the site were somewhat superposed upon one another. A similar tethering was noted at Dos de Mayo for assumedly similar reasons: however, a weaker TDCI of .47 was probably the result of some of the Salinar Phase community having moved uphill. Outside of these two occupations, most of the other local communities in the Guañape Phase landscape were more-

or-less ignored or abandoned by the people during Salinar Phase. Thus, the determining factor to this continuity could have been dependent on the size of the community involved: the two larger, and clearer, Guañape Phase communities persisted while the other ephemeral ones faded away.

Table 7.3 Salinar Phase Tethering to Past Local Communities

Salinar Phase Tethering (Local Communities)			
Guañape Phase Local Community	**Tethering TDCI**	**Total ADI/Century Within Catchment**	
		Salinar Phase	*Guañape Phase*
Huaca Menocucho (1)	0.81	5.23	0.24
Dos de Mayo (5)	0.47	3.30	0.11
Loma del Shingo (12)	0.16	0.11	0.02
Dos de Mayo (4)	*0.11*	*3.21*	0.02
Co. Pedregal - Cruz Blanca (8)	-0.54	1.92	0.03
Arquito (17)	-0.54	0.15	0.03
La Constancia (11)	-0.61	1.58	0.03
Cruz Blanca Alto (15)	-1.00	0.04	0.02
Arquito Alto (19)	*None*	0.00	0.03

7.5 Canal Reconstructions

Finally, the possible canal expansions during the Salinar Phase were a bit clearer but were still admittedly speculative. The starting point for these estimates were simply the upper range of those estimated for the Guañape Phase (Figure 7.20; Table 7.4). This was done because (1) all of the formerly ambiguous parts of the landscape were surely occupied but (2) the likely range of total regional population (~455 – 989 people) was still very close to the previous "carrying capacity" estimated for the valley floor. Though there were still no formally recorded Salinar Phase canals, the plethora of lighter occupations that lined the edge of the valley floor seemed like viable analogues for field camps that could have possibly lined early canals. This especially seemed true for the likely canal under Dos de Mayo: the westward straggle of occupations within the Dos de Mayo – Cerro los Chiles local community cluster illustrated a pattern one would expect from field camps following a canal from a larger community.

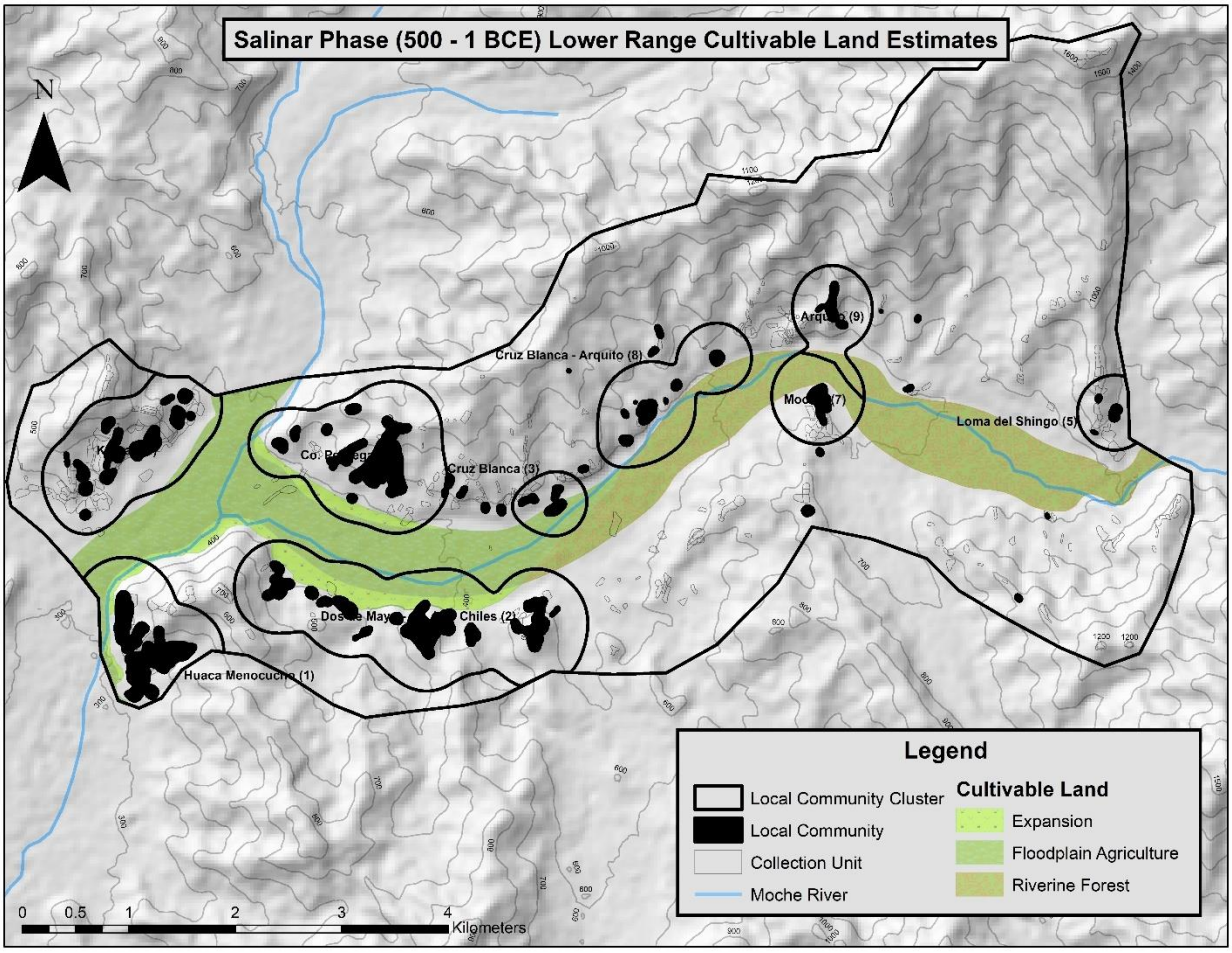


Figure 7.20 Salinar Phase Lower Range Cultivable Land Estimates

The upper range of estimates had only a few subtle changes but seemed like the most likely of the two provided here (Figure 7.21; Table 7.4). First, the previous expansions at La Constancia and Dos de Mayo were further extended to Cruz Blanca and Cerro los Chiles, respectively, to include the increased occupations and clear local community clusters that emerged in both areas. In addition to these expansions, I also extended the area of land that was likely used for floodplain agriculture up to the scattered occupations around Mochal and Arquito. This was done because the increased settlement in this general part of the *chaupiyunga* at least suggested that the area was likely being used to a greater extent but the community sizes (no more than a few families) were not large enough to have warranted larger canal expansions. Later canals in that part of the *chaupiyunga* required intakes significantly further up-valley and often had to be excavated from cliffsides at parts: a feat that seemed outside of the capabilities, or needs, of such groups. Though possible, this seemed unlikely and I assumed that cultivation would have been restricted to the

nearby valley floor but with much of the upper part of the survey area still riverine forest due to the lack of settlement.

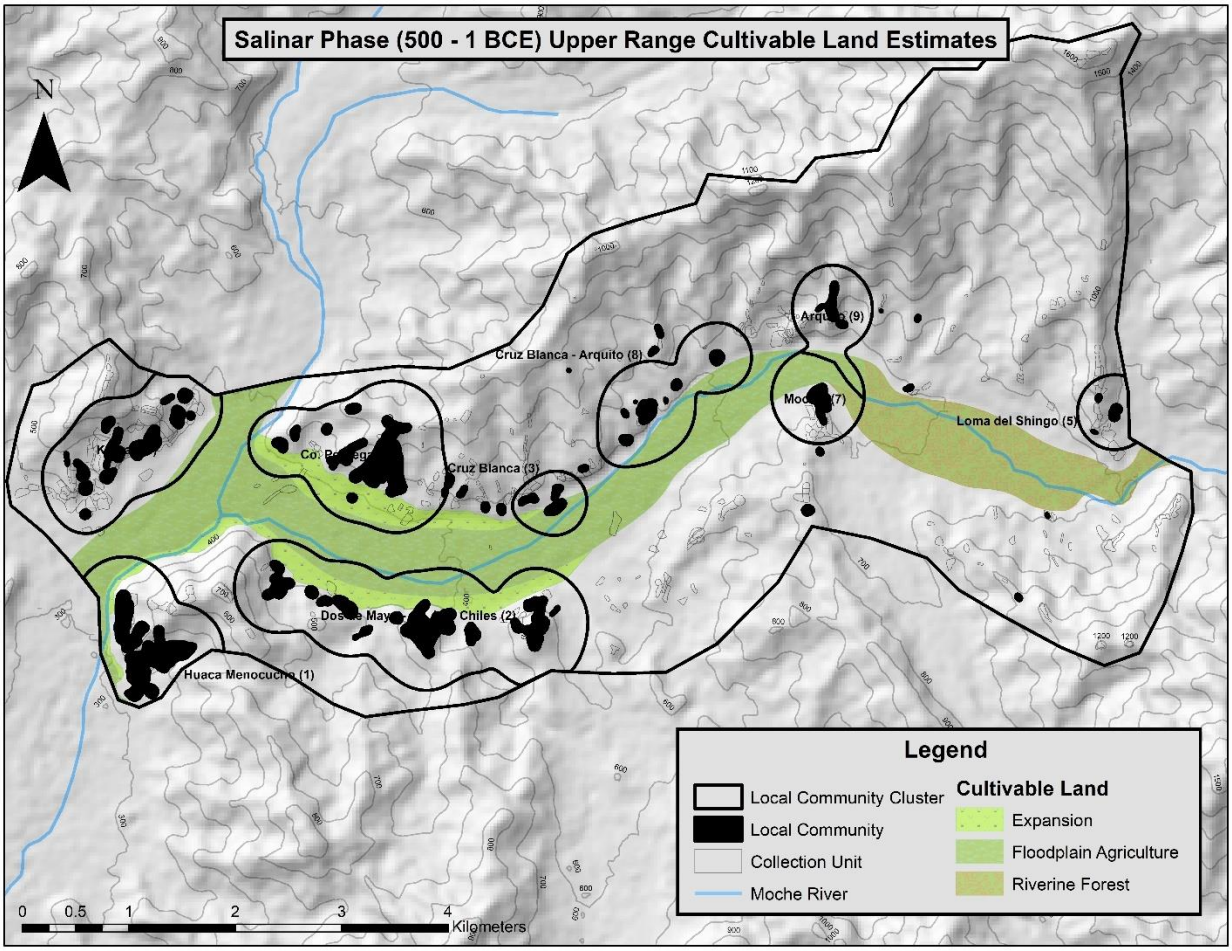


Figure 7.21 Salinar Phase Upper Range Cultivable Land Estimates

Table 7.4 Salinar Phase Cultivation Estimates

Salinar Phase Cultivation Estimates			
Estimate Name	**Landscape Description**		**Area (Ha)**
	Part/Name	*Category*	
Lower	Valley Floor	Floodplain Agriculture	328
	Valley Floor	Riverine Forest	313
	Dos de Mayo	Expansion	55
	La Constancia	Expansion	18
Higher	Valley Floor	Floodplain Agriculture	479
	Valley Floor	Riverine Forest	162
	Los Chiles - Dos de Mayo	Expansion	67
	Cruz Blanca - La Constancia	Expansion	59

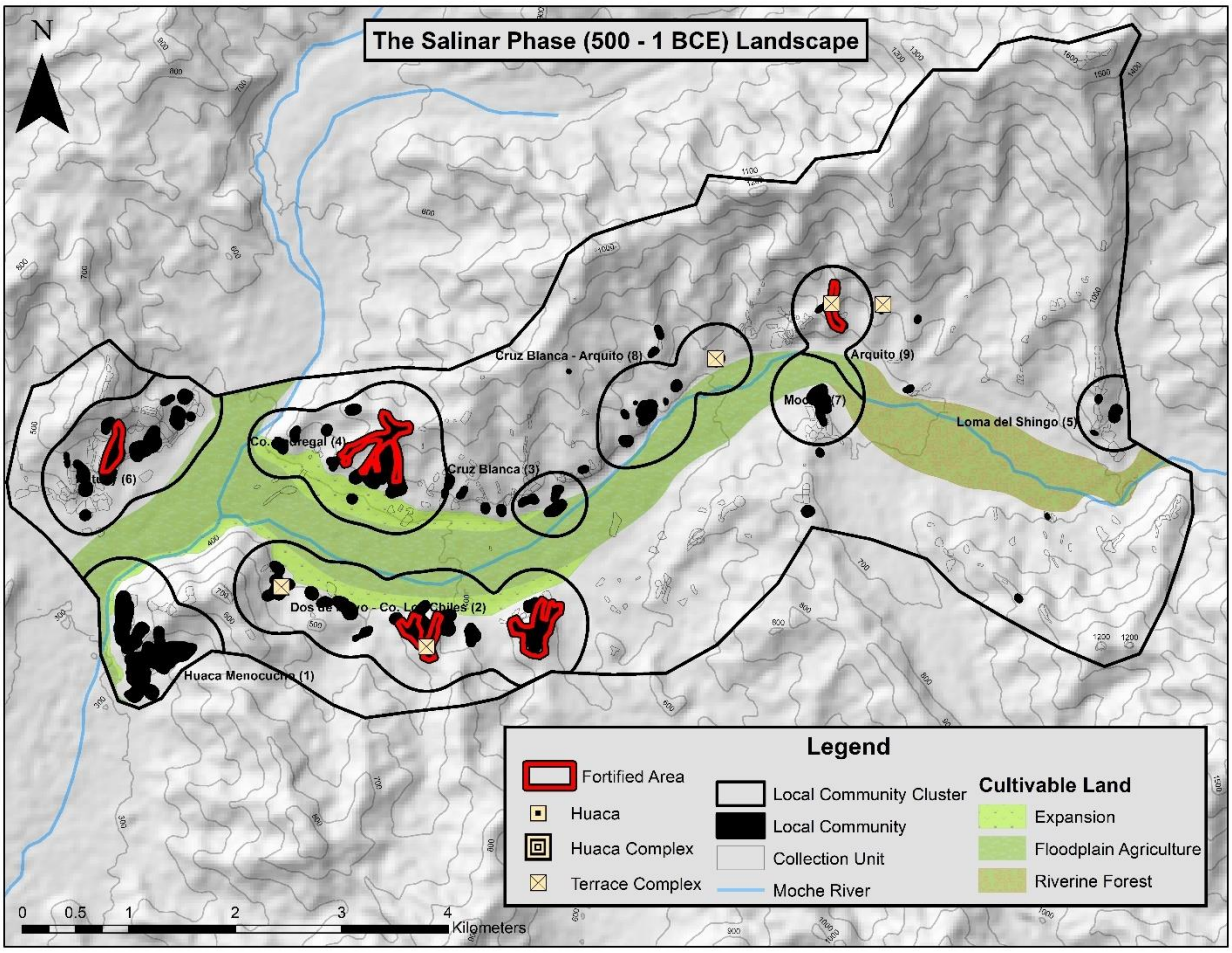


Figure 7.22 The Salinar Phase Landscape

7.6 A Contested Borderland?

During the Salinar Phase, the Upper Moche Valley *chaupiyunga* continued to be somewhat of a borderland but its boundaries had several different characteristics than those recognized during the Guañape Phase (Figure 7.22). The most apparent change in this borderland was that it was probably some manner of contested boundary: political or otherwise. There were more people living in defensible areas and there were more fortified areas past the confluence and in the *chaupiyunga* proper than down-river. This would suggest that violence was more frequently experienced by those living in the Upper Valley *chaupiyunga* than those in the Middle Valley or

the *chala*. This being said, the very close proximity of all of the communities within the survey area (easily within 30 minutes of one another) probably suggests these defensive constructions and settlement locations were less for infighting and more for a shared concern from external threats. Thus, we could perhaps call this a broader political boundary between collections of *chaupiyunga* communities and their threatening neighbors, possibly from the highlands. However, even this characterization of a "political" boundary seems inappropriate: there was a distinct lack of evidence for any broader Salinar Phase "politics" in the survey area. If there was some manner of political "center" in the Moche Valley at this point, it was surely not in the *chaupiyunga* nor did the *chaupiyunga* have a very clear one of its own. Though the former *huacas* of the confluence persisted as visible places in the landscape, they ceased to play such a role or be occupied: perhaps the specific unifying axis they articulated was forgotten, or ignored, in the more fractured Salinar Phase landscape.

These differences aside, the region continued to be a demographic boundary that could be better described as a sort of periphery: the confluence was still the most densely occupied part of the survey area and the *chaupiyunga* proper continued to be only sparsely inhabited. This feature actually proves informative as to ruling out possible motives for the conflict that shaped this Salinar Phase borderland. Though this *chaupiyunga* seemed like it was being contested, it was not the "contested *chaupiyunga*" predicted earlier in this dissertation (see Chapter 3.10.1): there weren't enough people living in the area or lands being cultivated to realistically have caused any water shortages downriver. Given the issues with defining Guañape Phase demography, it is also difficult to confidently say whether or not the population in the region increased or simply became more visible. I would guess a bit of both but mainly the latter because of the overall similarities in what places were being occupied between the Guañape and Salinar Phases. The adherence to past communities at Dos de Mayo and Huaca Menocucho also suggests such continuity, though the subtle movement to settlement in more defensible areas does reflect the notable difference in the demographic landscapes of the two phases. In sum, it seems that the principal change in the *chaupiyunga* borderlands during the Salinar Phase was political in nature: a change to less integration and more conflict that itself corresponded with only subtle changes in the region as a demographic boundary.

8.0 THE GALLINAZO/MOCHE PHASE (~1–900 CE): FRONTIER COMMUNITIES AND THE MOCHE *HUACA*-COLONY OF KATUAY

8.1 Introduction

Though some clear continuities can be recognized, the *chaupiyunga* landscape witnessed several profound transformations as a demographic, cultural, political, and economic boundary over the course of the Gallinazo/Moche Phase (1 – 900 CE). Regional populations ballooned in size but were still mainly focused upon the confluence: two large confluence village dominated a *chaupiyunga* landscape that otherwise had one smaller village, a few hamlets, and a host of more ephemeral occupations. The Moche *huaca*-colony at Katuay stood out with a mainly coastal assemblage while many of the other communities, including Jesus Maria, had far more diverse assemblages. Evidence for conflict during this phase was ambiguous but seemed to correspond with occupations belonging to the Gallinazo sub-phase and/or with more highland-leaning assemblages. In fact, the diverse communities outside of Katuay had a similarly diverse array of Moche and Early Highland corporate wares: suggesting multiple overlapping networks of authority and/or affiliation in the region. The *huacas* of the *huaca*-colony at Katuay were clearly central places in the broader *chaupiyunga* landscape but were notably more central for where coastal, rather than highland, wares were distributed. Finally, two likely canal-*huacas* downriver showed possible evidence for Moche-led canal expansions and were also predictably isolated within the demographic landscape. In sum, the Upper Moche *chaupiyunga* had clearly become a somewhat fluid political, demographic, and cultural boundary between the people and polities of the *chala* and the adjacent highlands. Though it remained more-or-less unchanged as a sparsely settled demographic periphery, the expansion of Moche authority into the region meant that the economic landscape was likely transformed into a more cultivated one.

8.2 The Demographic Landscape

The Gallinazo/Moche Phase was a time of immense population growth in the *chaupiyunga* landscape but the majority of this growth was occurring at the confluence. The total ADI/Century value recorded for this phase was 60.48, producing a range of between 1754 and 3180 people in the survey area. It is useful to zoom in on a few of the local communities of this phase to clarify what this population range means for community sizes. The local community cluster around Cruz Blanca (ADI/Century = 3.06) would have had a range of 89-193 people which seems realistic given the dense architecture that can be observed at the site. Meanwhile, the much larger *huaca*-colony local community cluster of Katuay (ADI/Century = 25.57) would have had a range of 742-1611 people, which also seems realistic given the larger size of the community and the density of material recorded around it. More generally, the relative ADI/Century values point to an approximate growth of 285% from the previous Salinar Phase (ADI/Century = 15.7). As we will see later, much of this regional growth can be explained by the rise of the two larger communities at the confluence: Katuay and Cerro Jesus Maria.

The Gallinazo/Moche Phase was also the first phase during which the presence of *chala* and highland wares in CU assemblages could be recognized and their proportions compared. In this regard it is very important to not confuse these *chala* or highland wares as themselves necessarily representing discrete *chala* or highland peoples or occupations: determinations of possible community compositions or origins are better made at the scale of entire assemblages. These assemblages could be accessed by looking at discrete CUs and/or within the different scales of communities identified in the subsequent analyses. Following the discussion in Chapter 6.3.1.5, I divided assemblages into three categories according to proportions of wares: (1) those with over 75% highland wares were considered likely highland in origin, (2) those with over 75% coastal/*chala* wares were considered likely coastal/*chala* in origin, and (3) those with percentages between were seen as mixed assemblages that probably had an equally diverse occupational history. These were then color coded respectively in (1) green, (2) red, and (3) yellow to make visual perusal of the data a bit more intuitive. If we interpret all of the survey data from this phase as one massive assemblage, it would have had 80% coastal/*chala* wares and 20% highland wares.

Though this is obviously an oversimplification, it provides a good baseline of comparison with the Chimú/Chimú-Inka Phase and a broader survey-wide scale.

The following discussion of the demographic landscape goes through the different layers of communities that emerged after analyzing the survey data from this phase. The communities of Katuay and Cerro Jesus Maria emerged as moderate- to large-sized villages – probably towns – that dominated the landscape at every scale of community that was estimated. Up-valley in the *chaupiyunga* there were, at most, 2-3 much smaller villages or collections of hamlets in a landscape otherwise defined by much more ephemeral or low-density occupations.

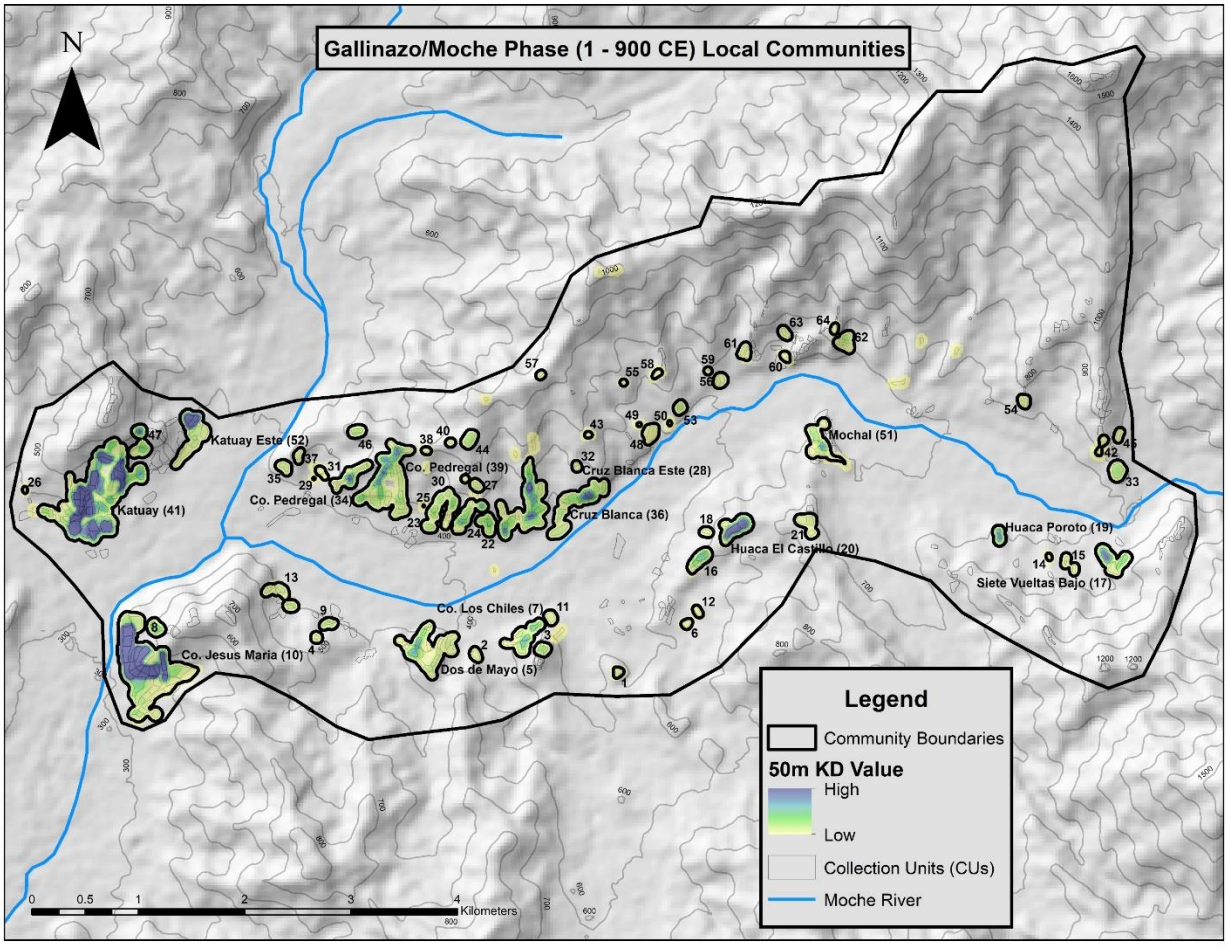


Figure 8.1 Gallinazo/Moche Phase Local Communities

8.2.1 Local Communities

In total, 64 local communities were identified for the Gallinazo/Moche Phase (Figure 8.1; Figure 8.2; Figure 8.3; Figure 8.4; Figure 8.5). Like those before, these were outlined using the lowest contour of the 50m KD analysis raster but the 13 unaffiliated CUs from this phase made up a slightly larger proportion (1.39%) of the overall population of this phase. This being said, these were all very light occupations (ADI/Century < .1) and appeared to be just too isolated to fit into the contours that I used. Along this vein, 55 of these local communities were very light occupations that had ADI/Century values under .5. Of these, 44 had ADI/Century values that were well under .1 and were thus better categorized as something between a temporary household and an ephemeral camp. Combined, these 44 local communities represented around 1.3% of regional population (ADI/Century = .76) and a slight majority had coastal-leaning assemblages. More precisely: 23 had mainly coastal assemblages, 14 had mainly highland assemblages, and 7 had mixed assemblages. In any case, if we combine these smaller local communities with the unaffiliated CUs that would likely also fit into the same category: we arrive at around 2.69% (ADI/Century = 1.6) of regional populations being within these very ephemeral occupations. These data can be compared to the numbers for such occupations during the Salinar Phase: 49 local communities making up 4.3% of regional population and an aggregated ADI/Century of .68 between them. Though these ephemeral occupations may have been making up a lower proportion of regional populations and there were slightly fewer of them during the Gallinazo/Moche Phase, the higher ADI/Century value of 1.6 shows they were being used around twice as often as before. Thus, we can say that during the Gallinazo/Moche Phase there was a moderately larger demographic presence represented by very ephemeral occupations and a little over half of these occupations had coastal/*chala*-dominated assemblages.

Slightly above this category, 11 local communities had between .1 and .5 ADI/Century values and were thus probably no more than single households or more intensely occupied camps. Together, these occupations accounted for around 4.9% of total regional populations (ADI/Century = 3) and a slight majority of them had mixed assemblages. More precisely: 2 had mainly coastal assemblages, 3 had mainly highland assemblages, and the remaining 6 had mixed assemblages. We can compare these Gallinazo/Moche Phase occupations with the numbers for their Salinar

Phase analogues: 12 local communities, 20.6% of regional population, and an aggregated 3.24 ADI/Century. Thus, there are similar quantities and occupational densities of these communities in both landscapes but they made up a much larger proportion of the more scantily-occupied Salinar Phase landscape. In sum, we can say that a similar number of individual farmsteads or more intensely occupied camps were scattered across the Gallinazo/Moche Phase landscape and that a little over half of these had assemblages that were a mix between coastal and highland wares.

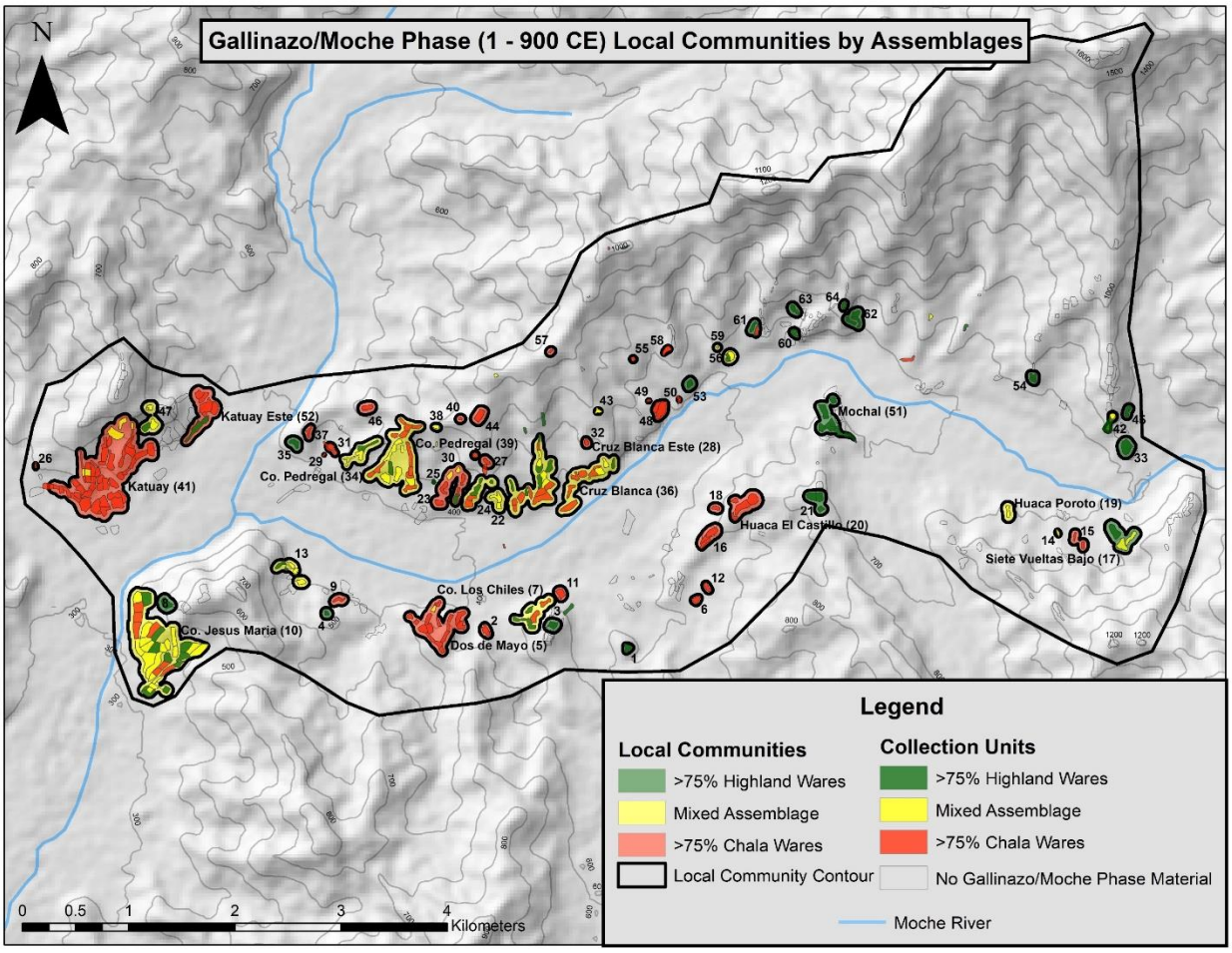


Figure 8.2 Gallinazo/Moche Phase Local Communities by Assemblages

Moving on from these much smaller local communities, the remaining 9 can be more-or-less divided into two categories: (1) large villages and (2) smaller villages and/or hamlets. Beginning with 7 smaller villages and/or hamlets: these can be combined to account for around 15.7% of regional population (ADI/Century = 9.59) and were relatively evenly split between coastal and mixed assemblages. More precisely: 3 had mainly coastal assemblages, 1 had a mainly

highland assemblage, and the remaining 3 had mixed assemblages. We can compare these with their Salinar Phase analogues: 3 local communities making up 42% of regional population with an aggregated 6.54 ADI/Century between them. For this, I left out the Salinar Phase occupation at Huaca Menocucho only because it was a bit larger (33.3%, ADI/Century = 5.23). Regardless, we can see that there are more of these smaller villages and/or hamlets during the Gallinazo/Moche Phase but (1) they were individually smaller and (2) they were making up a considerably smaller proportion of the overall population of the phase.

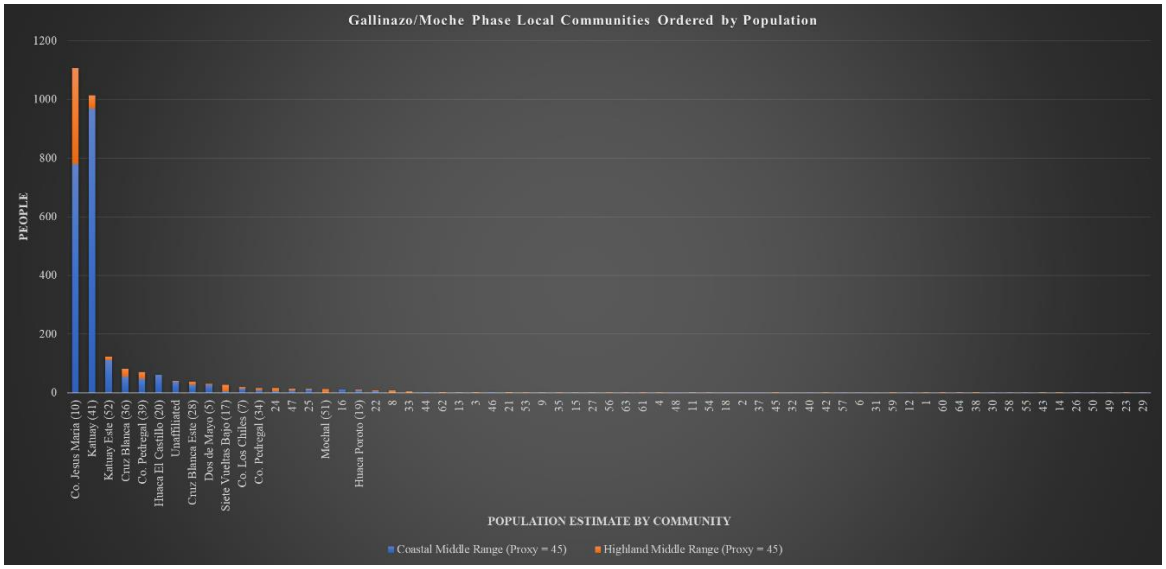


Figure 8.3 Gallinazo/Moche Phase Local Communities Ordered by Population

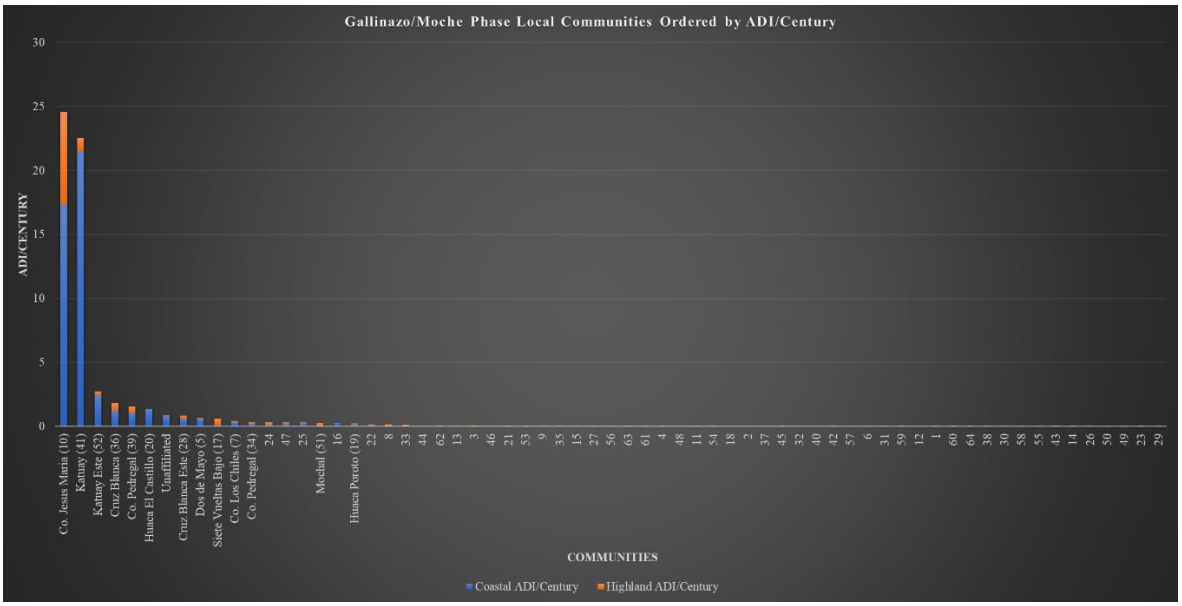


Figure 8.4 Gallinazo/Moche Phase Local Communities Ordered by ADI/Century

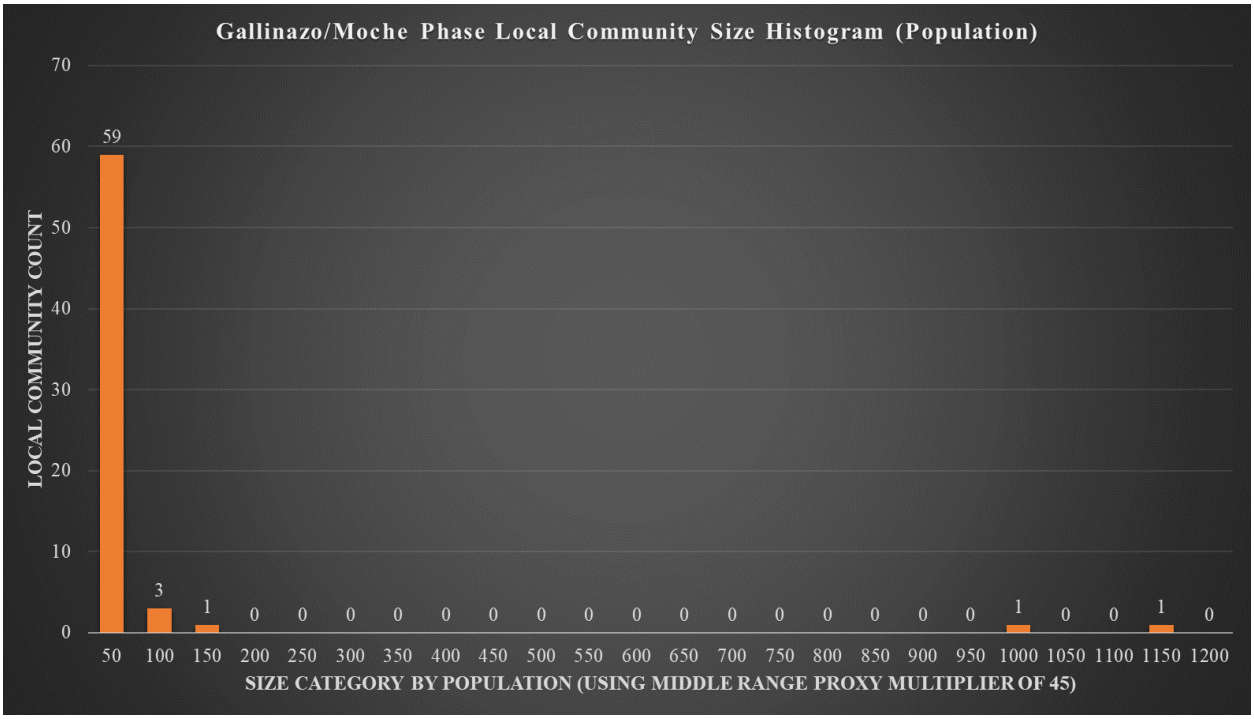


Figure 8.5 Gallinazo/Moche Phase Local Community Size Histogram

Finally, the two larger local communities were an order of magnitude larger than any of their peers and together accounted for the vast majority (around 77%) of regional populations. The hillslope village or town of Cerro Jesus Maria was the largest and accounted for around 40.7% (ADI/Century = 24.6) of the population for this phase. Using the middle range proxy multiplier, this would put the population of this community at 1107 people, which is on par with some of the modern towns in the survey area. Overall, the community featured what would be barely categorized as a mixed assemblage: around 70% coastal/*chala* wares and 30% highland wares. A closer look at the CUs within the local community reveals that the distributions of these wares varied over space: highland-dominated assemblages tended to be a bit further up-hill while mixed and coastal-dominated assemblages were closer to the valley floor (Figure 8.2). As I go into later, this community likely had a highland-leaning Gallinazo Phase occupation that then persisted as a Moche Phase village but was subtly re-settled closer to the valley floor. Across the river, Katuay was a slightly smaller but similarly sized village or town that accounted for around 36.7% (ADI/Century = 22.2) of regional populations. This community would have had a population of around 1000 people using the middle range proxy multiplier, again putting it on par with modern towns like Poroto. There were no ambiguities about the categorization of this local community as a coastal/*chala* one: around 97% of the assemblage were coastal/*chala* wares. However, a closer

look at the CUs within the community reveal that the few mixed assemblages were a bit higher up: part of a broader trend discussed later. Importantly, there was no Salinar Phase analogue for either Katuay or Cerro Jesus Maria: they were far larger villages – probably towns – than anything that had existed in the landscape before. Even more, either of these communities would have had occupations (ADI/Century = 24.6 or 22.2) that were considerably larger than the entirety of all of the Salinar Phase occupations (ADI/Century = 15.7) that had been recorded within the survey zone.

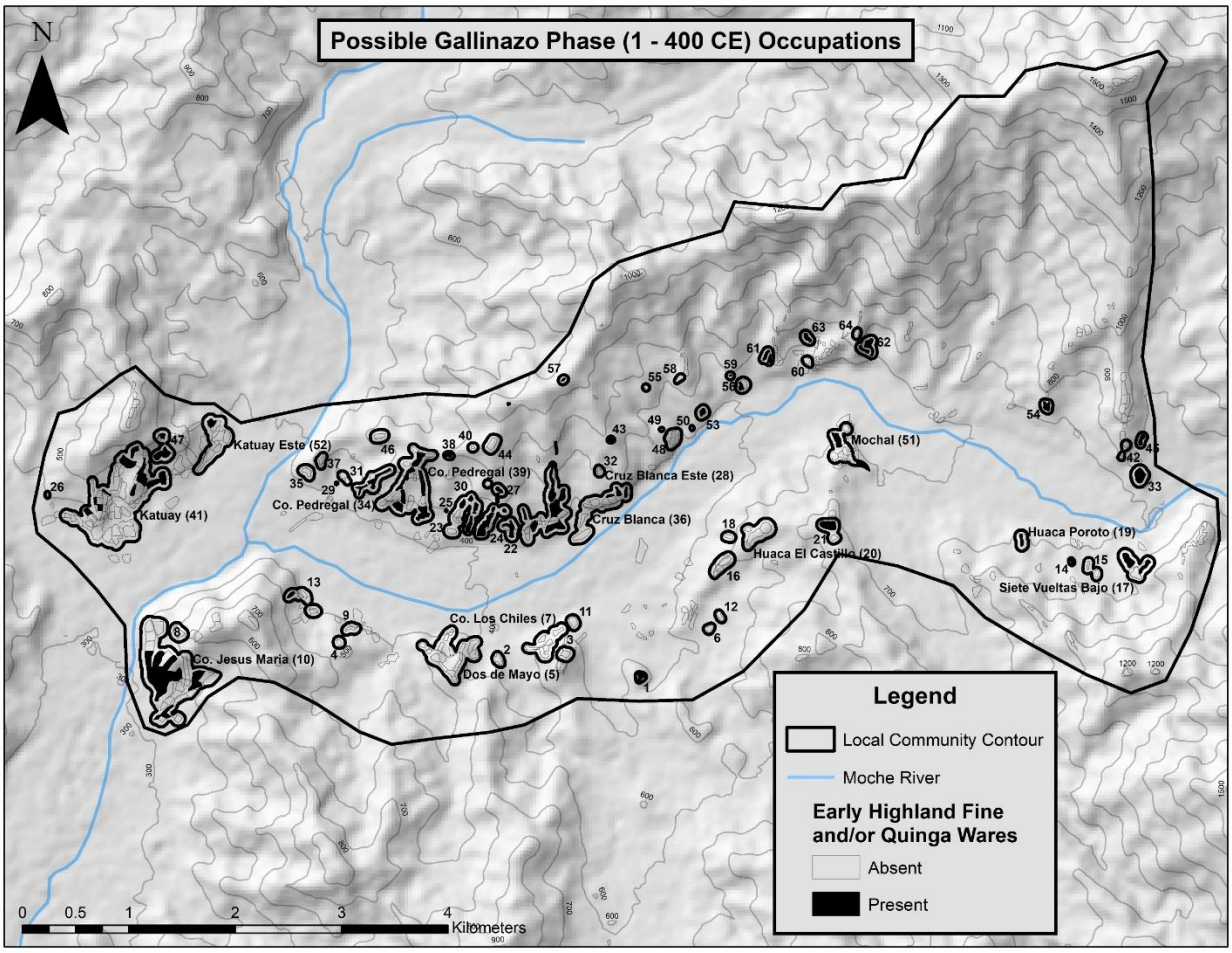


Figure 8.6 Possible Gallinazo Phase Occupations

8.2.1.1 Possible Sub-Phase Occupations

It is important to start this discussion of sub-phases by stating plainly that the data I collected are better suited for addressing the Gallinazo/Moche Phase as one larger composite. Though I was able to make some assertions as to sub-phase occupations within the local

communities I identified, these assertions should be read with caution. Most importantly, these sub-phases could only be identified through rarer diagnostics and thus consistently left out the majority of the 60.48 ADI/Century of occupations during this phase. This was the main reason I combined the phases in the first place: to take full account of all of the occupations I recorded. Combining the presence/absence of these diagnostic wares by CU with their associated ADI/Century values, I could vaguely estimate what areas would have been occupied for each sub-phase (Table 8.1).

Table 8.1 Gallinazo/Moche Phase Possible Sub-Phase Divisions with Demographic Estimates

Gallinazo-Moche Phase Possible Sub-Phase Divisions		
Sub-Phase	**ADI/Century**	**Percent of Total**
Gallinazo	23.57	39%
Moche	29.06	48%
Moche V	6.89	11%

Looking at the Gallinazo Phase (1 – 400 CE), the only way I could access this phase with the data at hand was by assuming that Early Highland and Quinga wares ceased being used after 400 CE in the survey zone (Figure 8.6). While this may have been true in the Middle Valley *chaupiyunga* because of Moche and *chala* expansion into that area, I am very doubtful it was true for all of the Upper Valley *chaupiyunga*. Several of the communities I recorded, especially those around Cruz Blanca, were almost surely occupied well into the Moche Phase and illustrated overlap between Moche, Early Highland, and Quinga wares. This being said, there are some helpful stories told by these data. First, we can see clustering of the finer early highland wares around some of the upper parts of larger communities of Katuay and Cerro Jesus Maria. This probably indicates that there were smaller Gallinazo Phase and/or highland-leaning communities that were underlying and/or nearby the stronger coastal-leaning occupations at either community. The spread of these highland and/or Gallinazo Phase wares at Cerro Jesus Maria is far larger than that at Katuay: suggesting a much larger Gallinazo Phase and/or highland occupation there than at the *huaca*-colony to the north. This is further supported if we recall the nature of Salinar Phase occupations at either community: the older village of Huaca Menocucho perhaps shifted further uphill while the dispersed hamlets and households at Katuay followed a similar pattern. Up-valley from the confluence, the spread of these highland wares stretching from Cerro Pedregal to Cruz Blanca shows a very strong Gallinazo Phase, or at least early highland, presence in that stretch of

the Upper Valley *chaupiyunga*. Most of the local communities up-valley from Cruz Blanca, with the notable exception of those at Huaca El Castillo, also have good evidence for early highland wares and possible Gallinazo Phase occupations.

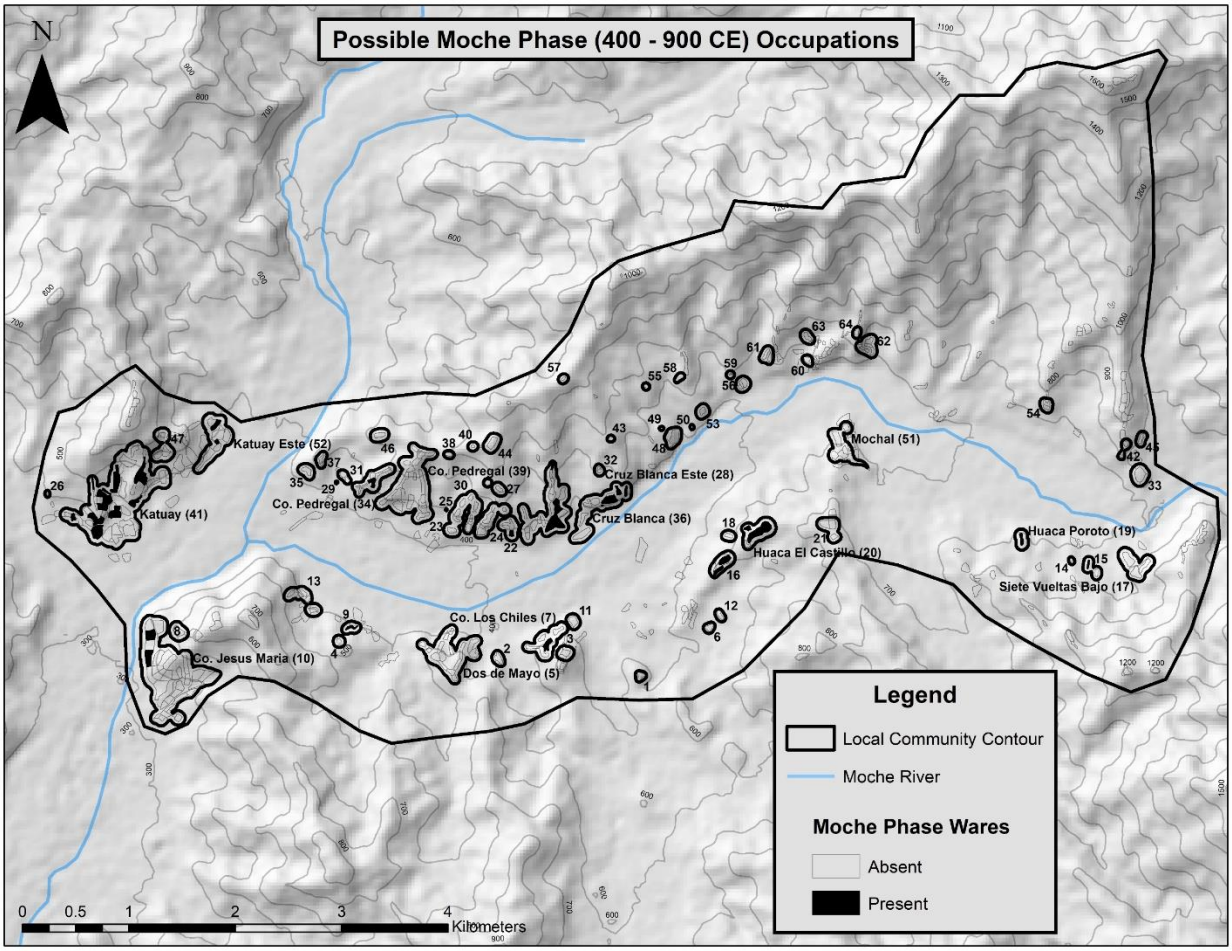


Figure 8.7 Possible Moche Phase Occupations

Looking to the Moche Phase (400 – 900 CE), the process of discerning these occupations was a bit more straightforward given that Moche ceramics are highly diagnostic of the phase itself. However, the limited contexts in which these corporate wares were found made the number of Moche Phase occupations equally limited to (1) larger communities, (2) likely elite compounds and (3) adobe *huacas* (Figure 8.7). Put simply: Moche fine-wares were rarely found at field camps or isolated farmsteads. The large Moche Phase occupation at Katuay stands out the most but Cerro Jesus Maria also had its share of a few densely occupied collection units with Moche fine-wares. Up-river from the confluence, the areas around Cruz Blanca also had likely Moche Phase

occupations as did the areas around Huaca El Castillo and Huaca Poroto. Outside of these contexts only a few possible Moche Phase wares were scattered across the landscape and were more likely associated with adjacent tombs than any domestic occupations.

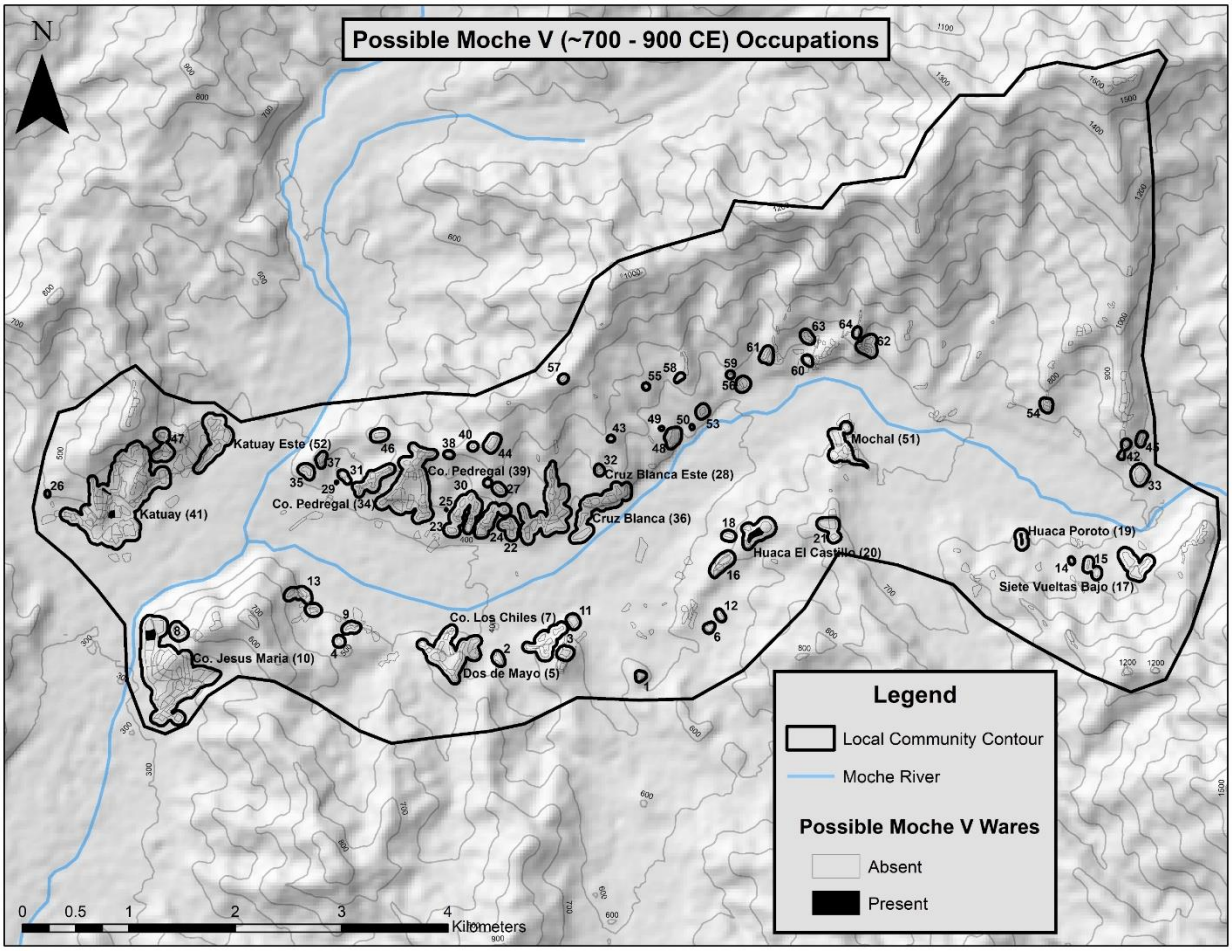


Figure 8.8 Possible Moche V Occupations

The Moche V or Late Moche "sub-phase" (~700 – 900 CE) is the least informative of the bunch simply because I only found a handful of ceramics that had decorations akin to those found at Galindo. These ceramics essentially turned up at the same local communities as those recognized during the Moche Phase but were far less common (Figure 8.8). I personally did not find any of these later Moche wares at Cruz Blanca but have seen them in previous visits to the site. The general issues with this sub-phase, even outside of my own survey data, make me skeptical as to how useful it is here: Galindo and Huacas del Moche were likely contemporary for some time, so Moche V or Galindo-style wares are likely not mutually exclusive from the host of other Moche

wares I collected. In any case, the continuity between the two more-or-less supports this statement and hopefully will convince any reader to simply ignore the Moche V map (Figure 8.8) and realize it is just a subset of the broader Moche Phase map (Figure 8.7).

In sum, this exploration into possible sub-phases provided two main insights that, though anecdotal, are helpful for interpreting the survey data. First, most of the larger communities probably had some manner of Gallinazo Phase and/or highland-leaning occupation that was either underlying or contemporary with the subsequent Moche Phase occupations. Specifically, the large community at Cerro Jesus Maria and the broader area stretching from Cerro Pedregal to Cruz Blanca both had intense Gallinazo Phase and/or highland-leaning occupations. Second, the main occupations at Katuay, Huaca El Castillo, and Huaca Poroto all most likely dated sometime within the Moche Phase and had far smaller or absent Gallinazo Phase and/or highland-leaning occupations. This trend is explored in a bit more detail later on using TDCI measurements of the *huacas* themselves.

8.2.2 Extended Local Communities

A total of 5 extended local communities were identified for the Gallinazo/Moche Phase with the rest of the occupations being categorized as rural (Figure 8.9; Figure 8.10; Figure 8.11; Figure 8.12). The slightly larger contours used in identifying this scale of community helped lump together local communities in and around the more densely occupied parts of the landscape. Starting with the largest extended local communities, Katuay (42.3%, ADI/Century = 25.8) and Cerro Jesus Maria (40.9%, ADI/Century = 24.8) had new contours that worked to include all of the small outlying local communities around these two larger communities. For Katuay, this meant its size grew to enough so it could slightly overtake Cerro Jesus Maria as the largest community. One of these additions was a small hillside hamlet (local community #47) that had a mixed assemblage which only subtly changed the resulting assemblage of the Katuay local community cluster: some 94.5% – as opposed to the previous 97% – of the assemblage was coastal/*chala*. The resulting assemblage of the extended local community at Cerro Jesus Maria had practically no change: still around 70% was coastal/*chala* while 30% was highland.

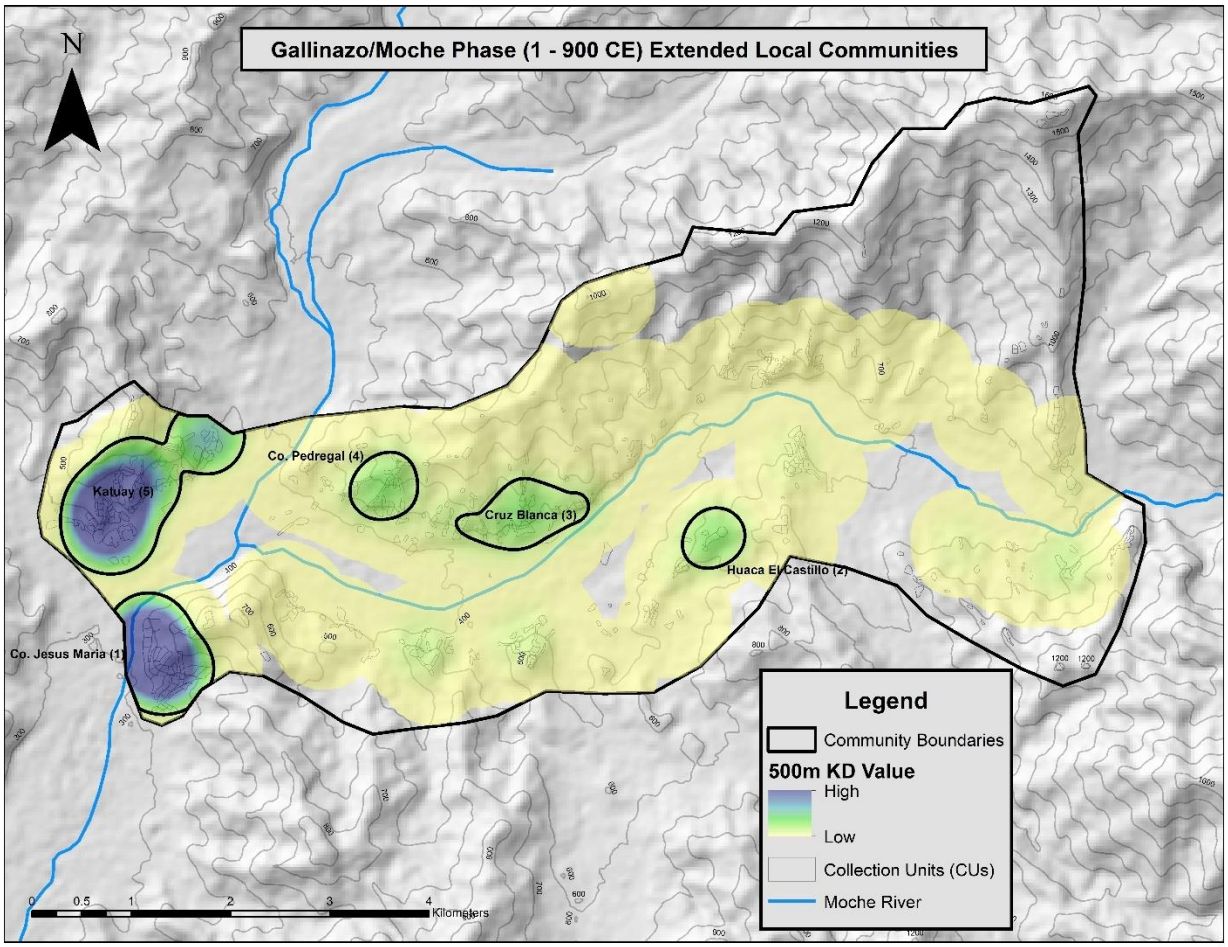


Figure 8.9 Gallinazo/Moche Phase Extended Local Communities

The three other extended local communities were considerably smaller. Cruz Blanca was the largest of these extended local communities and essentially lumped together the small ridge village of Cruz Blanca with hamlets to the east and west (5%, ADI/Century = 3). This extended local community, echoing the assemblages of the local communities around it, had a solidly mixed assemblage: 64% was coastal/*chala* while the other 36% was highland. Cerro Pedregal (3.1%, ADI/Century = 1.9) had a similar assemblage but was an even smaller extension of hamlets that were centered around and super-imposed upon the Salinar Phase community of the same name that had preceded them. Huaca El Castillo was similarly small (2.6%, ADI/Century = 1.6) and was likely no more than a collection of households but had an assemblage that was completely dominated by only coastal/*chala* wares.

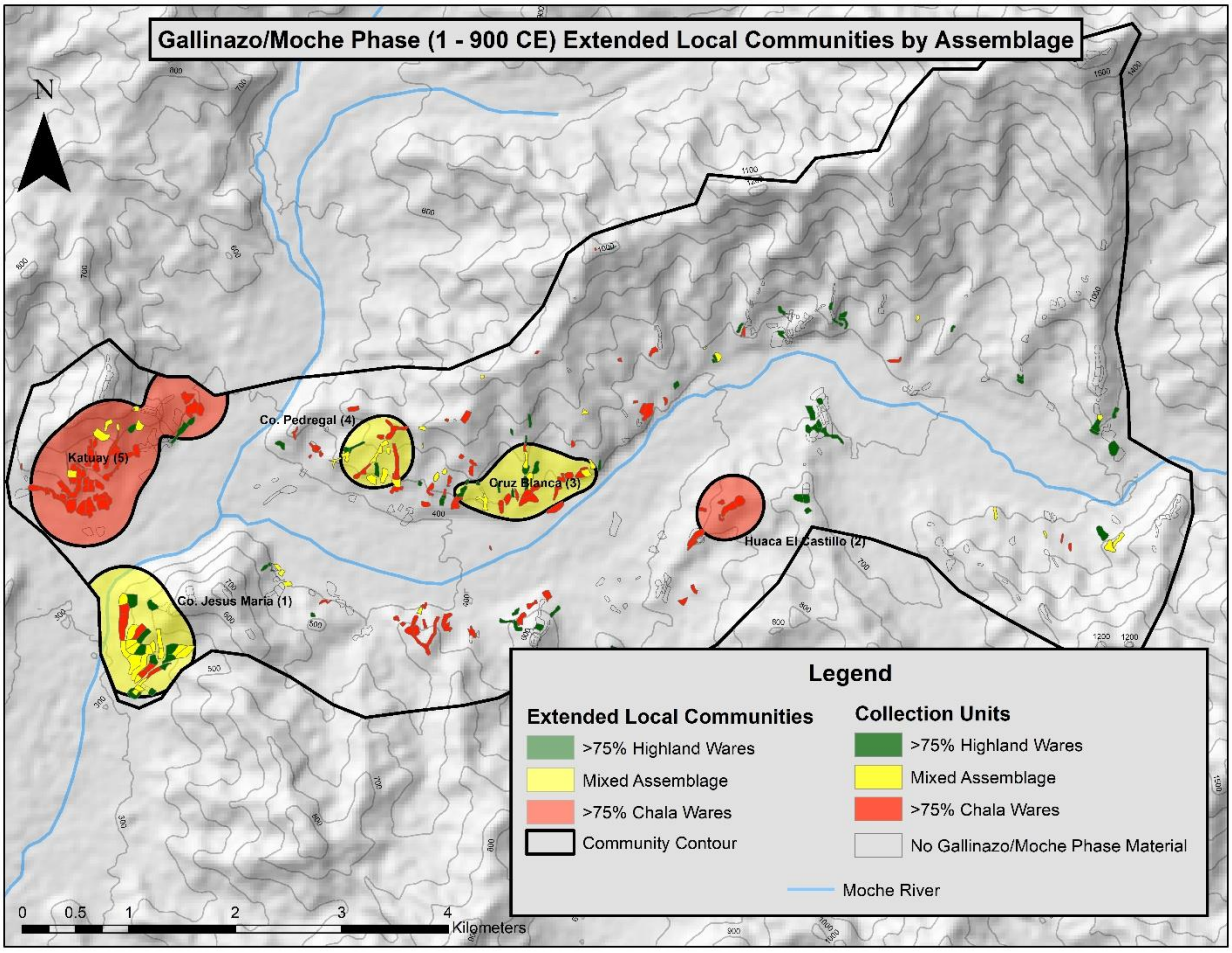


Figure 8.10 Gallinazo/Moche Phase Extended Local Communities by Assemblages

Most notably, there was still a considerable portion of the demographic landscape that was considered rural (7.4%, ADI/Century = 4.5). This is a number that was larger than any of the smaller extended local communities of the Gallinazo/Moche Phase and was even close to the size of the occupation at the largest village, Huaca Menocucho, of the previous phase. These varied occupations that were classified as rural had a combined assemblage that was mixed: 66% coastal/*chala* and 34% highland. These values themselves are only useful in a very general sense and simply echo the findings that were better described by the assemblages for the 55 smallest local communities discussed earlier.

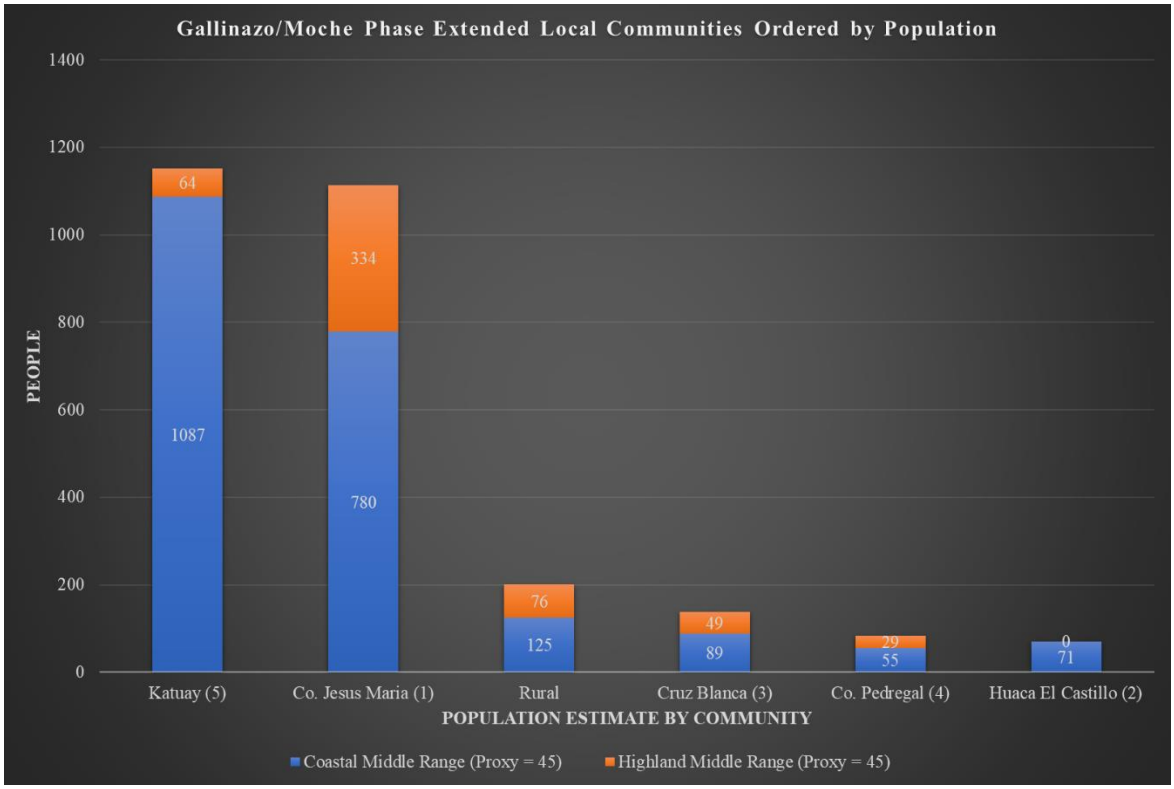


Figure 8.11 Gallinazo/Moche Phase Extended Local Communities Ordered by Population

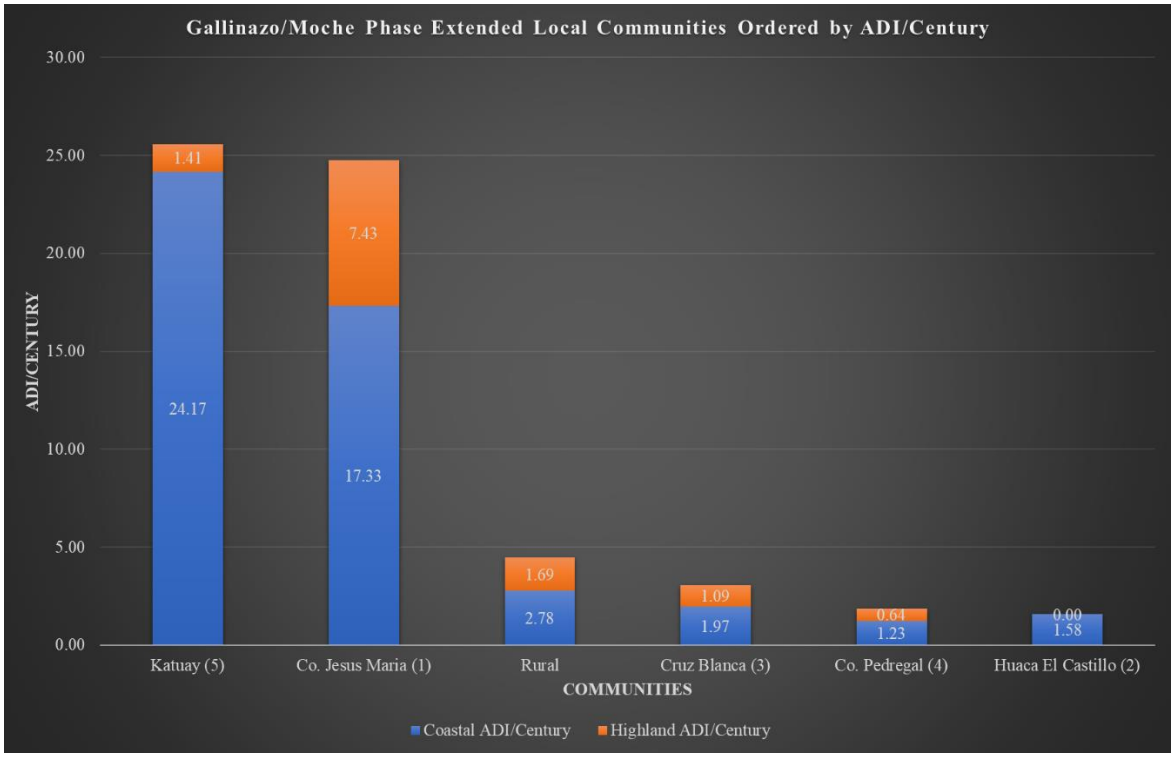


Figure 8.12 Gallinazo/Moche Phase Extended Local Communities Ordered by ADI/Century

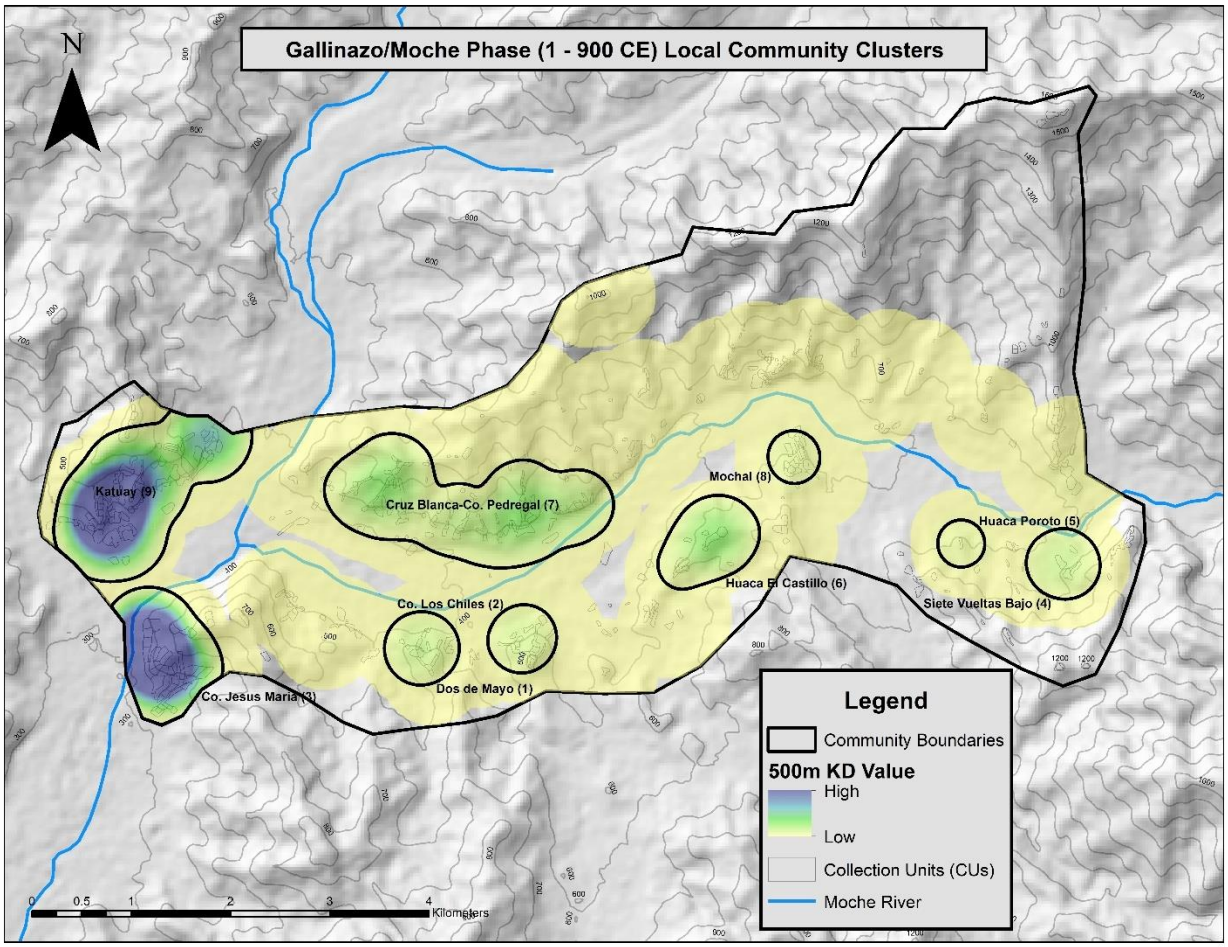


Figure 8.13 Gallinazo/Moche Phase Local Community Clusters

8.2.3 Local Community Clusters

Finally, a total of 9 local community clusters were identified for the Gallinazo/Moche Phase with the remaining occupations still being considered rural (Figure 8.13; Figure 8.14; Figure 8.15; Figure 8.16). The largest two local community clusters were exactly the same as the largest two extended local communities: both Katuay and Cerro Jesus Maria continued to dominate the demographic landscape at every scale. The extended local communities at Cruz Blanca and Cerro Pedregal were combined with the varied local communities between them with the new contours to form a larger local community cluster of Cruz Blanca – Cerro Pedregal (9.1%, ADI/Century = 5.5). This larger local community cluster had a similarly mixed assemblage and captured the broader linkage between the occupations in this part of the landscape. Given the previous Salinar

Phase occupation at Cerro Pedregal, I think it is most likely that this community persisted from the Salinar Phase through part of the Gallinazo Phase and slowly shifted up-river to be closer to the likely canal intake area below Cruz Blanca by the Moche Phase. The comparatively larger size and likely Moche Phase occupation at Cruz Blanca would support such a narrative, but excavation data would be better suited to address such questions. Huaca El Castillo (2.7%, ADI/Century = 1.63) emerged as the next largest local community cluster and the new contour captured a few of the lighter and more dispersed occupations downhill from the main *huaca*. Most notably, this local community cluster continued to be relatively small and also had an exclusively coastal/*chala* assemblage.

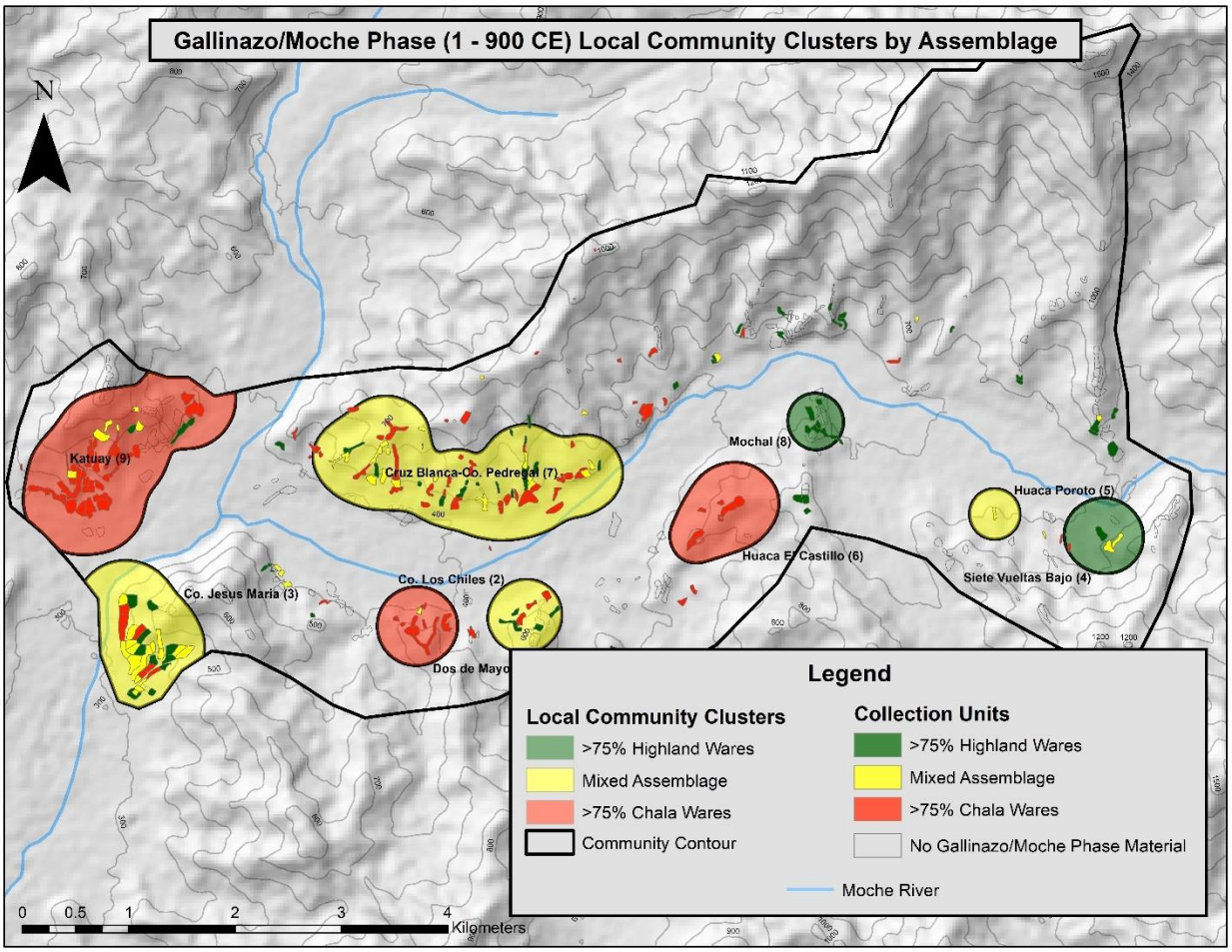


Figure 8.14 Gallinazo/Moche Phase Local Community Clusters by Assemblages

Outside of these four local community clusters, the other five were considerably smaller and were likely no more than collections of more isolated households and/or ephemeral

occupations. The local community clusters at Dos de Mayo (1%, ADI/Century =.66) and Cerro los Chiles (.9%, ADI/Century = .52) seemed to be a mixture of (1) brief continuations of the Salinar Phase occupations at either area and/or (2) perhaps some later camps or individual farmsteads set up nearby. Further up-valley, the tiny local community clusters of Mochal (.5%, ADI/Century = .29) and Siete Vueltas Bajo (1%, ADI/Century = .61) would probably better be described as collections of highland-affiliated camps or, at most, briefly occupied households. Huaca Poroto (.4%, ADI/Century = .25) was a similarly light occupation with mixed assemblages that consisted only of the CU covering the canal-*huaca* of the same name. More generally, a host of rural occupations that even this broad of a contour could not capture made up a still notable portion of regional populations (2.5%, ADI/Century = 1.5). This was a considerably larger portion of demography left out of the contours of a similar scale during the Salinar Phase: adding to the increasing evidence for the more rural nature of occupations past the confluence.

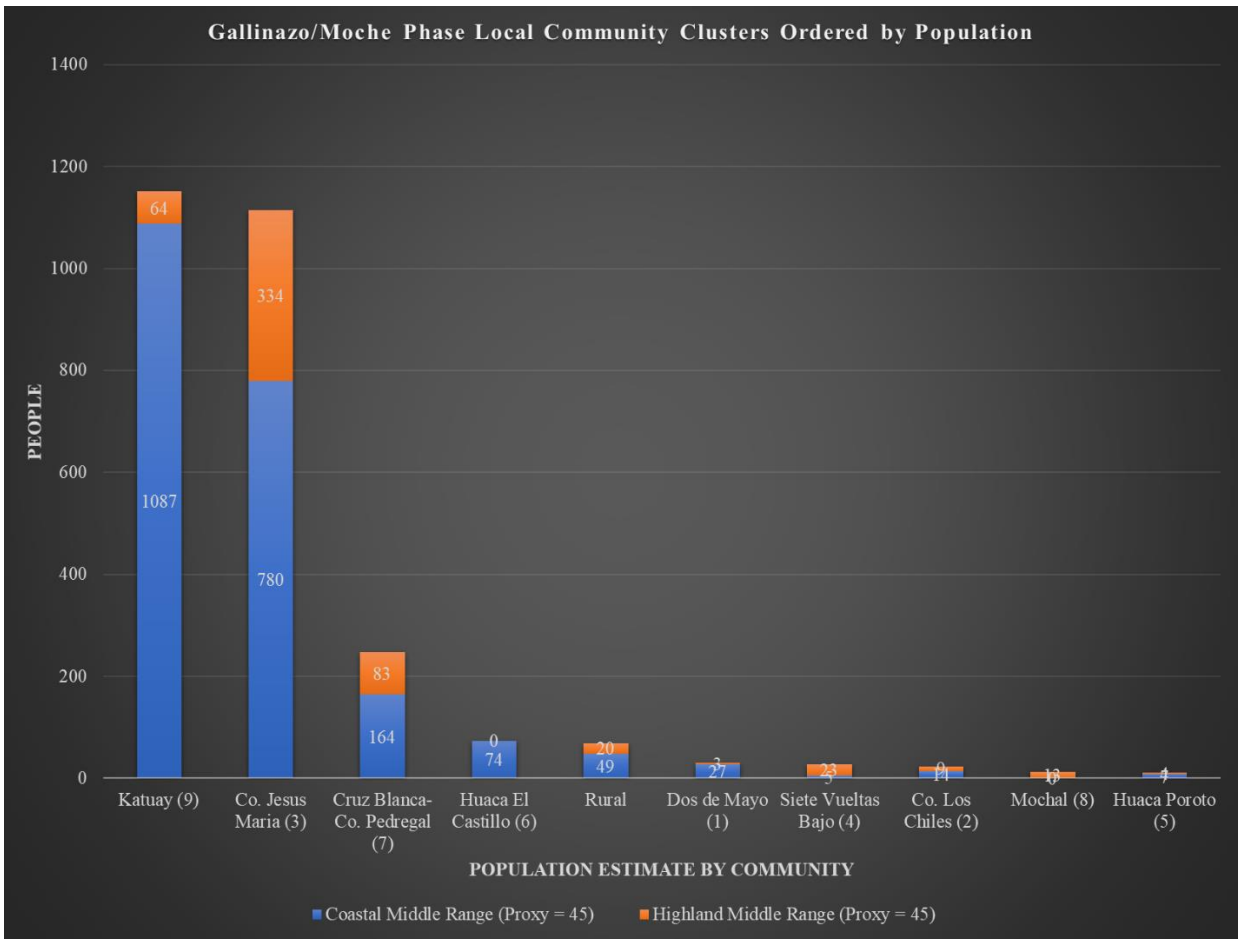


Figure 8.15 Gallinazo/Moche Phase Local Community Clusters Ordered by Population

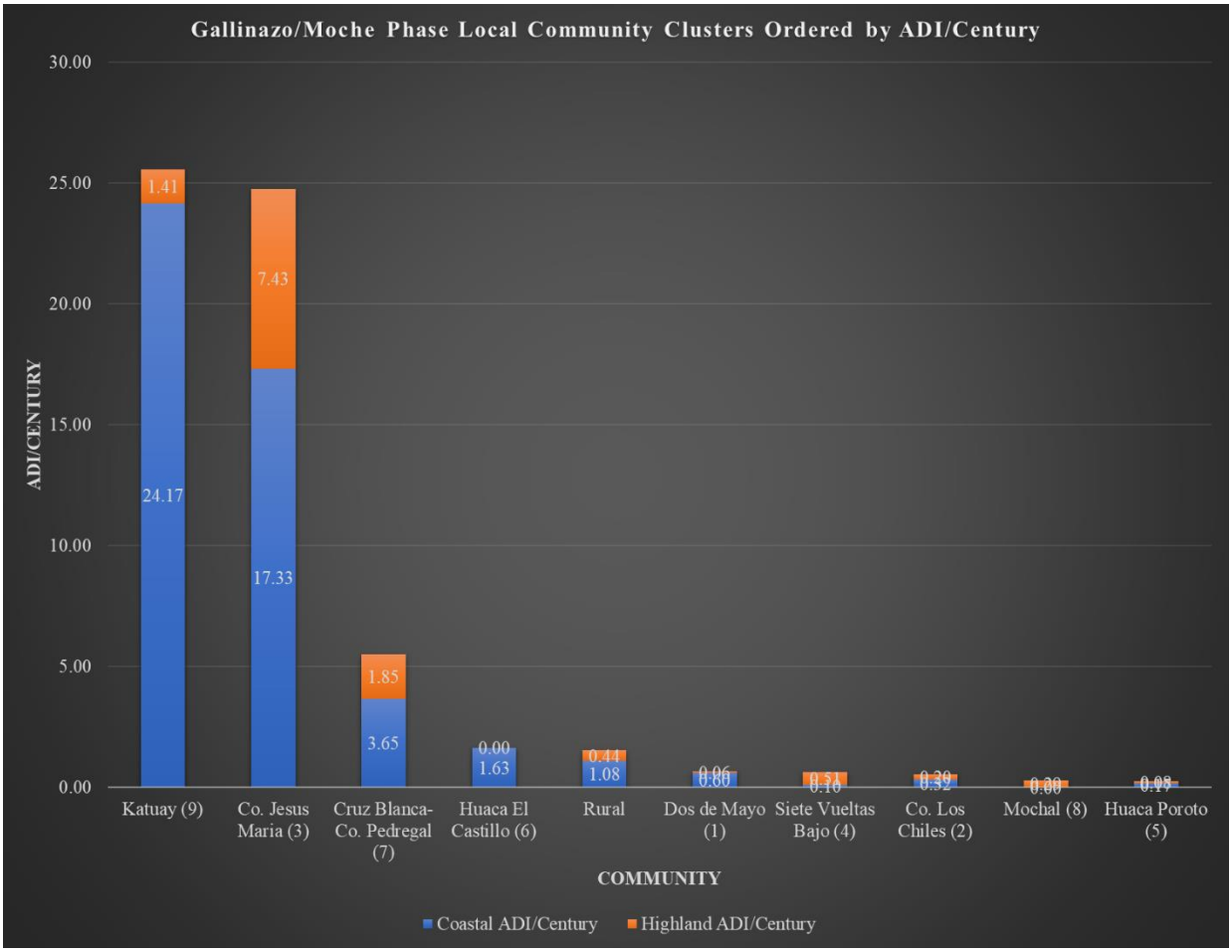


Figure 8.16 Gallinazo/Moche Phase Local Community Clusters Ordered by ADI/Century

8.2.4 Discussion

In sum, the demographic landscape of the Gallinazo/Moche Phase could be best described as being composed of two large villages – probably towns – at the confluence, one smaller village up-river, and several smaller collections of hamlets within a sea of more ephemeral occupations, dispersed farmsteads, and camps across the *chaupiyunga*. Though similarly sized, the two villages or towns of the confluence had markedly different assemblages and pasts. Cerro Jesus Maria was a community that had deeper Gallinazo Phase, and possibly even Salinar Phase, roots in the confluence landscape. These roots corresponded with mixed assemblages showing varied ties with both the adjacent highlands and the coast/*chala*. Though it may have shifted down-hill on the side of the mountain that faced Katuay, the broader community of Cerro Jesus Maria also continued to

be occupied well into the Moche Phase. Katuay sprang from a part of the landscape that was far less densely settled in the Gallianzo or Salinar Phases: a rapid influx of people in one place during the Moche Phase that corresponded with almost exclusively coastal/*chala* assemblages, adobe *huacas*, and an abundance of Moche corporate wares.

Up-river from these two large communities, the occupations and communities were far smaller and dispersed but had similarly complex assemblages and pasts bundled within them. A string of hamlets and farmsteads connected Cerro Pedregal with the small village of Cruz Blanca: likely indicating a slow shift from the former to the latter over the course of the Gallinazo and Moche Phases. Much like Cerro Jesus Maria, these occupations had mixed assemblages and ultimately, at Cerro Pedregal at least, had deep roots extending into the Salinar Phase. Huaca El Castillo emerged as a small hamlet around a *huaca* founded during the Moche Phase and had an exclusively coastal/*chala* assemblage akin to that found at Katuay. Outside of these communities, the other occupations in the area were dispersed, light, and had comparatively diverse assemblages. Though more of these 55 or so occupations had mainly coastal/*chala* assemblages, over half had mixed or highland-leaning assemblages: showing that these rural occupations had a diverse array of connections up- and down-river. This is also supported by a broader look at the rural occupations emerging from the extended local community analyses: an aggregation of all rural occupations showed more diversity (66% coastal/*chala* and 34% highland) than the region as a whole (80% coastal/*chala* and 20% highland). Thus, outside of the villages at the confluence, the landscape was rich with an array of lighter, dispersed, and diverse occupations that reflected a fluid demographic and cultural boundary.

However, these same patterns also suggest that the confluence became an even greater focal point for regional populations in the survey area. At the broadest scale, this can be seen in the remarkably high degree of demographic centralization around the confluence during the Gallinazo/Moche Phase (TDCI = .91) when compared to the Salinar Phase (TDCI = .82). This centralization was also only moderately higher for coastal/*chala* wares (TDCI = .94) than highland wares (TDCI = .82): a difference that seems to have likely been caused by the large coastal/*chala* dominated assemblages at Katuay. In general, the arrangement during the Gallinazo/Moche Phase almost seems to be a hyperbole of the patterns originally recognized during the Salinar Phase: the largest communities at the confluence only got larger and the spread of tiny local communities in

the *chaupiyunga* had a wider dispersal and more persistent occupations. More specifically, the connections between some parts of the Salinar and possible Gallinazo Phase demographic landscapes are striking and will be addressed later during my discussion of tethering.

Thus, the Upper Moche *chaupiyunga* remained a more-or-less sparsely occupied and diffuse demographic periphery to a vastly more densely occupied confluence, and Middle Valley *chaupiyunga*, during the Gallinazo/Moche Phase. The diversity of assemblages in this sparsely occupied *chaupiyunga* landscape indicated varying ties to highland and coastal/*chala* peoples and potters: suggesting the *chaupiyunga* was a fluid cultural boundary as well. This being said, it is also important to recognize where this diversity was absent: the small community around the *huaca* at Huaca El Castillo stood out with exclusively coastal/*chala* ties. Similar proportions of such wares were only recognized at the *huaca*-colony of Katuay at the confluence. Though this political landscape is the subject of the following section, the tangled nature of demographic, political, and cultural boundaries in the *chaupiyunga* was already quite apparent in our exploration of the demographic and cultural landscapes alone: where more direct stages of Moche authority were built in the landscape, coastal/*chala* ceramics followed suit.

8.3 The Political Landscape

Though the political landscape of the Gallinazo/Moche Phase had some ambiguous evidence for conflict and overlapping networks of coastal and highland authority, the phase was mainly defined by the rise of Moche authority at Katuay and the broader nets that Moche nobles or allies cast out upon the *chaupiyunga* landscape at Huaca El Castillo and Huaca Poroto. Overall, evidence for conflict is somewhat reduced during the Gallinazo/Moche Phase and "fortified" areas lack the investment in explicitly defensive features like in the Salinar Phase. Notably, it does seem likely that highland-leaning and/or Gallinazo Phase populations were more worried about violence than their coastal-leaning and/or Moche Phase counterparts. The distribution of Moche and highland corporate wares in the region also illustrates overlapping, but somewhat discrete, networks of indirect authority and affiliation across the *chaupiyunga*. Katuay emerged as a Moche *huaca*-colony around which regional demography was highly centralized. Huaca El Castillo was

an example of one possible manifestation of a canal-*huaca*: demographically isolated but visually bound to both the surrounding economic landscape and the small village of Cruz Blanca across the river. Though understandings of Huaca Poroto are admittedly unclear, it was the only Moche *huaca* with a more mixed assemblage and perhaps represented a unique arrangement of how Moche authority could work on the edges of the *chaupiyunga*.

8.3.1 Ambiguities in Interpreting Gallinazo/Moche Phase Conflict

Evidence for conflict in the Gallinazo/Moche Phase landscape was assessed in the same way as it was for the Salinar Phase. To begin, the settlement preferences by landscape zones were calculated in three different ways: (1) lumping all Gallinazo/Moche Phase occupations together, (2) isolating just coastal/*chala* wares, and (3) isolating just highland wares (Figure 8.17). Though the first was the most appropriate to assess the phase as a whole, the latter two allowed us to see if certain ceramics tended to be found in more defensible areas. These were then put side-by-side with the same distributions used to assess settlement preferences during the Salinar Phase. On first glance, it appears that the Gallinazo/Moche Phase showed a subtle decrease in occupations in high ridges/ mountain slopes and an increase in occupations on adjacent hills. This pattern suggests a decrease in settlement preferences toward defensible parts of the landscape and thus a possible decrease in concerns for conflict over the Gallinazo/Moche Phase as a whole. Generally, this pattern is not particularly surprising given that the densest occupied communities, Katuay and Cerro Jesus Maria, are both located on valley hillslopes and closer to the valley floor.

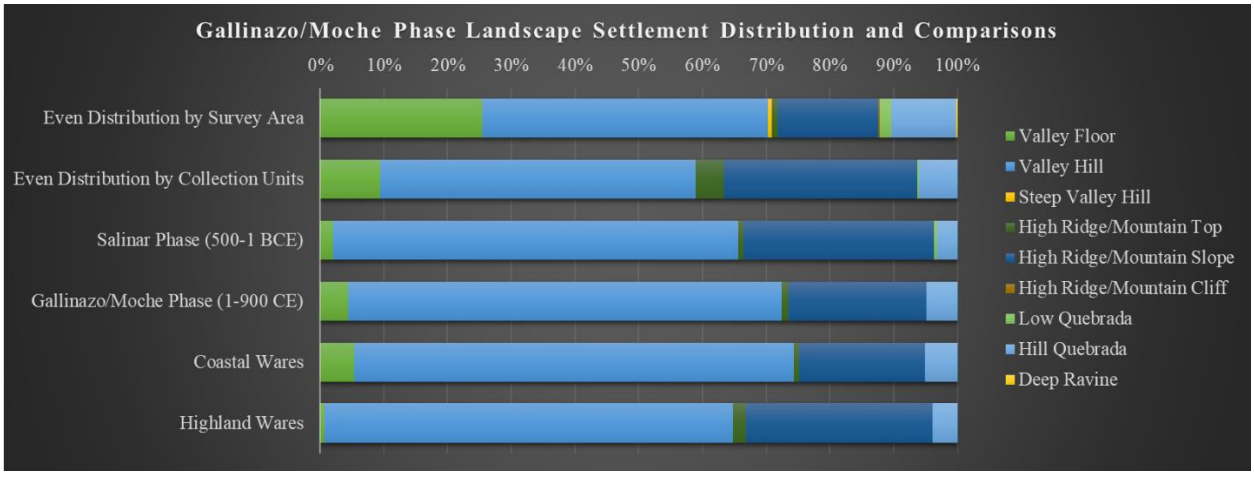


Figure 8.17 Gallinazo/Moche Phase Landscape Settlement Distributions and Comparisons

A deeper look, however, shows that this pattern was not uniform across all wares that were used during the Gallinazo/Moche Phase. While coastal wares followed a similar distribution to the phase as a whole, the distributions of highland wares more closely resembled the patterns observed for the Salinar Phase (Figure 8.17). I see this difference as a likely residue of the previously observed continuity between highland-leaning and/or Gallinazo Phase occupations and those from the Salinar Phase. This being said, there were other defensively located and highland-leaning communities like Cruz Blanca that did not have clear Salinar Phase occupations. This would suggest that a trend of highland wares towards defensive areas partially transcended any of the expected differences between the Gallinazo and Moche Phase settlement preferences that had to be combined for the purposes of this survey.

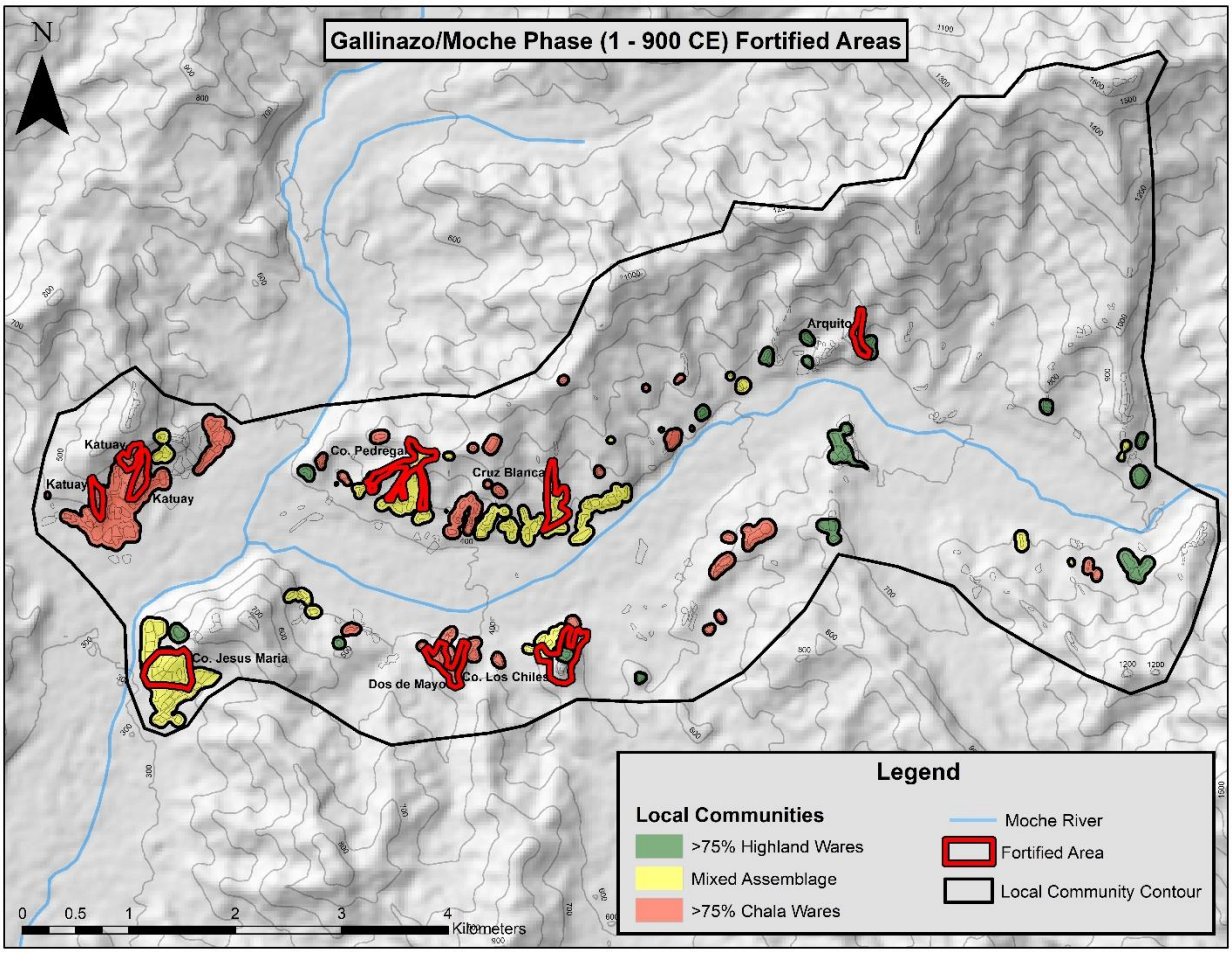


Figure 8.18 Gallinazo/Moche Phase Fortified Areas

Looking towards the more reliable indicators for conflict like fortifications, we are greeted with similar ambiguities. Though a total of 7 fortified areas were identified, only three had possible Gallinazo Phase origins: (1) the clear defenses at Cruz Blanca, (2) some additional defensive areas at Katuay, and (3) possible defenses on the slopes of Cerro Jesus Maria (Figure 8.18). Cruz Blanca presents the best evidence for Gallinazo/Moche Phase defensive features: specifically, the northern approach to the site from the ridge-top above was punctuated by a series of dry ditches (Figure 8.19; Figure 8.20). Any fortifications in the southern approach to the community were much less clear due to recent destruction but some of the remnant retaining walls of habitation terraces work with the steep slope to make access to the site from below difficult (Figure 8.21). More generally, well-made habitation terraces built into steep slopes can serve as quite effective defensive features. In my previous work at the fortified Chimú/Chimú-Inka Phase citadel of Fortaleza de Quirihuac, I noticed that the habitation terraces were often paired with steep slopes or cliffs to serve as obstructions (Mullins 2012). In addition to those at Cruz Blanca, I saw some the habitation terraces at the hillside and mountain slope occupations at Katuay and Cerro Jesus Maria as possibly playing such dual roles as well. At Katuay, these occupations were more clearly defensive: they led up to a highly defensible ridge that had several defensive ditches dug into it (Figure 8.22). The possible defenses at Cerro Jesus Maria are far more ambiguous: a later Chimú/Chimú-Inka Phase wall obscures parts of that occupation but the hillslope itself can be quite treacherous to climb.

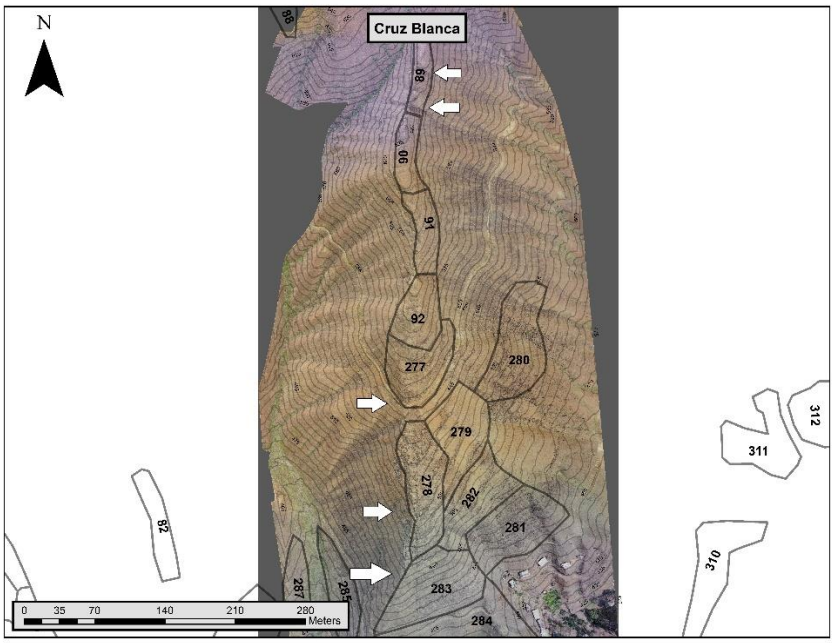


Figure 8.19 Orthophoto Map of Cruz Blanca

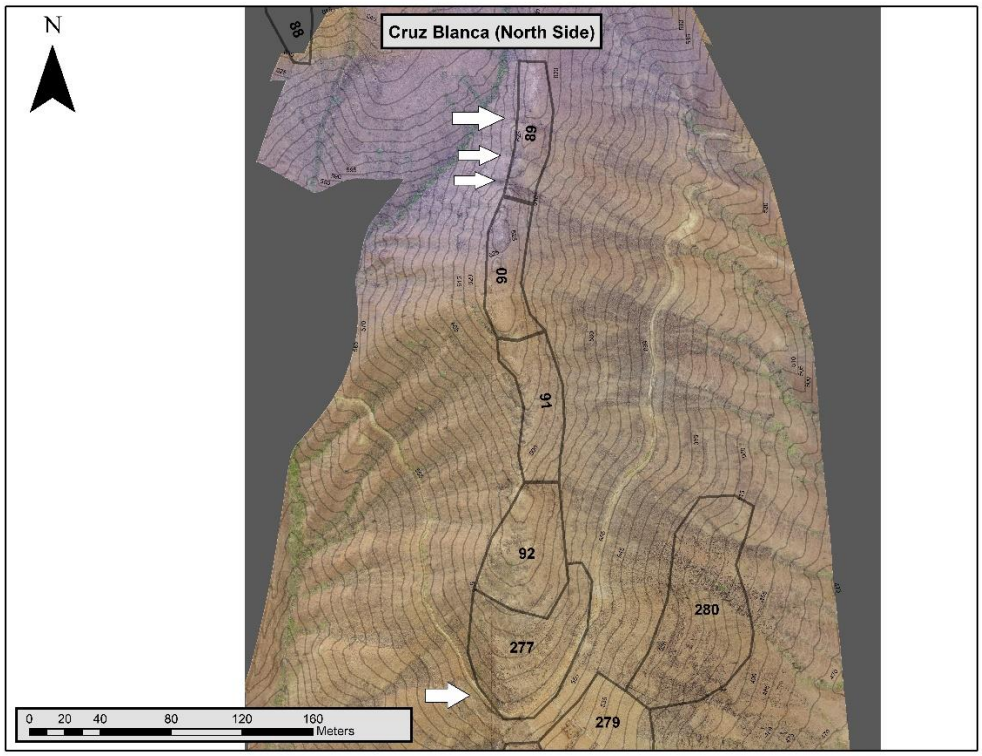


Figure 8.20 Orthophoto Map of the North Side of Cruz Blanca

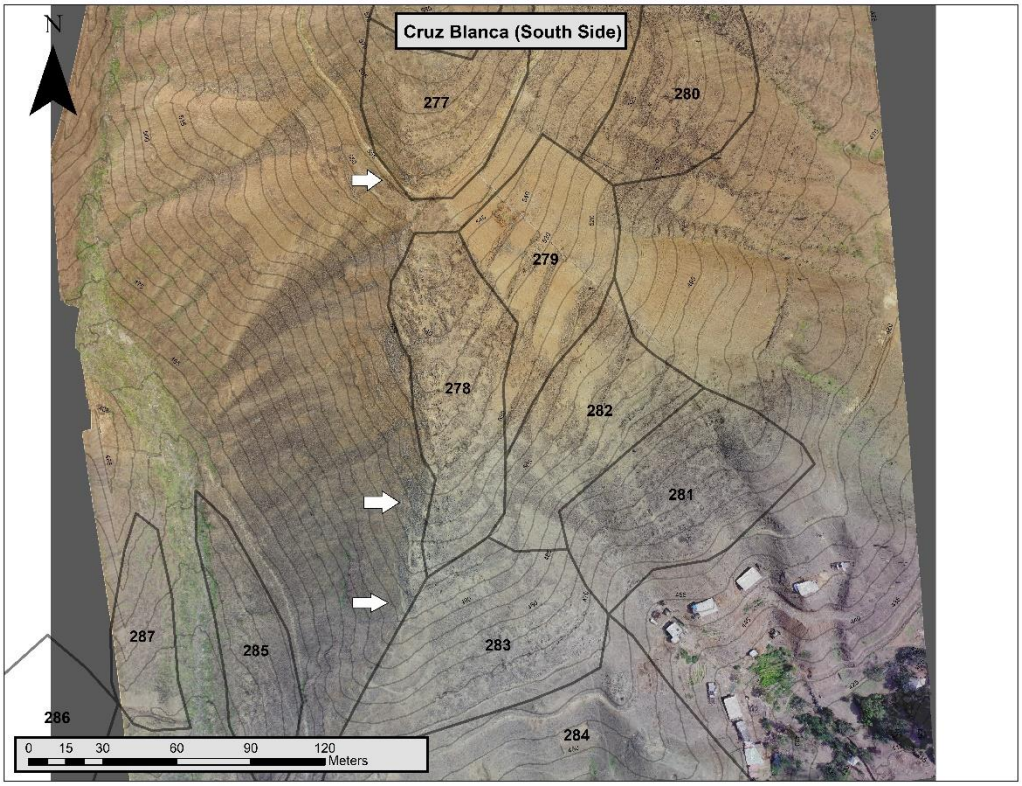


Figure 8.21 Orthophoto Map of the South Side of Cruz Blanca

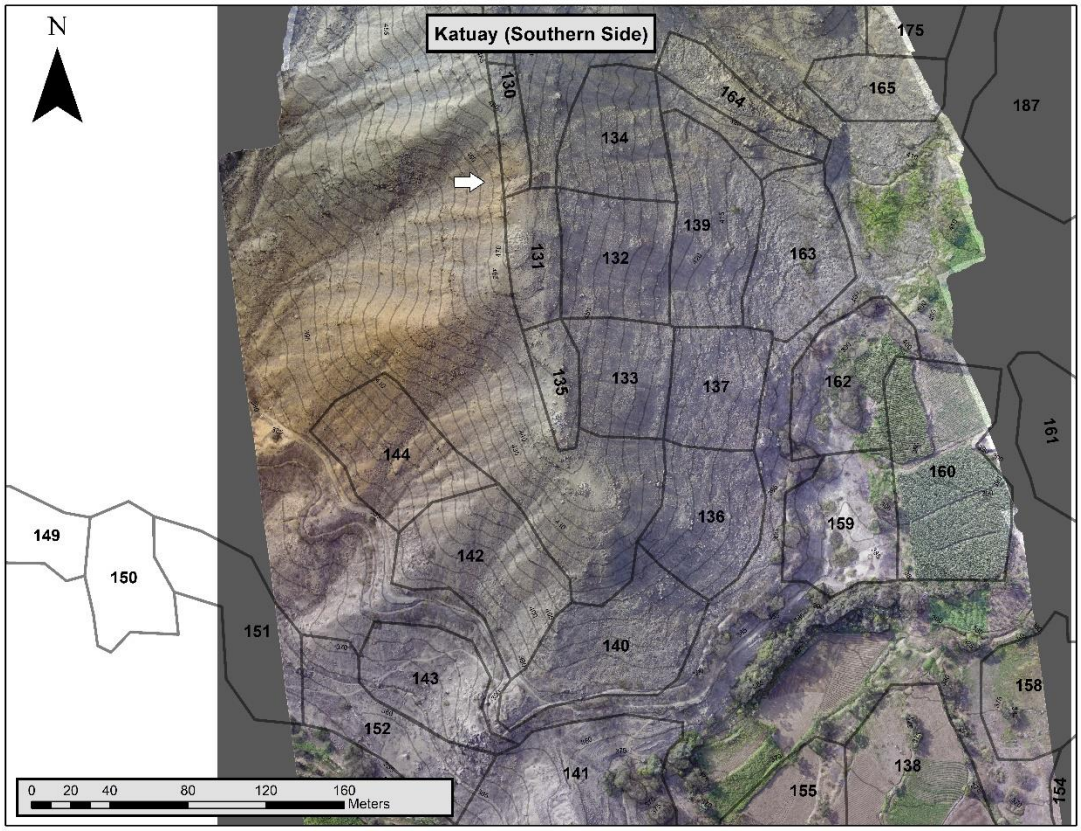


Figure 8.22 Orthophoto Map of the Southern Side of Katuay

Moving to see how regional populations may have been distributed within and around these fortified areas, the data available provided for comparisons between both (1) phases and (2) ware distributions (Figure 8.23). The main difference that emerged from a comparison between the Gallinazo/Moche and Salinar Phases was that over twice as many people were living within 15-30 minutes of fortified areas in the Gallinazo/Moche Phase than before. I suspect that this is mainly the result of (1) the heavier occupations around Katuay and (2) the addition of the possible fortified area at Cerro Jesus Maria. Both of these communities, Katuay and Cerro Jesus Maria, made up the vast majority of regional populations so any fortified area nearby would inevitably lead to overall higher values. For this reason, I think that these results should be read with caution: though the areas above Katuay and Cerro Jesus Maria were very defendable, they were less clearly "fortified" than the layers of walls and ditches at places like Cerro Pedregal or Cruz Blanca. In any case, the more interesting results of this analysis lie in the distribution of coastal and highland wares: it is immediately apparent that far more highland wares are represented within fortified contexts than outside of them. This fits well into the parallel pattern that was noted in regards to landscape

preferences: highland sherds were more likely to be (1) located in defensible parts of the landscape and (2) within fortified areas.

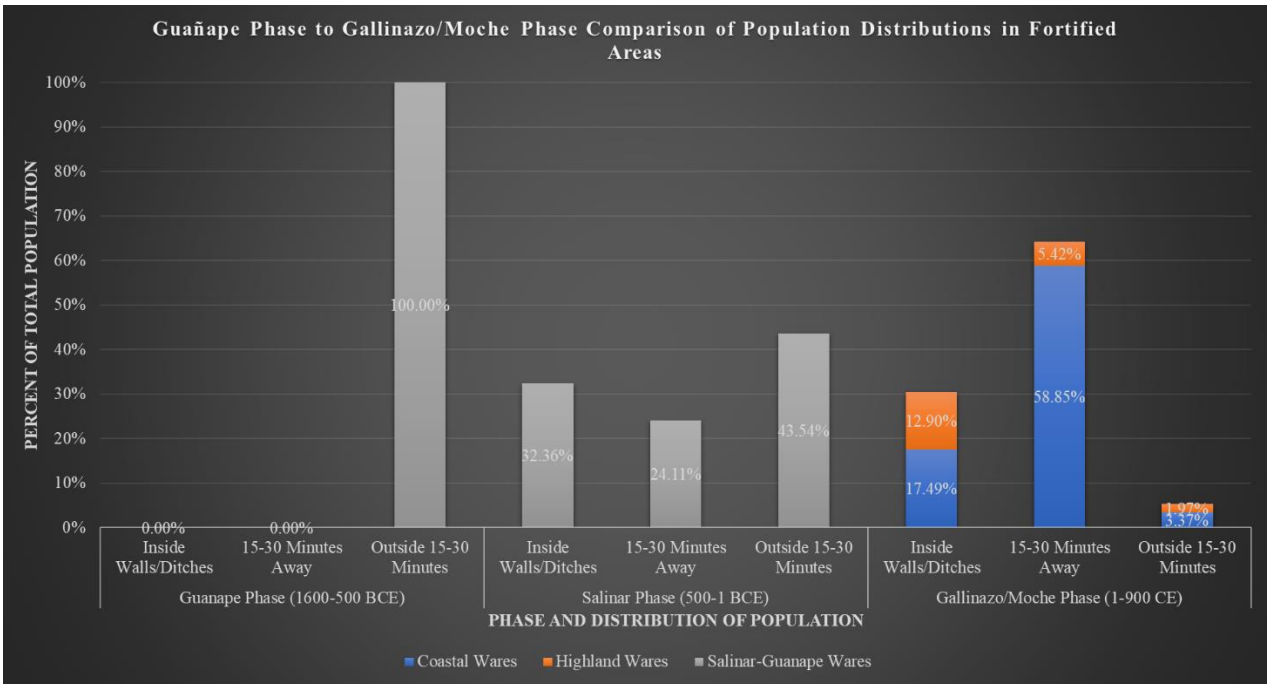


Figure 8.23 Guañape Phase to Gallinazo/Moche Phase Comparison of Population Distributions in Fortified Areas

A final, and considerably more limited, line of evidence for conflict in the region can be found in the themes depicted on a few of the Moche corporate wares that were collected during the survey. At the elite/noble compounds of Cruz Blanca Este one fragment of a fine-ware seemed to be depicting the bound hands of a captive (Appendix D). Several whole vessels depicting captives with similar, if not identical, molded elements of bound hands were recorded at Huacas del Moche by Donnan and Mackey (Appendix A; Appendix D; Donnan and Mackey 1979:97, 172). A collection unit at Katuay yielded a whistle that was molded to represent the club and shield of a Moche warrior: a common motif associated with nobility and martial themes in Moche iconography (Appendix D). Though these ceramics themselves are by no means evidence for conflict, they at least show that the themes of violence often present in Moche iconography were very much present within the assemblages of the *chaupiyunga*.

Though all of these findings definitely have their limits, I think they do provide a few important insights that can contribute to the aforementioned debates about Moche Phase warfare.

This is specifically in regards to previous arguments highlighting the lack of dedicated Moche Phase fortifications in the Moche Valley and its *chaupiyungas* (Topic, T and Topic, J. 2009). A landscape perspective allows us to see that this "absence" may be less surprising than it was being portrayed: much of the *chaupiyunga* landscape was already full of refuges or old defendable mountainside hamlets and villages that had been built and occupied during the Salinar and Gallinazo Phases. I think it is unwise to assume these places were forgotten or never used, especially when many of them were quite literally just up-hill from major Moche Phase occupations. Simply put: Moche Phase communities may not have been building their own fortifications in this area because they had plenty of defensible or fortified places nearby to run to if the need arose. This being said, the lack of more intense or clear Moche Phase occupations in such places does suggest a far lower frequency of conflict, or at least different rules of engagement that made communities themselves less threatened. These communities, namely Katuay and Cerro Jesus Maria, may have lacked their own formalized citadels but we should not assume that the older places nearby could not be used in times of need.

8.3.2 Overlapping Networks of Indirect Authority

Tracing the distribution of corporate wares across the landscape of the survey area allowed me to note the location and scope of indirect networks of authority that may have been built by Moche and highland actors. As discussed elsewhere (see Chapter 4; Appendix A), these wares are obviously also connected to how we can discern chronologies: the result being that the maps and data presented here are quite similar to those presented in my discussion of the Gallinazo and Moche sub-phases. This being said, there are some additional insights we can gain from these data so I will forge ahead. Using a presence-absence criterion for each CU, I highlighted those areas that had Early Highland and Quinga corporate wares to compare them with areas that had Moche corporate wares (Figure 8.24; Figure 8.25). This was mainly to gain an understanding of which communities had these different types of corporate wares and where within the community such wares were located. Then, I summed up the total ADI/Century for the Gallinazo/Moche Phase within each "present" CU to get an idea of how densely occupied the contexts were in which these wares were found (Table 8.2). I saw this as a very vague proxy of how many people may have been exposed to these corporate wares, and any associated networks of authority, on a regular basis

within the region as a whole. Zooming in on some of the more notable local communities, I could also get an idea of what proportion of the community would have been intermingled with where such corporate wares were being found. Finally, I also compared the proportion of all highland vs. coastal/*chala* domestic wares that were found in association with these corporate wares: a vague proxy of how much these "different" corporate and domestic traditions were overlapping within the survey area.

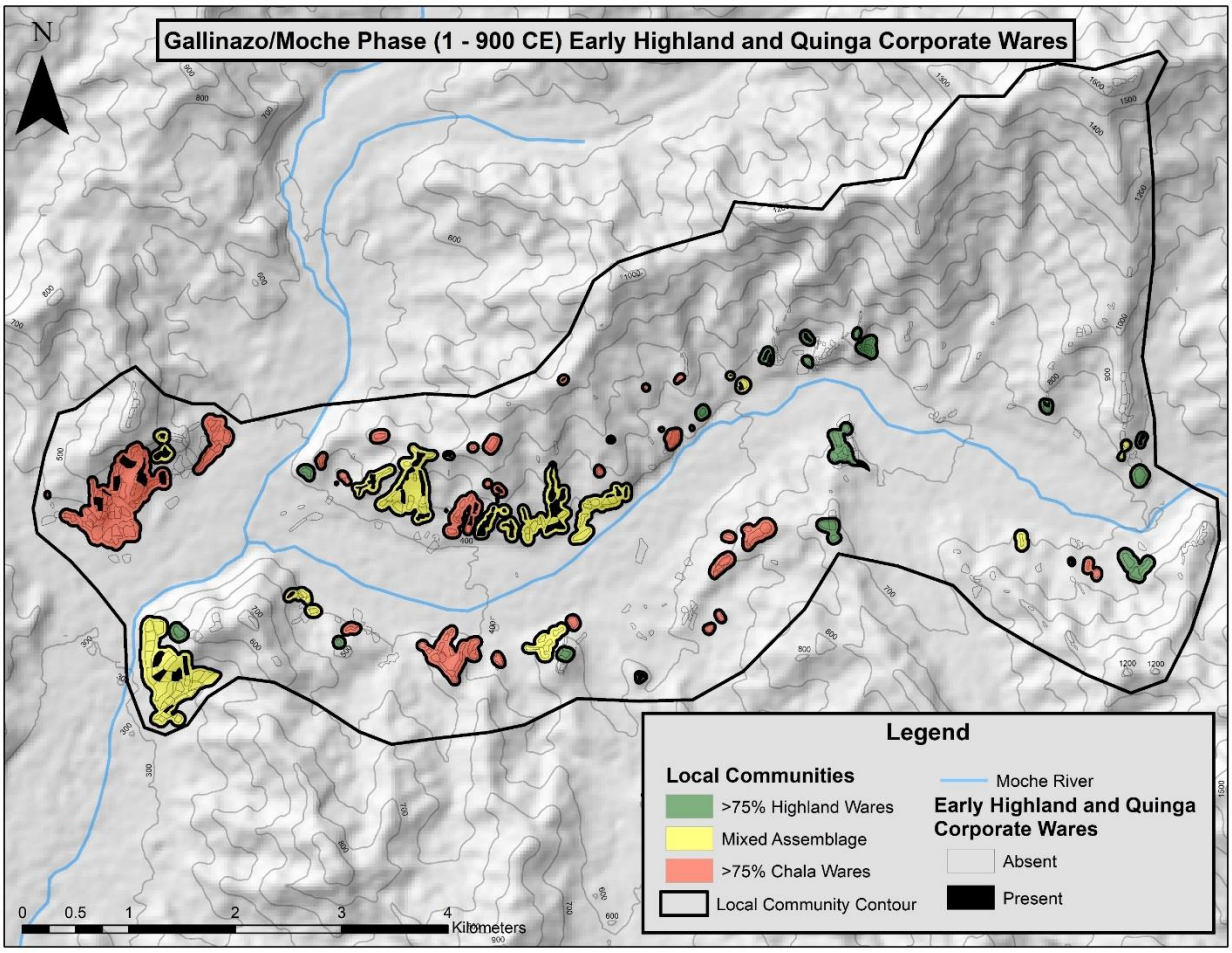


Figure 8.24 Gallinazo/Moche Phase Early Highland and Quinga Corporate Wares

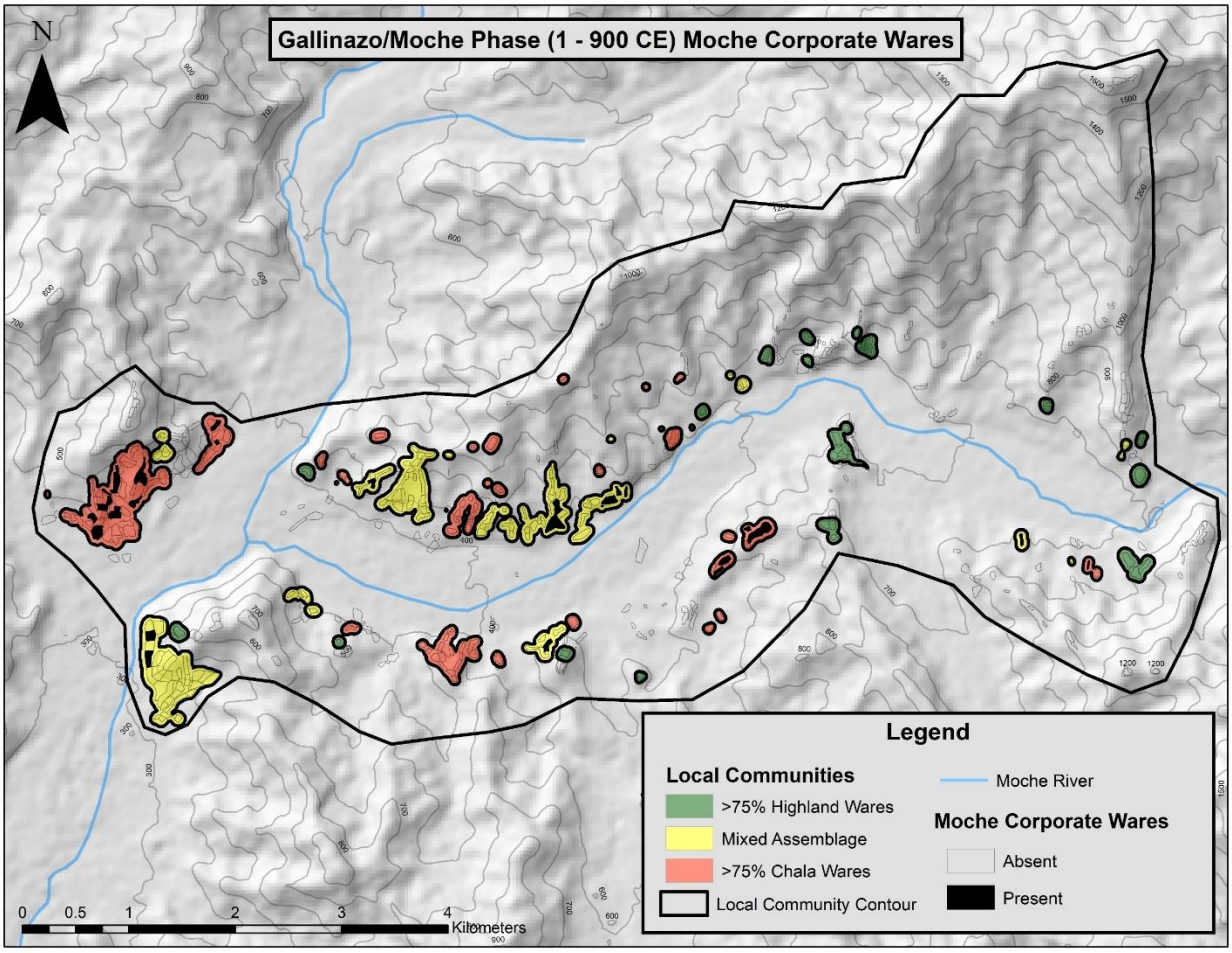


Figure 8.25 Gallinazo/Moche Phase Moche Corporate Wares

Table 8.2 Gallinazo/Moche Phase Indirect Authority in Relation to Population and Domestic Wares

Gallinazo/Moche Phase Indirect Authority						
Corporate Wares	**ADI/Century**			**Percent of Domestic Wares in Survey Area**		
	All	*Coastal*	*Highland*	*All*	*Coastal*	*Highland*
Moche	24.82	23.25	1.57	41%	48%	13%
Quinga - Early Highland	13.36	8.39	4.96	22%	17%	40%

Starting with the broadest scale of understanding: it is clear that Moche corporate wares were associated with almost twice the occupational density (i.e., ADI/Century) than Quinga and Early Highland wares. I found this was mainly because Moche corporate wares were encountered in the highest-density parts of the highest-density communities. The proportions of ADI/Century associated with the different corporate wares at Katuay show this pattern well: while around 50% of that community was in contexts associated with Moche corporate wares, only 22% was in

contexts associated with Quinga and Early Highland corporate wares. Though a bit less lopsided, a similar arrangement occurred at Cerro Jesus Maria: 35% of that community was associated with Moche corporate wares while 19% were associated with Early Highland and Quinga corporate wares. Obviously, such an imbalance favoring Moche wares wasn't being encountered everywhere: the smaller community at Cruz Blanca had 35% of the occupation associated with Moche corporate wares while a larger 62% was associated with Early Highland and Quinga wares. However, this was the largest local community in which highland corporate wares were "dominant" and the others were far smaller: mainly small hamlets and isolated farmsteads. It is here where the understandings of demographic densities lent by surface sherd densities were particularly useful. Without such understandings, we may look at the summed areas (hectares) of corporate ware distributions and assume that highland corporate wares, and traditions of authority, were more dominant in the landscape because they were found in more CUs and more communities.

Though Moche corporate wares were associated with the highest density of occupations overall, this was not a position that was held uniformly across all domestic wares (Table 8.2). While some 40% of all highland wares were associated with Quinga and Early Highland corporate wares, only 13% were associated with Moche corporate wares. A mirror image of this pattern is presented with coastal wares: with only 17% associated with Quinga and Early Highland corporate wares while 48% were associated with Moche corporate wares. This wasn't particularly surprising: we generally may expect domestic and corporate traditions from the same regions to be tied together. Even the coastal/*chala* domestic wares noted with Quinga and Early Highland corporate wares were not very surprising: the assemblage of a community like Cerro Leon already had already shown us that highland corporate wares can often be co-mingled with coastal/*chala* domestic wares. A bit more interesting was the overlap, however slight (~13%), between Moche corporate wares and highland domestic wares. This overlap did inevitably occur at the larger communities at the confluence but another main nexus for such overlap was up-river. The local community at Cruz Blanca and its neighboring local community of Cruz Blanca Este both had CUs in which a variety of coastal/*chala* and highland domestic and corporate wares were overlapping.

However, this overlap was notably absent at two specific communities: Huaca El Castillo and Huaca Poroto. The few CUs recorded in these two very small local communities only had Moche corporate wares and exhibited a complete absence of Early Highland or Quinga corporate wares. Though Huaca Poroto had an otherwise mixed assemblage (68% coastal/*chala* wares, 32% highland wares), Huaca El Castillo was entirely made up of coastal/*chala* wares. I am generally less confident about making definitive statements about Huaca Poroto because our collections were made very rapidly. However, we revisited Huaca El Castillo several times and still found no trace of highland wares: corporate or otherwise. These two Moche *huacas* presented some of the sole exceptions to the general overlap of corporate wares recognized at other *chaupiyunga* communities like Cruz Blanca. Though Huaca Poroto stood apart with its mixed assemblage, the coastal/*chala* dominated assemblage and ample Moche corporate wares of Huaca El Castillo was far more reminiscent of the CUs around the *huacas* of Katuay down-river at the confluence.

8.3.2.1 Working Through the Issue of Contemporaneity

The principal issue I have with attempting to move further with interpreting these patterns is one of chronology: how can I be certain that these occupations are contemporary vs. sequential with survey data alone? The excavated assemblages of *chaupiyunga* communities at Cerro Leon, Cerro Huancha, and Loma del Shingo all showed that the use of both highland and coastal ceramic traditions was often something that overlapped within contemporary communities. To the extent that we can divine any measure of certainty from archaeological data, I would argue that the excavated assemblages of those three communities gave me some confidence in assuming contemporaneity and overlap instead of discrete and sequential occupations. However, these overlaps were mostly observed with domestic, and not corporate, ware traditions in these excavated contexts. Additionally, the problems with differentiating Gallinazo and Moche sub-phases do lead me to be hesitant as saying definitively that these corporate wares were overlapping in contemporary contexts. In the end, such statements of contemporaneity are better supported by expanding excavation data rather than survey data.

It is through these uncertainties, however, that a landscape perspective can lend us some help. There is still meaning in these overlapping networks of authority regardless of whether they were contemporary or not. The spatial correspondence of these varied corporate wares, and the

residues of indirect authority such wares would have carried with them, illustrate that there were indirect bids of authority being negotiated between a variety of actors within the same general places in the landscape. Cerro Jesus Maria, Cruz Blanca, and even Katuay all had evidence for both highland and coastal/*chala* corporate wares and all were likely the longest-lasting and most densely occupied areas of the survey area over the entirety of the Gallinazo/Moche Phase. For the relatively simple questions I am trying to answer, it is less important that the bids of authority suggested by corporate wares were simultaneous and more important that they were overlapping within the same general places. The fact that overlap exists is a data point that alone suggests a fluid political boundary was situated upon the *chaupiyunga* over the course of this phase at the timescales accessible by the survey data at hand.

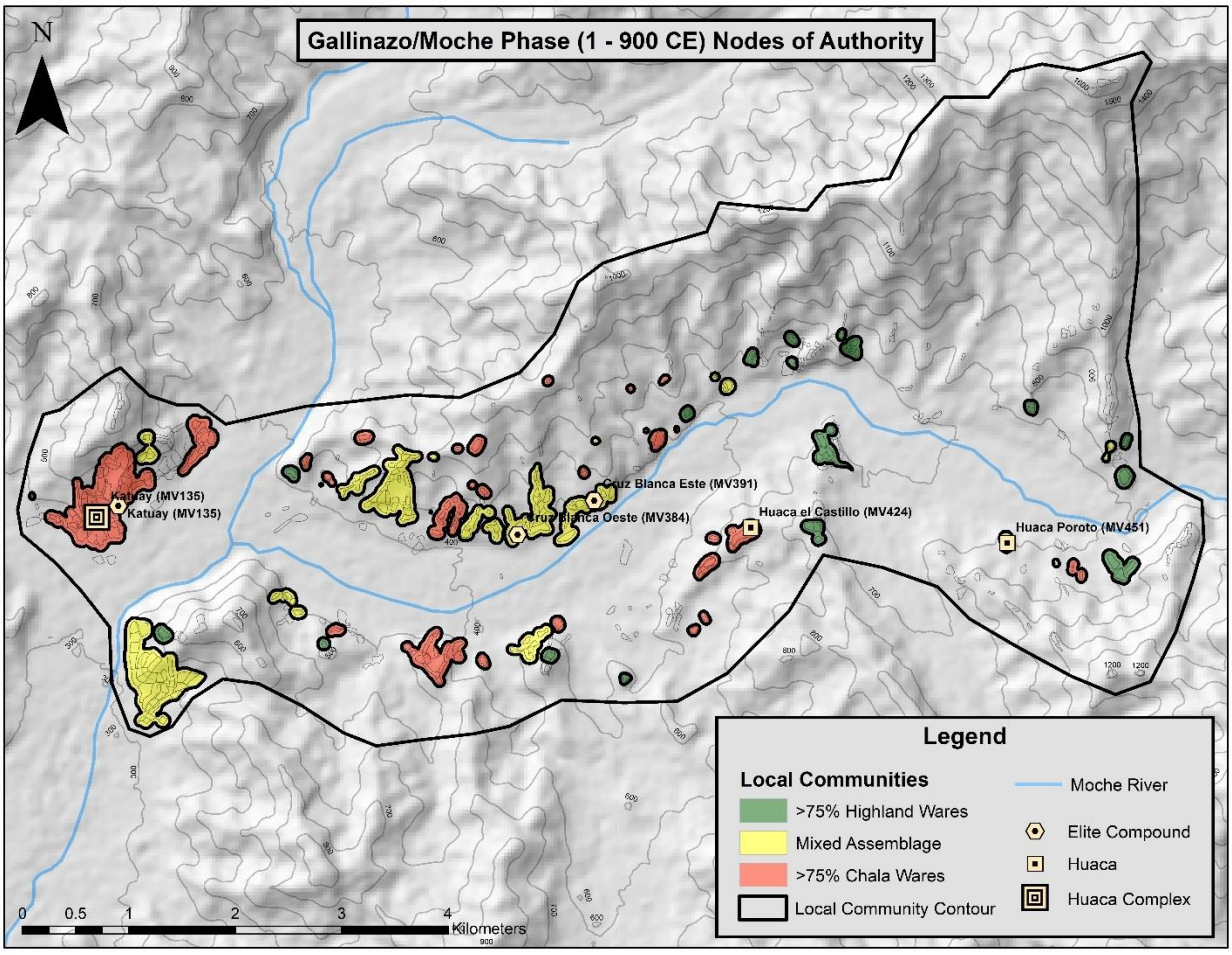


Figure 8.26 Gallinazo/Moche Phase Nodes of Authority

8.3.3 A *Huaca*-Colony and Canal-*Huacas* in the *Chaupiyunga*

The Gallinazo/Moche Phase saw the return of recognizable nodes of authority in the *chaupiyunga* landscape: one *huaca* complex at Katuay, two more isolated *huacas* up-river at Huaca El Castillo and Huaca Poroto, and at least three likely elite (possibly noble) compounds (Figure 8.26; Table 8.3). Following the same format as previous chapters, I briefly describe these nodes and discuss some of the results of the centrality measures that were applied to them. In addition to the TDCI for overall demography, the differing ceramic traditions of the Gallinazo/Moche Phase allowed me to look at the degree to which coastal or highland wares were clustering around these nodes of authority (Table 8.3). Though the maps available precluded any attempt to understand specific alignments or orientations, broader viewsheds were useful for getting a general idea of what parts of the landscape were, and were not, visible from these *huacas*.

Table 8.3 Gallinazo/Moche Phase Nodes of Authority

Gallinazo/Moche Phase Nodes of Authority								
Site Name	**Site Type**	**Total Estimated Construction Volume (m^3)**	**TDCI (All)**		**TDCI (Coastal)**		**TDCI (Highland)**	
			Regional	*Local*	*Regional*	*Local*	*Regional*	*Local*
Katuay (MV135)	Huaca Complex	2968	0.70	0.47	0.74	0.55	0.51	0.14
Katuay (MV135)	Elite/Noble Compounds	*NA*	0.68	0.40	0.72	0.49	0.51	0.06
Cruz Blanca Oeste (MV384)	Elite/Noble Compounds	*NA*	0.10	-0.58	0.11	-0.66	0.08	0.03
Cruz Blanca Este (MV391)	Elite/Noble Compounds	*NA*	-0.16	0.17	-0.16	0.16	-0.16	0.18
Huaca Poroto	Huaca	2100	-0.27	-0.20	-0.33	-0.41	-0.16	0.15
Huaca el Castillo	Huaca	3150	-0.60	-0.20	-0.60	-0.03	-0.57	-0.52

As is unfortunately the case with most Moche Phase *huacas* and settlements in the Moche Valley, heavy looting meant that there was often very little left to map. The *huacas* at Katuay were already at the verge of destruction when recorded by Billman in 1990 and only the remnants of one of them remained in 2017. The sparse remnants of this *huaca* were essentially one massive crater from an enormous looter pit that was now filled with a cluster of shrubbery (see Figure 8.22, the shrubbery is just under the "159" of CU-159). Given these issues, the notes of Billman served as the best source of data on the general dimensions of the *huacas* and their volumes. The first *huaca* has since been destroyed by agricultural fields but was approximately 2 meters high and 14 by 14 meters in dimension. Billman noted this *huaca* as made of double-faced stone walls and he made an approximation of a 330° by 150° N orientation. His measurements of the "crater" adobe

huaca were that it was probably around 4 meters tall and had dimensions of 28 by 23 meters: this aligned well with my own approximations from the aerial drone imagery. Given both of these *huacas* had been severely destroyed, such measurements are obviously approximations but are now all we have. Looking up-valley, Huaca El Castillo was looted almost beyond recognition but the available drone map did allow me to identify the 3 to 4-meter-high and 30 by 30-meter-wide adobe platform at the northeast apogee of the site (Figure 8.27). A few other compounds to the southeast of this platform also appear to have had adobes incorporated into their architecture but their format is less clear from the aerial imagery. Finally, Huaca Poroto was unable to be fully surveyed due to the fact we could not secure permission from the landowners so the notes of Billman again proved useful. He noted a 2-meter-high adobe platform that had approximately 35 by 30-meter dimensions and had a moderately-sized compound nearby.

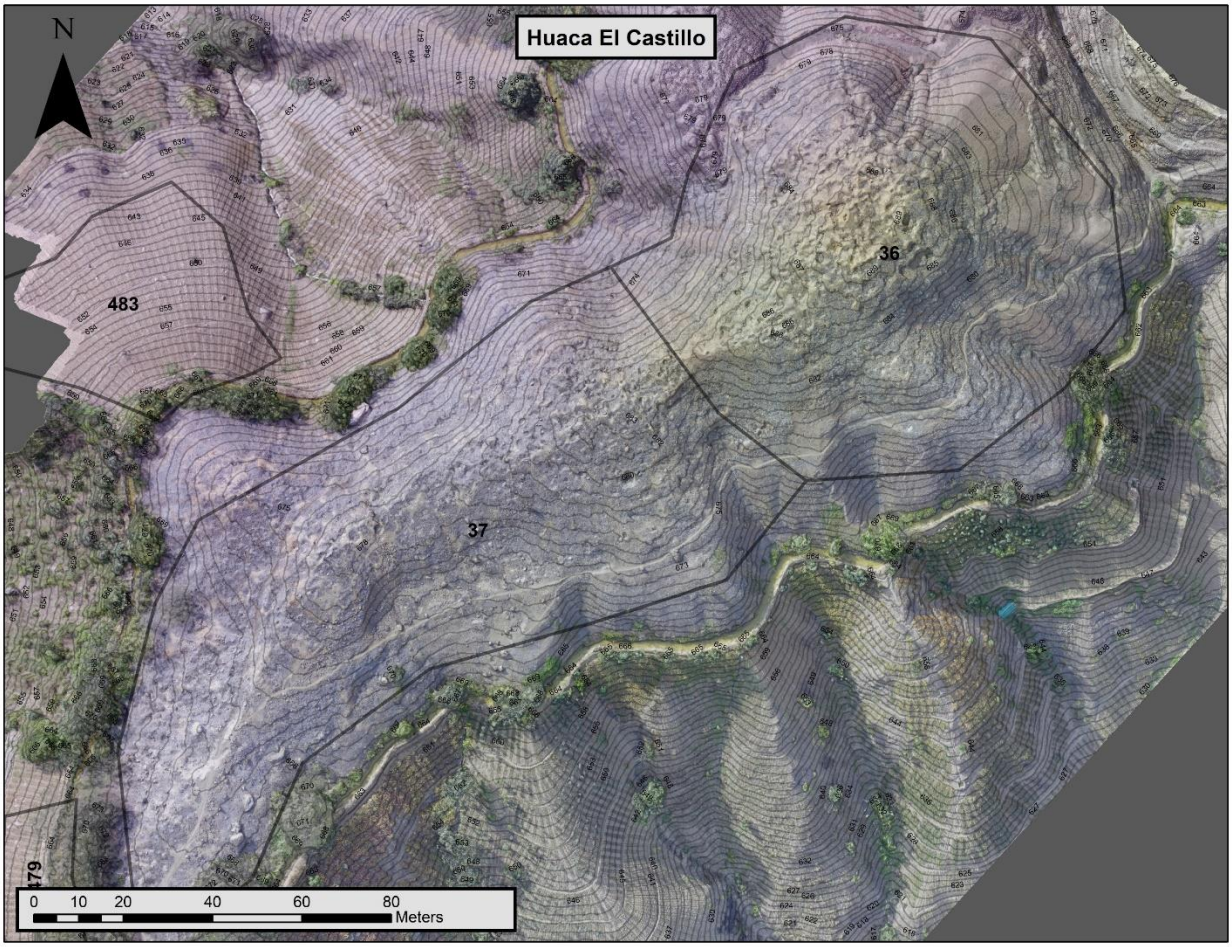


Figure 8.27 Orthophoto Map of Huaca El Castillo

Sometimes nearby these *huacas* in the landscape, there were several sets of "elite" compounds originally noted by Billman that I also recognized in my survey. Most of these were large, multi-room, and/or terraced compounds that frequently had adobe bricks incorporated into their construction. The ample Moche corporate wares and domestic debris scattered around the equally ample looter holes found at these compounds does suggest some manner of residences of local elites or nobles. Only excavations could better support whether these were actually elite/noble residences so my focus for most of this section is instead on the *huacas*: assumptions regarding the use of Moche Phase *huacas* were a bit easier to put forth using survey data alone. In any case, the compounds at Katuay, Cruz Blanca Este, and Cruz Blanca Oeste are those that were included in the centralization analyses. The similarly noted compounds at Huaca El Castillo and Huaca Poroto were immediately adjacent to the *huacas* themselves, often in same CUs, so it was not necessary to given them discrete locations for the purposes of the analyses I conducted.

8.3.3.1 The *Huaca*-Colony of Katuay

Looking at the degree to which regional and local demography was centralized around *huacas* was a vital first step to identifying any *huaca*-towns or canal-*huacas* on the landscape. To this end, it was immediately clear that Katuay was a likely *huaca*-town: at every scale, and in relation to all wares, the *huaca* complex at Katuay was remarkably central in the demographic landscape. In fact, Katuay yielded the highest degree of regional centrality (TDCI = .70) of any node of authority recorded in the survey area for the entire three millennia I discuss in this dissertation. Though this centrality certainly suggests an arrangement akin to the *huaca*-towns of the *chala* like Cerro Oreja or Pampa la Cruz, a few lines of evidence suggested to me that Katuay was not previously a Gallinazo Phase *huaca*-town.

To begin, the previous demographic arrangements in the area during the Salinar Phase were dispersed and lacked a central node of authority. The broader Salinar Phase local community cluster at Katuay was little more than a collection of farmsteads scattered around the mountain and exhibited a very low occupational density (ADI/Century = 1.21). My later analyses of tethering do reveal that Gallinazo/Moche Phase occupations at Katuay were relatively well-tethered to at least one of the Salinar Phase farmsteads or camps in the area. This was one part of a broader trend where highland-leaning (and likely Gallinazo Phase) communities were actually quite well-

tethered to previous Salinar Phase occupations. Back to Katuay, these data do present some evidence for spatial ties between the communities of the broader phases: perhaps the smaller Salinar Phase occupations in the area were melded into the larger Gallinazo/Moche Phase community that would emerge later. However, any such previous occupations were hardly an equivalent to the broad demographic foundations seen at more deep-rooted *huaca*-towns like Pampa la Cruz or Cerro Oreja downstream.

The demographic landscape at Katuay during the Gallinazo Phase is even less accessible but a possible narrative can be gleaned from the data at hand. First, the distribution of CUs with highland-leaning assemblages or contemporary highland corporate wares tended to be in the upper and less populated parts of the broader Gallinazo/Moche Phase local community cluster of Katuay. A few of these occupations were even aggregated in their own contour to make a smaller local community (Figure 8.2, see Local Community #47) that was carved into the steep mountainside above. This local community had a mixed assemblage and was likely no more than a hamlet or aggregation of households (ADI/Century = 2.77). Given the mixed assemblage and highland corporate wares, this small local community clearly had ties to the highlands but the history of occupation in the area complicates any argument that it was a highland colony akin to that detailed at Cerro Leon. It could be that it was just an aggregation of the previous Salinar Phase local community cluster that brought together the scattered occupations in the area. Even so, such a narrative would represent very slow demographic growth: the smaller local community was only around 128% larger than the combined occupations of the Salinar Phase local community cluster it may have grown from. Whatever its origins, it is important to recall that even this smaller Gallinazo Phase local community was on the hills above and not attached to the main local community at Katuay and the heart of the Moche Phase *huaca*-colony. Again, any direct connections between the demographic center of the *huaca*-colony itself with the pre-Moche Phase demographic landscape are found to be tenuous at best.

This more modest growth can then be compared to the abrupt burst of coastal/*chala*-dominated assemblages that, given the ubiquity of Moche corporate wares nearby, would suggest a massive population increase at Katuay during the Moche Phase. The local community of Katuay alone had an occupational density (ADI/Century = 25.6) that was over 2000% larger than the Salinar Phase local community cluster in the same area. Even if we assume that the possible

Gallinazo Phase hamlet above just moved downhill to found the *huaca*-colony, this would have to have been followed by over 800% population growth: something that would have taken over 200 years at a constant and exponential 1% growth rate per year. Though I do think this smaller local community may have been absorbed into the main *huaca*-colony below, the starkly coastal/*chala*-dominated assemblage at Katuay would suggest far more than just some manner of local aggregation and rapid growth of Gallinazo Phase or Salinar Phase communities in the area. These factors lead me to think that the founding of the "new" *huaca*-town at Katuay may fit into the broader pattern of *chala* expansion and colonization in the Moche Valley during the Moche Phase (Billman 2002).

Such a burst of people associated with overwhelmingly coastal/*chala* assemblages emerging as a more-or-less "new" community in the landscape suggests a far more specific arrangement than that recounted at some of the other notable *huaca*-towns in the Moche Valley. Instead, I find it more informative to describe Katuay as a *huaca*-colony: a *huaca*-town exhibiting similar, maybe the same, entanglements between demography and political authority but without the deep roots of nucleated settlement from previous phases. Recalling the *huaca*-town of Pueblo Joven in the *chala*, a similar arrangement could possibly be recognized but in a non-*chaupiyunga* context. This community was founded on the distal ends of the Vinchansao and Moro canal expansions of the Moche Phase: within a previously unoccupied and marginal part of the landscape (see Chapter 4.2.7.2; Figure 4.7). Given this location and association with these canals, it would seem likely that the noble families from Huacas del Moche or Galindo had some hand in the founding of any *huaca*-colony at Pueblo Joven.

Though I think excavations would be better suited for attempting to link the founding of Katuay with a specific *huaca*-polity downstream, early linkages with Huacas del Moche seem the most likely. The Moche corporate wares I found at Katuay were mostly Moche III-IV wares that aligned well with many of those illustrated from Huacas del Moche (Appendix A; Appendix D; Donnan and Mackey 1978: 64-210). Only one, maybe two, of the somewhat geometric-painted sherds looked vaguely similar to the Moche V corporate wares described from Galindo (Appendix A; Appendix D; Lockard 2005: 280-308). These Moche corporate wares were somewhat scattered across the community, but the opportunistic collections at the remnants of the *huaca* and the area surrounding the elite/noble compounds definitely yielded far more than elsewhere. Though I did

find some clay chunks and ceramic wasters that would indicate local ceramic production at (1) the adjacent local community of Katuay Este and (2) the Moche Phase occupation areas at Cerro Jesus Maria: these materials were associated with domestic wares. I am doubtful that they were producing finer wares but it is perhaps in the realm of possibilities. In any case, a believable narrative for the *huaca*-colony at Katuay would be that it was founded by a noble family who were originally from the *chala* and perhaps even associated with Huacas del Moche. Whatever their specific origin down-valley, the founders of Katuay were almost surely from the *chala* and not from the Upper Moche *chaupiyunga*.

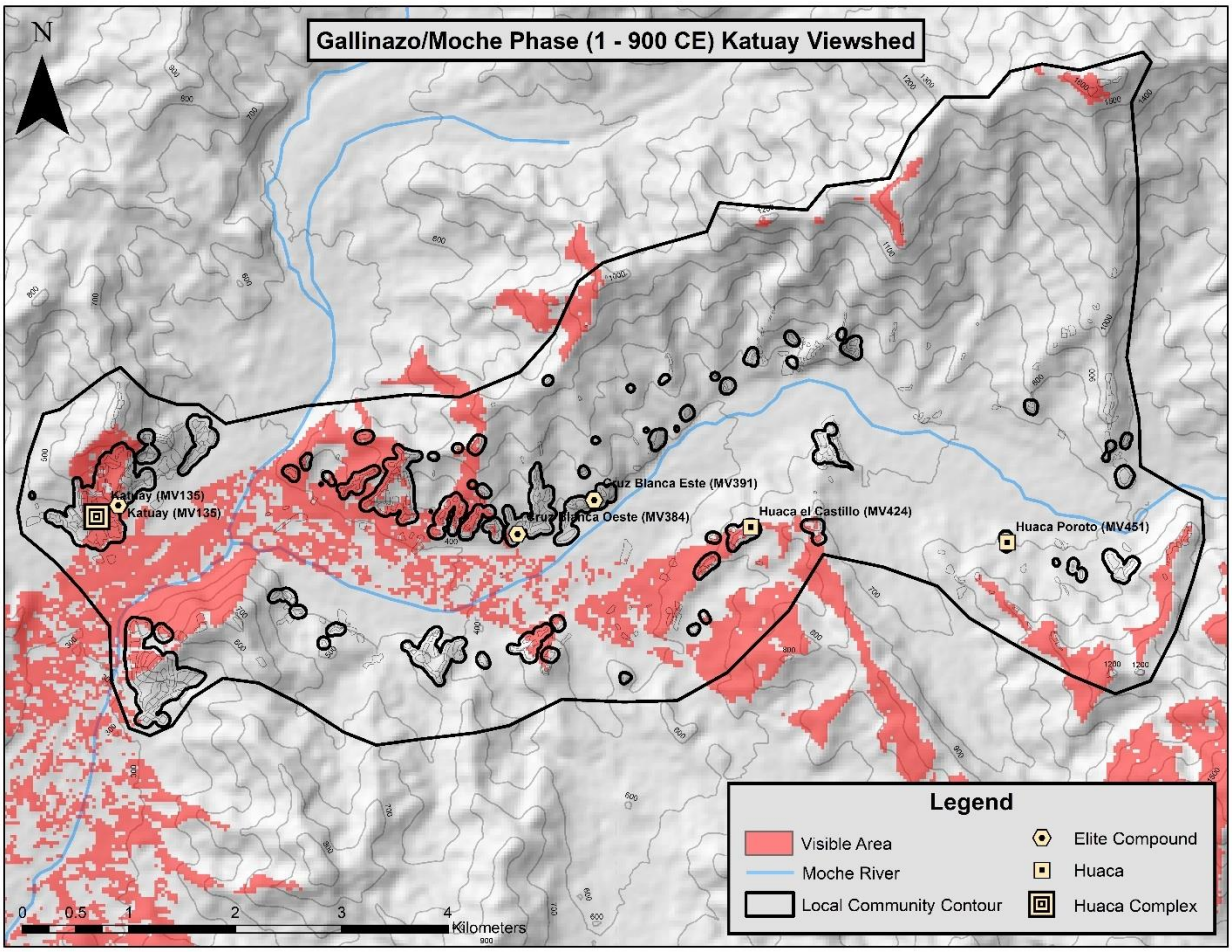


Figure 8.28 Gallinazo/Moche Phase Katuay Viewshed

8.3.3.2 Vision and the Political Landscape of Katuay

Though a more detailed exploration of the political landscape of Katuay could be accomplished through a more focused research project, a few insights can be gained from looking at the broader viewsheds that would have been available to its *huacas*. Within the *huaca*-colony, these *huacas* would have assumedly been the most important stages of authority. Given the demographic centralization around Katuay, we can also venture to guess that these *huacas* were nodes of authority that articulated with the broader and surrounding landscape. A closer look at the viewsheds from the area around these two *huacas* shows that they could have provided visual ties to three important parts of the *chaupiyunga* landscape during the Gallinazo/Moche Phase (Figure 8.28).

First, these *huacas* would have been provided with a visual connection to the adjacent community at Cerro Jesus Maria and linked together the two largest communities in the survey area during this phase. The demographically weighted viewshed model illustrated this point well: around 78% of demography in the survey area could see Katuay (Appendix E; Table E.11). This visual connection, however, was just as much a result of where the *huacas* at Katuay were located as it was a shift in where people were settling around Cerro Jesus Maria. The Moche Phase occupation at Cerro Jesus Maria represented a subtle, but important, shift to the eastern slopes of the mountain that moved the community into view of the new *huaca*-colony to the north. This shift occurred along with an important visual cost when compared with earlier occupations: the old *huacas* of Huaca Menocucho would have been partially obstructed by the hillslope for the main Moche Phase occupations. Thus, it would seem that the *huacas* of Katuay were positioned to see Cerro Jesus Maria just as much as the community itself shifted to see the *huacas*.

Second, the remnants of any hypothetical Moche Phase canal and fields below Katuay would have likely been visible from any *huacas* there in the past. Such canals have long since been destroyed or repurposed into modern canals but the possible viewshed afforded by the Moche Phase *huacas* does provide clear vision of the modern Katuay canal intake just by the confluence. Additionally, this same viewshed provides vision of the entirety of the fields that the modern Katuay canal currently feeds down-valley. Though there were probably smaller canals radiating from the confluence along the valley floor in earlier phases, the burst of demography at Katuay

would suggest that there was likely a Moche Phase long canal that would have been an analogue to the modern Katuay canal. The existence of such a canal would fit well with the general trend of *huacas*, and stages of authority more generally, in the Moche Valley as being associated with nearby canals and fields. It is also notable that viewsheds of any larger fields or canals in the *chaupiyunga* up-river would have been severely limited. Only those in the area between Cruz Blanca and Cerro Pedregal would have been visible from the *huacas* at Katuay. Unlike those at Katuay, these canals and fields surely would have had deeper pasts in the landscape: starting in the Guañape Phase with Huaca la Constancia, continuing with the Salinar Phase fortified village at Cerro Pedregal, and persisting with the long spread of likely Gallinazo Phase occupations connecting Cerro Pedregal and Cruz Blanca. This deeper past would lead me to believe that, over the broader course of the Gallinazo/Moche Phase, these lands were mostly associated with the larger local community cluster of Cerro Pedregal – Cruz Blanca. However, such areas were also being literally overwatched by the *huaca*-colony at Katuay: a visual re-enforcement of the ambiguities and overlapping networks of authority already observed in the corporate wares dispersed across the landscape around Cruz Blanca.

Finally, the *huacas* of Katuay were conspicuously linked in sight to the demographically isolated Moche *huaca* at Huaca El Castillo up-valley. The possible role of Huaca El Castillo will be described in more detail in the subsequent section, but this visual connection effectively linked the Moche visual landscape of the confluence with that of the *chaupiyunga* a few kilometers up-river. An important part of this up-valley visual landscape afforded to Huaca El Castillo was the local community of Cruz Blanca itself. Though the cultivable lands of Cruz Blanca could easily be overwatched by those living at Katuay, the frontier community itself was only barely visible. With Huaca El Castillo, however, the *huacas* of Katuay would have been more completely visually connected to a community that had commanding views of much of the occupied landscape up-valley. Huaca El Castillo was also far more similar to Katuay than it was to its neighbors: it sported its own Moche stage of authority (*huaca*) and had coastal/*chala*-dominated assemblages. At the very least, this could show collaboration between the two sets of coastal/*chala* communities and/or nobles as they moved to the *chaupiyunga* to build their *huacas*, communities, and canals. At most, this could show a direct bid from the nobles of Katuay at expanding their networks of authority further up-river into the *chaupiyunga* and over the frontier community at Cruz Blanca.

8.3.3.3 Possible Canal-*Huacas* Up-River

Contrasting the regional and local demographic centralization observed around the Moche *huacas* of Katuay, the two Moche *huacas* recorded up-river were clearly articulating into the *chaupiyunga* landscape in different ways. Both of these *huacas*, Huaca El Castillo and Huaca Poroto, yielded negative TDCI values in the analyses of demographic centralization at both regional and local scales (Table 8.3). These *huacas* were not only relatively isolated within the regional and local demographic landscapes, they lacked particularly dense settlement in their own local community clusters and immediate surroundings. Huaca El Castillo was the largest of the two but was itself surrounded by no more than a hamlet and a few outlying households (ADI/Century = 1.63). Huaca Poroto was considerably smaller and had no more than a household or two, if that, nearby (ADI/Century = .25). Though Huaca El Castillo had some manner of surrounding community, its relatively size can be seen when compared with the broader local community cluster of Cruz Blanca – Cerro Pedregal (ADI/Century = 5.5) or even the smaller extended local community around Cruz Blanca (ADI/Century = 3.06). Thus, neither of these *huacas* could be argued to have been the beating heart of an aggregated settlement in a way analogous to Katuay or any of the *huaca*-towns downriver.

How then may we describe these two *huacas*? One appropriate comparison could be with the aforementioned possible canal-*huaca* at Huaca Vinchansao: a Lower Valley *huaca* more articulated into the surrounding economic landscape of long canals and cultivated fields rather than a specific town or settlement. Though neither Huaca El Castillo nor Huaca Poroto had preserved canals nearby when I surveyed them in 2017, there are some lines of evidence that support each *huaca* having its own associated canal(s). First, recalling the "partial dry moat" described by the Topics at Huaca El Castillo (Topic, J. and Topic, T. 1987:52), it is possible that their trepidation in describing the *huaca* as fortified could have been that they had actually recorded the remnants of an ancient canal around the site. Somewhat supporting this interpretation, Billman recorded the remnants of two possibly ancient long canals past Huaca El Castillo and above the modern town of Mochalito. The higher of these two canals was cut just below Huaca Castillo and was probably associated with Mochal during the Chimú/Chimú-Inka Phase. However, the lower canal followed an elevation that would have been below the *huaca* and would have put the intake somewhere between Huaca El Castillo and Mochal. In addition to these prehistoric canals, the modern Mochal

and Poroto Principal canals recorded in the ONERN survey are conspicuously located just below either of these Moche *huacas* (see Chapter 3.8.1). I see these associations with modern and prehistoric canals in the area as evidence that these *huacas* were falling into the more generally recognized pattern in the Moche Valley in which Gallinazo/Moche Phase *huacas* were associated with either ancient or modern canals. Given the relative demographic isolation and the likely canals nearby, we could perhaps then describe both of these *huacas* as some *chaupiyunga* variety of a Moche canal-*huaca*. Though such an attribution seems likely, there are still important differences between the assemblages and surrounding landscapes of Huaca El Castillo and Huaca Poroto.

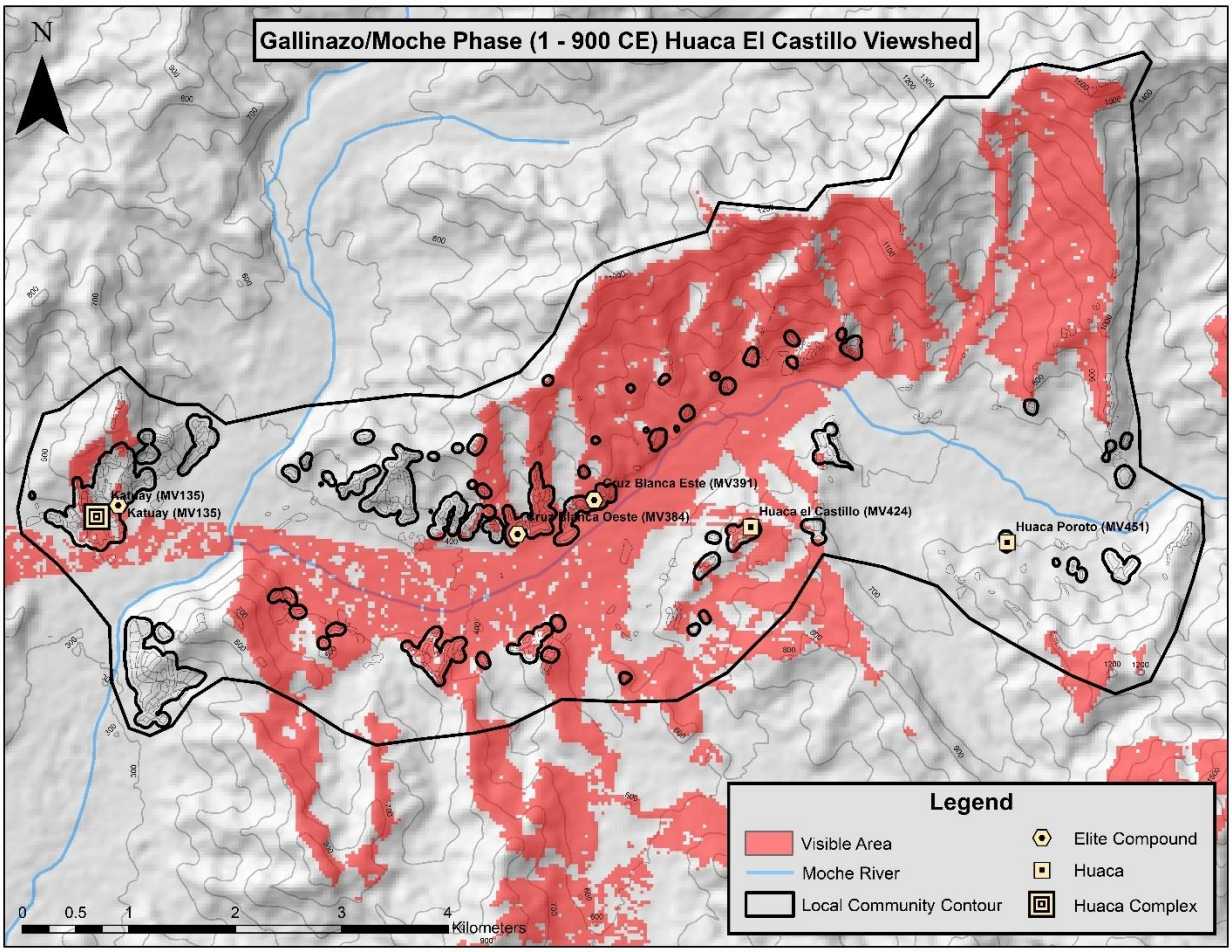


Figure 8.29 Gallinazo/Moche Phase Huaca El Castillo Viewshed

8.3.3.4 Huaca El Castillo

Beginning with Huaca El Castillo, this possible canal-*huaca* was unique in that it (1) had an exclusively coastal/*chala* assemblage and (2) was visually linked with larger and important communities in both the confluence and the surrounding *chaupiyunga*. The first point is quite telling as to the origins of the community and the *huaca*: the assemblage at Huaca El Castillo suggests that the *huaca* and associated compounds were most likely built and settled by families hailing from down-river. The Moche corporate wares recovered at Huaca El Castillo mostly appeared to align with some of the Moche III-IV wares at Huacas del Moche (Appendix A; Appendix D; Donnan and Mackey 1978: 64-210). Only one sherd appeared as a possible Moche V sherd but mainly just from the use of a darker blackish brown paint (Appendix A; Appendix D; Lockard 2005: 280-308). Otherwise, the more "figurative" design of a centipede being painted perhaps would suggest it was more of a Moche III-IV ware. Whatever the case, the complete lack of highland wares or any earlier occupations in the area preclude any argument that Huaca El Castillo was an indigenous development out of older Salinar or Gallinazo Phase *chaupiyunga* landscapes. Like Katuay, Huaca El Castillo was very surely settled and built by families hailing from the *chala*, or at least not the Upper Valley *chaupiyunga*.

Though the immediate surroundings of Huaca El Castillo may have been only lightly settled, the *huaca* was visually well-connected within the *chaupiyunga* landscape. One way these connections can be seen is in its relative visual centrality (.67) within the visibility network generated for the *chaupiyunga* landscape of the survey zone (Appendix E; Table E.4). While it was not the most visually central location during the Gallinazo/Moche Phase, it had a far higher centrality value than any of the other contemporary *huacas*. These visual connections can also be seen in the broader viewshed available to the *huaca*: a viewshed that included (1) Katuay, (2) local communities around and upstream from Cruz Blanca across and on the northern side of the river and (3) a variety of other smaller occupations on the south side of the river ranging from the eastern slopes of Cerro Jesus Maria up to Mochal – Los Gentiles (Figure 8.29). The first two are arguably the most important given that the visual connections to Katuay and Cruz Blanca brought the demographically weighted viewshed values of Huaca El Castillo up to around 44% of demography within the survey zone (Appendix E; Table E.11). Huaca El Castillo also importantly had vision over almost all of the valley floor, and possible fields, on the south side of the river from Mochal

up to the eastern slopes of Jesus Maria: effectively the same general area as that covered by the modern Mochal canal (see Chapter 3.8.1). Again, this visual coverage complemented the lack of vision over those areas from the *huacas* at Katuay. All of these visual linkages effectively connected the Upper Moche *chaupiyunga* landscape with that of the Moche *huaca*-town that dominated the confluence and, through it, the broader Moche world downstream (Figure 8.29). Importantly, these connections were happening through Huaca El Castillo: the *huacas* and community at Katuay could only see up to the edge of Cruz Blanca.

The visual connections between Huaca El Castillo and the communities around Cruz Blanca were also possibly reinforced by sound and/or performance. Located just to the east of the main occupation at Cruz Blanca, the local community of Cruz Blanca Este was composed of series of domestic terraces in addition to likely elite/noble compounds (Figure 8.2, see Local Community #28; Figure 8.26). In the opportunistic collections in the main CU associated with these compounds (CU-317), I recovered a host of sherds from shattered ceramic musical instruments: mouthpieces for long trumpets, the bodies/tubes of these same trumpets, and even the base for a ceramic conch trumpet (Appendix D). Cruz Blanca Este was part of the larger Cruz Blanca local community cluster and extended local community but was also the closest local community within either of these larger units to Huaca El Castillo across the river. Thus, this local community had (1) elite/noble compounds, (2) an abundance of Moche corporate wares, (3) Moche musical instruments, and (4) clear views of the closest Moche *huaca* across the river. These lines of evidence strengthen the visual and material associations between Cruz Blanca and Huaca El Castillo while adding the possibility of auditory connections via the trumpets and instruments found at Cruz Blanca Este.

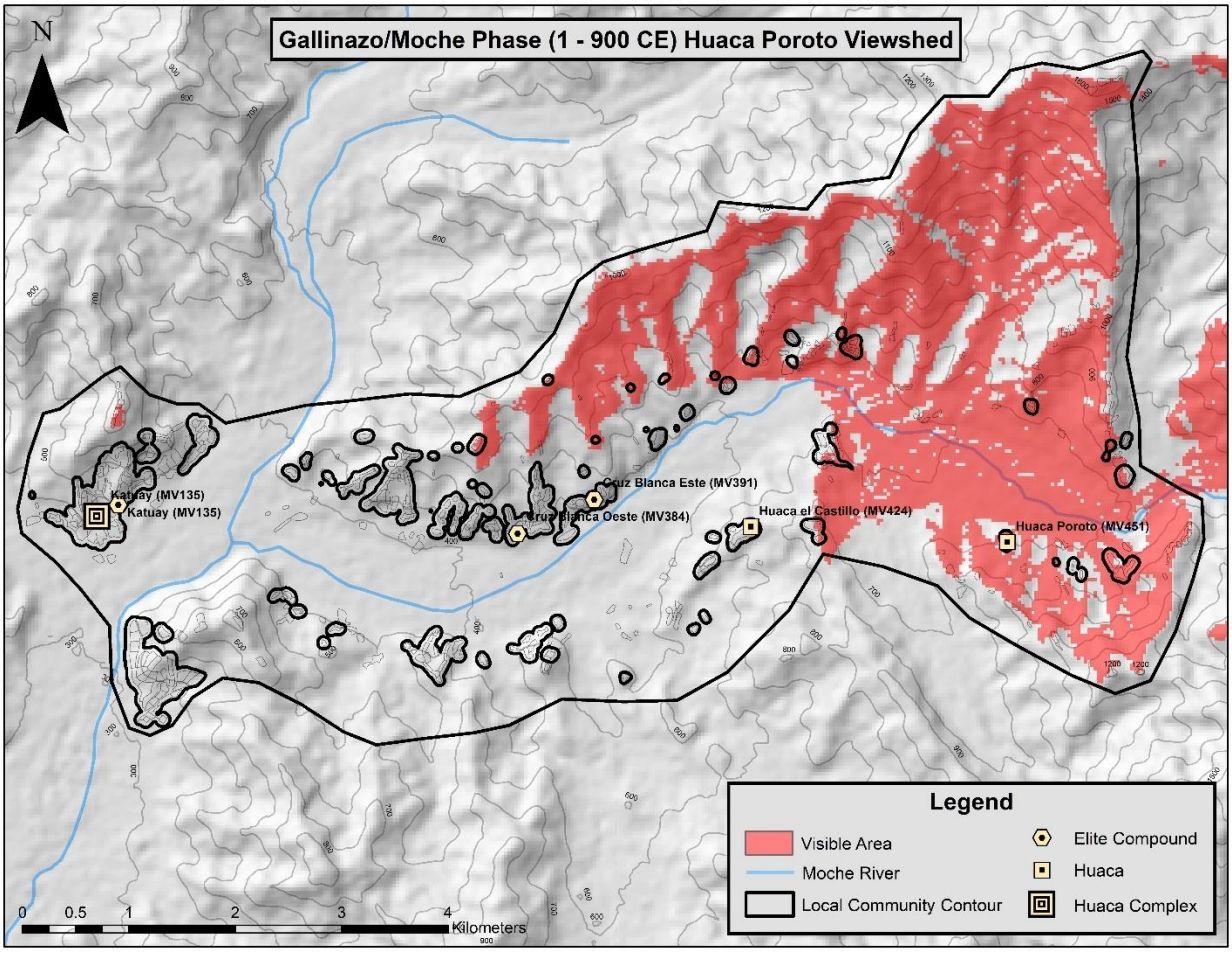


Figure 8.30 Gallinazo/Moche Phase Huaca Poroto Viewshed

8.3.3.5 Huaca Poroto

Finally, Huaca Poroto was the furthest upstream of any of the Moche *huacas* recorded in this survey and is the most difficult to interpret. This is mainly because of the manner of collections made at the *huaca*: we did not have permission from the landowners and could not get a quality sample. This being said, the sample we were able to get did yield a mixed assemblage (68% coastal/*chala* and 32% highland) and a substantial number of Moche corporate wares attributable to both Huacas del Moche and Galindo. A figurative red fine-line fish design on one of the corporate wares seems like it could more-or-less align with the tendency of Moche III-IV wares towards similar such figurative designs (Appendix D). In addition, a *florero* rim with a painted flower design was also recovered at Huaca Poroto and was found to be almost identical to one recorded by Lockard at Galindo (Appendix A; Appendix D; Lockard 2005: 297). Thus, Huaca

Poroto could have had variable connections with Huacas del Moche and Galindo, sporting corporate wares linked with those used by the noble families of either *huaca*-polity. This being said, Huaca Poroto was also the only Moche *huaca* in the survey area that had a mixture of highland and coastal/*chala* wares within its immediate collection unit and vicinity. Such a mixture could imply more diversity in affiliations amongst the families who built this *huaca* and occupied the area around it: they linked themselves with the powerful *huaca*-polities downstream in their corporate wares but they were probably also using some highland-sourced domestic wares.

Though Huaca Poroto offered commanding views of the *chaupiyunga* landscape in the upper part of the survey area, it was relatively poorly connected with the more Moche-dominated landscape downstream (Figure 8.30). This lack of connection can be seen in its minimal centrality values in the visual network of the survey area as well as the very low value yielded by the demographically weighted viewshed (Appendix E; Table E.4; Table E.11). This being said, the viewsheds offered to Huaca Poroto do connect it with most of the local communities and relevant agricultural lands in that part of the *chaupiyunga* (Figure 8.30). This included the closest local community, a set of households at Siete Vueltas Bajo that had highland-dominated assemblages (15% coastal/*chala* and 85% highland), but also a host of other local communities with highland-dominated assemblages. The viewshed from Huaca Poroto also offered unrestricted view of the modern Poroto Principal canal and the fields it waters (Figure 8.30; see Chapter 3.8.1). Despite these important local visual connections, Huaca Poroto was conspicuously isolated from Katuay and Huaca El Castillo: an isolation that corresponds with its slightly more diverse assemblages. This is why I would set it apart as a somewhat different manifestation of a canal-*huaca* than that observed at Huaca El Castillo: it was not so bound to a larger *huaca*-town or to a local community akin in size to Cruz Blanca. Instead, Huaca Poroto, seemed tied to a more diverse array of highland-leaning camps and had a bit more mixed assemblage to go along with its unique positioning in the landscape.

8.3.4 Discussion

In sum, the political landscape of the Gallinazo-Moche Phase had some limited evidence for conflict but was mainly defined by (1) the overlapping of coastal/*chala* and highland networks

of indirect authority and (2) the rise of Moche authority in the region. Though there were surely fortified areas and defensively oriented communities during the broader phase, most of this evidence for conflict likely had roots in the Salinar Phase and the Gallinazo sub-Phase landscapes. Some exposure to conflict was doubtlessly a reality for the *chaupiyunga* communities during the Moche sub-Phase, but the nature of conflict meant it likely had less bearing on the defensibility of the communities themselves: the older fortified and defensive places in the landscape were readily accessible if the need arose. The distribution of Moche and Quinga/Early Highland corporate wares illustrated the clear overlap of these political networks, and authority, within the survey area and the *chaupiyunga*. Some of this overlap was probably a result of combining the Gallinazo and Moche Phases: with the connections to the highlands being more common in the Gallinazo Phase while those with the Moche world downstream were more common in the Moche Phase. This being said, there was clear continuity between the political landscapes of these sub-phases and certain communities, like Cruz Blanca, were clearly exhibiting a variety of political ties to both the highlands and the coast/*chala*. Thus, these varied indirect ties speak to some degree of fluidity across the political landscape of the *chaupiyunga* over the course of the Gallinazo/Moche Phase.

This fluidity aside, the expansion of coastal/*chala* and Moche authority into the *chaupiyunga* was the most visible and impactful process in the political landscape during the Gallinazo/Moche Phase. The founding of the *huaca*-colony of Katuay correlated with a surge of populations and *coastal*/*chala*-dominated assemblages in its immediate surroundings and throughout the *chaupiyunga* more broadly. Across the river, the older roots of Cerro Jesus Maria were somewhat subverted as the community shifted to see the powerful *huaca*-colony that now commanded the confluence. The canal-*huaca* of Huaca El Castillo effectively linked this Moche-dominated confluence with the smaller frontier communities up-river, but itself was also a coastal/*chala* imposition that was linked with Moche-affiliated elites/nobles living at Cruz Blanca. Huaca Poroto presents an interesting example of a canal-*huaca* that was not so clearly linked to an associated *huaca*-colony, *huaca*-polity, or coastal/*chala* nobility. Instead, it seemed more clearly linked to dispersed local highland-leaning communities within a far more sparsely settled demographic landscape upriver. Thus, even though Moche authority was strongly felt within the *chaupiyunga* during this phase it was cast upon the landscape in various ways: echoing the flexibility that was so clearly exhibited by contemporary Moche nobility downstream. Though connections with Huacas del Moche and Galindo seem likely, the nature of such relationships

remains unclear and is difficult to access with survey data alone. This being said, the smaller size of the *huaca*-colony of Katuay (probably ~1000 people at any given time) would have put any Moche nobles there at a clear disadvantage when negotiating with their more populous and powerful neighbors downstream.

8.4 Tethering to the Past

As was alluded in previous sections, several important local communities of the Gallinazo/Moche Phase were relatively well tethered to their Salinar Phase predecessors. This being said, the results of the analyses of tethering to Salinar Phase nodes of authority were more-or-less inconclusive. Only MV397 had a high tethering value and this was solely because of a small collection of Gallinazo/Moche Phase camps or households that were located nearby the old terrace complex (Table 8.4; see Local Community #13 in Figure 8.1). This was essentially a continuation of the trend from the discussion of tethering during the Salinar Phase: far stronger spatial tethering was observed between local communities themselves rather than between local communities and older nodes of authority.

Table 8.4 Gallinazo/Moche Phase Tethering to Past Nodes of Authority

Gallinazo/Moche Phase Tethering (Nodes of Authority)		
Salinar Phase Node	**Tethering TDCI**	**Salinar Phase TDCI**
MV397	0.53	0.05
Dos de Mayo	0.14	-0.32
MV459	-0.41	-0.80
MV462	-0.76	-0.46
MV464	-0.77	0.79

Most notably, it became clear that several of the larger local communities of the Salinar Phase were actually quite strongly tethered to by local communities of the Gallinazo/Moche Phase. This suggested at least some continued occupations from the Salinar Phase in addition to the likely highland-based migration that flooded into the region during the Gallinazo sub-Phase. The Salinar Phase local community of Huaca Menocucho was probably the best example of this phenomenon: the community had a very high tethering TDCI of .83 that corresponded with the large, but varied,

local community of Cerro Jesus Maria that was occupied throughout the Gallinazo/Moche Phase (Table 8.5). The likely highland-leaning and/or Gallinazo Phase occupations at Cerro Jesus Maria were just above the main Salinar Phase occupation at Huaca Menocucho. These then shifted subtly to the northeastern side of the mountain during the Moche Phase in order to gain a clearer view of the *huacas* and community at Katuay across the river. Given the roots of the Salinar Phase community of Huaca Menocucho extended back to the Guañape Phase, this part of the landscape had continuously been occupied, or at least re-occupied, for almost two millennia by the end of the Gallinazo/Moche Phase.

Table 8.5 Gallinazo/Moche Phase Tethering to Past Local Communities

Gallinazo/Moche Phase Tethering (Local Communities)			
Salinar Phase Local Community	**Tethering TDCI**	**Total ADI/Century Within Catchment**	
		Gallinazo/Moche Phase	*Salinar Phase*
Huaca Menocucho (9)	0.83	27.01	5.23
Katuay (23)	0.79	22.89	0.17
Co. Los Chiles (6)	0.64	0.65	1.41
Co. Jesus Maria Este (11)	0.61	0.13	0.27
3	0.49	0.71	0.04
Katuay (30)	0.49	25.58	0.34
55	0.47	0.10	0.15
Co. Pedregal (26)	0.45	2.23	0.23
Co. Pedregal (35)	0.40	3.31	2.53
Mochal (47)	0.33	0.45	0.39
48	0.31	0.10	0.01
Dos de Mayo (5)	0.27	1.13	2.61
38	0.27	0.12	0.10
13	0.19	22.31	0.03
20	-0.02	3.38	0.06
10	-0.04	0.21	0.05
15	-0.05	3.58	0.01
37	-0.08	9.43	0.10
28	-0.11	0.89	0.05
Katuay (32)	-0.12	25.51	0.45
45	-0.12	7.14	0.07
39	-0.18	1.51	0.02
2	-0.30	1.12	0.13
33	-0.35	1.79	0.02
50	-0.43	0.22	0.08
34	-0.43	9.47	0.03
21	-0.43	4.25	0.01

Dos de Mayo Oeste (7)	-0.52	0.70	0.41
27	-0.78	0.55	0.06
14	-0.79	1.43	0.03
Cruz Blanca - Arquito (41)	-0.79	0.68	0.48
31	-0.79	1.15	0.01

Though they had much lower tethering TDCI values than that observed at Huaca Menocucho, three other notable Salinar Phase communities had somewhat substantial Gallinazo/Moche Phase settlement tethering nearby: Cerro Los Chiles, Cerro Pedregal, and Dos de Mayo (Table 8.5). Both Cerro Los Chiles and Dos de Mayo appear to have had relatively light re-occupations or continued occupations nearby: no more than a few households or even camps at either. Cerro Pedregal had a more substantial highland-leaning and/or Gallinazo Phase hamlet that was superimposed upon the Salinar Phase community of the same name.

One consequence of these continuities from the Salinar Phase demographic landscape is that it seems inappropriate to describe all of the highland-leaning and/or Gallinazo Phase occupations in the *chaupiyunga* as highland colonies. Though the families living in places like Cerro Pedregal or Cerro Jesus Maria were clearly using highland domestic and corporate wares, the communities themselves were built in places with deeper Salinar Phase roots of occupation. This feature suggests to me that such communities were perhaps not colonies *per se* but instead had a blend of highland migrants with the older Salinar Phase households or families that were living in the *chaupiyunga* before. An even more intriguing possibility still would be if the Salinar Phase occupations had similar such highland linkages but our current understandings of the ceramic traditions of that phase preclude my ability to discern such linkages. Whatever the case, these occupations present a much different arrangement than that down-valley at Cerro Leon: there were no Salinar Phase occupations at Cerro Leon and the community itself was very clearly a highland colony established in the Gallinazo Phase.

A cursory glance at Cruz Blanca may also suggest it was a colony akin to Cerro Leon given there were only very minimal Salinar Phase occupations in its immediate vicinity. Though this would be a likely narrative for the community, the straggle of highland-leaning and/or Gallinazo sub-Phase occupations between Cruz Blanca and Cerro Pedregal suggests a bit more complex history of occupation in that area (Figure 8.6). To me, this spread of occupations suggests that the

families who settled in that area slowly shifted their community from Cerro Pedregal to Cruz Blanca over the course of the Gallinazo sub-Phase: resulting in the distribution of occupations that defined the boundaries of the larger Cruz Blanca – Cerro Pedregal local community cluster (Figure 8.14). This shift could make sense in the face of growing Moche authority in the region given that Cruz Blanca is far closer to the intakes of the modern Pedregal and Pursos canals that water most of the fields in that part of the valley (see Chapter 3.8.1). Such a narrative would also make the construction of Huaca El Castillo quite insidious: even as the families of Cruz Blanca attempted to escape the watchful eye of Moche authority at Katuay, the canal-*huaca* at Huaca El Castillo would have ensured such efforts were in vain. Though tempting, this narrative does seem a bit too Bentham-esque for a process that was likely negotiated as much as it was imposed. The presence of Moche corporate wares in several parts of that broader community suggest that at least a few of the households at Cruz Blanca were "opting in" to using Moche corporate wares and tangling themselves in the networks of authority and affiliation radiating from the Moche world downstream.

In sum, this foray into tethering offers more questions than it does answers: presenting the possibility that the pasts of many highland-leaning and/or Gallinazo sub-Phase communities were far more complex than just being highland colonies. Though the colonization narrative surely fits Cerro Leon and other communities with similar occupational histories, it would be unwise to assume all of the varied communities of the broader Moche Valley *chaupiyungas* followed this same path. Though they may have seen an influx of highland migrants or at least stronger highland ties, communities like Cerro Jesus Maria had much deeper pasts in the landscape that predated the main wave of migration during the Gallinazo sub-Phase. Even more importantly: though tethers to the past may have been stretched as the pull of Moche authority increased in the region, many of these tethers were remarkably elastic and remained unbroken.

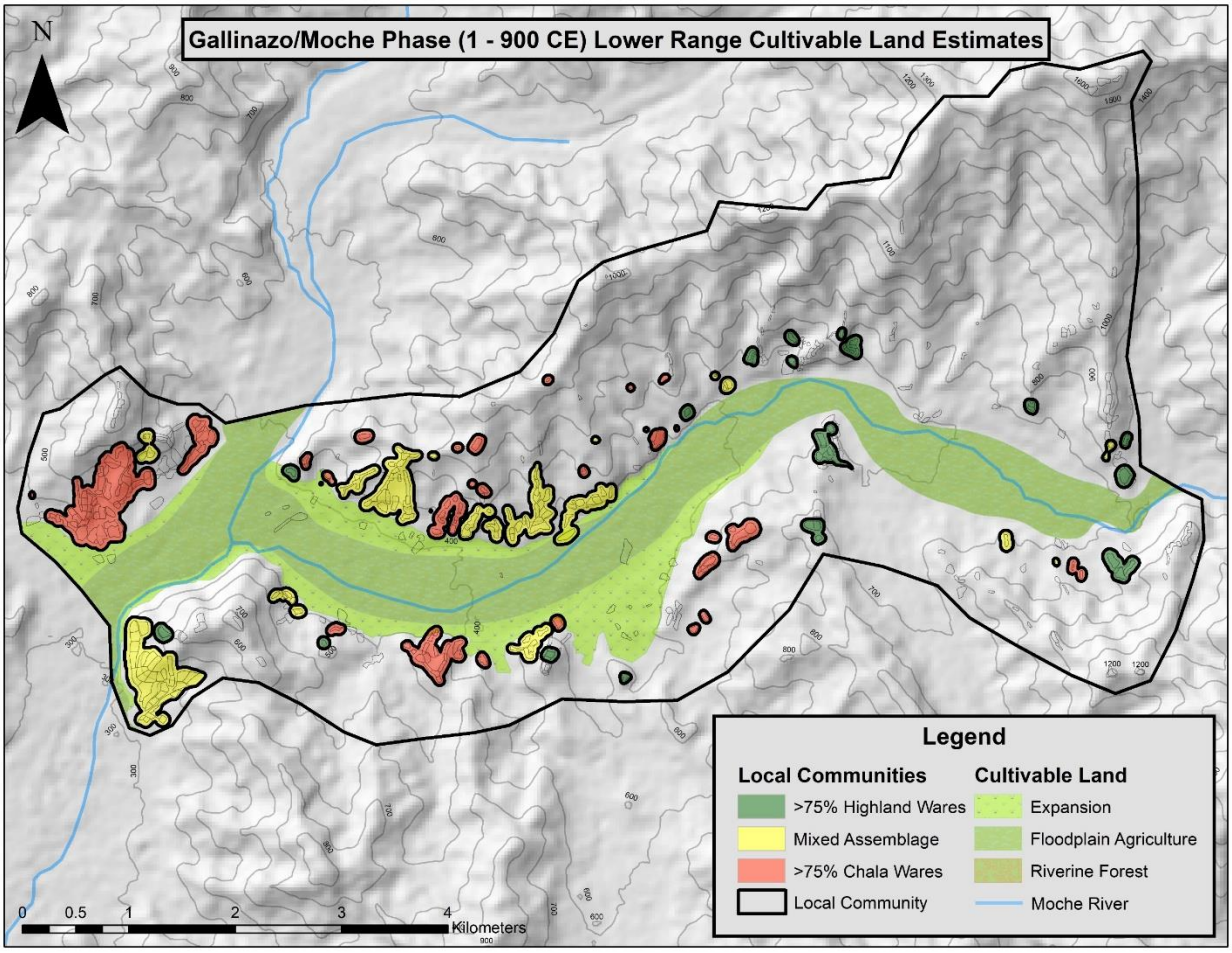


Figure 8.31 Gallinazo/Moche Phase Lower Range Cultivable Land Estimates

8.5 Canal Reconstructions

Finally, the Gallinazo/Moche Phase likely saw a large increase in the amount of land under cultivation in the *chaupiyunga*: with (1) more substantial settlement upriver implying more floodplain agriculture and (2) several speculative, but likely, canals that would have been associated with new Moche *huacas*. The starting point for my Gallinazo/Moche Phase estimates built off of the higher estimates from the Salinar Phase by (1) extending the floodplain agricultural area up-valley, (2) including the likely canal below Katuay, and (3) including the likely canal just below Huaca El Castillo (Figure 8.31; Table 8.6). The extension of floodplain agriculture up-valley

in this estimate was mainly done because of the large number of highland-leaning camps and farmsteads in that part of the *chaupiyunga*. This is not to say that any riverine forest in that area would have completely disappeared: clearly some remained or had re-emerged by the time of the ONERN survey in the 1970s (see Chapter 3.8.4). However, the presence of these smaller highland-leaning local communities was very reminiscent of the smaller Canta *chacara* hamlets recounted in the history of Quivi (see Chapter 4.3.2.2; Rostworowski 1988: 59). It is for this reason that I assumed that the spread of local communities in the upper part of the survey zone probably correlated with similar semi-permanent farmsteads or hamlets being used to take advantage of the cultivable lands, resources, and probably *coca* of the *chaupiyunga* by adjacent highland groups. This being said, the small size of these communities precluded the presence of much larger canals: there would have been little need for much more than the valley floor. Carving longer canals like the modern Con Con and Shiran canals into the steep *chaupiyunga* hills would have required a considerable amount of labor that would seem unnecessary for the relatively sparse occupations I observed.

Canal extensions below Katuay and Huaca El Castillo were also included in these estimates solely because of how well-corresponded these *huacas* were with the modern canals below them. Katuay seems likely to be the safest bet given how large that *huaca*-colony was and its assumedly important role in the *chaupiyunga* landscape starting during the Moche sub-Phase. The modern Katuay canal feeds around 153 hectares of agricultural land: enough to feed around 400-500 people with the 2.583-3.185 people/hectare estimates for maize provided by Wilson (Table 3.4; Wilson 1985:326). Given this was a bit under the minimum range of how many people may have been living at Katuay (around 643 people), the presence of a Gallinazo/Moche Phase analogue to the modern Katuay canal seems likely. Similarly, Huaca El Castillo was located above and slightly downstream of the modern Mochal canal: a canal that was recorded as being able to feed around 68 hectares by ONERN (Table 3.4). However, the total land within the possible extension of the Mochal canal during the Gallinazo/Moche Phase included a much greater amount of land: some 96 possible hectares, not even counting that near the valley floor, could have been fed by a prehistoric corollary (Table 8.6). Thus, these estimates would have given any canal below Huaca El Castillo the potential to feed at least around 200-300 people using the ranges provided by Wilson, probably more (Wilson 1985:326). These figures are considerably more than the likely

population at Huaca El Castillo, and it seems likely any such fields would have been growing crops for other nearby, or possibly distant, communities or purposes.

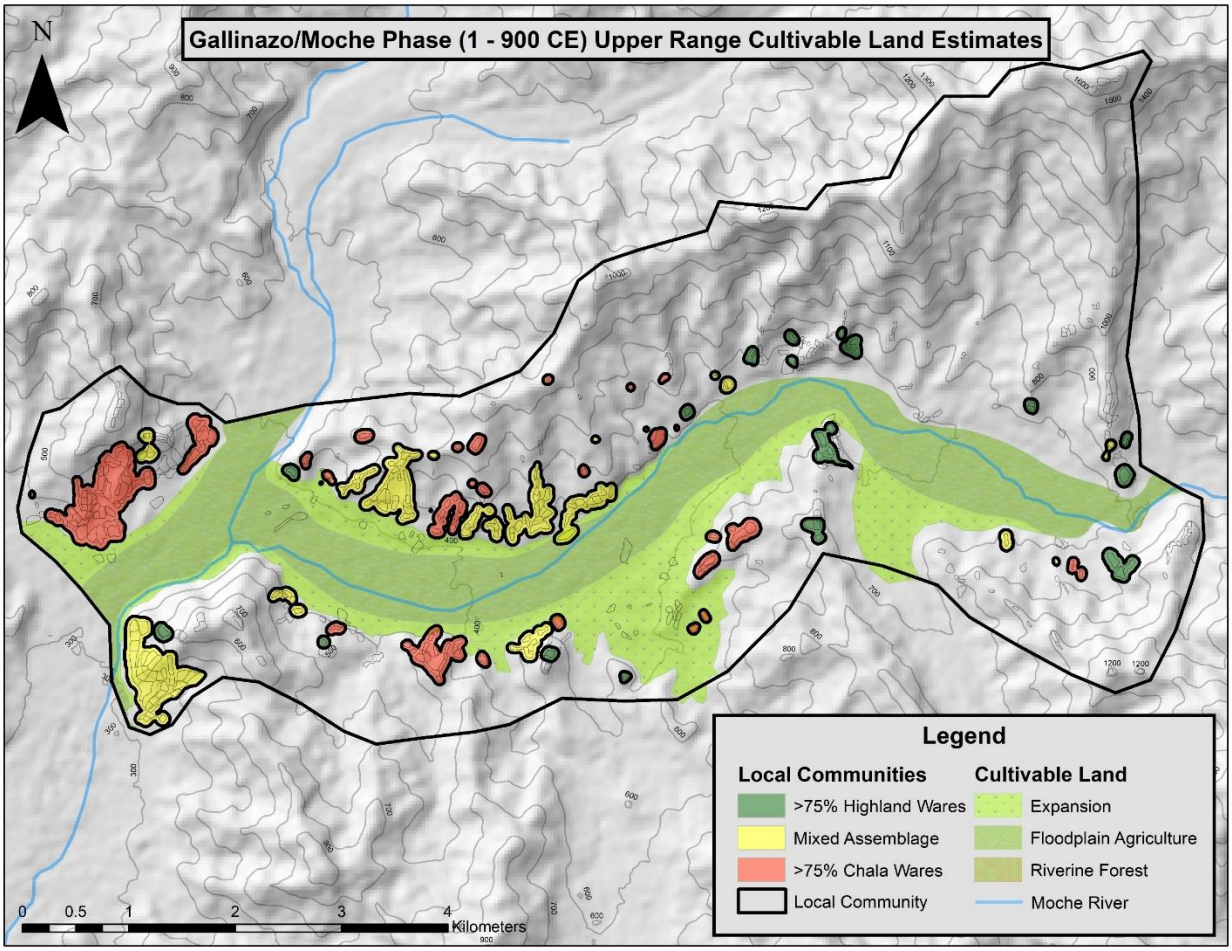


Figure 8.32 Gallinazo/Moche Phase Upper Range Cultivable Land Estimates

The upper range estimates for cultivable land during the Gallinazo/Moche Phase were mainly defined by (1) the addition of further cultivable land to the areas under Huaca El Castillo and (2) the inclusion of some much larger prehistoric corollary to the Poroto Principal canal (Figure 8.32; Table 8.6). Extending the possible cultivated area under Huaca El Castillo by placing the likely intake further upriver seemed appropriate given that there were at least two known prehistoric canals that had extended that far up the *chaupiyunga* slopes. Though the higher of these likely was from the Chimú/Chimú-Inka Phase, the lower could very well have been from the Gallinazo/Moche Phase. This canal was not in use during the ONERN survey but parts of it were refurbished by the time of my 2017 survey: bringing water just below the Moche *huaca* itself.

Additionally, the extension under Huaca Poroto was added to account for the possibility that the Poroto Principal canal had a larger corollary during the Gallinazo/Moche Phase. The intake for the modern canal is conspicuously just under Huaca Poroto but the canal itself mainly stays within the floodplain: hence why it was not added as an "extension" in my lower range estimates. Though the modern Misirihuanca canal has an intake a bit too far up-valley to have been realistically associated with Huaca Poroto, it is possible there was a Gallinazo/Moche Phase hybrid that would have passed between the two. Such areas are all cultivated in modern times and it is possible that some of the smaller canal offshoots from the Misirihuanca could have been obscuring the base of an older canal. To account for this possibility, I simply chose a contour that would have passed under Huaca Poroto and traced it to feed the area around the modern town of Poroto.

Table 8.6 Gallinazo/Moche Phase Cultivation Estimates

Gallinazo/Moche Phase Cultivation Estimates			
Estimate Name	**Landscape Description**		**Area (Ha)**
	Part/Name	*Category*	
Lower	Valley Floor	Floodplain Agriculture	641
	Katuay	Expansion	36
	Los Chiles - Dos de Mayo	Expansion	67
	Cruz Blanca - Cerro Pedregal	Expansion	70
	Mochal	Expansion	96
Higher	Valley Floor	Floodplain Agriculture	641
	Katuay	Expansion	36
	Los Chiles - Dos de Mayo	Expansion	67
	Cruz Blanca - Cerro Pedregal	Expansion	70
	Mochal	Expansion	198
	Poroto	Expansion	72

More generally, the potential amount of cultivable land during the Gallinazo/Moche Phase in either of these ranges would have provided a bit more than enough for the 1700 to 3000 or so likely residents of the surveyed part of the *chaupiyunga*. The total estimates of cultivable land in the survey area alone ranged from 910 to 1084 hectares: enough to support between 2350 and 3450 people if maize alone was being grown (Table 3.4; Wilson 1985:326). Though these are obviously rough estimates, the very slight excess of land does present two additional possibilities: (1) that an excess of staple goods could have been consumed or exported from the *chaupiyunga* and/or (2) that many of these fields could have been growing non-staple crops like *coca*. I suspect both of

these were likely the case. *Coca* was a more-or-less universally valuable good that could have been used for exchange and tribute to adjacent highland and coastal/*chala* communities or polities alike. Meanwhile, excess staple crops from the *chaupiyunga* could have played some role in how political authority was built in the Moche *huaca*-towns and *huaca*-polities that dominated the valley: supplying local-level nobility, or their superiors, with the food necessary for the great feasts and public spectacles that were integral to the *huacas* of their communities.

8.6 A New Borderland

Over the course of the Gallinazo/Moche Phase, the Upper Moche Valley *chaupiyunga* transformed as a borderland: with multiple new boundaries bundling and shifting within it as highland groups and Moche authority expanded into the region (Figure 8.33). Continuing the trends of the Salinar Phase, the *chaupiyunga* political boundary during the Gallinazo Phase began as a contested one: many of the highland-leaning communities and colonies were built in defensive locations or behind fortified walls. There were plenty of contemporary sources for raiding parties or intimidation that may have led to this defensive trend: the large *huaca*-town of Cerro Oreja and even the larger highland colony of Cerro Leon would have had a considerable size advantage against any of the smaller contemporary communities of the Upper Valley *chaupiyunga*. Though perhaps not highland colonies with histories akin to Cerro Leon, these Upper Valley *chaupiyunga* communities had diverse assemblages and used corporate wares that connected them to the political traditions and networks of the local highlands. Thus, we can see that the likely political boundary of the *chaupiyunga* during the Gallinazo Phase was contested but far more diverse than previously imagined: with a blend of highland colonies and likely indigenous enclaves that simply shifted allegiances towards the highlands. This being said, there was still no clear political center of the *chaupiyunga* within the survey area during the Gallinazo Phase: none of the communities were particularly large nor were there clear nodes of authority where the occupants of these sparse occupations could be brought together.

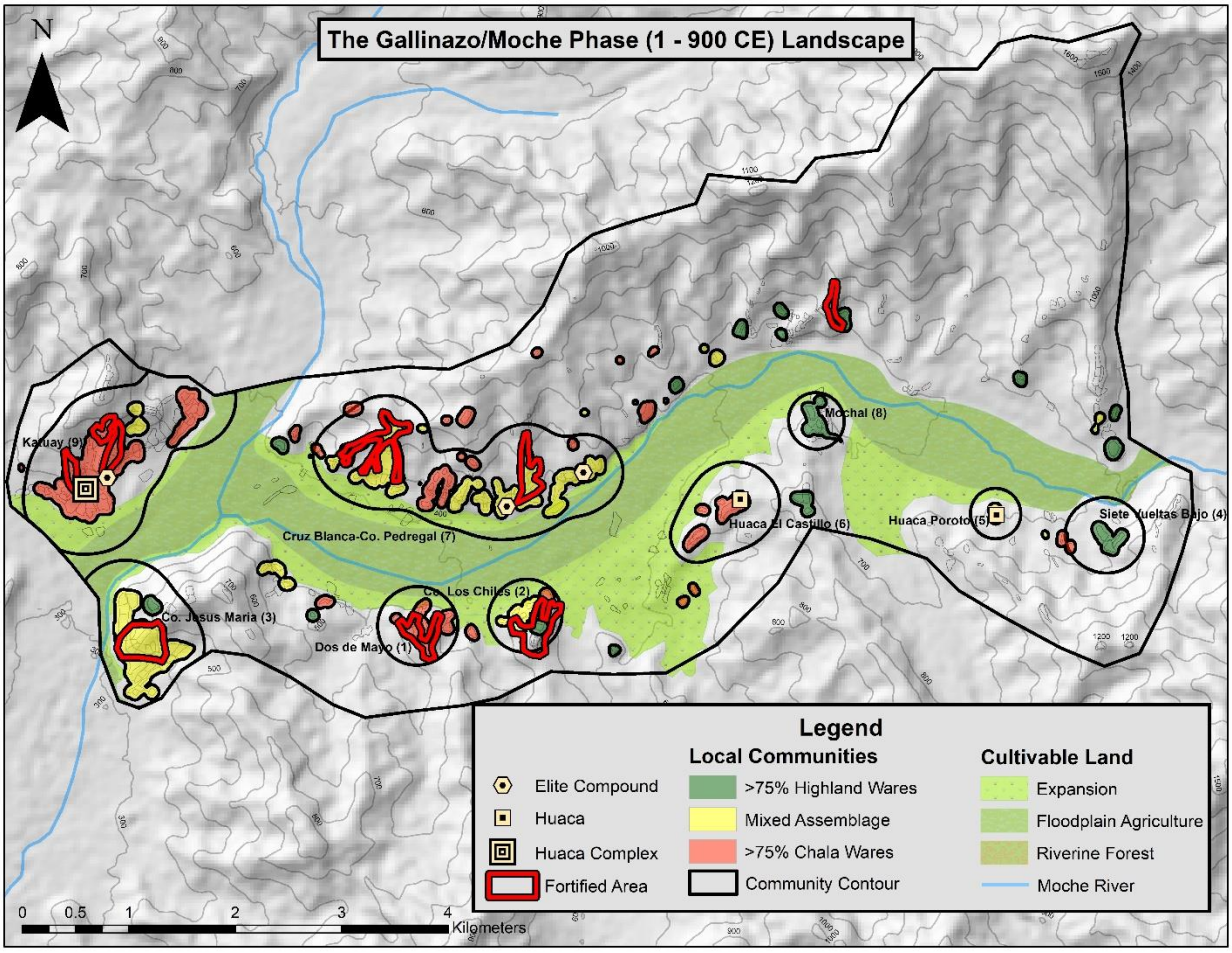


Figure 8.33 The Gallinazo/Moche Phase Landscape

The *chaupiyunga* remained a political boundary during the Moche Phase but (1) was less contested, (2) was far more bound to the webs of Moche authority radiating from the *chala*, and (3) had a clear political center at the *huaca*-colony of Katuay. To begin, the fortified redoubts of the Salinar and Gallinazo Phases persisted in the landscape well after their initial construction, but were likely only occasional refuges for the less defensively oriented communities of the Moche Phase. The spread of Moche corporate wares, and communities with more coastal/*chala*-leaning assemblages, into the *chaupiyunga* echoed the expansion of Moche networks of authority likely from the powerful *huaca*-polities and noble families of the *chala*. While communities like Cruz Blanca continued to cultivate ties to the highlands, the larger communities of the confluence almost completely abandoned these connections in favor of those to the Moche world downstream. One impetus for this transformation was the founding of the *huaca*-colony of Katuay: bringing colonists

from the *chala* and a likely Moche-affiliated noble family to the confluence and the edge of the Upper Moche *chaupiyunga*. Huaca El Castillo was a likely canal-*huaca* connected to Katuay that also expanded Moche authority over lands and communities, specifically Cruz Blanca, located further upstream. Meanwhile, the canal-*huaca* of Huaca Poroto was perhaps built in an attempt to expand Moche authority over the more sparse, mobile, and highland-leaning communities at the upper edge of the survey zone. Thus, we can see a gradient of Moche authority that was strongest at the confluence and increasingly more varied, but not necessarily indirect, as one moved deeper into the *chaupiyunga*.

Though the economic boundary of cultivation likely followed this expansion of *chala* political authority into the *chaupiyunga* landscape during the Moche Phase, the region interestingly remained as a more-or-less sparsely occupied demographic boundary. Regional demography greatly increased, but the vast majority of people living within the survey zone were still occupying the area around the confluence. Past Katuay and Cerro Jesus Maria, the only substantially occupied community of the *chaupiyunga* was Cruz Blanca. This lack of people in the Upper Valley *chaupiyunga* is particularly striking given the construction of canal-*huacas* within that same relatively unpopulated landscape. It is here that we perhaps see the demographic dominance of a *huaca*-colony like Katuay play its part in how broader political and economic landscapes could be shaped by Moche authority. The nobles from Katuay, or maybe even other families downstream at Huacas del Moche or Galindo, could simply tap their own subject pools to occasionally work the fields of the canal-*huacas* that were being built deeper into the *chaupiyunga*. This seems a likely narrative for Huaca El Castillo, given the dominance of coastal/*chala* assemblages at and around that canal-*huaca*. The more mixed assemblage at the canal-*huaca* of Huaca Poroto perhaps could suggest highland-leaning communities interacting with Moche nobles in a capacity akin to being subjects. Though intriguing, further exploration of Huaca Poroto would be needed to support such a narrative.

In sum, we can see that the economic boundary followed the political boundary in the Gallinazo/Moche Phase *chaupiyunga* borderlands but the nature of Moche political authority being built at canal-*huacas* did not require any demographic boundary to follow suit. Instead, demography was concentrated upon the most vital nodes of Moche authority from where people would be distributed across the landscape in what was likely a more seasonal, even daily, strategy

of farmers going out to *chaupiyunga* fields only when needed. It is important to note that such a strategy for occupying the *chaupiyunga* was probably not restricted to or pioneered by the Moche nobility or communities hailing from downstream. The burst of highland-leaning and/or Gallinazo Phase hamlets and camps in the survey area show lighter occupations that may have been settled for similar purposes by groups from the Otuzco or Carabamba Highlands. Even the lighter occupations recorded from the Salinar and Guañape Phases would suggest that such a strategy for occupying the *chaupiyunga* had a deep antiquity. Instead, the main innovation during the Moche Phase was the construction of canal-*huacas* and associated longer canals and larger fields. These constructions projected the direct authority of *chala* families over the previously more sparsely or temporarily occupied *chaupiyunga* landscape: transforming it by digging long canals and cultivating large fields where previously there was likely no more than limited floodplain agriculture. These canals and fields were likely firmly under *chala*-affiliated authority during the Moche Phase: subsidizing the growing populations of communities like Katuay and probably supplying them, and their likely overlords downstream, with the precious *coca* of the *chaupiyunga*. Unwittingly, however, the construction of these canal-*huacas* and the opening of this landscape for more aggressive cultivation set the stage for the far more tumultuous *chaupiyunga* landscape of the Chimú/Chimú-Inka Phase. Once these fields and – more importantly – their water was wrested from *chala*-affiliated authority, some of the conditions necessary for a "contested *chaupiyunga*" would emerge.

9.0 THE CHIMÚ/CHIMÚ-INKA PHASE (~900–1500s CE): FORTIFIED COMMUNITIES AND EMPIRES IN A CONTESTED *CHAUPIYUNGA*

9.1 Introduction

The seven centuries of the Chimú/Chimú-Inka Phase witnessed several important changes in the demographic, political, economic, and cultural boundaries in the *chaupiyunga* borderlands past the confluence. The largest change was the demographic infilling of the *chaupiyunga* landscape past the confluence: this demographic boundary was transformed as a handful of villages with mixed highland-*chala* assemblages were founded in areas only previously occupied by isolated farmsteads and camps. Though several of these newer frontier communities were positioned near older canal and field expansions associated with abandoned Moche canal-*huacas*, others were likely associated with the construction of new canals that significantly expanded the cultivated lands of the *chaupiyunga*. More generally, populations moved to defensible locations and every large community was heavily fortified during this phase: there can be little doubt that the *chaupiyunga* landscape was a contested one.

Though some of this contestation was doubtlessly a product of the later Chimú-Inka wars, the earlier foundations of many of these communities suggest roots to regional conflict that originated during the rise of the Kingdom of Chimor and then persisted throughout. Chimú authority was most directly built upon and around the confluence through a series of fortified communities, outposts, palace compounds, and even a cross-valley wall. Past the confluence, the political landscape was far more diverse: a fortified *chala* colony at Cerro los Chiles, four fortified frontier communities with more diverse assemblages, as well as several outposts, camps, and isolated farmsteads that lined the ridges that led up to the highlands. Though the nobles and royalty of the Kingdom of Chimor doubtlessly shaped this landscape, only one possible palace was present past the confluence: the authority being built in the *chaupiyunga* proper seemed to have been far more indirect. In sum, the transformation of the demographic boundary of the *chaupiyunga* from a sparsely occupied periphery to a more permanently and thoroughly settled landscape were contemporary with economic expansions and political contestation in the region. Recalling the

contemporary canal expansions in the *chala*, this was thus the only phase in which the proposed "contested *chaupiyunga*" borderland process could have shaped the *chaupiyunga* borderlands of the Moche Valley.

9.2 The Demographic Landscape

Though regional populations only subtly grew during the Chimú/Chimú-Inka Phase, there was considerable growth in the areas of the *chaupiyunga* located past the confluence. The total ADI/Century value recorded for this phase in the survey area was 65.7, yielding a range of between 1905 and 4139 people for the survey area. This was a large range and, similar to the Gallinazo/Moche Phase, a bit more clarity could be lent by zooming in on a few of the local communities of this phase. As was discussed earlier (see Chapter 5.3.1.1), the fortified hilltop village of Loma del Shingo (ADI/Century = 6.09) would have had a range of between 177 and 384 people that seemed appropriate. Meanwhile, the lower slopes of Katuay Este – Cerro Katuay (ADI/Century = 17.42) were full of terrace compounds and sprawling settlement that spanned much of the Chimú/Chimú-Inka Phase. This larger set of occupations would have easily been able to house the likely 505 to 1096 people who were estimated to have lived within this community. Since the absolute population estimates were themselves mainly based on this phase, it is no surprise that they seem to work quite well. The relative numbers interestingly show only a subtle 8.6% growth from the previous Gallinazo/Moche Phase (ADI/Century = 60.48). Though the overall growth in the survey area was only subtle, the distribution of people within the landscape itself showed a reversal of the previous two millennia of confluence-based growth.

Coastal/*Chala* and highland wares continued to be distinguishable during the Chimú/Chimú-Inka Phase, so assemblages could thus be described by the proportions of these wares in the same way they were for the Gallinazo/Moche Phase. The same color scheme for CUs and different scales of communities was also used for the maps depicting settlement for this phase. If we interpret all of the survey data of this phase as one massive assemblage, it would have had 73% coastal/*chala* and 27% highland wares: a 7% or so increase of highland wares when compared to the previous phase.

The proceeding discussion of the demographic landscape progresses through the different layers of communities that I was able to identify from analyzing the survey data from this phase. The communities around the confluence (namely Katuay and Cerro Jesus Maria) shrunk in size when compared to their Gallinazo/Moche Phase predecessors but they still remained as the larger communities in the survey area. Though the *chaupiyunga* continued to have numerous camps and low-density occupations, it also witnessed considerable growth with at least 5 new villages being founded past the confluence.

9.2.1 Local Communities

In total, 77 local communities were identified for the Chimú/Chimú-Inka Phase (Figure 9.1; Figure 9.2; Figure 9.3; Figure 9.4; Figure 9.5). Like those of previous phases, these were outlined using the lowest contour of the 50m KD analysis raster and there were 23 unaffiliated CUs that, combined, only made up some .15% of regional populations (ADI/Century = .1). These were all incredibly light occupations (ADI/Century <.1) and the relatively tiny proportion of regional populations they composed gave me relative confidence that regional settlement could be adequately described by the local communities I was able to identify. Similar to previous phases, the majority of the local communities I identified, some 59, had very light occupations that had ADI/Century values under .5. Out of these 59 lightly occupied local communities, 41 had extremely light occupations (ADI/Century < .1) that likely amounted to something like an ephemeral camp. These 41 local communities combined to represent only around 1.4% of all regional populations (ADI/Century = .94) and a little less than half had coastal/*chala*-leaning assemblages. To be more exact: 19 had mainly coastal/*chala* assemblages, 11 had mainly highland assemblages, and 11 had mixed assemblages. Combining these smaller local communities with unaffiliated CUs that probably should be put in the same category informs us that around 1.5% (ADI/Century = 1.04) of regional population could be characterized by such ephemeral occupations. This was only a slight drop from the demographic estimates for the 44 comparable occupations observed during the Gallinazo/Moche Phase (2.69%, ADI/Century = 1.6). Though number and composition of such occupations were quite similar between these phases, those of the Chimú/Chimú-Inka Phase seemed to have been used slightly less than those from the earlier Gallinazo/Moche Phase. Thus, we can say that during the Chimú/Chimú-Inka Phase there was a

subtly smaller demographic presence represented by ephemeral occupations and a little less than half had coastal/*chala*-dominated assemblages.

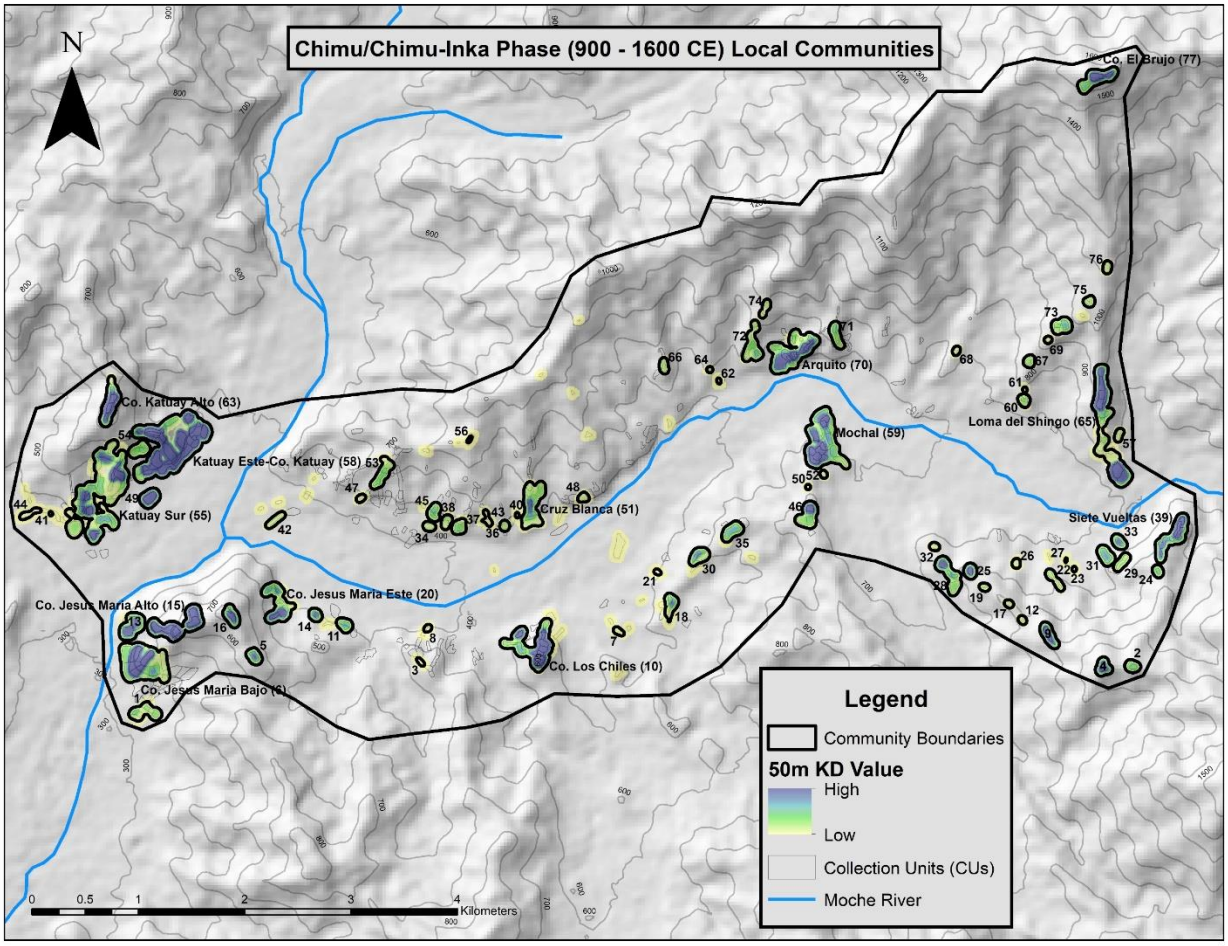


Figure 9.1 Chimú/Chimú-Inka Phase Local Communities

Just above this category of clearly ephemeral occupations, 18 local communities had between .1 and .5 ADI/Century values and were thus probably no more than a single temporarily occupied homestead or something along those lines. Together, these local communities accounted for around 5.8% of the total population estimate (ADI/Century = 3.82) within the survey area and the majority of them had coastal/*chala*-dominated assemblages. More precisely: 12 had assemblages with mainly coastal/*chala* wares, 3 had assemblages with mainly highland wares, and 3 had mixed assemblages. Comparing these occupations with the 11 analogous ones from the Gallinazo/Moche Phase, there was a moderate increase in the overall size and proportion of the population present: around 4.9% of Gallinazo/Moche Phase populations (ADI/Century = 3) in the

survey area could be described as belonging to occupations of relatively similar sizes. Notably, these smaller and likely single ephemeral household local communities during the Gallinazo/Moche Phase tended to have mixed assemblages rather than coastal/*chala* dominated ones. In sum, we can say that there were more individual ephemeral farmsteads dispersed across the Chimú/Chimú-Inka Phase landscape than previously and that many of these had assemblages that suggested much stronger ties to the coast/*chala* than the adjacent highlands.

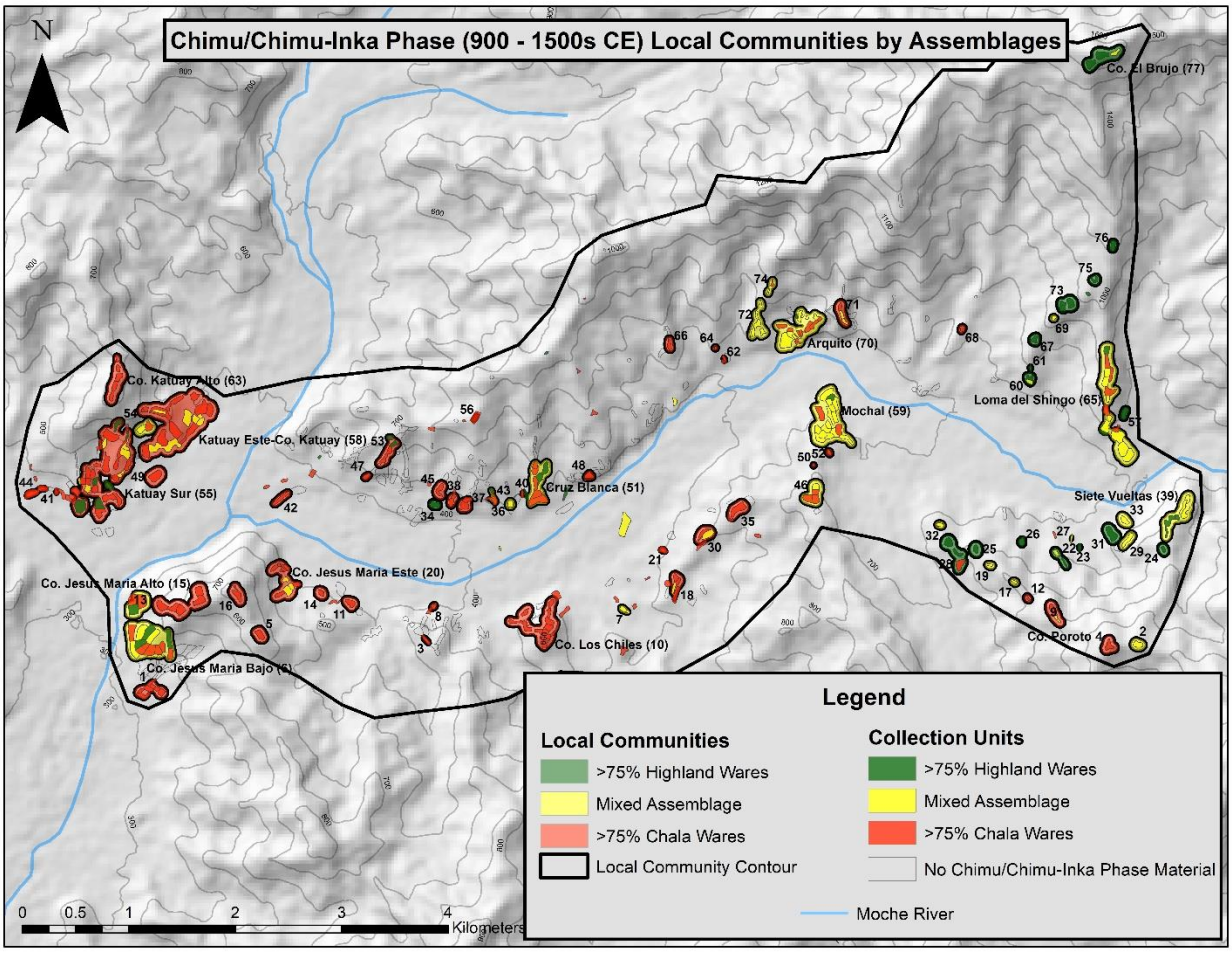


Figure 9.2 Chimú/Chimú-Inka Phase Local Communities by Assemblages

Moving from these much smaller local communities, the remaining 18 can be split into three general categories: (1) one larger town, (2) a few mid-range villages, and (3) a handful of smaller villages and/or hamlets (Figure 9.5). Beginning with the 11 smaller towns and/or hamlets: these can be combined to account for around 19% of regional demography (ADI/Century = 12.42) and were relatively split between coastal/chala and mixed assemblages. More precisely: 4 had

mainly coastal/*chala* assemblages, 2 had mainly highland assemblages, and the remaining 5 had mixed assemblages. With ADI/Century values ranging from .52 to 2.43, many of these occupations were likely no more than hamlets or, at most, clusters of households on habitation terraces. For example, the largest of these was actually the previously described local community of Katuay Alto: a small cluster of domestic terraces around a likely Chimú palace. We can compare these occupations with their Gallinazo/Moche Phase analogues: 7 local communities that made up around 15.7% of regional populations and had an aggregated 9.59 ADI/Century between them. Similar to those from the Chimú/Chimú-Inka Phase, the earlier local communities of this size were similarly split between coastal/*chala* and mixed assemblages. Thus, we can see that there were slightly more hamlets during the Chimú/Chimú-Inka Phase but they still had similar compositions and sizes to those from the previous Gallinazo/Moche Phase landscape.

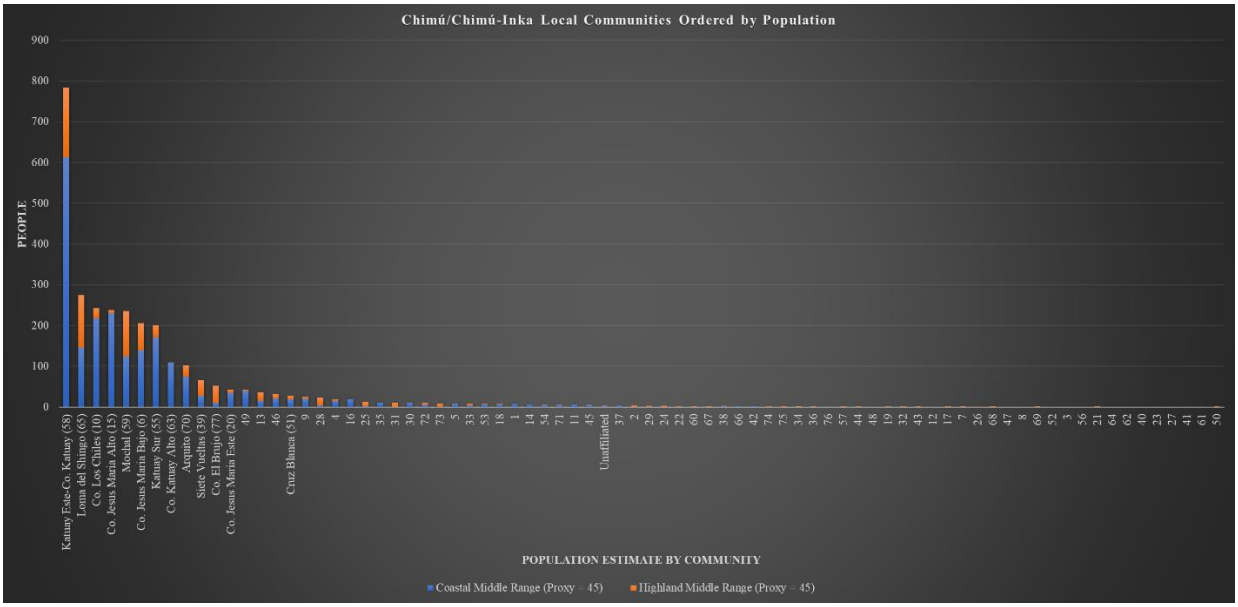


Figure 9.3 Chimú/Chimú-Inka Local Communities Ordered by Population

A somewhat new category of local community emerged from the Chimú/Chimú-Inka Phase *chaupiyunga* landscape: moderately-sized villages or occupations that may have amounted to clusters of hamlets. I identified 6 such local communities that housed an aggregate of 47% of regional populations (ADI/Century = 31.3) in the survey area and individually had ADI/Century values ranging between 4.47 and 6.09. These communities would have probably had anywhere from 100 to 400 people, though this was likely dependent on when in the larger Chimú/Chimú-Inka Phase one looks. In regards to community compositions, these 6 local communities were

evenly split: three having mixed assemblages and three with more coastal/*chala* assemblages. Importantly, three of these local communities were located well past the confluence: Cerro Los Chiles, Mochal, and Loma del Shingo. There were no Gallinazo/Moche Phase analogues to any of these local communities although Cruz Blanca could have been an equivalent at larger community scales (e.g., Local Community Clusters or Extended Local Communities). To find a proper analogue in previous demographic landscapes, we would have to go back to the Salinar Phase village around Huaca Menocucho. In sum, a handful of moderately-sized villages emerged in the *chaupiyunga* landscape during the Chimú/Chimú-Inka Phase and at least three of them were located well past the confluence.

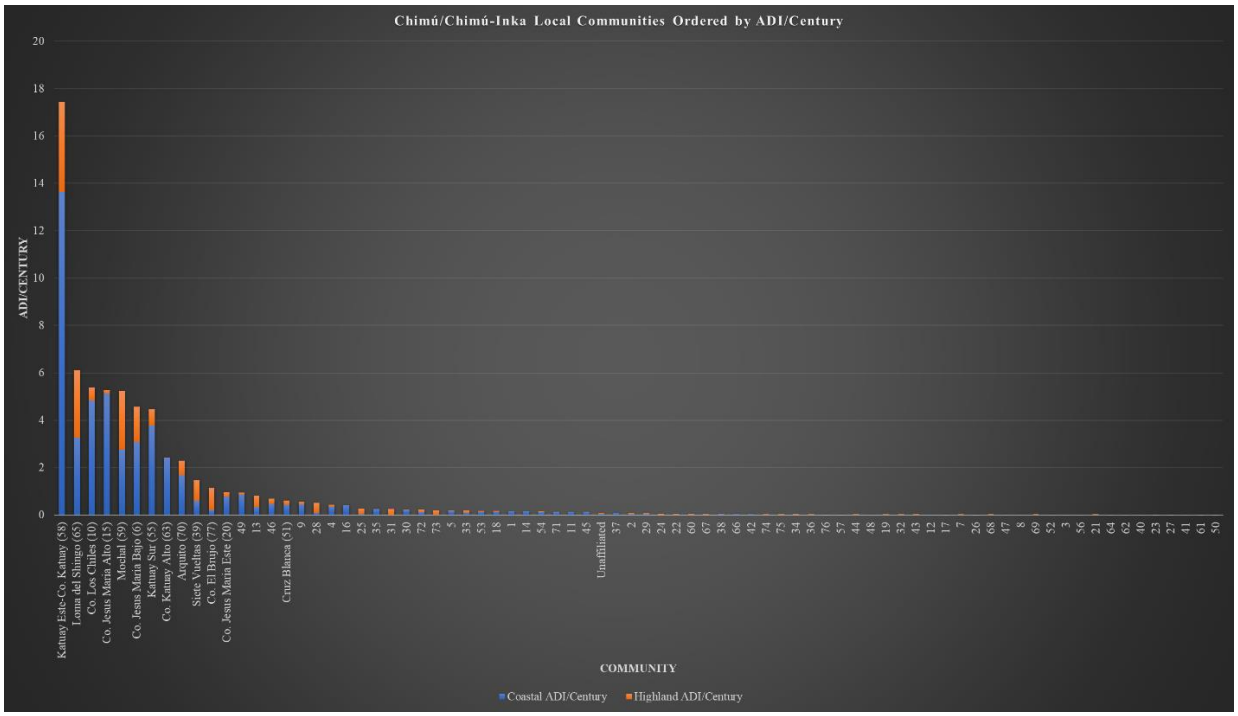


Figure 9.4 Chimú/Chimú-Inka Local Communities Ordered by ADI/Century

Finally, one broad set of occupations wrapping around the southeastern flanks of Cerro Katuay and up one of its more prominent ridges made up a local community that was three times the size of its closest peer in the survey area. This local community, Katuay Este – Cerro Katuay, accounted for around 27% of regional populations (ADI/Century = 17.42) in the survey area and was dominated by coastal/*chala* wares. As will be discussed later, this community was a combination of 2-3 semi-contiguous occupations: (1) an Early Chimú Phase town sprawling around the lower slopes of Cerro Katuay and (2/3) a Middle/Late Chimú, and possibly Chimú-

Inka Phase, fortified town carved into the ridge above the earlier occupations. Compared to the earlier Gallinazo/Moche Phase town at Cerro Jesus Maria (40.7%, ADI/Century = 24.6) or the *huaca*-colony at Katuay (36.7%, ADI/Century = 22.2), the local community at Katuay Este – Cerro Katuay was only a bit smaller but represented a considerably lower proportion of the population in the survey area. In sum, the largest community of the Chimú/Chimú-Inka Phase was smaller and held a less dominant position in the demographic landscape than its Gallianzo/Moche Phase predecessors. However, the positioning of the small town at Katuay Este – Cerro Katuay did continue the nearly three-millennia-long trend of larger occupations being located around the confluence.

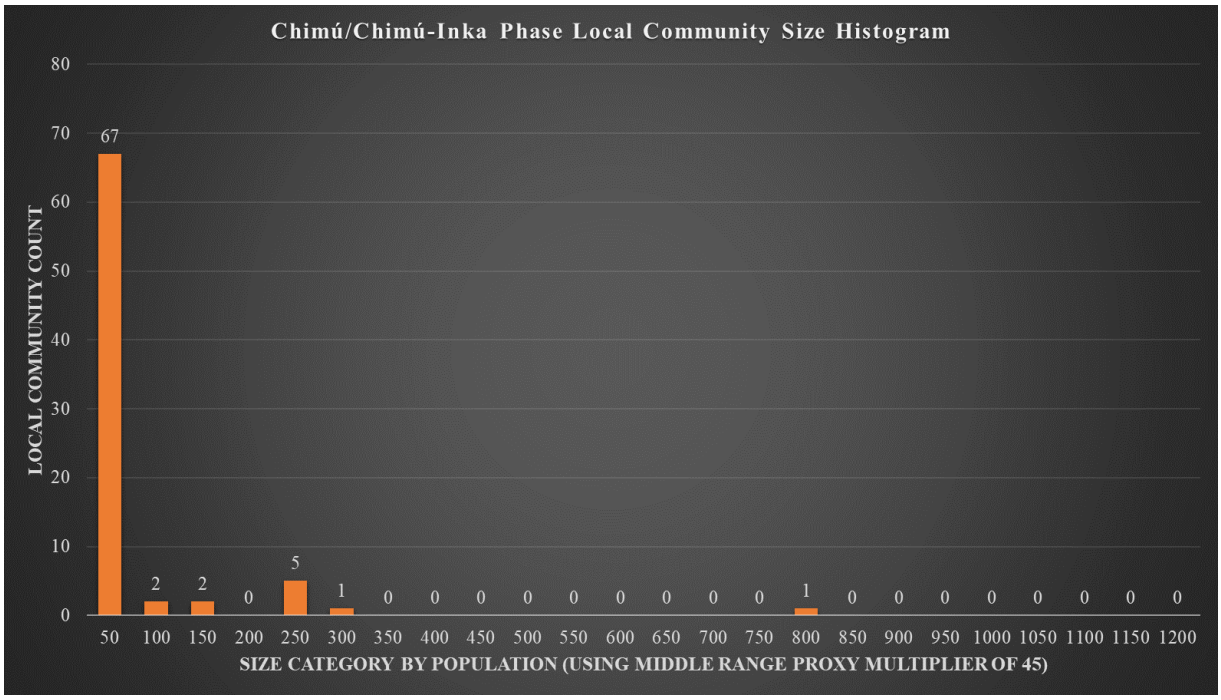


Figure 9.5 Chimú/Chimú-Inka Phase Local Community Size Histogram

9.2.1.1 Possible Sub-Phase Occupations

Echoing my similar statements in regards to discussing the sub-phases of the Gallinazo/Moche Phase, it is important to begin by saying that the data I collected are better suited for addressing the Chimú/Chimú-Inka Phase as one larger composite phase. In fact, the paucity of diagnostic material for two of the possible sub-phases of the Chimú/Chimú-Inka Phase (Early Chimú and Chimú-Inka specifically) made them even more difficult to access than those from the

Gallinazo/Moche Phase. The only sub-phase that was relatively wide-spread and well-represented in the survey material was the Middle-Late Chimú Phase. Even so, it is important to remember that the aggregative nature of Chimú Phase diagnostics makes it very difficult to confidently determine sub-phases through the domestic wares that made up the vast majority of my collections. Many of the wares that I categorized as "likely Middle-Late Chimú" could very well have been Chimú-Inka and some may have even been from the latter centuries of the Early Chimú. While I could say with some confidence that the vast majority of Chimú/Chimú-Inka Phase communities in the survey area were likely occupied sometime between at least 1200 and the 1450s CE, I could often not rule out the presence of underlying Early Chimú occupations or continued occupation into the Chimú-Inka Phase at most of these same communities. In any case, combining the presence/absence of diagnostic wares by CU with their associated ADI/Century values allowed me to vaguely estimate what areas could have been occupied for the three sub-phases of the Chimú/Chimú-Inka Phase (Table 9.1).

Table 9.1 Chimú/Chimú-Inka Phase Possible Sub-Phase Divisions

Chimú/Chimú-Inka Phase Possible Sub-Phase Divisions		
Sub-Phase	**ADI/Century**	**Percent of Total**
Early Chimú	1.93	3%
Middle - Late Chimú	53.34	81%
Chimú-Inka	7.49	11%

The Early Chimú sub-phase was already difficult to identify mainly because the ceramics belonging to the phase, namely Transitional-Early Chimú corporate wares, are themselves poorly understood (see Appendix A). The few likely Early Chimú wares I was able to identify were mainly found in lightly occupied areas and combined together to make up only around 3% of all Chimú/Chimú-Inka Phase occupation in the survey area (Table 9.1). It is also important to remember that the principal diagnostics for this subphase were in coastal/*chala* wares and thus some occupations are likely being missed. Contemporary highland assemblages appear to be a blend of Early and Late Highland plainwares with fewer, if any, Quinga wares. Even with these limitations, it is still useful to zoom in on where exactly Early Chimú wares were encountered (Figure 9.6). A smaller sub-set of the community at Katuay Este – Cerro Katuay was probably the only "clear" Early Chimú occupation in the survey zone. This was essentially a small set of

habitation terraces on the slopes of Cerro Katuay between the old Moche *huaca*-colony and the later Chimú fortified town above. Other than this occupation, a few possible Early Chimú tripod bases were found below the old canal-*huaca* at Huaca El Castillo and at part of the Chimú fortified town at Mochal – Los Gentiles. Thus, many of the possible Early Chimú occupations in the survey area actually showed some overlap with communities that were occupied during the Moche Phase: illustrating some continuity between those landscapes.

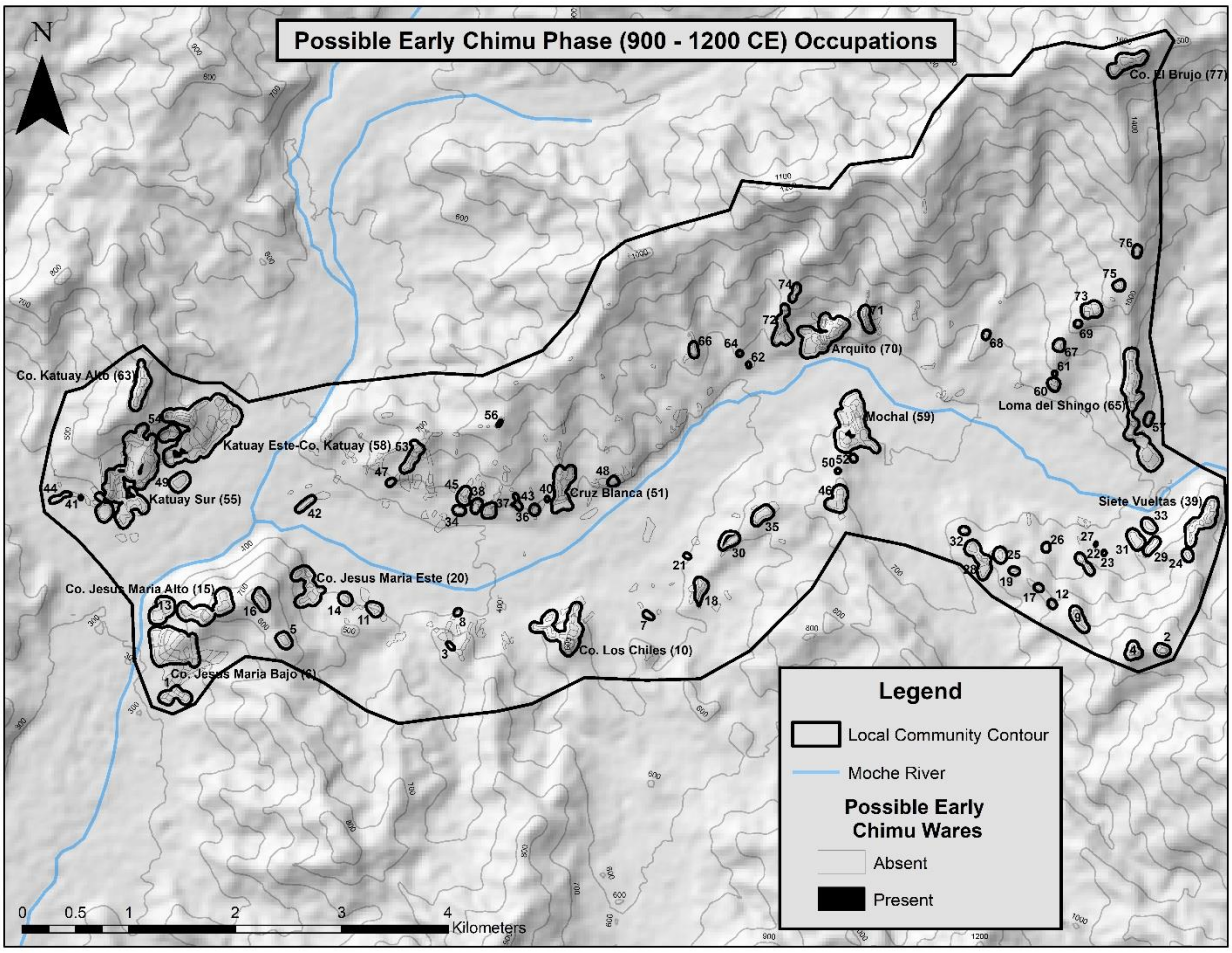


Figure 9.6 Possible Early Chimú Phase Occupations

Domestic and corporate wares that were more-or-less diagnostic of the Middle/Late Chimú sub-phase were found at the vast majority of Chimú/Chimú-Inka Phase communities within the survey area. This ubiquity can be seen in the aggregated ADI/Century from the CUs in which such wares were found: around 81% of the population during this phase (ADI/Century = 53.34) had wares that probably belonged to this sub-phase (Table 9.1). Assessing where exactly these wares

were encountered, we can see how widely they were found throughout the survey area: from the largest local community of Katuay Este – Cerro Katuay to the smaller mountain-peak outpost at Cerro El Brujo (Figure 9.7). Both Katuay and Mochal – Los Gentiles show some continuity from the earlier occupations that probably suggest overlap with the Early Chimú sub-phase. Cruz Blanca also had some Middle/Late Chimú wares that could suggest an undetected Early Chimú sub-phase occupation at the site. I suspect this was also the case at several of the frontier communities with highland wares in the *chaupiyunga* proper: they likely had Early Chimú sub-phase occupations that were simply difficult to detect without the presence of Transitional-Early Chimú corporate wares. In any case, the wide distribution of likely Middle/Late Chimú wares is suggestive that all of these communities were occupied at least sometime between 1200 and 1450s CE. However, we can also see that there was probably ample overlap with earlier and later sub-phases that was simply undetectable with the data at hand.

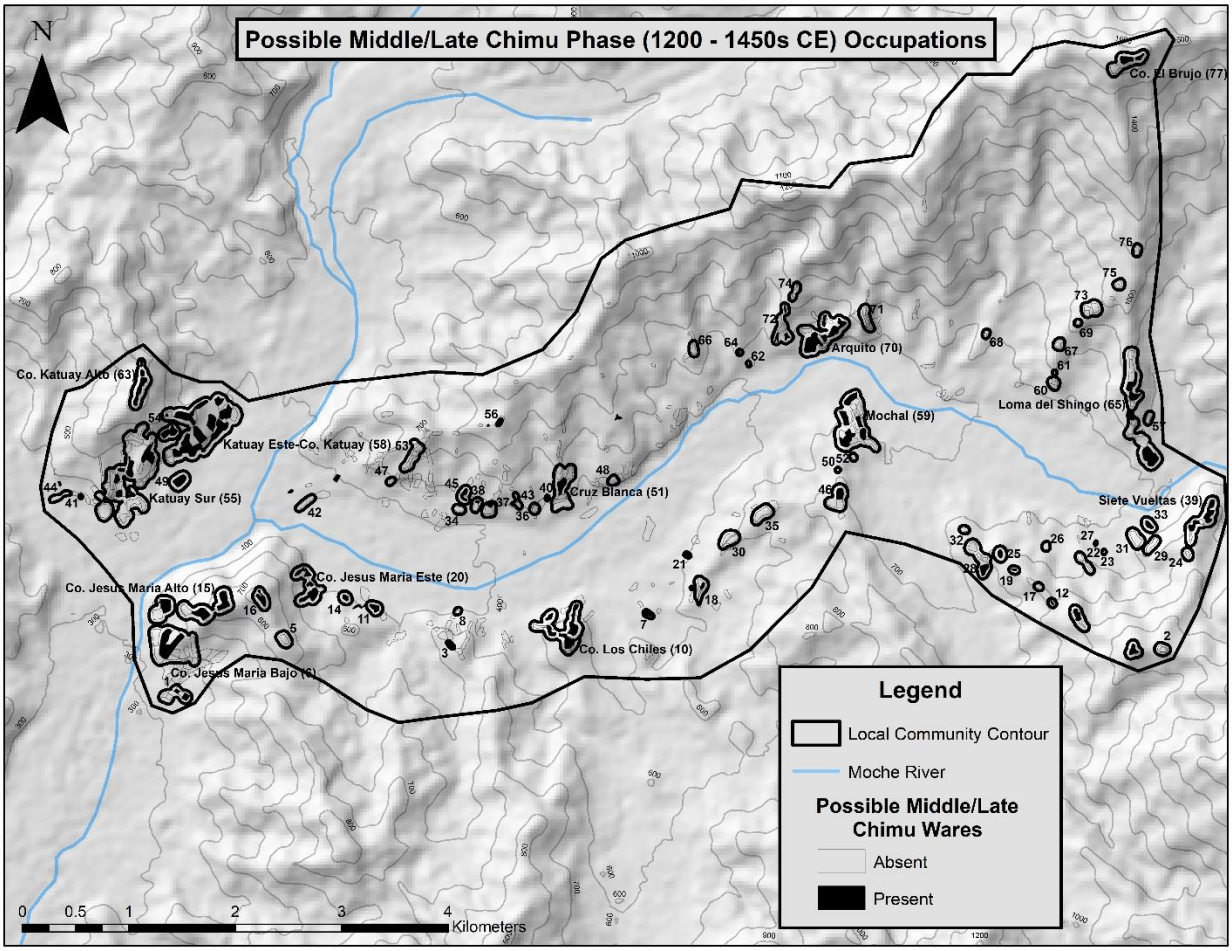


Figure 9.7 Possible Middle/Late Chimú Phase Occupations

Finally, Chimú-Inka Phase domestic wares are so similar to those from the Middle/Late Chimú that many of these occupations very well could have continued past the 1450s and even into the 1500s (Boswell 2019; Mullins 2019). Only a few ambiguous diagnostics were recognized in the survey area but even these were a bit better represented than those from the Early Chimú sub-phase: some 11% of Chimú/Chimú-Inka Phase population areas had possible Chimú-Inka sub-phase occupations (Table 9.1). There were not many areas that had possible Chimú-Inka sub-phase wares, but these wares were relatively well distributed and echoed many of the same local communities as what was observed for the Middle/Late Chimú sub-phase material (Figure 9.8). I suspect this is likely the result of the chaotic oscillation between Chan Chan- vs. Cuzco-based authority in the region that was outlined earlier in my overview of the historical record of the Chimú-Inka wars (see Chapter 4.2.9.3).

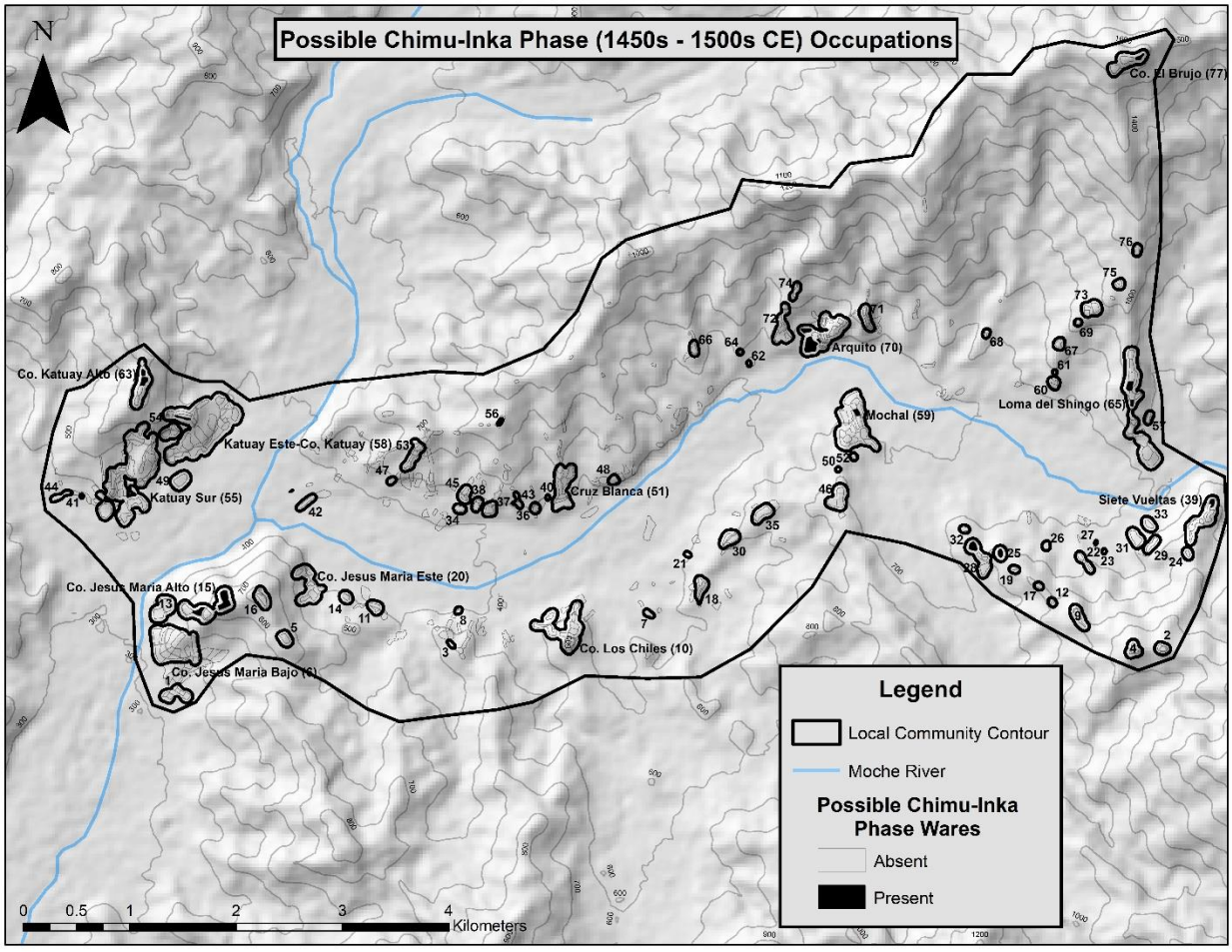


Figure 9.8 Possible Chimú-Inka Phase Occupations

In sum, it is important to be very clear that the densest occupations of the region were clearly during the centuries of the Middle/Late Chimú sub-phase: some of these occupations may have carried over into the Chimú-Inka sub-phase but few, if any, of the communities I describe were likely founded at that time. Several of these communities, namely Mochal – Los Gentiles and Katuay, likely have roots that extend back into the Early Chimú sub-phase and were even bound to earlier Moche Phase landscapes. The other main frontier communities of Arquito, Siete Vueltas, and Loma del Shingo all have enough highland wares that some light Early Chimú sub-phase occupations a possibility but it is not entirely clear with the material at hand. Whatever the case, all of these communities were almost surely occupied by the Middle/Late Chimú sub-phase between approximately 1200 and the 1450s CE: placing them squarely within the time range of the florescence and expansion of the Kingdom of Chimor out of the Moche Valley *chala*.

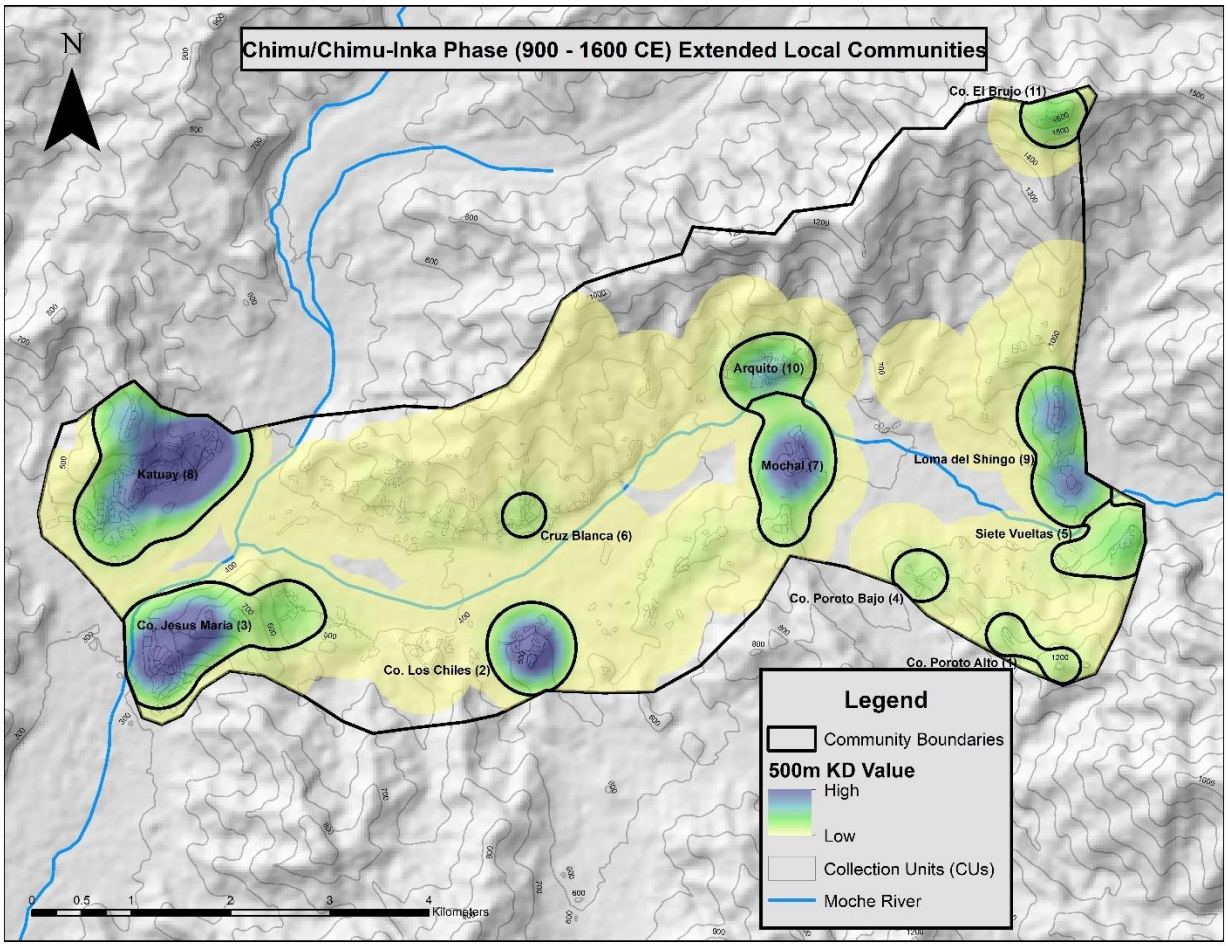


Figure 9.9 Chimú/Chimú-Inka Phase Extended Local Communities

9.2.2 Extended Local Communities

A total of 11 extended local communities were identified for the Chimú/Chimú-Inka Phase with the rest of the occupations being categorized as rural (Figure 9.9; Figure 9.10; Figure 9.11; Figure 9.12). As was intended, the somewhat larger contours that were used for identifying this scale of community lumped together some of the local communities that were clustered around the more densely occupied parts of the landscape. The largest extended local community was the collection of local communities around Katuay (38.7%, ADI/Century = 25.4). The contours of this extended local community aggregated the main occupations at Katuay Este – Cerro Katuay with (1) the mountaintop palace occupation at Cerro Katuay Alto and (2) the scattered Chimú/Chimú-Inka Phase occupations stretching into Katuay Sur along the modern Katuay canal line and towards the Chimú rural palace at Quebrada de Katuay. This collection of occupations had assemblages that were clearly coastal/*chala*-leaning but were a bit more varied than the previous Moche *huaca*-colony that emerged beneath the mountain: around 81% of the wares were coastal/*chala* while only around 19% were highland. The second largest extended local community was at Cerro Jesus Maria (18.7%, ADI/Century = 12.3) and brought together occupations to make a community that was about half the size of that at Katuay. The contours for this local community cluster merged several local communities on the southern and eastern slopes of Cerro Jesus Maria with the two linked fortified communities at the mountain peak. These communities had assemblages that were mostly dominated by coastal/*chala* wares but still exhibited around 19% highland wares.

Three local extended local communities were outlined at the other larger communities up-valley and further into the *chaupiyunga*: Cerro los Chiles, Mochal, and Loma del Shingo. These were all very similarly sized (8.2-9.3%, ADI/Century = 5.4-6.1) but could be divided into two categories via their assemblages. The cluster at Cerro Los Chiles simply outlined the local community of the same name and it stood out with an assemblage of around 90% coastal/*chala* wares and only 10% highland wares. This assemblage aligned Cerro Los Chiles far more with the coastal/*chala*-leaning communities down-valley and suggest it was a likely Chimú-linked colony settled amongst the ruins of the older Salinar Phase village on the same mountain. The local community clusters at Mochal and Loma del Shingo had far more diverse assemblages in which coastal/*chala* and highland wares were essentially split 50/50.

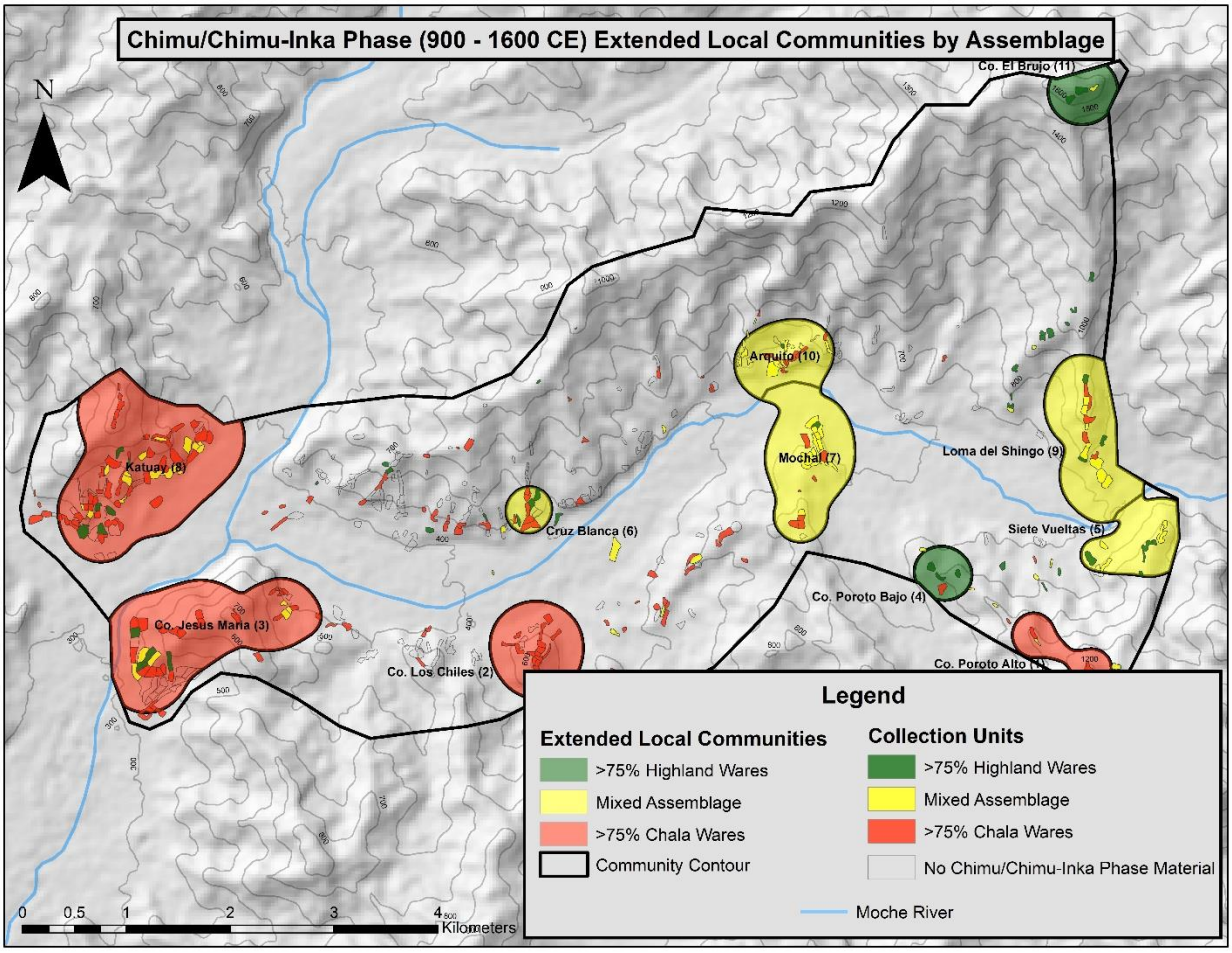


Figure 9.10 Chimú/Chimú-Inka Phase Extended Local Communities by Assemblages

The remaining six extended local communities aggregated the occupations in and around some of the smaller local communities up-valley in the *chaupiyunga* that would have been no more than small villages. The largest of these were Siete Vueltas and Arquito, which were around the same size (3-4%, ADI/Century = 2-2.6) and had mixed assemblages. Notably, Siete Vueltas and Arquito were also respectively paired cross-valley with the clusters at Loma del Shingo and Mochal and the contours of the extended local communities themselves were only separated by the Moche River (Figure 9.9; Figure 9.10). The last 4 extended local communities had varied sizes (.9-1.75%, ADI/Century = .6-1.1) and had a variety of assemblages. The clusters at Cerro El Brujo and Cerro Poroto Alto simply encapsulated the light occupations of either mountaintop outposts which had highland-leaning and coastal/*chala*-leaning assemblages, respectively. Cerro Poroto Bajo and Cruz Blanca were even more lightly occupied and had highland-leaning and mixed assemblages, respectively.

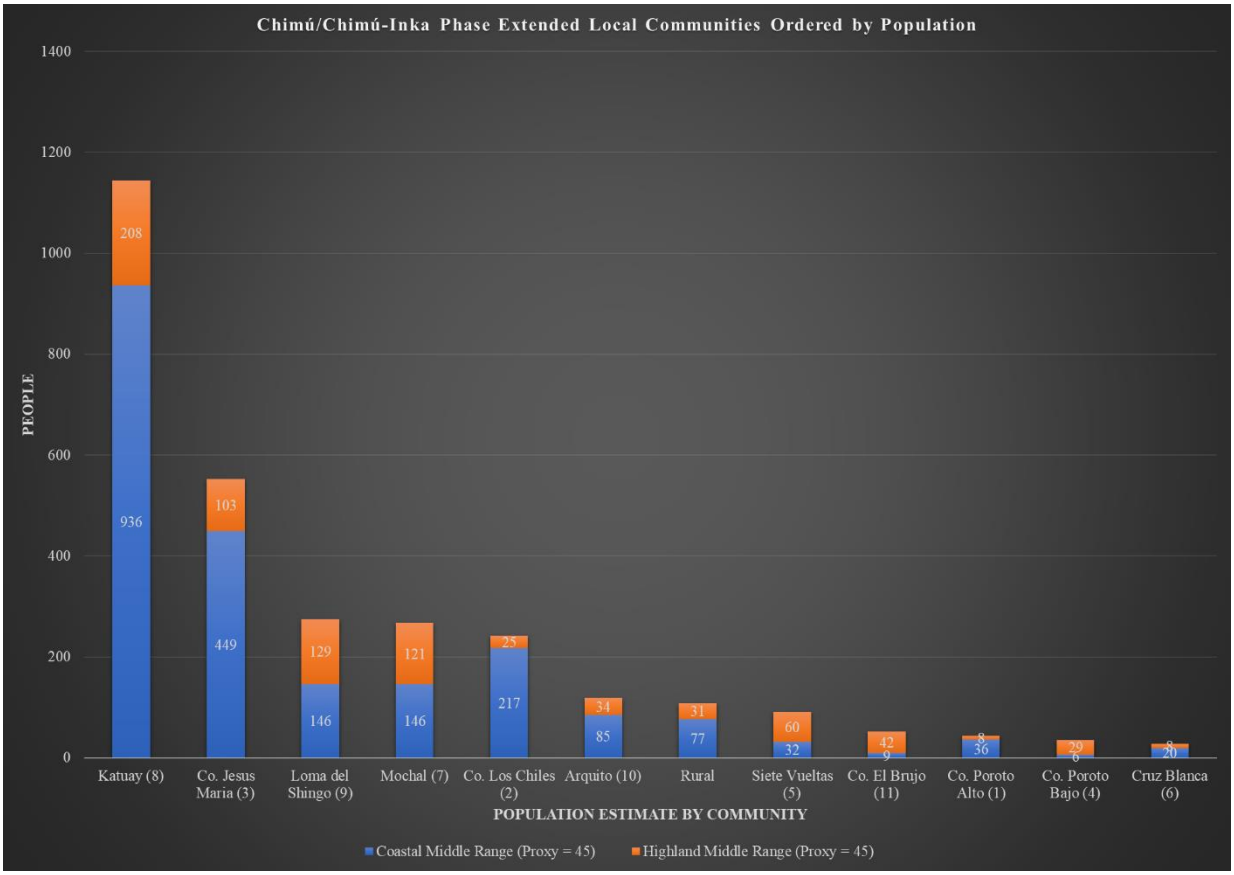


Figure 9.11 Chimú/Chimú-Inka Phase Extended Local Communities Ordered by Population

The proportion of the demographic landscape that was considered rural plummeted during the Chimú/Chimú-Inka Phase (3.7%, ADI/Century = 2.4). This was around half of that which was estimated in the survey area during the Gallinazo/Moche Phase (7.4%, ADI/Century = 4.5). The rural occupations of the Chimú/Chimú-Inka Phase had combined assemblages that were mixed but almost coastal/*chala*-leaning: around 71% coastal/*chala* wares and 29% highland. The decrease in the extended local community metric of "rural" occupations was intriguing because the previous analyses of local communities revealed that, during the Chimú/Chimú-Inka Phase: (1) that number of smaller local communities actually grew and (2) the proportion of the regional populations in these lighter occupations was only subtly smaller when compared to the Gallinazo/Moche Phase. This means that these lighter occupations were probably being included in extended local communities. Put simply: the "rural" occupations had begun gravitating towards more densely occupied areas during the Chimú/Chimú-Inka Phase.

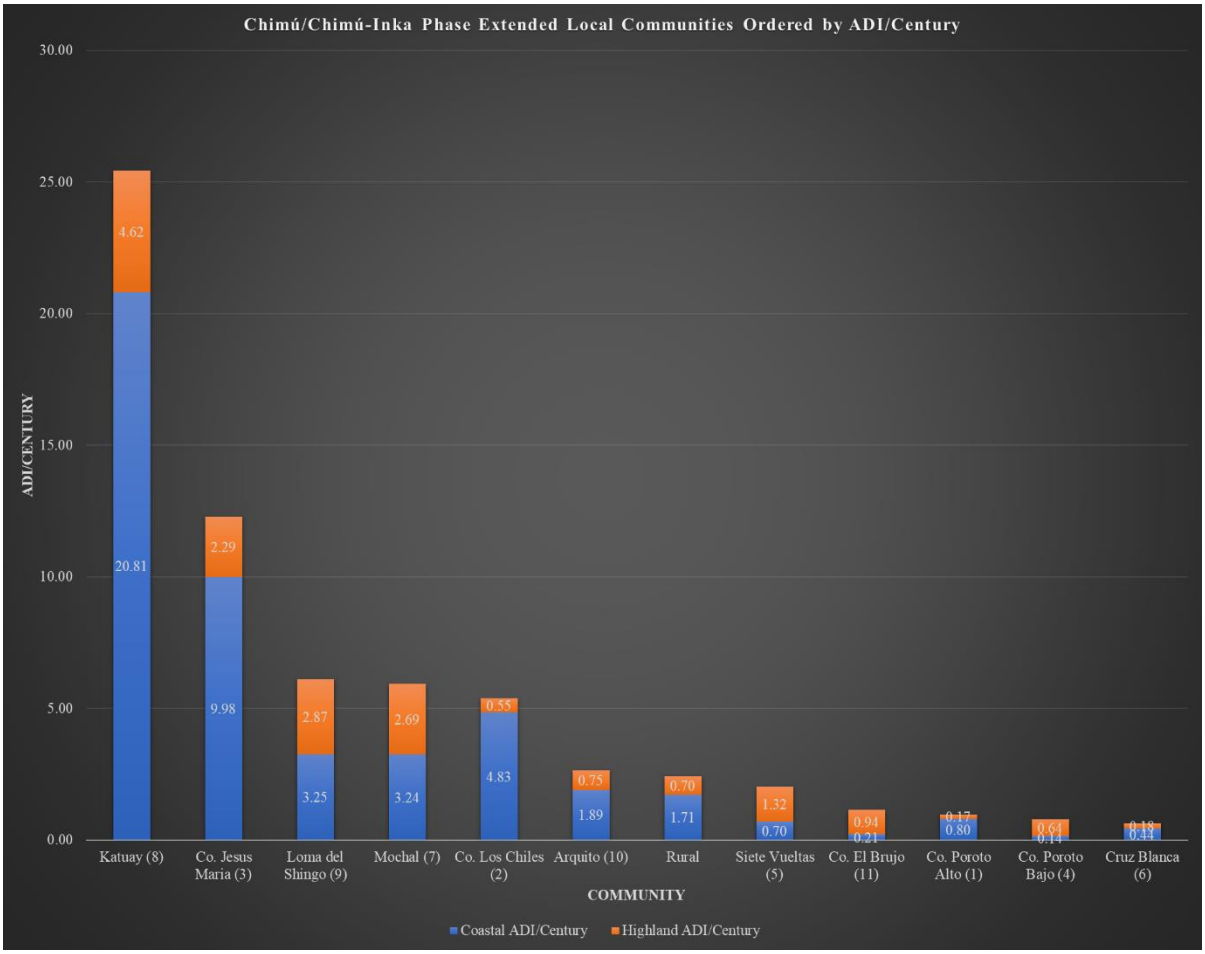


Figure 9.12 Chimú/Chimú-Inka Phase Extended Local Communities Ordered by ADI/Century

9.2.3 Local Community Clusters

Finally, a total of 9 local community clusters were identified for the Chimú/Chimú-Inka Phase with the few remaining occupations being considered rural (Figure 9.13; Figure 9.14; Figure 9.15; Figure 9.16). These 9 local community clusters essentially consolidated and expanded some of the previously modeled extended local communities: only subtly increasing the population size of the resulting local community clusters but greatly expanding their spatial extents. The local community clusters at Katuay and Cerro Jesus Maria remained as the largest communities at this scale and only slightly expanded in their extents from the previously modeled extended local communities.

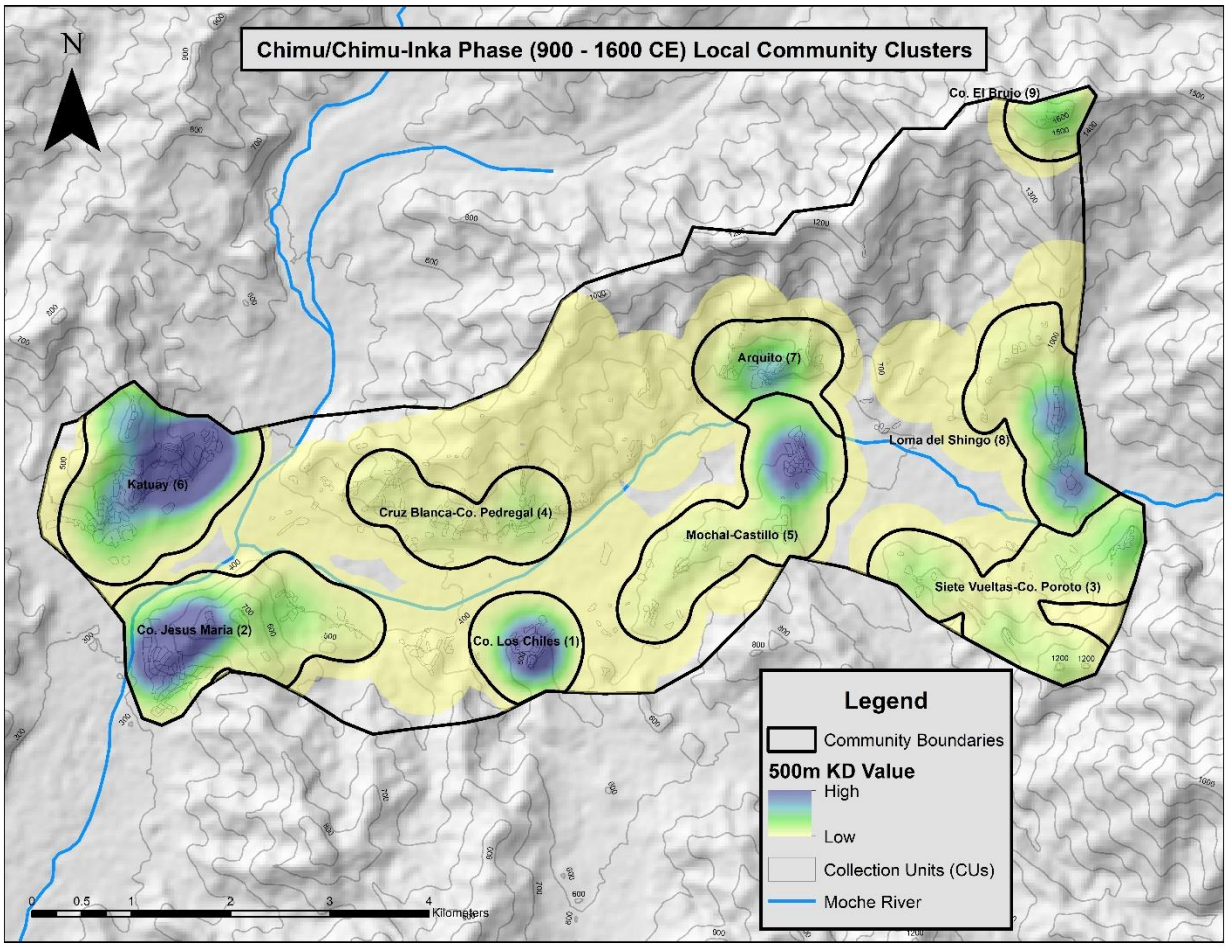


Figure 9.13 Chimú/Chimú-Inka Phase Local Community Clusters

At some local community clusters, a pattern emerged in which the new spatial extents could more-or-less be seen as following the lighter occupations and camps that in turn followed probable canals. Mochal-Castillo probably exhibits this trend the best: the long straggle of lighter occupations stretching from Mochal follow the modern Mochal canal and the likely prehistoric extensions of the Poroto or Misirihuanca canals. Given these occupations radiate from the larger community at Mochal, it seems likely that they would have been associated with that community: whether they were traces of field houses or were smaller farmsteads of families associated with Mochal. The new boundaries of Cerro Jesus Maria also included a few of the lighter occupations above the valley floor leading to the likely coastal/*chala* colony at Cerro Los Chiles. These could have been associated with either Cerro Jesus Maria or Cerro los Chiles but the latter seems more likely: the occupations were located above the modern Zamudio or Los Chiles canals which both have intakes much closer to Cerro los Chiles. The local community cluster at Cruz Blanca –

Pedregal had extents that expanded to capture the varied lighter occupations that seemed to have followed some corollary of the modern Pedregal canal. This local community cluster was quite small (1.7%, ADI/Century = 1.1) and had around 75% coastal/*chala* and 25% highland wares in its aggregate assemblage. The dominance of coastal/*chala* wares lead me to suspect it was an aggregation of camps that were likely associated with Cerro los Chiles, Katuay, Cerro Jesus Maria, and/or some other coastal/*chala*- and/or Chimú-affiliated communities down-river that were taking advantage of the fields below any ancient corollary for the Pedregal canal. Thus, these contours were of varied utility in helping assign camps to possibly associated communities: with Mochal being the most useful and Cerro Jesus Maria being the least useful.

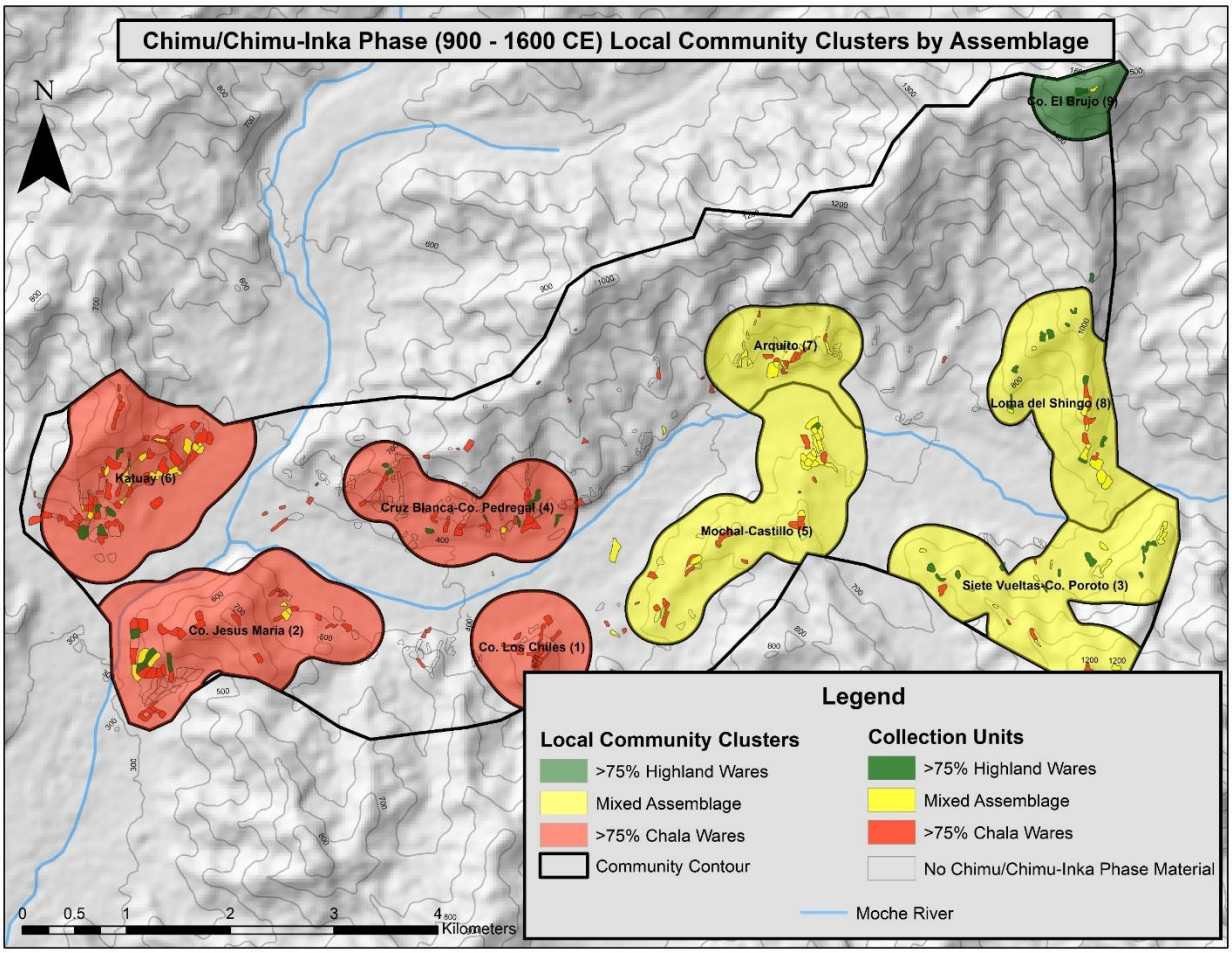


Figure 9.14 Chimú/Chimú-Inka Phase Local Community Clusters by Assemblages

The changes in the extents of the local community clusters of Loma del Shingo and Siete Vueltas – Cerro Poroto further up-river exhibit a somewhat different pattern that seems less tied

to canals and more tied to movement corridors. The smaller occupations that were captured and aggregated by these larger contours notably followed the ridges leading up to the highlands rather than the valley floor. At Loma del Shingo this included the scattered and light highland-leaning occupations that followed the smaller western offshoot ridge that was adjacent to the main local community. This ridge eventually led up to (1) the outpost at Cerro El Brujo, (2) the La Cuesta *chaupiyunga* and/or (3) the larger ridge that leads to the Otuzco Highlands. At Siete Vueltas – Cerro Poroto, the local community cluster essentially aggregated all of the extended local communities in that area (2.6%, ADI/Century = 4). The varied and light (some coastal-leaning) occupations in this local community cluster lead from the modern town of Poroto up to Cerro Poroto and eventually a larger ridge that leads to the Carabamba Highlands.

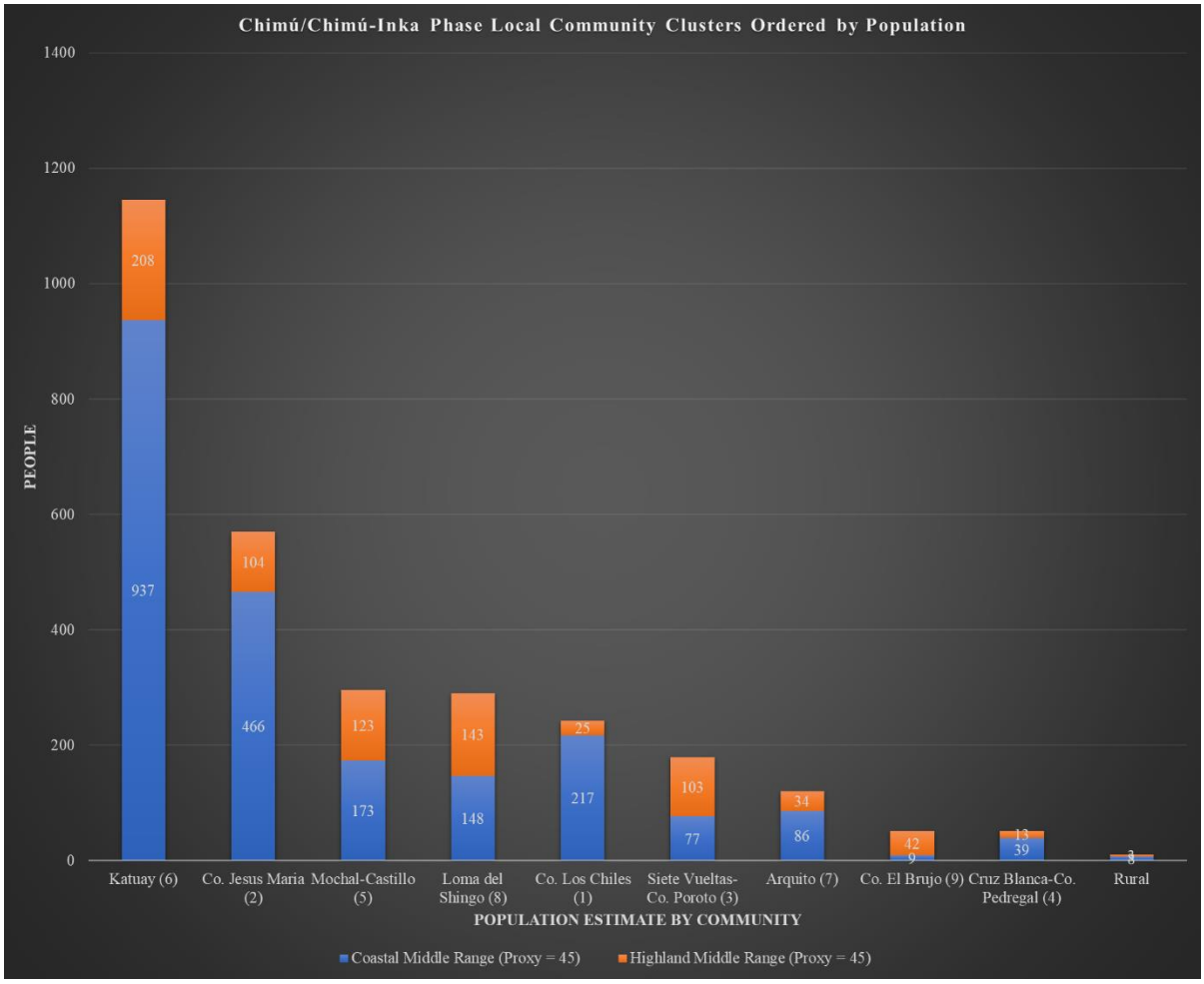


Figure 9.15 Chimú/Chimú-Inka Phase Local Community Clusters Ordered by Population

A negligible proportion of the population (.4%, ADI/Century = .2) within the survey area was left out of these contours and considered rural during the Chimú/Chimú-Inka Phase. This was again a departure from previous Gallinazo/Moche Phase, during which the local community cluster contours did not capture some of the more dispersed and isolated occupations in the survey area (2.5%, ADI/Century = 1.5). I saw this as another echo of the aforementioned pattern in which lighter occupations were gravitating a bit more towards the more aggregated and fortified occupations in the survey area during the Chimú/Chimú-Inka Phase.

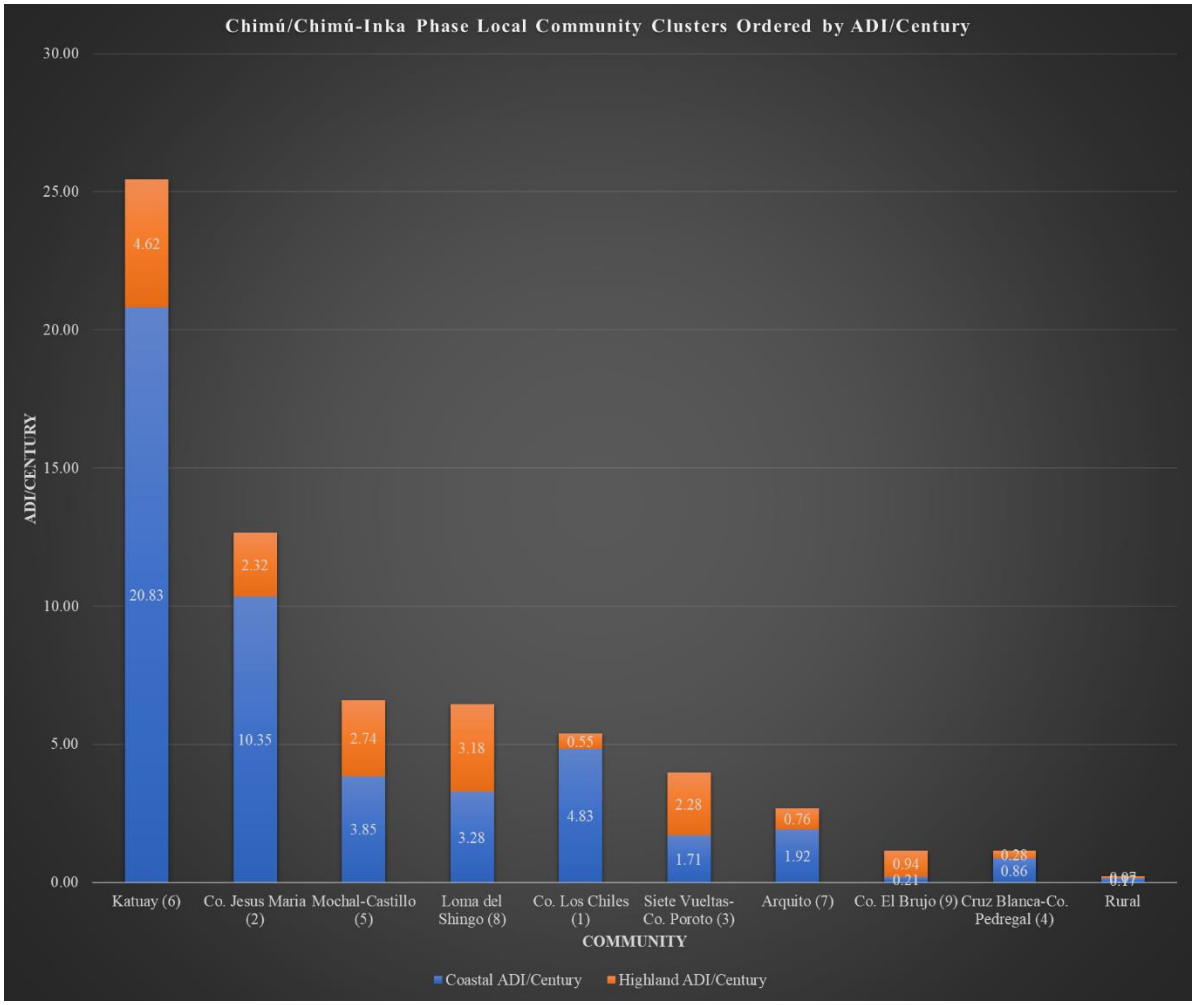


Figure 9.16 Chimú/Chimú-Inka Phase Local Community Clusters Ordered by ADI/Century

9.2.4 Discussion

In sum, the demographic landscape of the Chimú/Chimú-Inka Phase could be best described as being composed of one somewhat large set of communities at the confluence, a series of five moderately sized villages up-valley in the *chaupiyunga*, and clouds of smaller hamlets and camps that clustered around all of these larger communities, several likely canal lines, and several movement corridors. Perched on hillslopes and ridgetops above the confluence, Katuay was the largest community of the survey area and featured a coastal/*chala*-leaning assemblage and a series of occupations that spatially and temporally bound it to the earlier *huaca*-colony at Katuay. Cerro Jesus Maria was across the river and about half the size of Katuay but was similarly perched upon the mountain peaks and slopes above the confluence and an earlier Moche Phase town. Thus, the demographic landscape of these communities around the confluence showed both continuity and change when compared with the demographic landscape of the Moche Phase: continued occupation of similar areas but a not-so-subtle shift uphill paired with a decrease in the overall density of people occupying the area.

Up-river, a series of five villages and one broader cluster of camps made up the demographic landscape of the *chaupiyunga* proper. Cerro Los Chiles likely represented a coastal/*chala*- or Chimú-affiliated colony that was built upon the ruins of an older Salinar Phase hilltop village. In addition to expanding fortifications on the hill, this community had probably accessed or rehabilitated some corollary of the modern Los Chiles canal. Across the valley, a series of camps radiated out from a small hamlet or remnant occupation at Cruz Blanca: creating a more dispersed "community" that seemed to be composed of ephemeral field houses positioned along some corollary of the modern Pedregal canal. Past this point, community assemblages shifted towards a more diverse mixture of coastal/*chala* and highland wares with two pairs of towns that seem to be spatially linked across the river: the larger Loma del Shingo and Mochal were linked with the smaller Siete Vueltas and Arquito, respectively. Surrounding these communities were clouds of lighter occupations that, though somewhat dispersed, were clearly gravitating towards the more established towns in the survey area. The larger community at Mochal stood out with a broader series of camps that linked it to the ruins of the older canal-*huaca* at Huaca El Castillo and the associated canal that would have fed fields in that same area. Siete Vueltas and Loma del

Shingo instead had camps and lighter occupations that linked these communities with movement corridors leading up to the highlands and towards possible *monte* pasturage. Thus, the *chaupiyunga* landscape beyond the confluence continued to be diverse but also was more thoroughly, and permanently, occupied during the Chimú/Chimú-Inka Phase.

This notable shift in demography was a significant departure from the previous millennia-long trend of increasing centralization around the confluence. For the first time, demographic centralization around the confluence actually decreased during the Chimú/Chimú-Inka Phase (TDCI = .62) when compared to the Gallinazo/Moche Phase (TDCI = .91) or even any of the preceding phases. A deeper dive into these data reveal that this was the result of the relative "depopulation" of the area within an hour walk of the confluence: around a 21% decrease in population, or a drop of 12.4 ADI/Century, when compared to the same area during Gallinazo/Moche Phase. Meanwhile, the *chaupiyunga* areas that were further than an hour up-valley from the confluence saw a massive influx of population: a 555% increase in people, or a growth of around 17.6 ADI/Century, when compared to the same area during the Gallinazo/Moche Phase. Though the confluence was still relatively more densely settled, this demographic shift towards more settlement in the *chaupiyunga* proper did represent a notable departure from the demographic landscapes of previous phases.

Given that the Chimú/Chimú-Inka Phase saw the expansion of the Kingdom of Chimor, it is tempting to argue that the older Moche Phase communities of the confluence (Katuay and Cerro Jesus Maria) were simply broken up and settled up-valley by the agents of Chimor. However, a closer look at the multiple communities of the *chaupiyunga* suggests there were likely more complicated arrangements that depended on where one looks. This colonization and/or resettlement narrative does seem to fit with Cerro Los Chiles given its coastal/*chala* assemblage and extensive fortifications. However, it is important to note that this community was still located within an hour of the confluence. All of the other larger communities of the *chaupiyunga* (e.g., Loma del Shingo, Mochal) had far more diverse assemblages that suggest they were composed of families with diverse ties to both sides of the *chaupiyunga*. This marked increase in assemblage diversity past the confluence can be more explicitly seen in the confluence centralization measures by ware: coastal/*chala* wares (TDCI = .70) were considerably more centralized around the confluence than highland wares (TDCI = .41). Given that these *chaupiyunga* communities had

such different and diverse assemblages than the clear coastal/*chala* colony at Cerro Los Chiles, I would argue they more likely were either (1) colonies settled by highland communities or families and/or (2) more diverse amalgamations of local *chaupiyunga* families with those from neighboring regions. An example of the former can be seen in the likely early LIP highland colony narrative proposed by Boswell for Cerro Huancha in the Sinsicap Valley *chaupiyunga* (Boswell 2016). Ultimately clarifying such community narratives is a task best suited for excavation data, but I do delve into them a bit later in my discussion of the tethering analyses.

Thus, the Upper Moche *chaupiyunga* remained as a somewhat less populated demographic periphery to the confluence and coastal/*chala* down-valley but simultaneously saw a burst of more aggregated, permanent, and densely occupied communities during the Chimú/Chimú-Inka Phase. These newly founded villages were surrounded by varied camps, farmsteads, and hamlets that stayed close to larger communities while also following canal lines and movement corridors: linking the demographic and economic landscapes of this borderland together. The diversity of assemblages in the *chaupiyunga* also followed a clear gradient as one moved up-valley, with the confluence being more tied to the *chala* while the *chaupiyunga* proper had a far more varied array of connections. This resulted in a likely cultural boundary between the *chala* and highlands that was far more fluid in the Upper Moche *chaupiyunga* than at the confluence. This particular trend likely had roots that extended back to the Moche Phase with the founding of the *huaca*-colony at Katuay: a legacy of *chala* political authority and colonization at the confluence that was echoed in the construction of several Chimú installations around Cerro Katuay and Cerro Jesus Maria. Continuities aside, the following section will also show how the end of Moche authority in the region brought with it new demographic and political landscapes that held the scars of contestation and conflict.

9.3 The Political Landscape

Though the political landscape of the survey area during the Chimú/Chimú-Inka Phase was definitely shaped by the expansion of the Kingdom of Chimor, the most profound change was the intense conflict that drove most *chaupiyunga* inhabitants to live within or nearby fortified hilltop

communities and citadels. For the first time in the prehistory of the survey area, the majority of *chaupiyunga* populations were (1) occupying defensive parts in the landscape and (2) living within fortified areas. In fact, all of the largest communities identified during this phase were settled upon hilltops or slopes that were well defended by layers of defensive walls, parapets, and dry moats. Though communities like Loma del Shingo and Mochal were likely something akin to fortified villages, a few of the other fortified communities could have possibly served as the citadels of Chimú-affiliated families, even nobles. The corporate wares of this phase were less useful in identifying possible networks of indirect authority but do at least suggest that the Middle/Late Chimú serving wares were common features of these fortified hilltop communities. The demographic magnetism of the older *huaca*-colony of Katuay was shattered as the likely remnants of that community shifted to the northeast slopes of Cerro Katuay. A newer *huaca* was likely built on the lower slopes of Cerro Katuay sometime between the later Moche Phase and the Early Chimú Phase but was far less central in the demographic landscape of the Chimú/Chimú-Inka Phase. Though traces of Chimú authority were most clearly visible in several rural and hilltop palaces in the survey area, these installations were predictably more isolated within the broader demographic landscape.

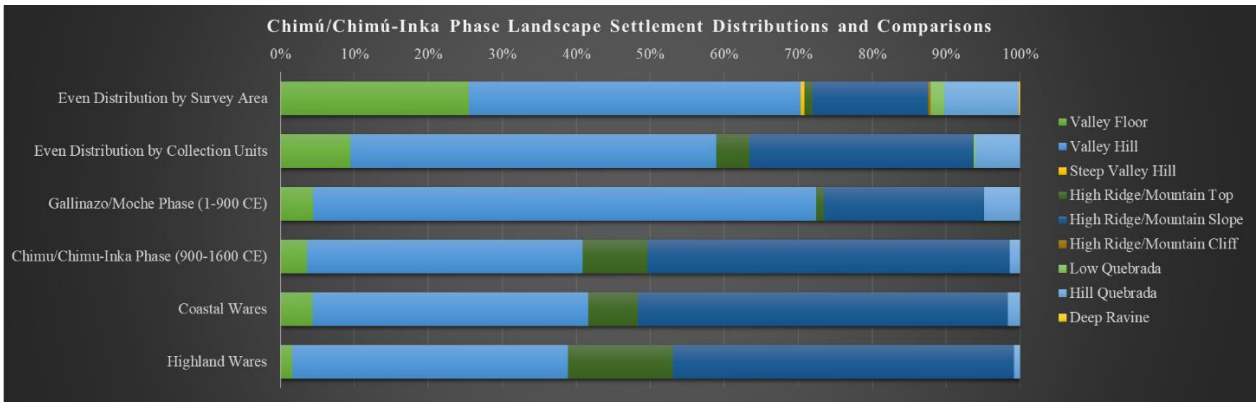


Figure 9.17 Chimú/Chimú-Inka Phase Landscape Settlement Distributions and Comparisons

9.3.1 Fortified Communities and Conflict During the Chimú/Chimú-Inka Phase

Evidence for conflict in the Chimú/Chimú-Inka Phase landscape was assessed in the same way as it was for the Salinar and Gallinazo/Moche Phases. To start, settlement preferences by landscape zones were calculated in three different ways: (1) putting all Chimú/Chimú-Inka Phase

occupations together, (2) isolating just coastal/*chala* wares, and (3) isolating just highland wares (Figure 9.17). The first of these was the best suited for assessing the phase as a whole but the latter two gave some insights as to where certain wares were most densely distributed in the landscape. Putting these data side-by-side with all previous phases highlights the remarkable shift in settlement preference that occurred during the Chimú/Chimú-Inka Phase (see Figure 5.12). For the first time in the prehistory of the region, the majority of occupations were located in highly defensible areas: a little less than 60% of regional populations were settled on high ridge/mountain slopes and tops. This was around twice as much as was recognized during the Gallinazo/Moche Phase and was considerably higher than even the more conflict-ridden Salinar Phase landscape before it. This pattern is obviously suggestive that Chimú/Chimú-Inka Phase settlement preferences were being shaped by concerns over conflict. This was not particularly surprising considering that all of the largest communities of this phase were established upon the ridges and slopes of the hills flanking the valley floor.

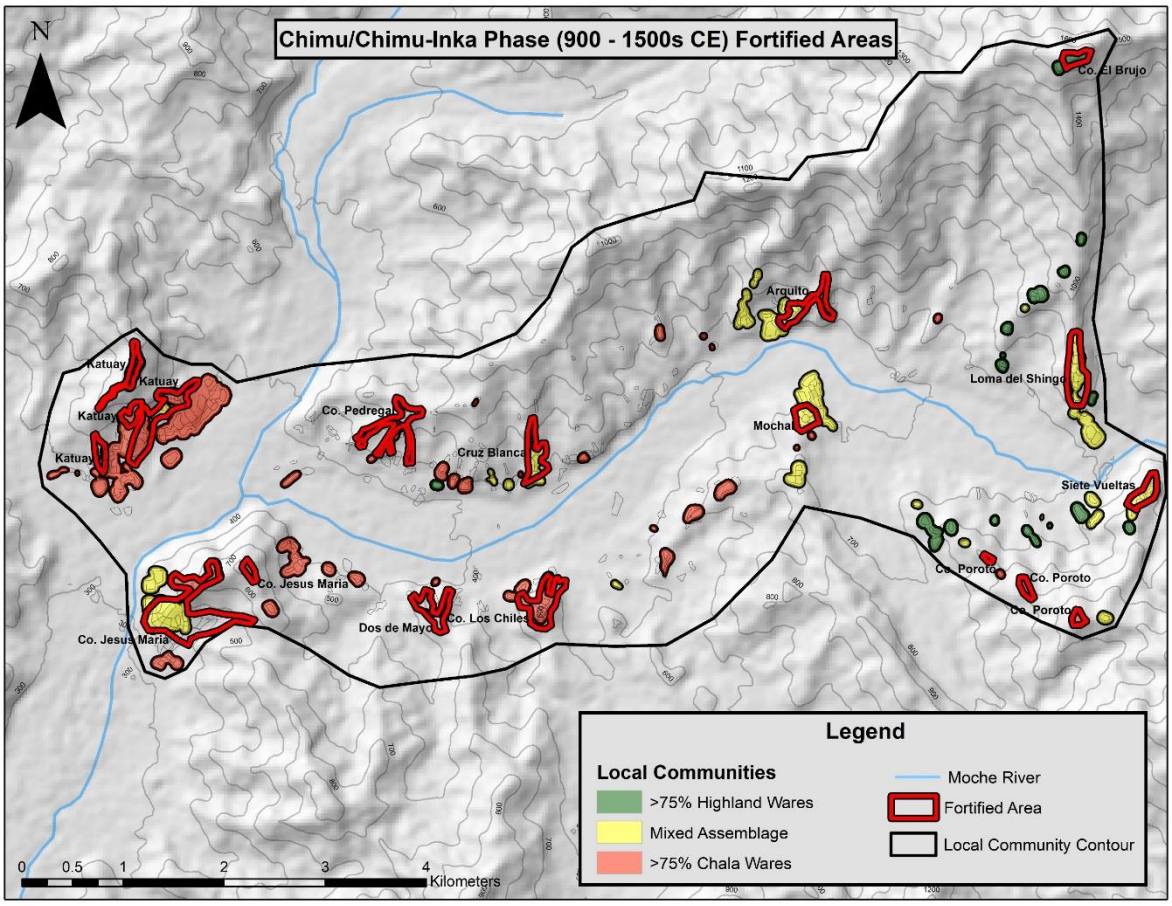


Figure 9.18 Chimú/Chimú-Inka Phase Fortified Areas

There were some subtle differences in how this pattern played out across the wares of the Chimú/Chimú-Inka Phase. The distributions of both highland and coastal/*chala* wares were quite close to the distributions noted overall for this phase, but around twice the overall proportion of highland wares were found in high ridge/mountain tops (Figure 9.17). Though this does show that highland wares were more commonly found in such places, the overall differences were far less pronounced than what was recognized for the Gallinazo/Moche Phase (see Figure 9.17). Put simply: high ridge/mountain areas (i.e., tops and slopes) are far more similar to each other than they are to the lower hills areas that were (1) less defensively located and (2) tended to have more coastal/*chala* wares during the Gallinazo/Moche Phase.

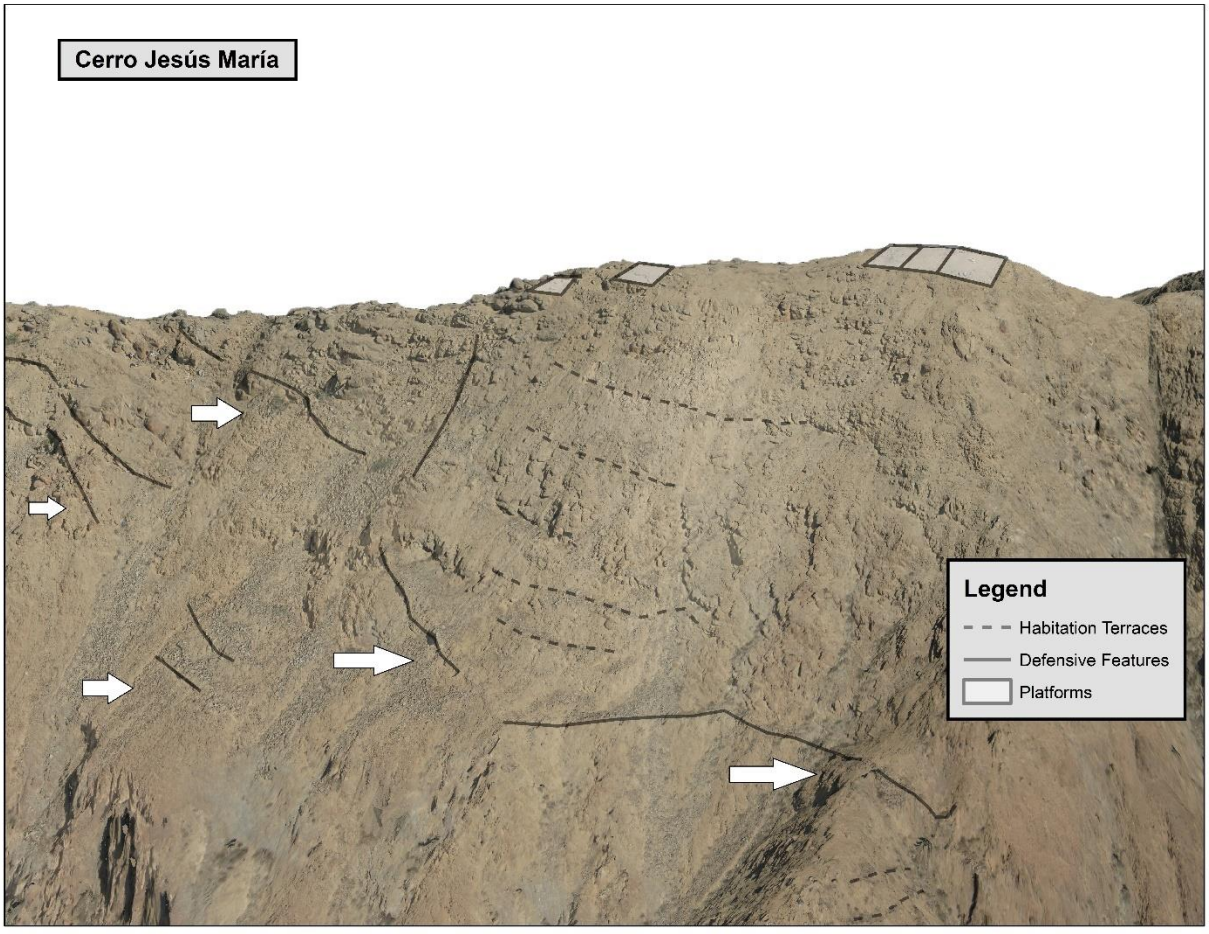


Figure 9.19 Kite-Based 3-D Model of Cerro Jesus Maria

Figure 9.20 Kite-Based 3-D Model of Cerro Katuay

Though these settlement preferences alone indicated that the *chaupiyunga* demographic landscape had been partially shaped by conflict, the ubiquity of fortifications within the survey area was probably the best evidence for how persistent such conflict was. A total of twelve fortified areas were identified for the Chimú/Chimú-Inka Phase with all but three of them being either (1) newly constructed fortifications or (2) additions to previously fortified parts of the landscape (Figure 9.18). Beginning at the confluence, the fortifications at Cerro Jesus Maria were greatly increased in their extents and locations. First, a series of at least two long fortified walls ringed the southern base and side of the mountain: extending from the edge of the Moche River all the way to a path that led to the fortified citadel on the eastern peak. Second, though it is admittedly unclear from survey data alone, it seems likely that the large walls built around the ruins of Huaca Menocucho were constructed to incorporate the old *huaca* into the larger fortified complex and Chimú/Chimú-Inka Phase occupation (see Figure 6.9; Figure 6.10). Finally, two fortified citadels were constructed upon the western and eastern peaks: both featuring layers of defensive walls built around habitation terraces and mountain top platforms (Figure 9.19). Across the valley, Cerro Katuay had a similar array of extensions and newly fortified areas. The southeastern base and side

of the mountain was enclosed by a long wall that connected the valley floor with part of the main fortified citadel of Cerro Katuay. This citadel followed a similar format to those recorded at Cerro Jesus Maria: layers of fortified walls enclosing habitation terraces and hilltop platforms (Figure 9.20). The higher peak of Cerro Katuay Alto also featured a few smaller fortified walls and dry moats that blocked access to the possible Chimú palace that was perched above.

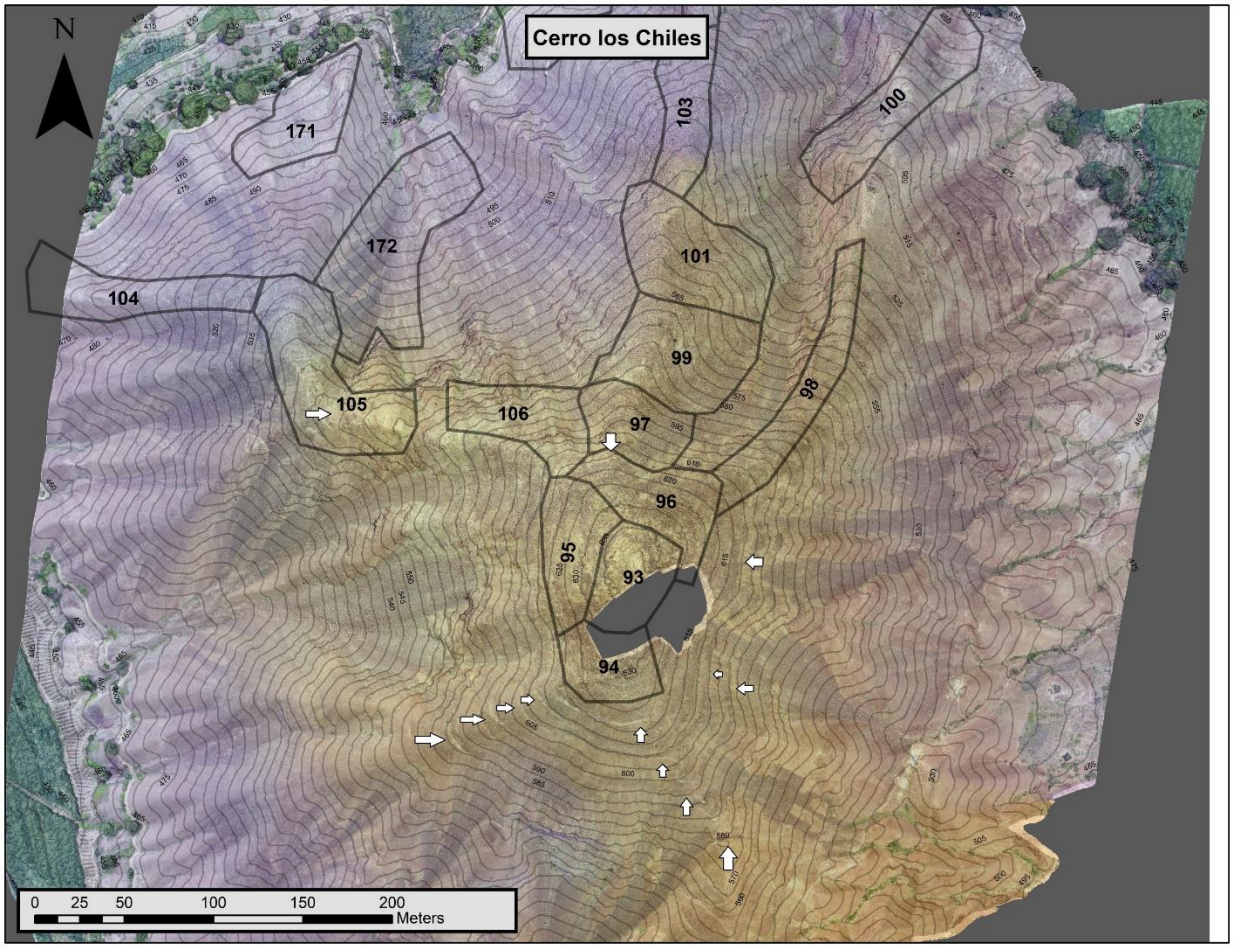


Figure 9.21 Orthophoto Map of Cerro Los Chiles

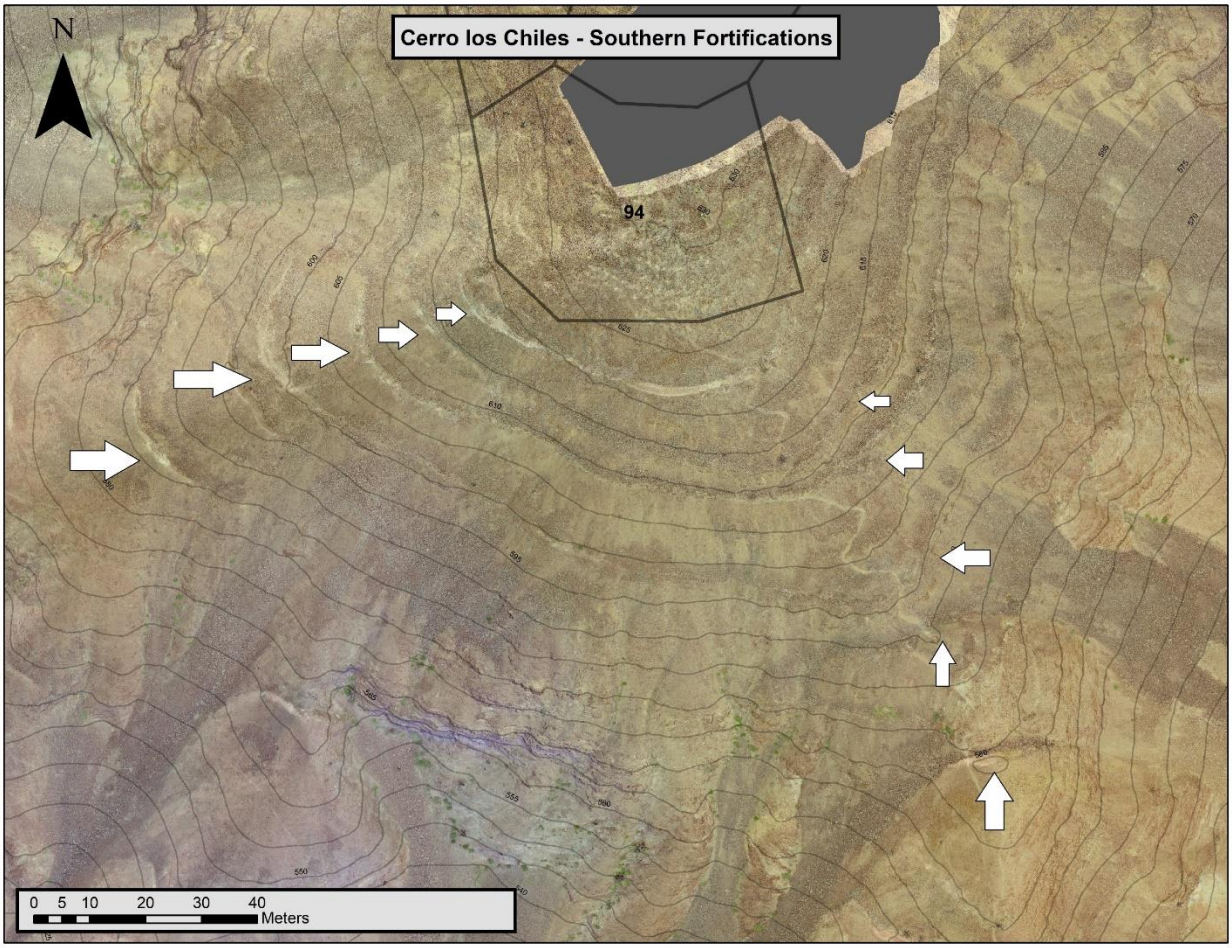


Figure 9.22 Orthophoto Map of Southern Fortifications at Cerro Los Chiles

Up-valley, the Chimú/Chimú-Inka Phase re-occupation of Cerro Los Chiles was probably contemporary with at least some of the fortifications on that mountain (Figure 9.21). These fortifications were some of the most extensive and best preserved in the survey area: with the southern approach to the mountain featuring four to five layers of fortified walls with the final two paired with dry moats (Figure 9.22). The ridges radiating from the peak itself created somewhat "naturally" occurring bastions in a similar way to what was recorded down-valley at the fortified citadel of Foraleza de Quirihuac (Mullins 2012; Mullins 2019). The hilltop community at Mochal had at least two layers of fortified walls with defensive ditches but these fortifications were only still preserved on parts of the southern approach (Figure 9.23). Loma del Shingo similarly had, at most, two layers of walls that enclosed the ridge-top settlement (Figure 9.24; Melly 1998). I also encountered a few likely sling stones along the southern approach to the main occupation. The community at Siete Vueltas had between one and two layers of fortified walls and several sling

stone piles beside them to compose defenses that incompletely surrounded a series of habitation terraces and hilltop platforms (Figure 9.25). More complete fortifications were probably unnecessary with the abundance of sheer cliff faces that surrounded the hilltop. Outside of this main citadel, the southern part of this community featured a few habitation terraces but more-or-less lacked any formal fortifications (Figure 9.26). The fortified community at Arquito was similarly rife with sling stone piles and was protected by layers of fortified walls and surrounding cliff faces.

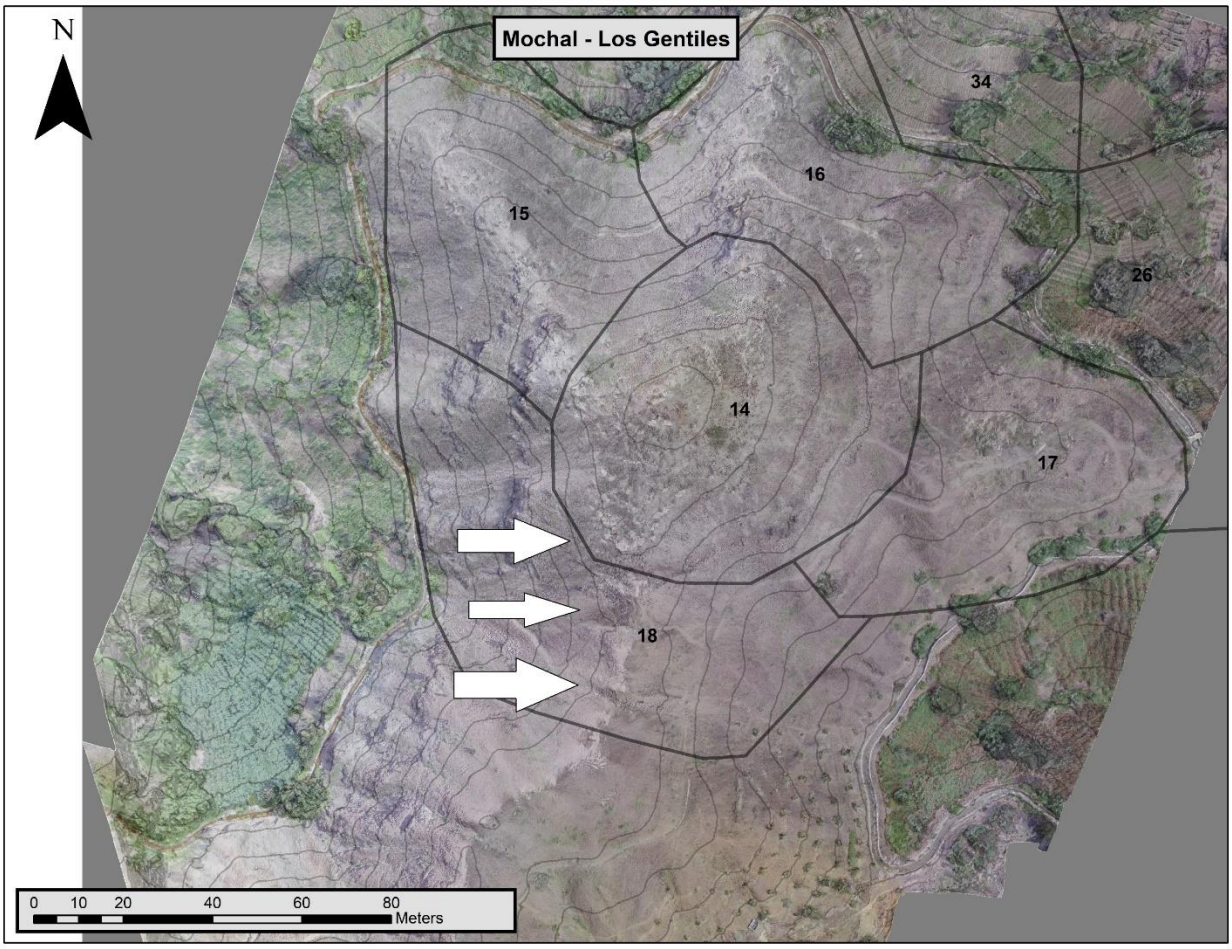


Figure 9.23 Orthophoto Map of Mochal-Los Gentiles

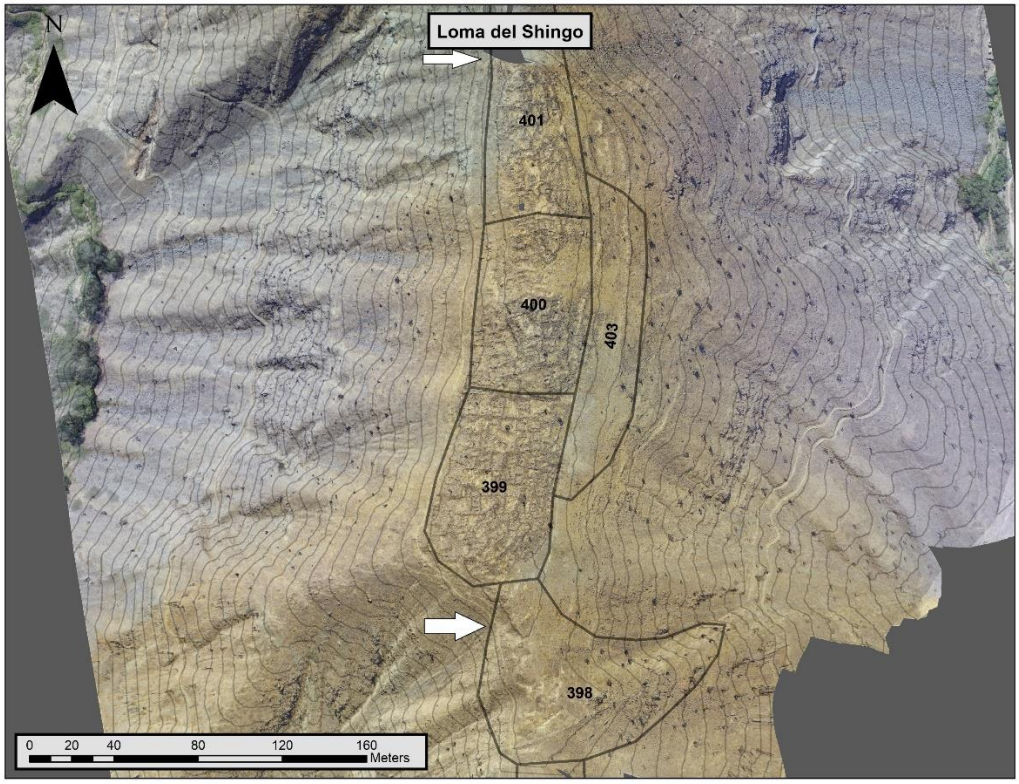


Figure 9.24 Orthophoto Map of Loma del Shingo

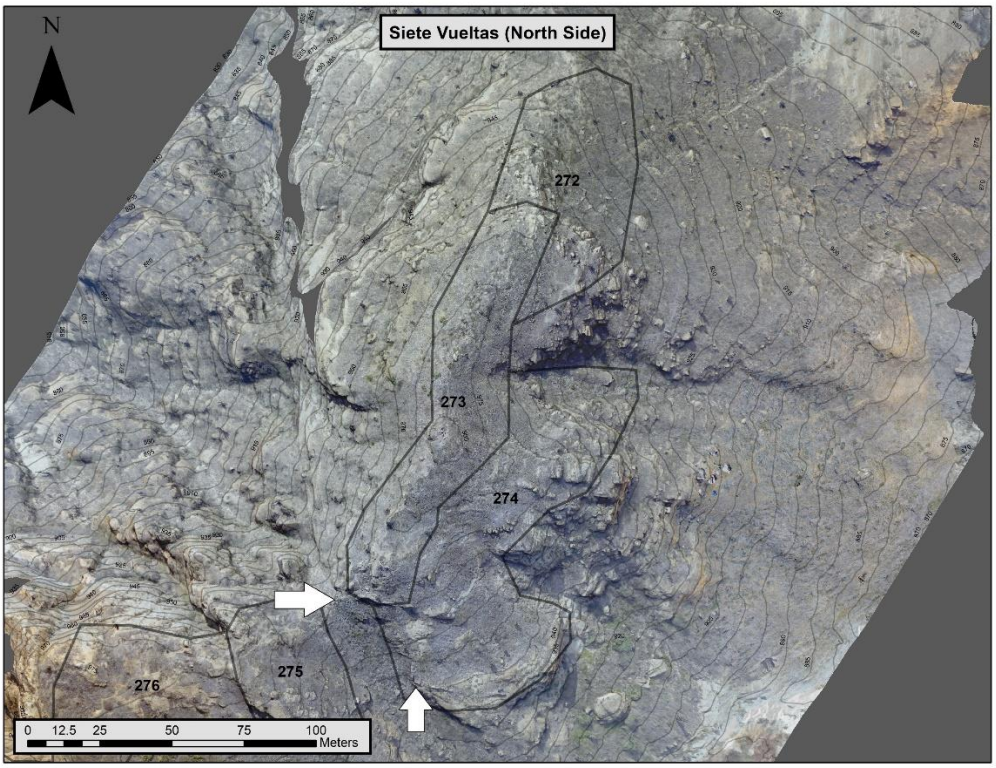


Figure 9.25 Orthophoto Map of Northern Side of Siete Vueltas

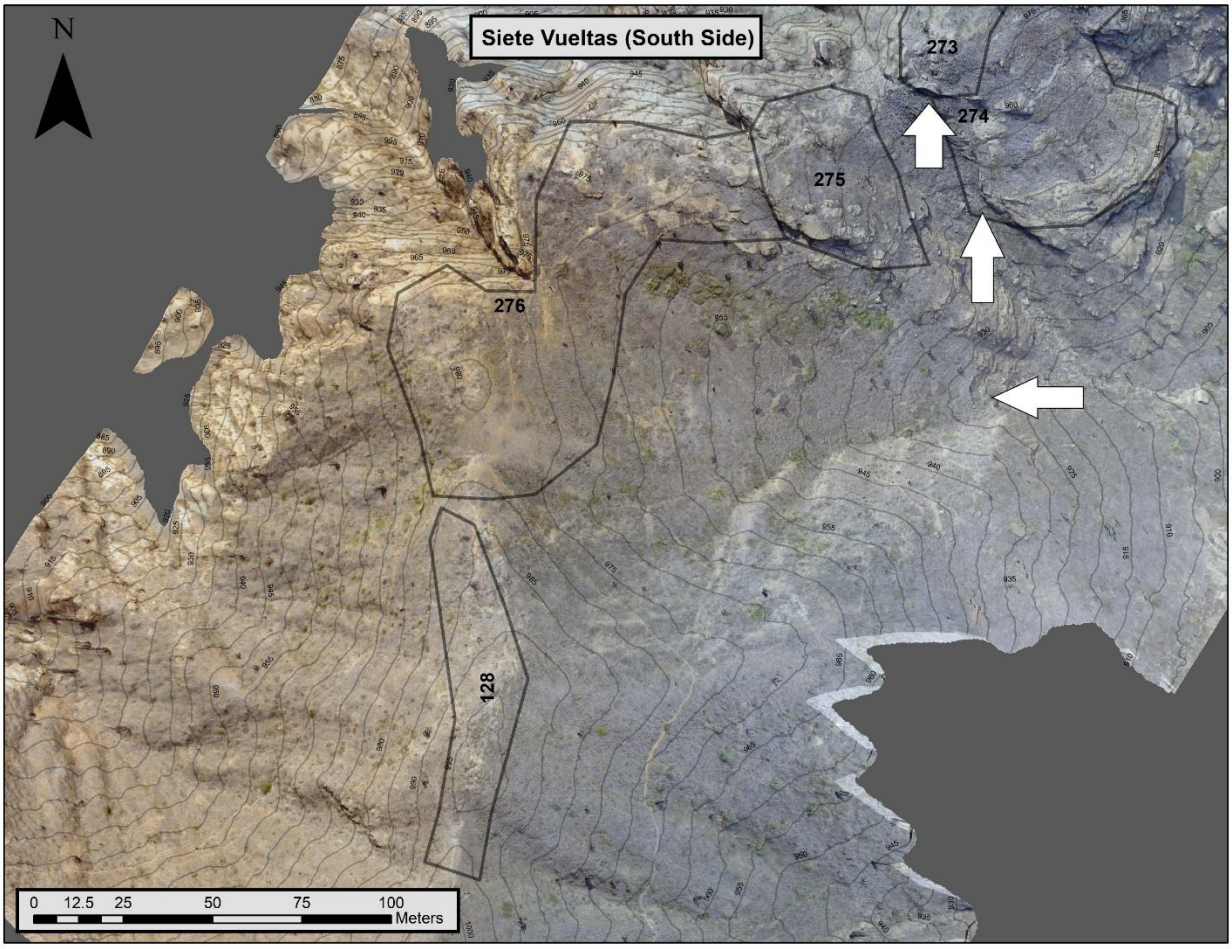


Figure 9.26 Orthophoto Map of Southern Side of Siete Vueltas

Though the main outpost at Cerro Poroto was composed of at least one layer of walls enclosing habitation terraces upon the peak of the mountain (Figure 9.27), a few smaller dry moats were recorded on the ridge below that led up to this peak. The outpost at Cerro El Brujo also had only one or maybe two fortified walls and featured a dry moat on the eastern approach that would have led down from the Otuzco Highlands. Outside of my formal survey area in the Upper Moche chaupiyunga and well into the local Otuzco and Carabamba Highlands I have also often encountered similar such features. Many are no more than simple ditches dug at choke points along the more convenient ridges used to ascend a larger mountain or ridge route. It is possible that some of these were "defensive" features that were not solely aimed at thwarting off attackers: such barriers could easily have slowed travelers upon ridge routes or even provided barriers for livestock grazing on the *monte* of the treacherous slopes. In her pedestrian survey of the Sinsicap Valley *chaupiyunga* and adjacent highlands, Boswell recorded dry moats being used by modern groups

to help keep their livestock from wandering into the lands of adjacent communities. Though an important caveat to keep in mind for the upper parts of the *chaupiyunga*, this was obviously not the case for the ditches observed down-valley at Cerro Katuay Alto or Cerro Los Chiles. These fortified areas lacked any *monte* and the ditches were often paired with parapet walls. Those recorded at Cerro El Brujo and Cerro Poroto also had some traces of smaller walls, some with sling stones, adjacent but still could have likely served many roles in the past.

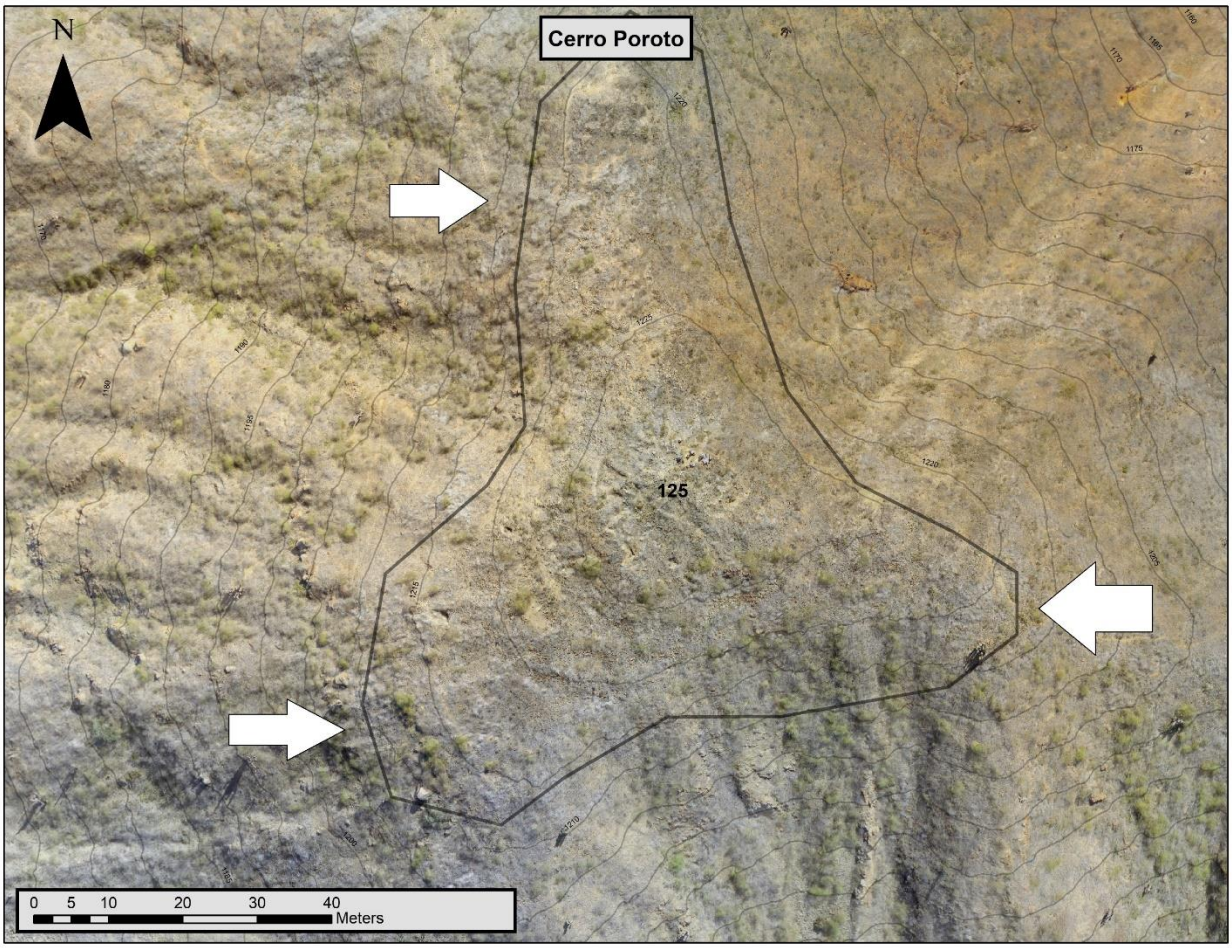


Figure 9.27 Orthophoto Map of Cerro Poroto

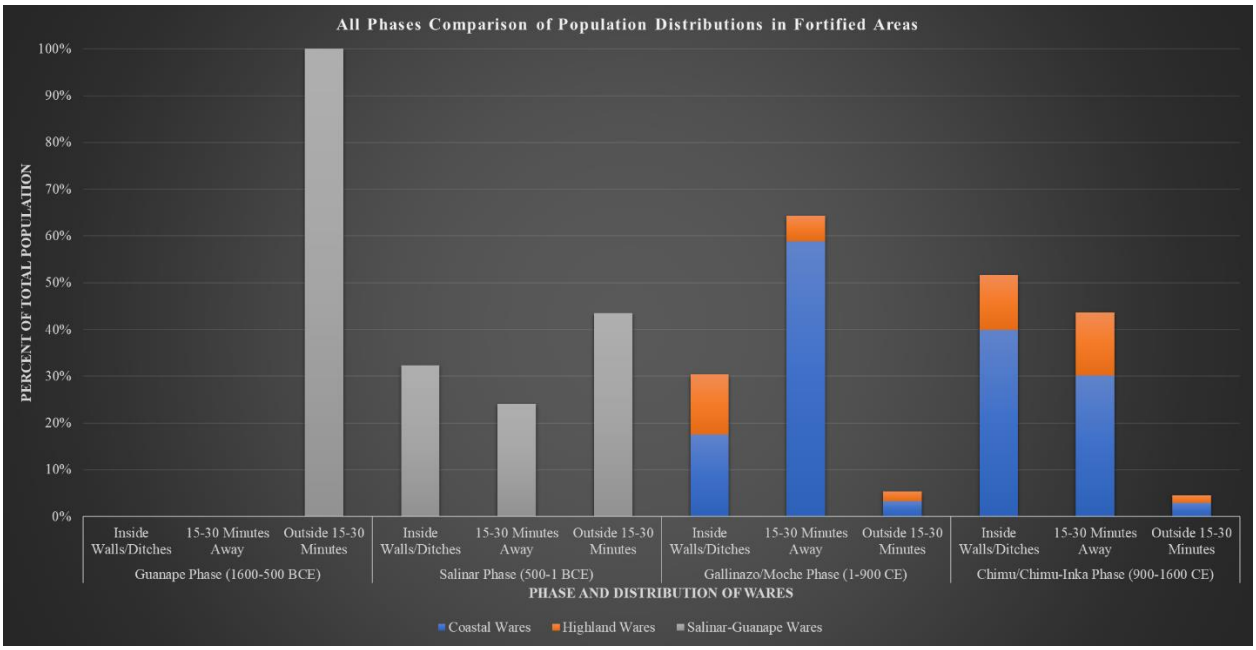


Figure 9.28 All Phases Comparison of Population Distributions in Fortified Areas

Moving to understanding how regional demography was distributed within and around these fortified areas, I was able to make comparisons between both (1) phases and (2) ware distributions (Figure 9.28). The most notable difference from any of the previous phases was the massive increase in how many people were living within fortified areas: a little over half (~51%) of survey area populations were inside defensive walls or ditches during the Chimú/Chimú-Inka Phase. When compared to the patterns observed for the Gallinazo/Moche and the Salinar Phases, this was a little less than double that previously observed in the same landscape. It was also the largest increase in this category since the Salinar Phase, an increase that was even more pronounced if we recall that most of the Gallinazo/Moche Phase demography that was behind walls was either (1) from the Gallinazo sub-Phase or (2) occupying areas near older Salinar Phase fortifications. Finally, the distribution of wares within each of these categories was relatively equitable and highland wares were not making up a larger proportion of the "inside walls/ditches" category as they were during the Gallinazo/Moche Phase.

Visual centrality and cohesion between communities increased considerably during the Chimú/Chimú-Inka Phase and several specific fortified areas were more central than others within the *chaupiyunga* landscape. The highest centrality values were yielded by some of the more isolated and higher communities: namely Cerro El Brujo (.75), several of the occupations around

Cerro Poroto (.90, .80), and the eastern citadel of Cerro Jesus Maria (.78; Appendix E; Table E.5). Loma del Shingo also featured a surprisingly high degree of visual centrality (.71) given that it was considerably lower in elevation than any of these communities (Appendix E; Table E.5). More generally, far more of the communities of the Chimú/Chimú-Inka Phase had higher centrality values than any other phase: a feature of the landscape that correlated with higher centralization (.38) and cohesion (.52) values for the network overall (Appendix E; Table E.1). This fits in with a broader pattern of visual centralization (.39) and cohesion (.30) within the previously modeled visual network between fortified sites the Moche Valley during the Chimú/Chimú-Inka Phase (Mullins 2016: 351-353). The cohesion values are again much higher for the *chaupiyunga* survey area mainly because all communities were included and thus more possible connections were available. Even so, this high cohesion does illustrate that communities were located in places that were meant to be seen by neighbors: fostering a broader network of inter-visibility, and probable inter-dependence, that bound the communities of the *chaupiyunga* with one another over the course of the phase.

Specifically, the relative centrality of Cerro Jesus Maria and Cerro Poroto in the survey area reflected their centrality within the broader network modeled for the valley as a whole: these two communities were previously theorized as being local hubs in this larger defensive network (Mullins 2016). These new data added Cerro El Brujo to this list of hubs while also showing that many such communities were just as central in the local visual landscape as they were in the broader regional visual landscape: a landscape that extended towards the *chala* below and the twin Chimú fortresses at the gates of the Moche Valley. Importantly, the peaks upon which most of the more central communities were built sat close to or well above the fog lines for all but the heaviest winter fogs (see Chapter 3.6.2). As a result, for most of the year these communities could have articulated in a broader visual network that would have effectively connected the heavily fortified *chaupiyunga* with the heartland of Chimor. However, the compositions of the assemblages at these outposts imply that the directionality of this visual network was less straightforward that one may think. Though Cerro Poroto had mostly coastal/*chala* wares and even a possible Chimú palace built below, the peak of Cerro El Brujo was dominated by highland wares and seems far more likely to have been built and maintained by highland-leaning or affiliated polities or communities.

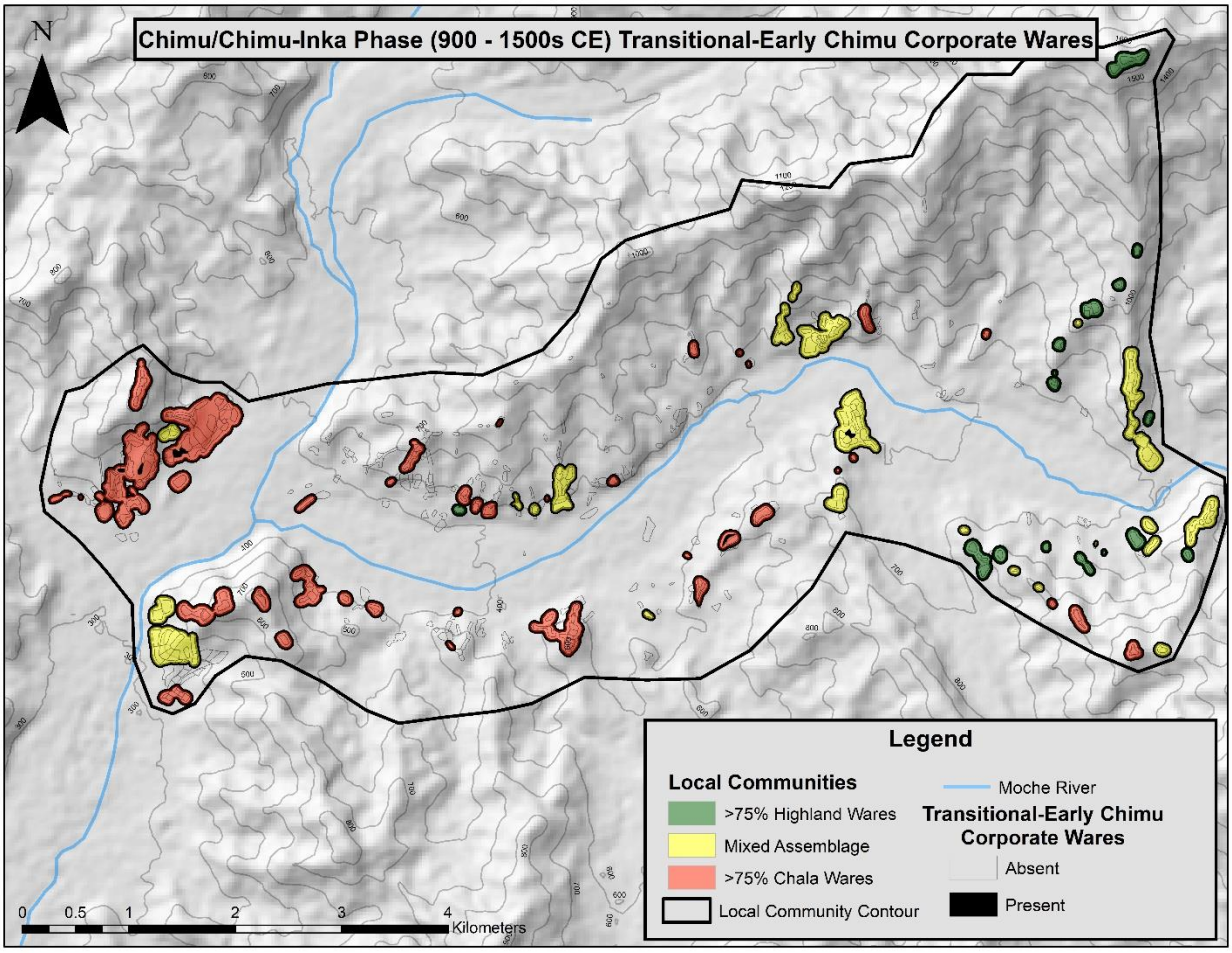


Figure 9.29 Chimú/Chimú-Inka Phase Transitional-Early Chimú Coporate Wares

9.3.2 Limited Evidence for Networks of Indirect Authority

Contrasting with the high numbers and more-or-less clear context of use associated with the Moche and Quinga corporate wares that were recorded during the Gallinazo/Moche Phase, the corporate wares of the Chimú/Chimú-Inka Phase were (1) less frequently found and (2) less clearly tied to indirect authority. The raw counts of corporate wares recovered during the survey show this trend well: 8 possible Transitional-Early Chimú sherds, 99 possible Middle/Late Chimú sherds, and 2 possible Chimú-Inka sherds (see Table 5.2). Even the higher numbers of possible Middle/Late Chimú corporate wares are a bit inflated because they included the mold-impressed plates and bowls that, though commonly used during palace feasts, were also surely used in domestic contexts. Following the same method used for the Gallinazo/Moche Phase, a presence-

absence criterion was used for each CU to highlight those in which the three different corporate wares of the Chimú/Chimú-Inka Phase were found (Figure 9.29; Figure 9.30; Figure 9.31). This was then paired with the sum of the ADI/Century for the Chimú/Chimú-Inka Phase within each of the CUs where such wares were present: giving a vague idea of how densely occupied such contexts were (Table 9.2). The inherent limits of these data made any confident interpretations of *chala* or highland indirect authority in the *chaupiyunga* during the Chimú/Chimú-Inka Phase difficult but I could make a few vague statements about where such authority may have been built within the landscape.

Table 9.2 Chimú/Chimú-Inka Phase Indirect Authority in Relation to Population and Domestic Wares

Chimú/Chimú-Inka Phase Indirect Authority in Relation to Population and Domestic Wares						
Corporate Wares	**ADI/Century**			**Percent of Domestic Wares in Survey Area**		
	All	*Coastal*	*Highland*	*All*	*Coastal*	*Highland*
Transitional-Early Chimú	1.93	1.36	0.56	3%	3%	3%
Middle-Late Chimú	26.99	20.25	6.74	41%	42%	38%
Chimú-Inka	1.64	1.61	0.02	2%	3%	0%

The data discussed here for Transitional-Early Chimú and Chimú-Inka corporate wares obviously reflected those data already discussed in my overview of sub-phases (Figure 9.29; Figure 9.31; see Chapter 10.2.1.1). The few Transitional-Early Chimú corporate wares in the survey area were only found in CUs in three areas: (1) around Katuay, (2) below the old canal-*huaca* at Huaca El Castillo, and (3) at Mochal. Only two of these were the more diagnostic polychromes while the rest were the early tripod bowls and possibly early mold-impressed redwares (Appendix D). Between how lightly occupied these CUs were (ADI/Century = 1.93) and how few Transitional-Early Chimú wares were found, it seems very unlikely that any indirect authority from the *chala* was being built in the survey area during the Early Chimú sub-phase. This echoes the lack of any Transitional-Early Chimú wares found in the likely Early Chimú sub-phase occupations recorded at Cerro Huancha in the Sinsicap Valley *chaupiyunga* (Boswell 2016: 302-304). Thus, agents affiliated with the Kingdom of Chimor, or other *chala* polities, appear to have been minimally involved in the upper *chaupiyungas* until at least the end of the Early Chimú sub-phase or the early Middle-Late Chimú sub-phase (~1200 – 1300 CE).

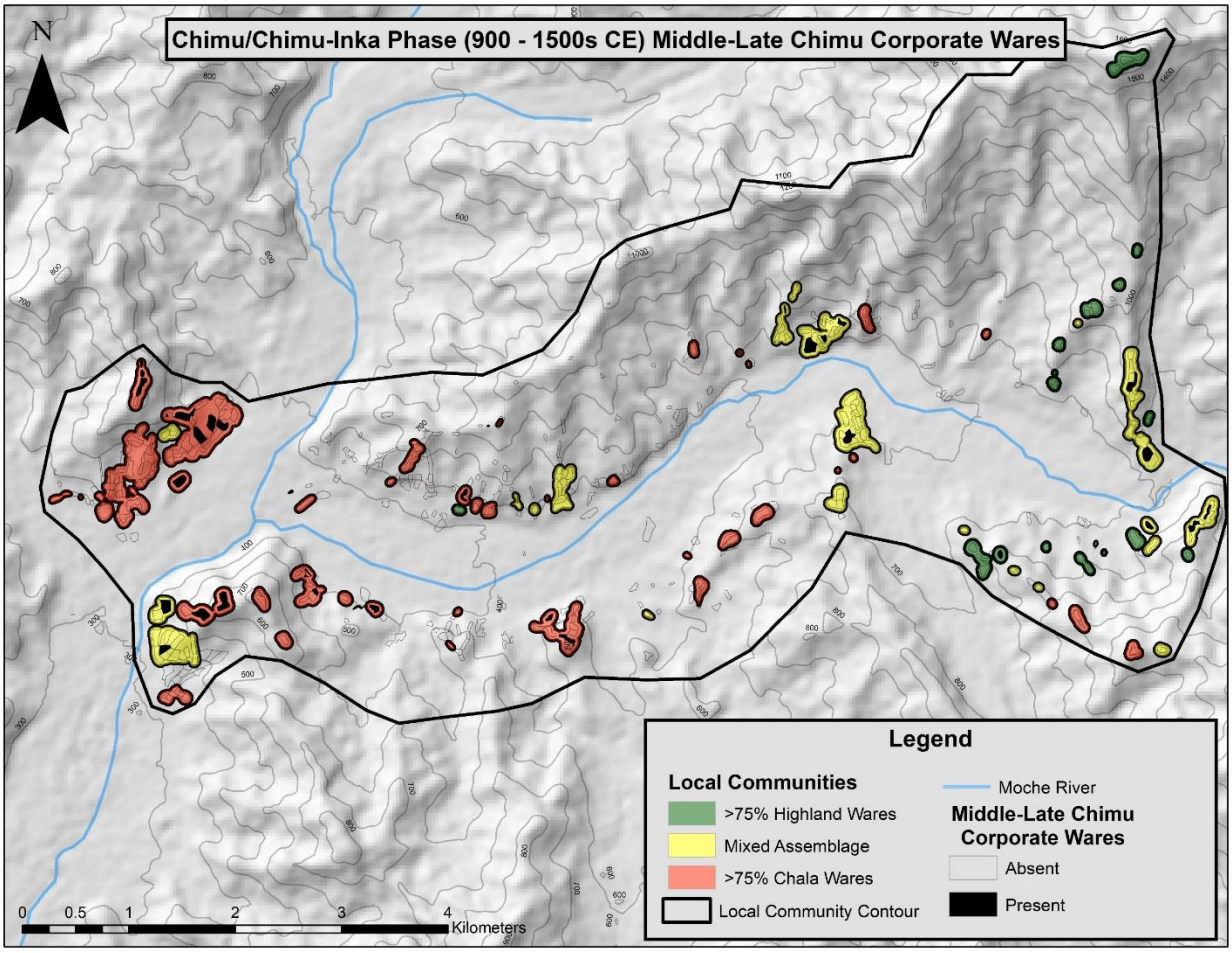


Figure 9.30 Chimú/Chimú-Inka Phase Middle-Late Chimú Corporate Wares

Only two possible Chimú-Inka wares were found: a piece of a ceramic llama adornment and a later squared stirrup-spout with a monkey adornment (Appendix D). No Inka aryballos or polychromes were recovered during the survey and I am somewhat hesitant to even call these two sherds Chimú-Inka corporate wares. They were assumed to be so mainly because (1) a vaguely similar, but stone, llama was found by Boswell at Cerro Huancha and (2) squared stirrup spouts are generally regarded as being either very late Chimú or Chimú-Inka (Boswell 2016: 277; Appendix A). Both were encountered on the western peak of Cerro Jesus Maria (Figure 9.31). In any case, I would argue that the lack of clear Chimú-Inka or Inka corporate wares is probably a reflection of the brevity of Inka presence in the region. This being said, the ambiguities in even differentiating Chimú-Inka from later Chimú corporate wares make even this determination difficult.

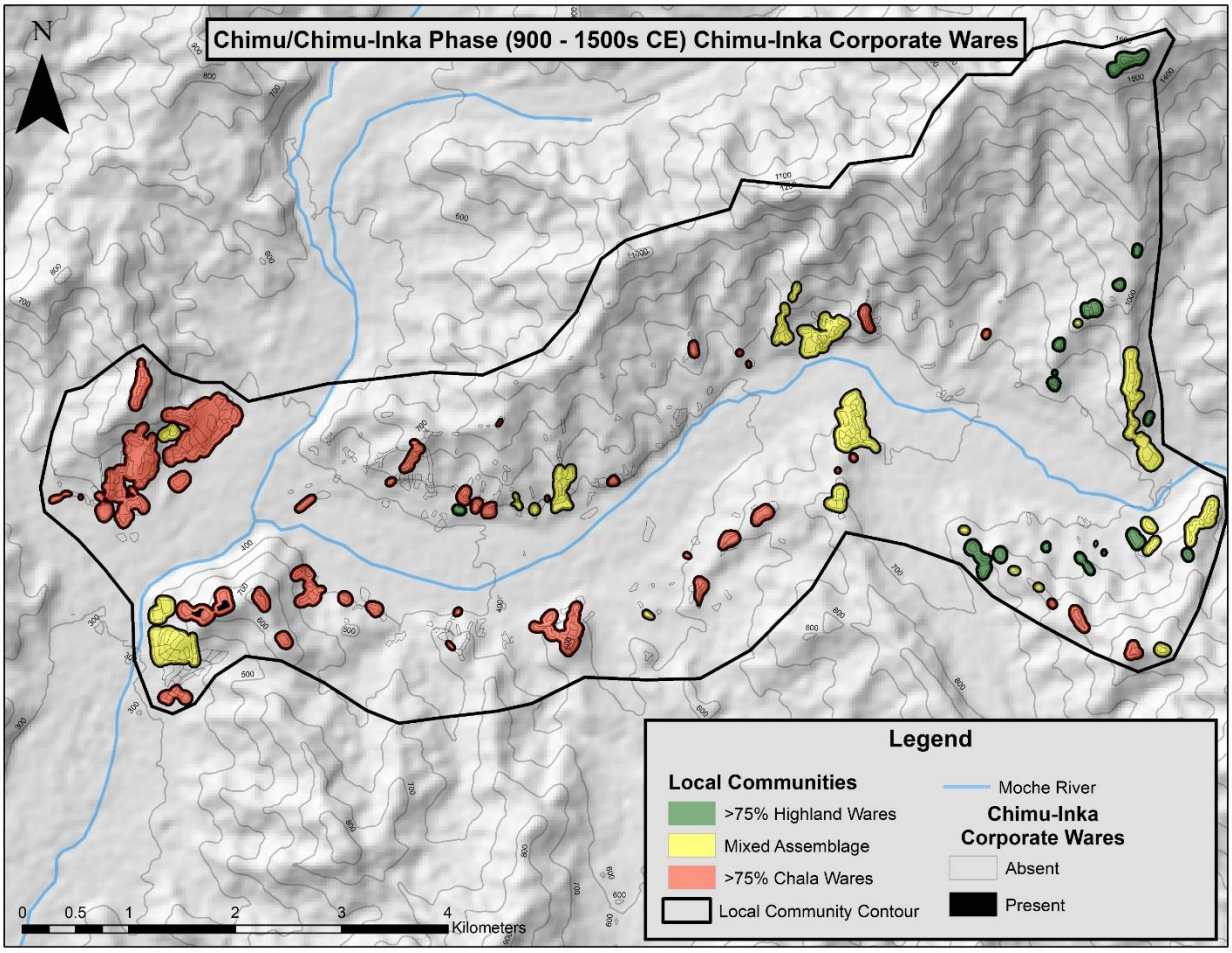


Figure 9.31 Chimú/Chimú-Inka Phase Chimú-Inka Corporate Wares

Though Middle/Late Chimú corporate finer wares were encountered during the survey, the vast majority (n = 89) of these corporate wares included the plates and bowls that had previously been recorded in higher frequencies within the palace feast contexts of Chimú nobility. These wares were found within all seven of the largest Chimú/Chimú-Inka Phase local communities and, more specifically, were often found in the CUs associated with the main fortified citadels of these communities (Figure 9.30). At Cerro Katuay Alto, the palace compound at the peak was one of the more notable and smaller communities in which serving wares were ubiquitous. Below this palace, Middle/Late Chimú fine-ware bowls were also found amongst *spondylus* shell at what appears to have been a mountain shrine perched just above the main fortified citadel at Cerro Katuay (Appendix D). These two examples aside, it is difficult to make any conclusive arguments regarding these serving wares at the other communities within the survey area. The broader scope of PARFAM precluded obtaining the more fine-grained form frequency data that was useful

elsewhere in identifying feasting/provisioning contexts (Mullins 2012, 2019). Even if we assume that all these wares were traces of Chimú or Chimú-affiliated nobles or local leaders building indirect authority through feasts within these communities, less than half of the population of this phase (ADI/Century = 26.99) was found in contexts with such wares (Table 9.2). Thus, at the very most we could say that indirect authority from the Kingdom of Chimor could have been built through such agents in all of the main communities of the *chaupiyunga*. However, this authority was not universally experienced within (1) the broader landscape or (2) within the entirety of these communities themselves.

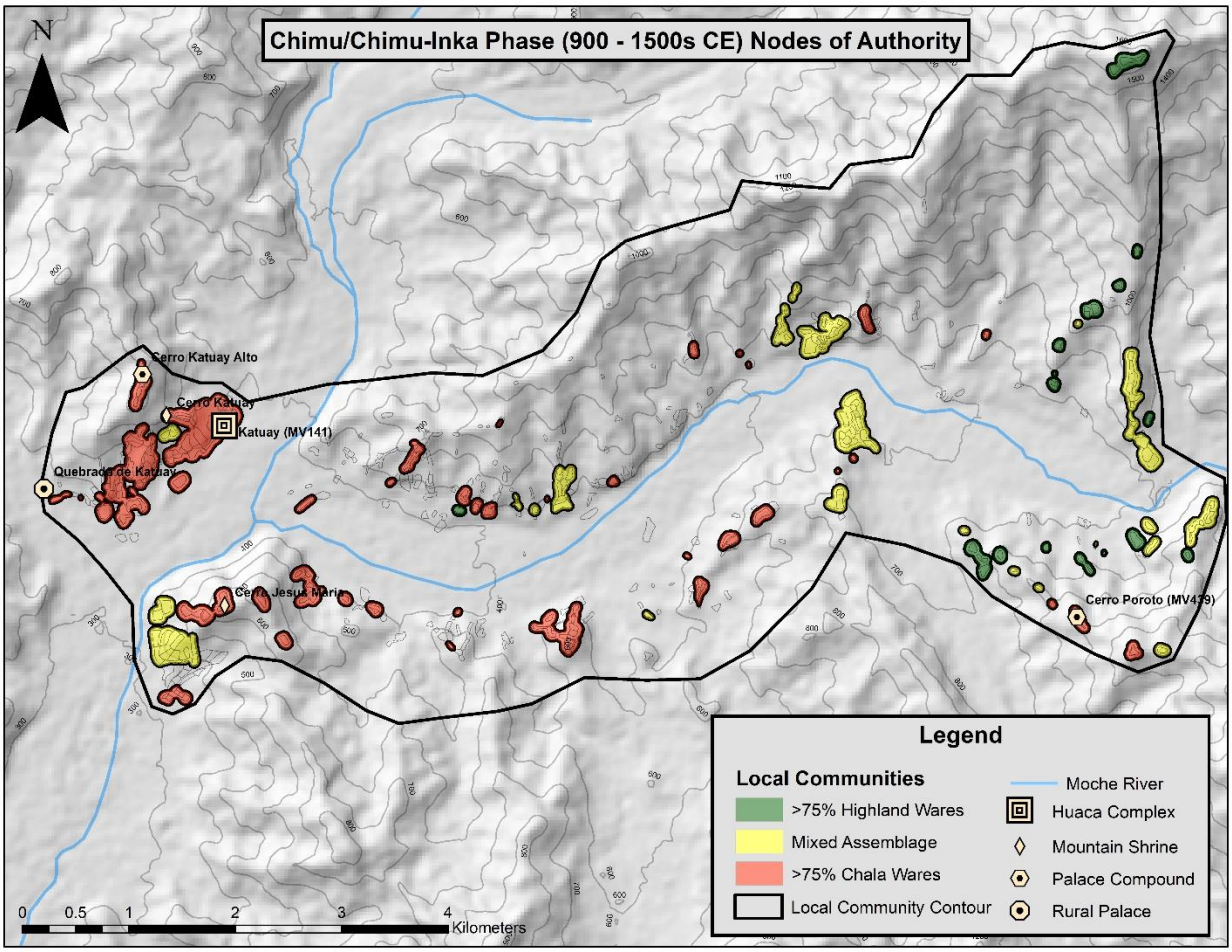


Figure 9.32 Chimú/Chimú-Inka Phase Nodes of Authority

9.3.3 Chimú and Local Nodes of Authority in the *Chaupiyunga*

Contrasting with the distinct adobe *huacas* that dominated the political landscapes of the Moche Phase in the Moche Valley, the nodes of authority during the Chimú/Chimú-Inka Phase in the *chaupiyunga* were somewhat varied and ambiguous. A possible remnant local *huaca*-town migrated around Cerro Katuay, rural and hilltop palaces or compounds associated with Chimor were focused upon the confluence, and possible mountain shrines were positioned upon and above several of the more notable fortified communities (Figure 9.32; Table 9.3). Following the format of the preceding chapters, I briefly describe these nodes, overview the results of the centrality measures that were applied to them, and provide some context for the visual weight they had in the demographic landscape (Table 9.3; Appendix E; Table E.13). Though many of these nodes were unable to be mapped or had been destroyed by modern settlement, it is clear that most were focused upon the confluence around Cerro Katuay.

Table 9.3 Chimú/Chimú-Inka Phase Nodes of Authority

Chimú/Chimú-Inka Phase Nodes of Authority								
Site Name	**Site Type**	**Total Estimated Construction Volume (m^3)**	**TDCI (All)**		**TDCI (Coastal)**		**TDCI (Highland)**	
			Regional	*Local*	*Regional*	*Local*	*Regional*	*Local*
Katuay (MV141)	Huacas and Palace (?)	855	0.43	0.25	0.48	0.22	0.27	0.38
Quebrada de Katuay	Rural Palace	*NA*	0.25	0.05	0.28	0.03	0.13	0.15
Cerro Katuay Alto	Shrine (?)	*NA*	0.15	0.10	0.19	0.13	0.00	-0.04
Cerro Katuay	Palace (?)	*NA*	0.06	-0.16	0.05	-0.14	0.10	-0.29
Cerro Jesus Maria (Shrine)	Shrine (?)	*NA*	-0.04	-0.38	0.00	-0.32	-0.19	-0.60
Cerro Poroto (MV439)	Palace (?)	*NA*	-0.13	-0.35	-0.23	-0.14	0.02	-0.35

The rural Chimú palace at Quebrada de Katuay has long since been destroyed by a series of chicken farms but would have likely been situated near the edge of the survey zone. Excavated by Keatinge in the 1970s, the chronological assignment of this rural palace within the Chimú Phase is somewhat unclear but it seems likely that it was likely earlier in the Middle/Late Chimú Phase. However, it can securely be identified as a Chimú palace due to (1) the Chimú wares noted at the site, (2) its general format following other rural Chimú palaces, and (3) its vaguely north-northeast orientation aligning it with the *ciudadelas* at Chan Chan and other rural Chimú palaces within the Moche Valley (Keatinge and Day 1973; Keatinge 1974; Figure 9.33). Similar to the other rural palaces of the Kingdom of Chimor, Quebrada de Katuay lacked substantial surrounding settlement

and thus had a relatively low regional demographic centrality (TDCI = .25). Given that the main Chimú/Chimú-Inka Phase occupation around Katuay was on the opposite side of the mountain, it seems far more likely that the rural palace was instead associated with the ancient corollary of the modern Katuay canal that was recorded by Keatinge (Figure 9.33). This again would fit into the expectations of rural palaces as being somewhat remote venues of authority for the nobility or royalty of Chimor.

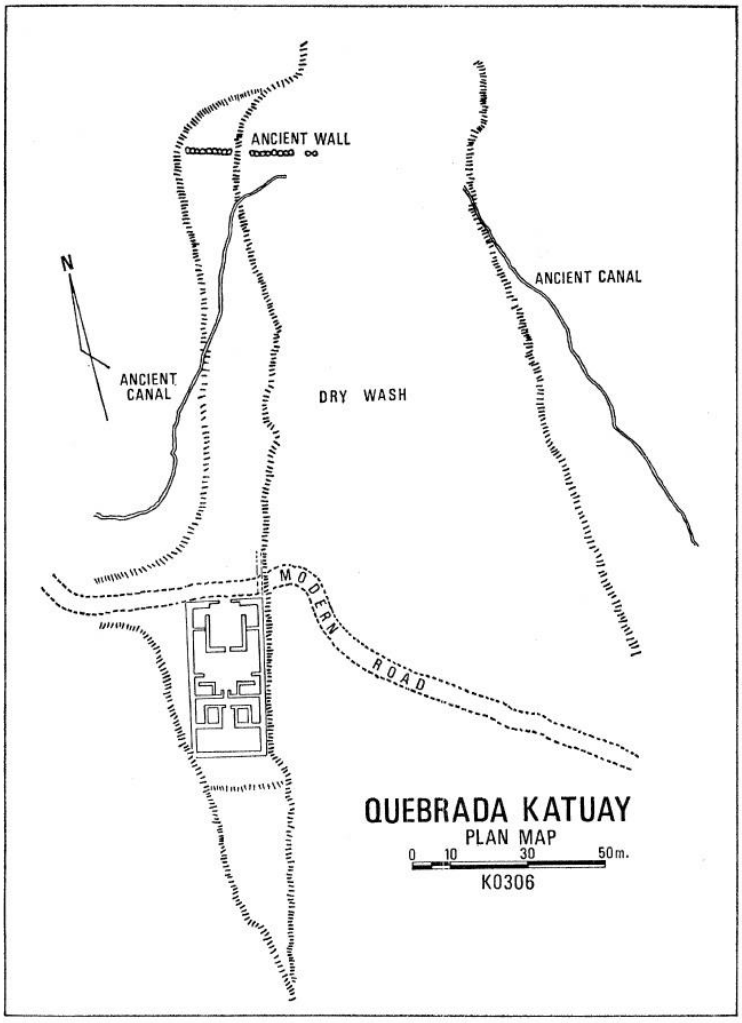


Figure 9.33 Plan Map of Quebrada de Katuay (adapted from Keatinge 1974)

Two more possible Chimú/Chimú-Inka Phase "palaces", or at least large compounds, were recorded in the survey area: one likely hilltop palace at Cerro Katuay Alto and one large compound just below the main occupation at Cerro Poroto. The first of these was a large 15 by 25-meter stone masonry compound with several sets of rooms and patios built upon the peak of Cerro Katuay

(Figure 9.34). Though some highland wares were found in the collection units around this compound, the vast majority were coastal/*chala* wares that had mold-impressed decorations (Appendix D). Most of the forms present were either storage jars or plates: following a somewhat similar assemblage pattern as that recorded at Fortaleza de Quirihuac but with far more highland wares (Appendix D; Mullins 2012). The compound itself also shared the same general north-northeast orientation of Quebrada de Katuay and many of the other Chimú palaces recorded in the Moche Valley. Almost an hour and half hike up through at least one defensive ditch and wall, this compound was not demographically central in the broader survey area (TDCI = .15) and was set apart from the main fortified community at Cerro Katuay below. Though it did have some surrounding occupations in the limited habitation terraces built into the slopes around it (ADI/Century = 2.43). Its positioning also meant that the compound could see around 66% of the all of the contemporary populations in the survey area: essentially all of the major occupations of the confluence and Cerro Katuay (Appendix E; Table E.12; Table E.13; Figure 9.35).

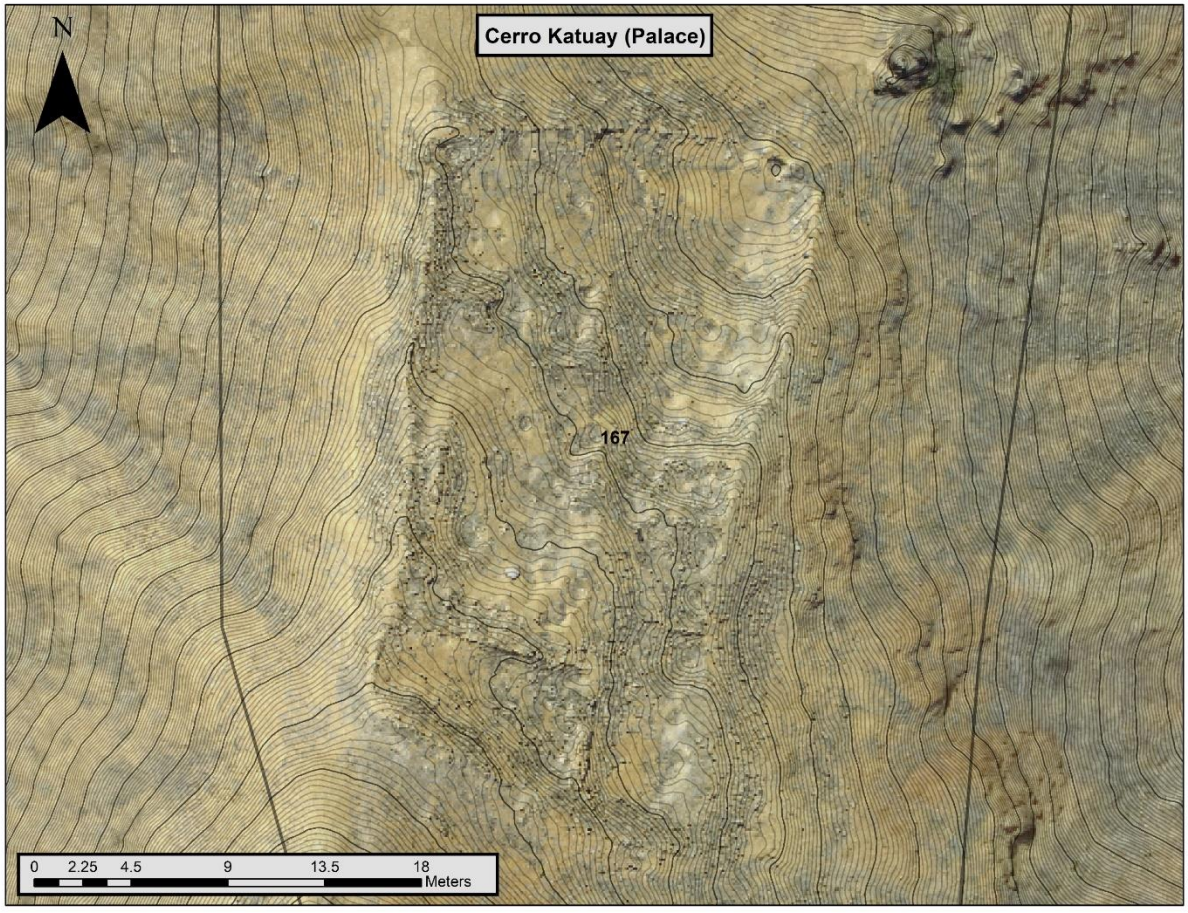


Figure 9.34 Orthophoto Map of Possible Palace at Cerro Katuay Alto

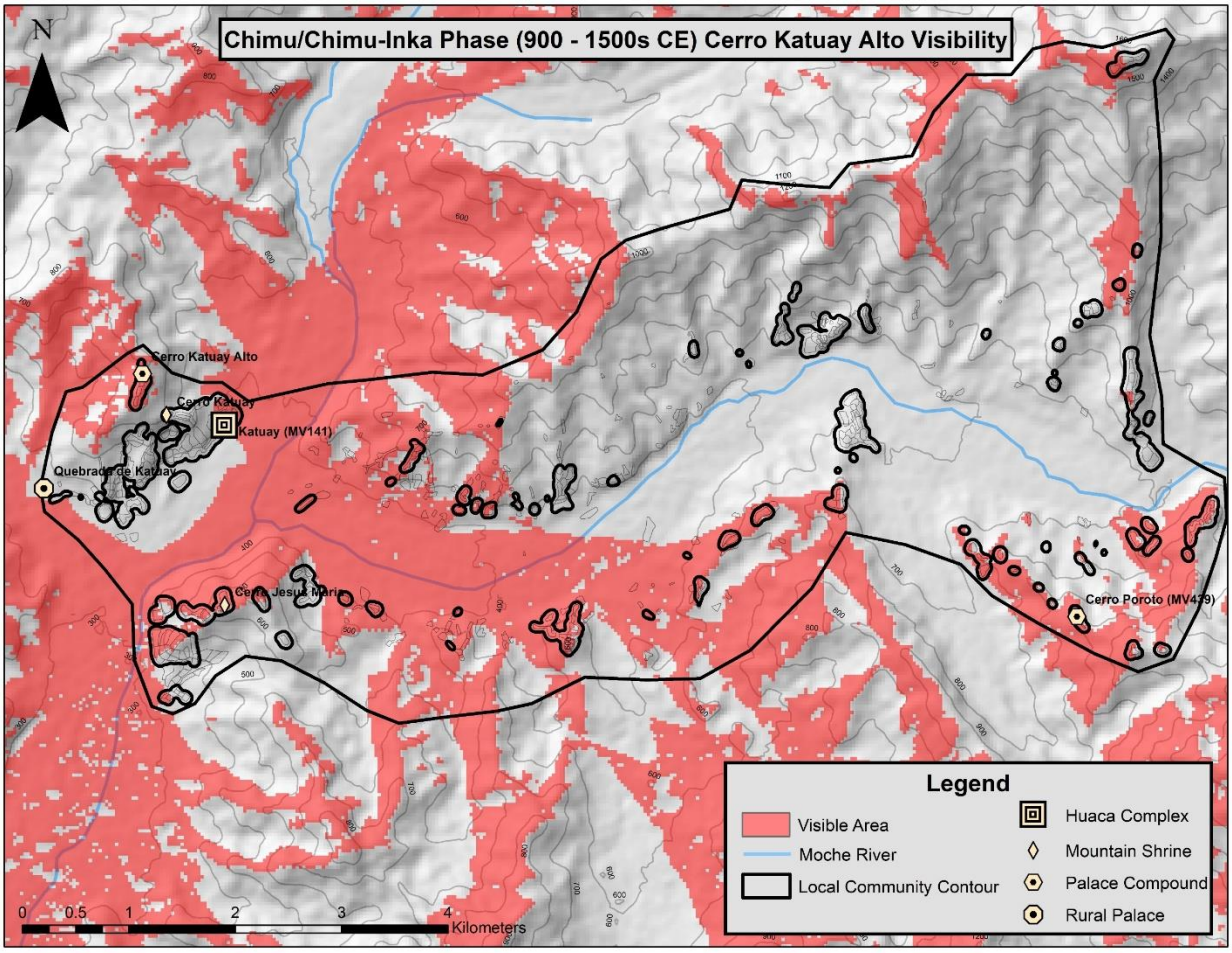


Figure 9.35 Chimú/Chimú-Inka Phase Cerro Katuay Alto Visibility

Farther up-valley, a set of two large stone masonry compounds were recorded just below the fortified outpost at Cerro Poroto. These were recorded by Billman as one site (MV-439) and later during PARFAM in 2017 as a series of two CUs that were aggregated into their own local community (see Figure 9.2, Local Community #9). This local community was included in the larger Cerro Poroto Alto extended local community and was defended by at least one set of dry moats and parapet walls (see Figure 9.10; Figure 9.18). Though not mapped with a drone during PARFAM, both sets of compounds are visible from aerial imagery: the smaller ~30 by 15-meter compound to the north and the larger ~65 by 20-meter compound to the south (Figure 9.36). The first compound was closer in layout to that recognized at Cerro Katuay Alto: a few patio spaces and rooms mixed built on a vaguely north-northeast orientation in a high visibility area. The second "compound" seemed more like an amalgamation of smaller structures and rooms upon a platformed area of the broader ridge. The assemblage encountered in these CUs was quite similar

to that at Cerro Katuay Alto: only a few highland wares and mostly coastal/*chala* wares. This being said, there was far more evidence for some manner of full-time occupation with abundant domestic debris: griding stones, digging implements, faunal remains, and lithic debitage. These compounds also commanded excellent views of much of the surrounding *chaupiyunga* while providing views down-valley of (1) most of Cerro Katuay and (2) Quebrada de Katuay (Figure 9.37). Finally, they were demographically isolated in the larger landscape (TDCI = -.13), but did boast the second highest visual centrality value (.80) of all of the communities in the survey area (Appendix E; Table E.12; Table E.13).

Figure 9.36 GoogleEarth Imagery of Compounds at Cerro Poroto

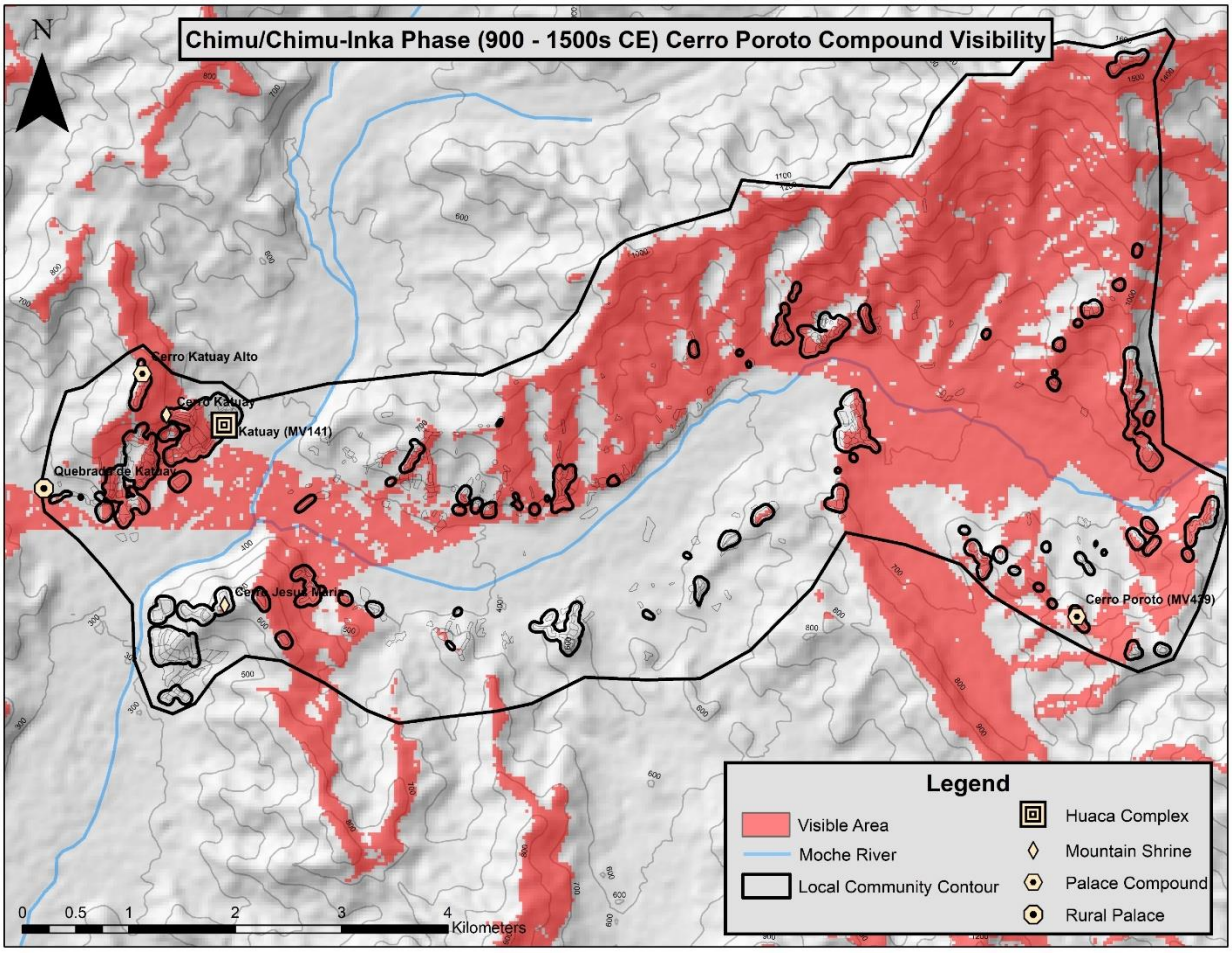


Figure 9.37 Chimú/Chimú-Inka Phase Cerro Poroto Compound Visibility

Adjacent to the large Chimú/Chimú-Inka Phase occupations at the eastern base of Cerro Katuay, Billman recorded two small and poorly preserved adobe platform mounds at the site he designated MV-141 and what I call Katuay Este. These *huacas*, and the substantial settlement that surrounded them, had almost been entirely destroyed by the time of my survey in 2017. A newly built *palta* grove, private compound, and agricultural fields had plowed all of the architecture and all I was able to recover were moderately high densities of sherds and some evidence of crumbled adobes. As such, Billman's field notes are all that remain: he described one 24 by 30-meter adobe platform and one smaller adobe 18 by 15-meter adobe platform. Both of these were of indeterminate height (probably no more than a meter), had burial niches exposed by looter holes, and had some Moche wares intermingled within them. He also recorded a small stone compound that was 27.5 by 26 meters in its dimensions but it is unclear whether or not this was a palace of a local noble or served some other purpose for the community. Billman recorded a mixture of mainly

mold-impressed redwares that he identified as Early Chimú and some Moche corporate wares: suggesting a possible later Moche Phase occupation that overlapped with an Early Chimú sub-phase occupation. Though my criteria for identifying Transitional-Early Chimú wares were somewhat different, my own collections are more-or-less concordant with his temporal assignment for the occupation.

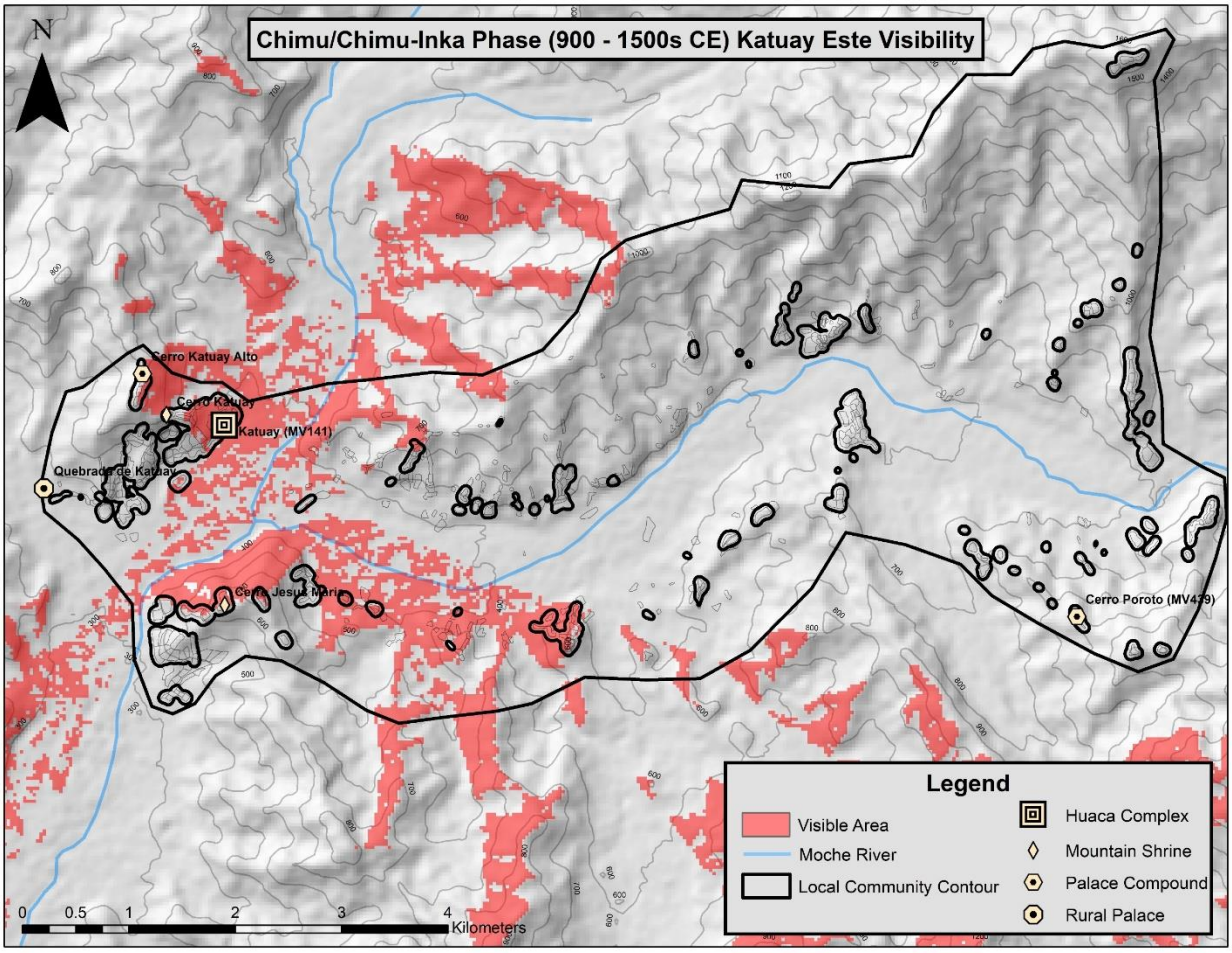


Figure 9.38 Chimú/Chimú-Inka Phase Katuay Este Visibilty

I would argue that this possible Early Chimú occupation at Katuay Este represents continuity from the earlier Moche Phase *huaca*-town: with the older political center simply shifting eastwards and closer to the likely intake of the ancient Katuay canal. Firstly, the community and *huacas* were spatially linked to the earlier *huaca*-town that had dominated the political and demographic landscape of the earlier Moche Phase. These specific associations will be discussed in more detail later in my overview of tethering analyses for the Chimú/Chimú-Inka Phase.

Second, the community and *huacas* were spatially isolated from the Chimú-affiliated palace at Quebrada de Katuay. However, any visual isolation from such Chimú-affiliated authority seemed to have transformed over the course of the Chimú/Chimú-Inka Phase (Figure 9.35; Figure 9.37). While the palace at Quebrada de Katuay would not have been able to see Katuay Este, the later possible mountaintop palace at Cerro Katuay Alto effectively overwatched the community and these short-lived Early Chimú sub-phase *huacas*. Thus, it seems more appropriate to describe this community as a remnant, and local, *huaca*-town rather than some Chimú-affiliated colony or re-settlement project.

Whatever the case, Katuay Este's positioning as a local node of authority can be seen in the fact that these *huacas* had the highest centrality in the demographic landscape of the confluence and *chaupiyunga* (TDCI = .43) observed for the Chimú/Chimú-Inka Phase. However, this value is considerably lower than the *huacas* of the previous Moche *huaca*-town at Katuay (TDCI = .70). Paired with this drop in demographic centrality, the total possible construction volume of the later *huacas* is also only a fraction of the volume of those observed for the Moche Phase (Table 9.3; Table 9.3). This decline could illustrate the waning demographic magnetism of such *huaca*-towns, the older Moche-descended noble families that commanded them, and/or even the older traditions of *chala* authority they represented. Whatever the exact reason, this decline was also clearly tied to the broader pattern of depopulation at the confluence that came with increased settlement in the *chaupiyunga* proper.

Finally, one possible mountain shrine at the top of the fortified community at Cerro Katuay and an even less clear analogue at Cerro Jesus Maria were recorded during PARFAM in 2017. The possible shrine at Cerro Katuay was much better preserved and consisted of little more than a 2 by 2-meter platform built abutting a bedrock outcrop that looked over the main community below. *Spondylus* shell fragments, a valuable offering in the ancient and modern Andes, and Chimú fine-ware plates were scattered around the small platform (Appendix D). A similar, but heavily looted, possibly adobe platform appeared to have been abutting a bedrock outcrop on the western peak of Cerro Jesus Maria. Both of these fit into a broader pattern of platforms (most lacking adobe) that abutted bedrock outcrops at high visibility points in the many Chimú/Chimú-Inka Phase fortified hilltop communities in the Moche Valley. Fortaleza de Quirihuac had a similar point at its western

apogee (Mullins 2012:32) and even Siete Vueltas has a platformed area with an adjacent bedrock outcrop at its southern apogee.

Identifying all of these platform and bedrock outcrop combinations as "shrines" is somewhat of a stretch but the focus on bedrock outcrops could align with the *Alæc Pong* or "lord's stones" revered by *chala* communities and noble families in the 16th and 17th century (see Chapter 4.3.4.2). These stones were possibly bound to the landscape ancestry of such noble families and/or communities but importantly required homage if they were seen. Given that the platforms were (1) abutted against bedrock outcrops and (2) in highly visible areas, it seems possible that they could have been something akin to shrines for *Alæc Pong*. More specifically, I would argue that the clear integration with the mountains themselves perhaps extended the "stone" further than just the outcrops themselves. Like the use of a rock outcrop from Cerro Blanco at Huacas del Moche, the outcrops perhaps were representing the mountains as they watched over the surrounding landscape and its people. That agents associated with Chimor were possibly building palaces in such areas and mimicking or playing off such behaviors is even more intriguing. Was the compound at the peak of Cerro Katuay Alto perhaps a means of superseding the *Alæc Pong* shrine of the local citadel below? Or was it built by local nobles who were weaving Chimú traditions of authority into their own? Future excavations at these possible shrines and palaces will work to better address such questions and better contextualize their possible roles in the broader political landscape.

9.3.4 Discussion

In sum, the political landscape of the Chimú/Chimú-Inka Phase in the *chaupiyunga* was defined by (1) a massive increase in evidence for conflict and (2) the introduction of varying forms of Chimú authority distributed unevenly across the survey area. The majority of people living within the Upper Moche Valley *chaupiyunga* over the course of this phase were living within fortified hilltop communities. The remaining settled areas outside of these communities were close enough for occupants to flee to fortified areas if the need arose. These fortified communities were well-connected in their surrounding landscape: sharing visual connections that fostered a cohesive inter-visibility network that would probably have been aimed at mutual defense. Who exactly were

these communities defending themselves from? This is unclear from archaeological data alone, but there were ample larger and neighboring communities and polities that could have threatened and manipulated the sovereignty of those of the *chaupiyunga*. The later royalty of Chan Chan and Cuzco obviously had access to enormous subject pools and were probably fielding armies in the tens of thousands: forces multitudes larger than even the most generous population estimates for the region. Against such numbers, these fortifications would have been all but useless: suggesting these were defenses meant more for protection against localized raiding or intimidation rather than the from the inevitable clashes between the titanic political networks of Cuzco or Chan Chan. Looking to the local highlands before the arrival of the Inka, some of the communities in lands of the Llampas and Guacapongos, like the 32-hectare fortified town of Cerro Chamana in the Carabamba Plateau, were probably large enough to intimidate any one of the much smaller towns of the *chaupiyunga* below (see Chapter 4.2.8.9). Looking to the *chala*, perhaps the earlier and more fragmented political landscape of the Early Chimú sub-phase could have fielded smaller threats that came from down-valley. Even the remnant *huaca*-town at Katuay Este, or the later community at Cerro Katuay, could have attempted to re-establish authority within the upper parts of the *chaupiyunga* landscape. Against such local threats, these *chaupiyunga* communities may have found they were stronger together: leading to this arrangement of mutual support within the contested landscape they inhabited.

At the confluence – an area that had been a bastion of *chala* dominion over the *chaupiyunga* since the Moche Phase – Chimú authority was surely strongest but was also locally situated. The gradual movement of demography around Katuay seems more suggestive of a local community adapting in response to (1) increased regional conflict and (2) new foreign impositions or affiliations tied to the palaces built at Quebrada de Katuay and then Cerro Katuay Alto. Even the fortified community at Cerro Jesus Maria may have followed a similar narrative: moving up the mountain slope in response to the more dangerous Chimú/Chimú-Inka Phase landscape in which most communities were fortified or had citadels nearby. The long walls built to connect Katuay with Cerro Jesus Maria, while also encircling the relic Huaca Menocucho, seem likely to have been built for purposes that served the Kingdom of Chimor: standing as symbolic barriers meant to represent the borders, and strength, of Chimú authority in the area.

Past these barriers, the political landscape became even more complex and varied: with a coastal/*chala* colony at Cerro Los Chiles and a possible Chimú palace and outpost at Cerro Poroto. Outside of these likely nodes of coastal/*chala* demography and/or authority, the other communities of the *chaupiyunga* do not have such direct evidence of Chimú authority or exclusively coastal/*chala* connections. Communities like Loma del Shingo, Siete Vueltas, Arquito, and Mochal were still surely linked to Chimor through the use of related corporate wares, but these same communities had clear bonds to the local highlands in their use of highland domestic wares. Additionally, the lack of corporate wares aligning with the Inka Empire in this general area suggests that any later political boundary was more locally managed or experienced. If the Moche Valley *chaupiyunga* did serve as a political boundary between the two Andean super-powers of the 1400s, this boundary itself would have been one that was defined and defended by local communities that already occupied the area.

However, the existence of such a "proxy" or "buffer" political boundary clearly did not preclude foreign outposts being constructed to monitor the area. The outpost at Cerro Poroto showed that the presence of Chimor surely existed but was more focused on monitoring movement and local activity rather than reshaping the landscape. The outpost at Cerro El Brujo could have served a similar purpose but the mainly highland assemblages imply that it was far more tied to the Otuzco Highlands above. Considering that the possible Inka installation of Rogoday – Tres Puntas was farther up that same ridge, Cerro El Brujo could have even been a locally managed Inka-affiliated outpost overlooking the *chaupiyunga*. Outside of these possible nodes, however, the everyday management and occupation of the *chaupiyunga* borderlands was more-or-less isolated from the larger polities that would have loomed to the east and west. These fortified communities of the Upper Moche *chaupiyunga* doubtlessly would have played some part in the clashes between the Inka and Chimor solely because of their positioning. However, it is important to state that (1) these communities had been established long before such wars began and (2) the fortifications themselves could have been avoided by simply taking one of the many other corridors that connected the highlands and coast (see Chapter 3.5).

9.4 Tethering to the Past

In addition to the burst of new settlements in the survey area, several of the communities of the Chimú/Chimú-Inka Phase were moderately tethered to their Gallinazo/Moche Phase antecedents. Though highly central in their own broader and local demographic landscapes, the *huacas* of the Gallinazo/Moche Phase were not being tethered to by subsequent Chimú/Chimú-Inka Phase populations (Table 9.4). This is somewhat contrasted with the moderate degree of tethering between the Gallinazo/Moche and Chimú/Chimú-Inka Phase occupations at and around Katuay and Cerro Jesus Maria at the confluence (Table 9.5). This was essentially a continuation of the same pattern recognized for previous phases: any tethering that existed was more focused on preceding communities and not the remains of any previous nodes of authority.

Table 9.4 Chimú/Chimú-Inka Phase Tethering to Past Nodes of Authority

Chimú/Chimú-Inka Phase Tethering to Past Nodes of Authority		
Gallinazo/Moche Phase Node	**Tethering TDCI**	**Gallinazo/Moche Phase TDCI**
Cruz Blanca Oeste (MV384)	0.19	0.00
Cruz Blanca Este (MV391)	-0.26	-0.12
Katuay (MV135)	-0.32	0.38
Huaca el Castillo	-0.32	0.75
Katuay (MV135)	-0.40	0.47
Huaca Poroto	-0.63	0.84

Starting at the confluence, the occupations at Katuay and Cerro Jesus Maria continued to show some moderate tethering to the previous communities that were settled in those areas (Table 9.5). At Katuay, this moderate tethering was probably an outcome of the subtle shift of occupation on the mountain over the course of the Chimú/Chimú-Inka Phase. This was a shift that was suggested in the sub-phase diagnostics recorded there (see Chapter 10.2.1.1). The Early Chimú sub-phase shift of the community was probably eastward along the base of the mountain and would have essentially been superimposed upon Gallinazo/Moche Phase occupations in the same area. Such superposition meant that there were plenty of overlapping occupations to bring the corresponding tethering values up. Meanwhile, the densest occupations of the Chimú/Chimú-Inka Phase were at the fortified community of Cerro Katuay above. As they were uphill, these occupations were clearly further away and would have brought the associated tethering values

down. In this way, I see the somewhat lower tethering TDCI values of .38 and .34 as doing a good job at describing the pattern at Katuay: the settlement was clearly connected to previous communities around Cerro Katuay but the ultimate hilltop occupation represented a departure in the specific locale that was chosen. A similar pattern can be seen at Cerro Jesus Maria where a somewhat lower, but still not insignificant, tethering value was likely the result of the main occupations around that mountain moving from the lower slopes to the mountain peak above.

Table 9.5 Chimú/Chimú-Inka Phase Tethering to Past Local Communities

Chimú/Chimú-Inka Phase Tethering to Past Local Communities			
Gallinazo/Moche Phase Local Community	**Tethering TDCI**	**Total ADI/Century Within Catchment** *Chimú/Chimú-Inka Phase*	*Gallinazo/Moche Phase*
44	0.91	0.01	0.08
Co. Los Chiles (7)	0.81	5.42	0.44
3	0.80	5.38	0.07
13	0.68	1.29	0.07
Mochal (51)	0.63	7.05	0.29
Cruz Blanca (36)	0.59	0.98	1.83
16	0.49	0.71	0.26
Co. Jesus Maria (10)	0.43	11.23	24.59
Co. Pedregal (39)	0.42	0.55	1.57
Katuay Este (52)	0.38	22.87	2.74
Katuay (41)	0.34	25.92	22.20
63	0.31	2.93	0.02
22	0.26	0.96	0.17
9	0.20	1.26	0.04
33	0.17	5.23	0.11
Co. Pedregal (34)	0.07	0.37	0.36
47	0.04	24.57	0.31
18	0.03	0.71	0.01
54	0.00	0.14	0.01
8	-0.05	10.65	0.17
24	-0.05	1.09	0.34
61	-0.10	2.55	0.02
4	-0.11	1.25	0.02
11	-0.25	5.42	0.01
Huaca El Castillo (20)	-0.26	1.85	1.36
25	-0.26	1.13	0.30
Cruz Blanca Este (28)	-0.30	1.32	0.83
21	-0.36	4.59	0.05
Huaca Poroto (19)	-0.39	0.88	0.25

46	-0.44	0.17	0.06
15	-0.51	1.21	0.03
56	-0.58	2.75	0.02
Dos de Mayo (5)	-0.61	1.23	0.66
Siete Vueltas Bajo (17)	-0.63	5.05	0.61
62	-0.66	3.98	0.07
53	-0.94	0.85	0.04
48	-0.95	0.07	0.01
27	-0.95	0.55	0.02
35	-0.98	0.80	0.04

Further up-river, some of the tethering values were far higher but the minimal occupations that preceded them show the immense growth only seen before at the *huaca*-colony at Katuay (Table 9.5). The high degree of tethering to the Gallinazo/Moche Phase communities (Local Communities #7 and #3) at Cerro Los Chiles are a good example of this. These Gallinazo/Moche Phase communities were likely no more than either (1) a series of camps or households and/or (2) representative of some light continuity from the previous Salinar Phase community on the mountain (see Chapter 8.4). Additionally, the Chimú/Chimú-Inka Phase occupation of Cerro Los Chiles represented a massive increase in demography when compared to these previous occupations: between 12 and 80 times larger depending on which community is chosen. This burst of population in the area paired with the overwhelmingly coastal/*chala* assemblage of this community led me to describe it as a coastal/*chala* colony amongst the ruins of the previous Salinar Phase community. A similar scenario arises at Mochal but with a more mixed assemblage and better evidence for a likely Early Chimú sub-phase origin for the community itself (see Chapter 9.2.1.1). Cruz Blanca and Pedregal stand out as being examples of the opposite phenomena: likely holdovers from the Gallinazo/Moche Phase occupations of those areas or later camps or farmsteads built in their vicinity.

In sum, these tethering values are again somewhat difficult to interpret but do offer a few insights into which parts of the landscape saw some degree of occupational continuity and which parts did not. The confluence continued to be a place where communities tethered to past occupations. At Katuay this continuity suggested the possible persistence of a community that could ultimately trace its roots back to the Moche Phase *huaca*-colony that previously dominated the survey area. At Cerro Jesus Maria, the long string of occupations we have seen tethered to one

another can be followed back almost three millennia to the Guañape Phase community settled around the old ruins of Huaca Menocucho. Up-valley, the legacy of previous communities and nodes of authority appeared to be non-existent. Though they may have dominated the Moche Phase landscape, the old canal-*huacas* and the community of Cruz Blanca were all but abandoned as a host of new communities settled the *chaupiyunga*. As we will see, it was not the communities and *huacas* of the Gallinazo/Moche Phase that shaped the *chaupiyunga* landscape of the Chimú/Chimú-Inka Phase that lie past the confluence: it was the canals.

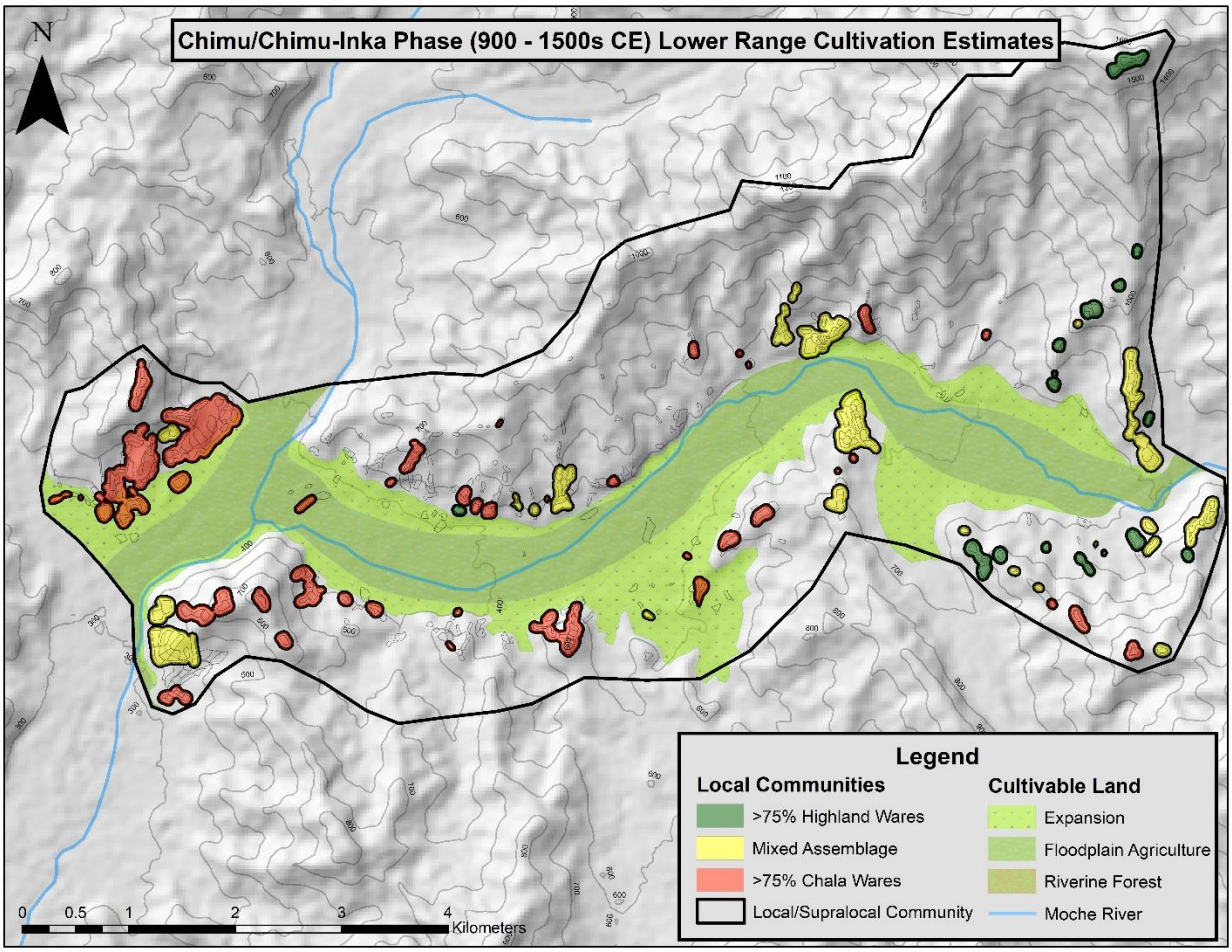


Figure 9.39 Chimú/Chimú-Inka Phase Lower Range Cultivation Estimates

9.5 Canal Reconstructions

Finally, the Chimú/Chimú-Inka Phase saw another large expansion of the land that was likely under cultivation in the *chaupiyunga*: with (1) subtle expansions of the previous canal at Katuay and (2) massive expansions, and likely new canals, associated with the new communities that were settled up-valley. The starting point for these Chimú/Chimú-Inka Phase estimates built off of the higher estimates from the Gallinazo/Moche Phase but included (1) the higher canal line at Katuay and (2) an extension aligning with the modern Shiran canal (Table 9.6; Figure 9.39). The higher canal line at Katuay was assigned to the Chimú/Chimú-Inka Phase mainly because this would have aligned better with the ancient canal noted by Keatinge (Keatinge 1974; Figure 9.33). This canal line is just above the modern Katuay canal and was noted during PARFAM as cutting through part of the older *huaca*-colony occupation at Katuay: implying a later date of construction. The extension aligning with the modern Shiran canal was added because of its correspondence with the large Chimú/Chimú-Inka Phase community of Loma del Shingo: the intake of the modern canal is positioned just below the ancient fortified community.

The upper range estimates for cultivable land during the Chimú/Chimú-Inka Phase included three large canal expansions that would have been associated with (1) the modern Misirihuanca canal and its extensions, (2) the modern Con Con canal and its extensions, and (3) a hypothetical canal that would have supplied water to the small fortified community at Arquito (Figure 9.40). First, the modern Misirhuanca canal has an intake just below the Chimú/Chimú-Inka Phase fortified community at Siete Vueltas: possibly suggesting a connection between the founding of this small community and the construction of the canal itself. This canal currently feeds the fields above the Poroto canal, continues above the modern town of Poroto, and eventually extends several kilometers to feed fields just above the Mochal canal down-river. If such extensions existed in the past, they would have passed just below the Chimú/Chimú-Inka Phase community at Mochal and fed the relic canals noted by Billman around Huaca El Castillo: effectively connecting Siete Vueltas with the larger community of Mochal downstream. Second, the modern Con Con canal feeds fields just under the main occupation at Loma del Shingo and continues westward to feed a much larger swath of fields just above the Shiran canal. Though the intake is up-river, it is easily visible from Loma del Shingo and the eastern fields it feeds would

have bordered the eastern slopes of the mountain that this community was built upon. Additionally, "Con" is a word that refers to water, or perhaps even a water deity, and has roots in either the Culle, Quingnam, or Quechua (Urban 2019: 173; see Chapter 4.3.3.1). This etymology, in addition to the positioning of the canal, leads me to believe it likely had prehistoric roots in the Chimú/Chimú-Inka Phase. It is also featured in a still un-verified story regarding the Chimú-Inka Wars as recounted by Kosok (Kosok 1965). Finally, the expansions below Arquito are entirely hypothetical but were included solely because such expansions seemed likely at the similarly sized community at Siete Vueltas. The modern canals that feed the fields around Arquito pass just below the ancient community and have intakes further up-valley. Some of them are actually fed by the main Shiran canal: something that would have connected Arquito to Loma del Shingo in a similar way that Siete Vueltas was connected to Mochal.

Table 9.6 Chimú/Chimú-Inka Phase Cultivation Estimates

Chimú/Chimú-Inka Phase Cultivation Estimates			
Estimate Name	**Landscape Description**		**Area (Ha)**
	Part/Name	*Category*	
Lower	Valley Floor	Floodplain Agriculture	641
	Katuay	Expansion	80
	Los Chiles - Dos de Mayo	Expansion	67
	Cruz Blanca - Cerro Pedregal	Expansion	70
	Mochal	Expansion	198
	Poroto	Expansion	72
	Shiran	Expansion	74
Higher	Valley Floor	Floodplain Agriculture	641
	Katuay	Expansion	80
	Los Chiles - Dos de Mayo	Expansion	67
	Cruz Blanca - Cerro Pedregal	Expansion	70
	Mochal	Expansion	198
	Poroto	Expansion	162
	Con Con - Shiran	Expansion	222
	Misirihuanca	Expansion	153
	Arquito	Expansion	69

Looking at the potential amount of cultivable land for the Chimú/Chimú-Inka Phase using either of these ranges, the amount of hectarage available in this part of the *chaupiyunga* would have more than provided for the 1905 to 4137 or so people who would have likely been living within the survey area. The total estimates of cultivable land in the survey area alone suggested a

range between 1202 and 1662 hectares. Following the 4.247-6.826 people/hectare estimates for maize during this general time period provided by Wilson, the survey area would have had enough to feed anywhere from 5100 to 11300 people if maize alone was being grown (Wilson 1985:326). Either of these figures are an order of magnitude larger than my more conservative population estimates and the latter figure even dwarfs my most liberal population estimates. If we consider that around two thirds of the people living in the survey area were at the confluence and were probably more dependent on fields downstream, the pattern becomes even more pronounced. Put simply: four *chaupiyunga* communities that together held no more than 500 to 600 or so people would have had access to enough cultivable land to feed some of the larger demographic centers that had previously emerged from the *chala* below.

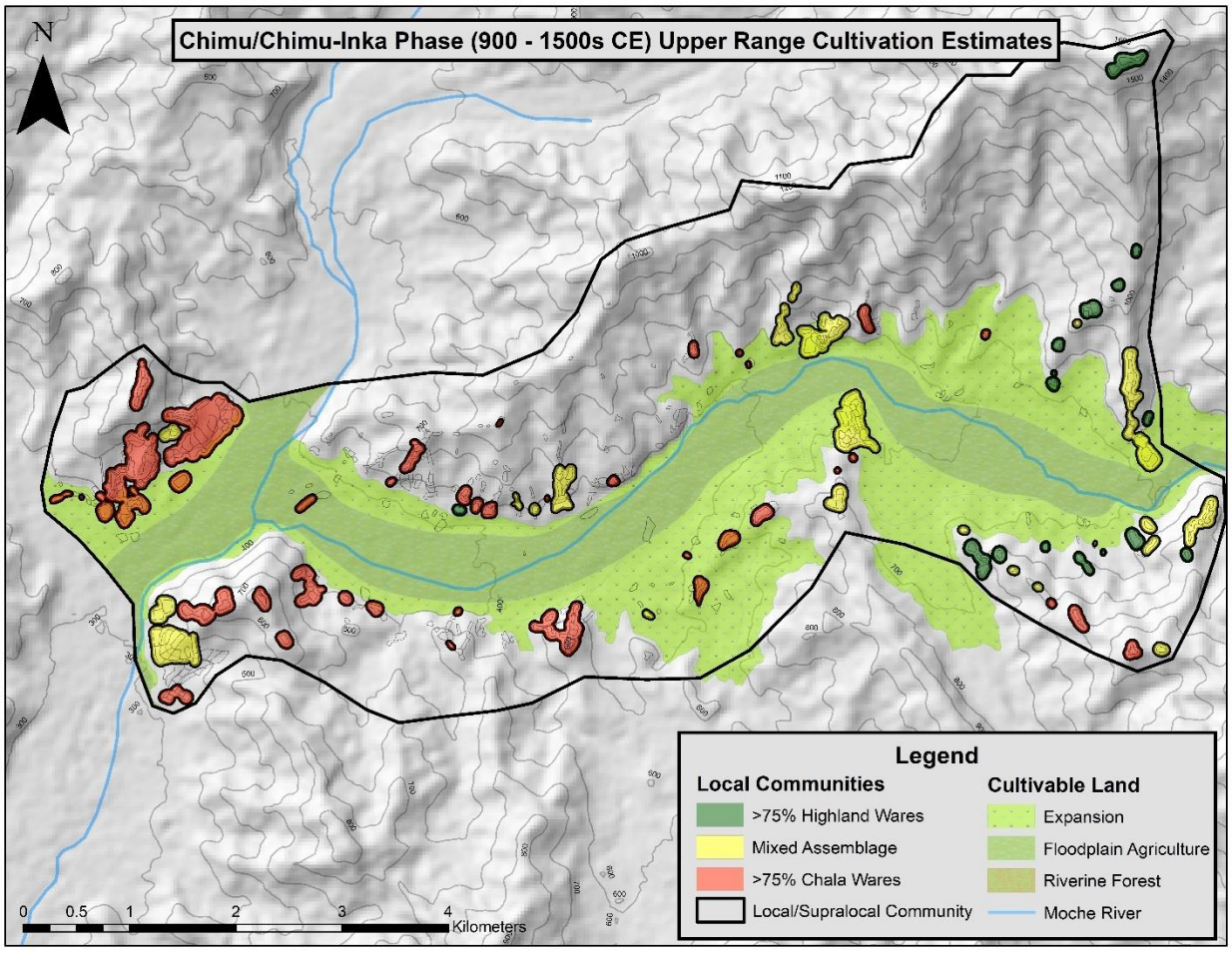


Figure 9.40 Chimú/Chimú-Inka Phase Upper Range Cultivation Estimates

Thus, the Chimú/Chimú-Inka Phase landscape presented what amounts to a hyperbole of the earlier and more subtle pattern recognized during the Gallinazo/Moche Phase. The disparity between the amount of available land and the estimated population for this area suggested that staple crops could have easily been exported from the *chaupiyunga* and/or that many fields could have been growing non-staple crops like *coca*. As with the Gallinazo/Moche Phase, I would guess that both were likely occurring. Though large storage depots were lacking at any of the palaces or even any of the fortified communities within the survey area, some of these goods could have very well been consumed during any of the authority-building feasts or celebrations that could have occurred at the palaces of Quebrada de Katuay or Cerro Katuay Alto. The ample storage depots of the *ciudadelas* of Chan Chan were also no more than a half day walk from the confluence and could have easily been reached. Looking to the east, the larger communities of the Carambaba and Otuzco Highlands were similarly close. Thus, if any harvest was being grown in the *chaupiyunga* as tribute to more powerful neighbors then it would be quite straightforward to simply carry it to any nearby noble or royal family to which it was owed.

Given this was a pedestrian survey, I did not expect to find any direct evidence for the cultivation of *coca*. This being said, I did encounter some very speculative and indirect evidence. Collections at the community associated with the mountaintop palace of Cerro Katuay Alto yielded a coastal/*chala* style mold-impressed *pacay* decoration that was likely adorning a jar (Appendix D). What appeared to be the exact mold for this *pacay* decoration was found at the contemporary community Cerro Katuay below (Appendix D): linking the fortified community below with the palace above. This alone was a good confirmation of contemporaneity between these occupations, but we can also recall that *pacay* plants were historically recorded as being used to shade and protect *coca* plants in the Moche Valley (see Chapter 4.3.2.2; Rostworowski 1988: 64-65; Orihuela Noli 1953). Even more, a few of the only *coca* fields recorded in the 1970s within the survey area were at the confluence amongst fallowed fields below Katuay (see Chapter 3.8.4; Figure 3.14). It would make some intuitive sense if a vessel with such decorations was used to temporarily store *coca* leaves: if the *pacay* protected *coca* in the fields, the symbol of *pacay* could have been intended to protect the *coca* as it was stored. That this vessel was also found associated with the likely palace of a Chimú or Chimú-affiliated noble operating in the region would also make sense: *coca* was just as much an offering to mountain lords as it was to living ones (see Chapter 4.3.2). It would not be outlandish if some of the fields of Katuay were devoted to *coca* that was meant for Chimú

or Chimú-affiliated nobility: just up-river, some fields of Collambay were being cultivated to such ends for Inka royalty sometime during the 1500s. Though the *pacay* decorated jar at Cerro Katuay Alto does present a tempting, and believable, narrative, these are questions ultimately better suited for excavation, paleoethnobotany, and residue analysis. Whatever the case, the excess of cultivable land available to these *chaupiyunga* communities suggests that they would have had the capability to grow far more than what they needed for simple subsistence.

9.6 A Contested Borderland

Though several features of past landscapes persisted, the Chimú/Chimú-Inka Phase brought with it some of the more profound transformations that the Upper Moche *chaupiyunga* witnessed as a borderland (Figure 9.41). To begin, the millennia-long trend towards demographic centralization at the confluence was reversed during this phase. Four communities were settled up-valley in parts of the *chaupiyunga* that had seen only limited settlement in the prior millennia. This effectively transformed a sparsely, and probably only seasonally, occupied demographic periphery into one with far more occupations and several persistent communities. These communities importantly had diverse assemblages that stood apart from the more coastal/*chala*-leaning assemblages of those down-river. It is here that we may see some continuity from the earlier Moche Phase landscape: the legacy of *chala* colonization at Katuay was one that continued to be felt in the coastal/*chala*-leaning assemblages of subsequent occupations of the confluence. This more static cultural boundary was maintained and partially expanded to Cerro Los Chiles, but the *chaupiyunga* landscape past the confluence remained a fluid one where families had varying ties to both highlands and coast.

Another legacy of the Moche Phase actually shaped some of the new communities of the *chaupiyunga*: the likely canals built below the old canal-*huacas* of Huaca El Castillo and Huaca Poroto. The Chimú/Chimú-Inka Phase communities of Siete Vueltas and Mochal mapped onto the modern corollaries of these canals and probably even expanded them to water even more *chaupiyunga* lands. This change of authority over canals and fields would have assumedly occurred sometime after or during the disintegration of the Moche political tradition down-valley.

As the authority of *chala* or *chala*-affiliated nobility waned, the canals and fields they had constructed for their political ends were claimed and expanded upon by newer communities and a more diverse array of actors. The possible Early Chimú sub-phase occupation at Mochal suggests this process could have occurred rather rapidly: with more diverse communities and families being quick to settle where canals had already been built and could easily be expanded. Across the river, the communities of Arquito and Loma del Shingo similarly mapped onto several of the modern canals in the region. However, these communities differed in that they lacked clear Early Chimú sub-phase occupations: perhaps suggesting that the parts of the landscape where canals needed to be built from scratch were occupied a bit later.

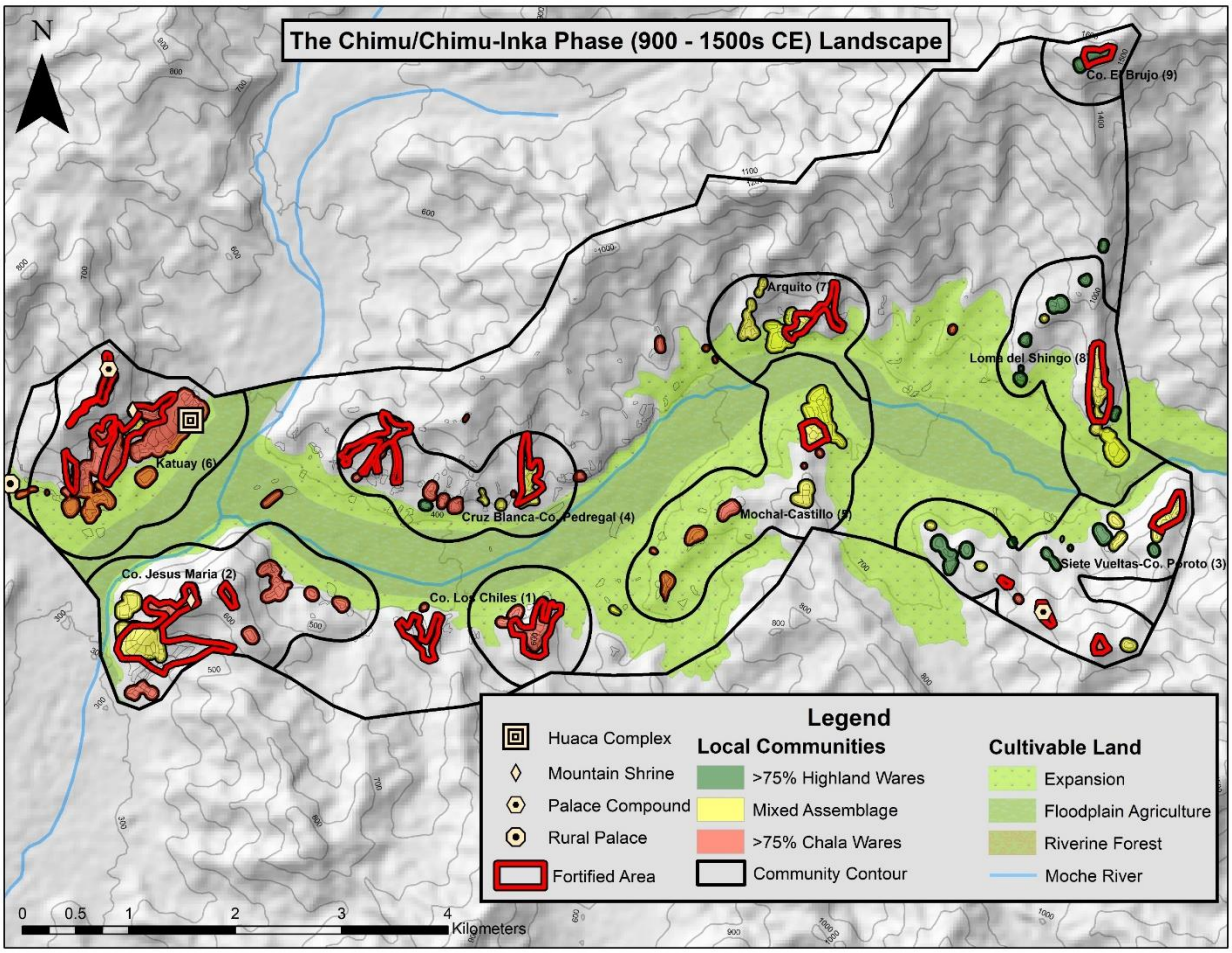


Figure 9.41 The Chimú/Chimú-Inka Phase Landscape

Even with the dissolution of the Moche political tradition, the *chaupiyunga* continued to be a political boundary at the periphery of larger and expansive *chala*, or *chala*-affiliated, polities.

Though the demographic magnetism of the old Moche *huaca*-colony of Katuay ceased with its abandonment by the Early Chimú sub-phase, the community itself seems to have shifted closer to the intake of the Katuay canal where a "new" *huaca*-town was briefly established. By the Middle/Late Chimú sub-phase, this community shifted yet again: this time occupying a defensive position on the mountain above and abandoning its *huaca* architecture in favor of a possible mountain shrine. Around this same time period, nobles or royalty of the Kingdom of Chimor began inserting themselves into the political landscape of the confluence: building a rural palace at Quebrada de Katuay that probably was sustained, in part, by the newly expanded Katuay canal. It seems equally likely that the fortified walls extending off of Cerro Katuay and Cerro Jesus Maria were built by and for the agents of Chimor: symbolic representations of the bounds of their authority and the more complex *chaupiyunga* political landscape that lie beyond. Above Cerro Katuay, the palace built on Cerro Katuay Alto is a bit more difficult to contextualize but had a few similarities with palaces associated with the Chimú political tradition. Though this could have been a palace built for a noble from Chimor, it just as easily could have been a venue for a local, but Chimú-affiliated, noble. Whoever it was for, it held a visually dominant position in the greater *chaupiyunga* landscape and looked over the larger community of Cerro Katuay to which it was surely connected. Another possible palace at Cerro Poroto presents what could be a different example of Chimú authority that was more focused on monitoring a movement corridor than controlling surrounding populations. Outside of these possible nodes of authority, evidence for the Kingdom of Chimor was indirect and ambiguous at most: suggesting local management and some degree of autonomy.

Recalling that the bounties of *chaupiyunga* fields could have yielded far more than there were mouths to feed, some manner of tribute or extraction to larger neighboring regions would have been possible and seems quite likely. This could have taken the form of direct tribute from *chaupiyunga* communities as they worked their own fields. The Chimú and Chimú-affiliated palaces of the confluence surely would have provided venues for such tribute to go towards more locally-directed feasts or celebrations. Further afield, the grand *ciudadelas* of Chimú royalty and the smaller residences of lower nobility were well within walking distance and had far larger coffers than any of the rural palaces nearby. The large communities of the adjacent highlands were similarly within walking distance and doubtlessly had powerful families who would have been interested in the *coca* and any of the other crops so easily grown in the *chaupiyunga*. Such tribute

could have gone towards a variety of ends: from helping secure alliances to even requesting assistance in labor for the expansion of canals or fields. Simultaneously, agricultural mobility and the use of smaller hamlets and camps would have been another way in which the fruits of cultivation could be extracted from this *chaupiyunga* landscape. The collection of camps and smaller occupations lining the modern Pedregal canal at the local community cluster of Cruz Blanca – Cerro Pedregal present a possible example of such an arrangement. Lacking a central node of more dense settlement like it neighbors, this local community cluster seems more likely to have been a loose collection of ephemeral or seasonal occupations that were aimed at exploiting the canal and fields below. With mostly coastal/*chala* assemblages, these occupations were probably more associated with one of the other coastal/*chala*-leaning communities nearby or one of the many others further down-valley.

Finally, the *chaupiyunga* landscape appears to have been heavily contested over the course of this phase. All of the largest communities of the *chaupiyunga* were fortified or had fortifications nearby. Even many of the farmsteads and camps scattered across the landscape were built close enough to allow any unfortunate farmer to run to a refuge if the need arose. The larger of these fortified communities had extensive defensive features and were strategically positioned to provide mutual support through intervisibility. It is important to be clear that these defenses would have been impotent against the massive armies being mobilized by the royalty of polities like the Kingdom of Chimor or the Inka Empire. The traces of *chaupiyunga* involvement in the titanic struggles between these polities are better described by outposts like Cerro Poroto or Cerro El Brujo. These lighter occupations were more focused on surveillance for larger and distant threats rather than controlling the *chaupiyunga* itself. Though not built to protect from or house massive armies, the fortified communities of the *chaupiyunga* could have easily provided local people with protection against more local threats aimed at raiding and intimidation. A panoply of such threats doubtlessly existed: neighboring noble families of Chimor operating independently from (or clandestinely with) Chan Chan royalty, Chimú-affiliated communities like Katuay, communities of the adjacent highlands like Chamana or Carpaico, or possibly even larger ethnic confederations of highland groups analogous to the Guacapongos or Llampas. If the historical record of Quivi is any indication of the complexity of politics and contestation that could occur in *chaupiyunga* landscapes, the sources of conflict were surely variable and doubtlessly ebbed and flowed over the seven centuries of the Chimú/Chimú-Inka Phase. Notably, however, the strong adherence of

settlements to these fortified villages does suggest that the threat of conflict persisted throughout the phase even if it did have highs and lows.

But was the contested Upper Moche *chaupiyunga* landscape during the Chimú/Chimú-Inka Phase linked with the possible "contested *chaupiyunga*" borderland process described in previous chapters? Surely all of the ingredients for such a process were present in the *chaupiyunga* landscape: an explosion of demography, a massive increase in available cultivable land, ambiguous or incomplete *chala* authority, and a ubiquity of evidence for conflict. The *chala* landscape was similarly primed to be more susceptible to water shortages by the close of the Moche Phase (see Chapter 4.3.6.1; Appendix C; Appendix H). This susceptibility would have only increased with the canal expansions of the Chimú Phase but could have been easily alleviated with the eventual construction of the La Cumbre inter-valley canal (see Chapter 4.2.8.10). However, the subsequent political expansions of Chimor and the meteoric rise of Chan Chan after the 1200s CE would have also precluded any of the relatively tiny communities of the *chaupiyunga*, or possible highland allies, from presenting much of a threat (Chapter 4.2.8.7). This presents a small window, between 900 and around 1100 CE, during which this process could have played out: sometime after the dissolution of Galindo but before the nascent dynasties of Chimor had truly unified the *chala* and risen to regional dominance. During this window, the smaller communities settling the *chaupiyunga* could have disrupted water availability in the *chala* during times of drought and could have possibly contributed to *chala-quechua* tensions. Such tensions would have been even more pronounced if these communities were settled by families hailing from the neighboring highlands who could access alliances with the larger highland communities that could have come to their aid against a fractured *chala*. However, once Chan Chan had rose to dominate the valley below and the nobility of Chimor had expanded their authority up-river and to adjacent valleys, it seems unlikely that the *chaupiyunga*, or adjacent highlands, could have provided anything more than a periodic annoyance. Thus, a "contested *chaupiyunga*" process could very well have shaped the earlier centuries of the Chimú/Chimú-Inka Phase but any such scenario would have been short-lived and the nature of most conflict in the region was probably far more aligned with raiding and intimidation rather than any existential struggle between the *chala* and *quechua* over water access. There simply were not enough people in the *chaupiyunga*, or adjacent highlands, to present any manner of threat to Chan Chan until the entrance of the Inka Empire into the political area of the northern highlands.

In sum, the demographic boundary of the *chaupiyunga* during the Chimú/Chimú-Inka Phase witnessed a somewhat delayed response to the economic and political boundaries that had expanded during the Moche Phase. As Moche authority waned in the *chaupiyunga* landscape and the political boundary retreated to the confluence, new communities were settled that claimed older canals and expanded the old economic boundary even further. This transformed the sparsely occupied demographic periphery of the Moche Phase into one that had several communities that, though modest, were far larger than anything seen in that landscape before. Though it may have changed, the region would more-or-less remain a demographic periphery given it had far smaller populations when compared to neighboring regions or even the confluence and the Middle Moche Valley. The legacy of Moche authority and colonization at Katuay also likely shaped the subsequent cultural boundary of the Chimú/Chimú-Inka Phase: with coastal/*chala* assemblages dominating the communities in and around the confluence. Further up-river, the newer communities of the *chaupiyunga* proper had far more diverse assemblages that assumedly correlated with more diverse connections to the highlands and coast/*chala*. The political boundary of the *chaupiyunga* during the Chimú/Chimú-Inka Phase seemed to map onto this same cultural boundary: with Chimú authority being most apparent at the confluence and increasingly ambiguous and unclear as one moved up-valley. This same political boundary was prone to conflict that likely took the form of raiding or intimidation by larger neighbors: be they nobles of Chimor or any of the fortified communities of the Otuzco or Carabamba Highlands above. Even so, the communities inhabiting this political boundary had access to ample land and water that they could mobilize to pay tribute to their larger and more powerful neighbors in order to secure their tenuous place in the landscape.

10.0 LEGACIES IN THE LANDSCAPE: THE *CHAUPIYUNGA* BORDERLANDS IN THE MOCHE VALLEY

10.1 Overview

The main goal of this dissertation was to better understand the Upper Moche Valley *chaupiyunga* as a borderland in prehistory and early history through describing and articulating some of the boundaries and boundary interactions that were bundled within it over time. I began in Chapter 2 by exploring a few of the ways in which historians, anthropologists, and archaeologists have constructed theoretical frameworks for understanding frontiers, borders, boundaries, and borderlands. With his focus on investigating processes through the lens of boundary interactions over time, I found that the borderland process framework as proposed by Bradley Parker was an excellent fit for the long-term study of the *chaupiyunga* borderland that was the goal of this dissertation. Such an approach required the investigation of the qualities and dynamics of geographic, political, demographic, economic, and cultural boundaries in a borderland region – in this case, the Upper Moche Valley *chaupiyunga* – over time. Specifically, my discussion of boundary dynamics showed that geographic, political, and demographic boundaries were some of the more influential boundary types in shaping borderland processes and were thus the main subjects of this study.

Chapter 3 was devoted to diving into the varying ways in which the Moche Valley *chaupiyunga* could be defined as a geographic boundary. A host of geographic analyses and data sources were marshalled for this purpose: from field compositions to ENSO-induced river overflow. All of these analyses helped us appreciate the nuance of how the Upper Moche Valley *chaupiyunga* landscape may have differed from the regions that border it. They also helped us gain an appreciation of the dangers and advantages that the geography of the *chaupiyunga* offered. Many of the insights gained from this chapter helped inform subsequent interpretations or strengthen later points. Most notably, however, the "contested *chaupiyunga*" borderland process emerged from these analyses as a possible process embedded in the unique geography of the

Moche Valley *chaupiyunga*. This process suggested that inter-regional conflicts over water, *coca*, and land were perhaps wound into the geography of this specific *chaupiyunga* itself.

Chapter 4 provided a thorough exploration of the prehistory and history of the Moche Valley, its *chaupiyunga*, and parts of the broader Andes. This was done with the intention of clarifying the political and demographic landscapes of the *chala* and *quechua* of the Moche Valley while facilitating for the comparison of these landscapes with those of the *chaupiyunga*. Only by doing this could the *chaupiyunga* be assessed as a demographic and political boundary in the past. A review of some of the early historical documentation in the region helped provide more vibrant color for some of the complex political and demographic landscapes and arrangements that were recounted in some of the *chaupiyungas* of the Andes. These documents also gave us a better understanding of the nature of *chala* political authority while also extending our narrative of the Moche Valley *chaupiyunga* into the centuries of the Viceroyalty of Peru. Emerging from this broad synthesis of regional literature was an appreciation of the depth of time during which the Upper Moche Valley *chaupiyunga* could have been a borderland. It also pointed us towards some of the different boundaries that were wound into such a characterization. Specifically, the rise of the Moche *huaca*-polities and the later Kingdom of Chimor stood out as two likely mechanisms for borderland processes that may have shaped the *chaupiyunga*.

Attempting to bring the many data and questions posed in these previous chapters together, Chapter 5 presented the methodology that I followed for (1) the pedestrian survey of PARFAM in 2017, (2) the subsequent ceramic analyses in 2018, and (3) the varied spatial analyses that I used to reconstruct past landscapes. These analyses were all focused on better understanding the Upper Moche Valley *chaupiyunga* as a political, demographic, cultural, and economic boundary over the three millennia (~1600 BCE – ~1600 CE) and the four chronological phases that could be traced with the ceramic material collected in my survey.

Chapters 6 through 9 explored the landscapes of each of these phases: tracing how the survey area of the Upper Moche *chaupiyunga* transformed as a borderland over time. Though interpretations of demography were difficult for the Guañape Phase (~1600 – 500 BCE), the unique orientations of the *huacas* of the confluence suggested that the *chaupiyunga* was perhaps a political or cultural boundary that bordered analogous *huaca* traditions that defined the *chala*

below. These *huacas* tied the sparsely settled *chaupiyunga* landscape together while the unique Huaca la Divisoria called to a *tinku* at a broader regional scale: bringing the *chala*, *chaupiyunga*, and adjacent highlands together in one part of the landscape. Though such unions are somewhat speculative, we can securely say that the *chaupiyunga* was a demographic and political periphery to a far more densely settled and *huaca*-laden *chala* below during this phase. The Salinar Phase (~500 – 1 BCE) saw this previous "unity" around the *huacas* of the confluence crumble as the region became a contested political boundary that remained an only lightly settled demographic periphery. Importantly, there were simply not enough people or canals in the *chaupiyunga* for the conflict of the Salinar Phase to have been driven by the "contested *chaupiyunga*" borderland process suggested in Chapter 3.

The Gallinazo and Moche Phases (1 – 900 CE) saw profound transformations in the *chaupiyunga* landscape: with the political and cultural boundaries between the *chala* and *quechua* becoming far clearer and shifting across the confluence and broader *chaupiyunga* over time. The expansion of Moche political authority into the region proved to be a potent driver for the expansion of the cultivated economic boundary: confirming the influential role of political boundaries in shaping others. However, the nature of the authority built at canal-*huacas* and *huaca*-towns precluded the demographic boundary from going upstream and the *chaupiyunga* remained a sparsely occupied demographic periphery. Finally, the Chimú and Chimú-Inka Phases (900 – 1500s CE) saw a ubiquity of fortifications and defensive settlement that suggested the *chaupiyunga* was a hotly contested political boundary. This was contemporary with changes in the region from a demographic periphery to more of a demographic boundary: an influx of new communities were settled in the *chaupiyunga* while the confluence witnessed subtle depopulation. The authority of the Kingdom of Chimor in the region was strongest at the confluence but remained ambiguous in the *chaupiyunga* beyond. Though the "contested *chaupiyunga*" borderland process proposed in Chapter 3 could have played out during the Chimú Phase, it would have had to occur during the earlier centuries of the phase before the consolidation of Chimor. There simply were not enough people in the *chaupiyunga* to have proven a threat to the more populous communities and polities of the *chala* below if they were unified.

In this final chapter, I begin by revisiting some of the questions presented in Chapter 1 while presenting a brief outline of the broader conclusions of this dissertation. Following Parker,

I then move towards a lengthier narrative style description of the borderland processes wound into the *chaupiyunga* landscape. As part of this longer discussion, I also then explore several particular legacies left in this landscape and how they shaped its prehistory. I conclude the dissertation by bringing us back to the present: discussing the modern *chaupiyunga* as a borderland, pointing out several of the shortcomings of my work, and presenting some directions for future work in the Moche Valley, *chaupiyungas*, and borderlands more broadly.

10.2 Returning to Research Questions

We can now return to my initial research questions and see to what degree they were addressed with the geographic, legacy survey, historical, and PARFAM survey data that were collected and analyzed throughout this dissertation. It is important to note that many of these questions are addressed again in far more detail in a subsequent section (Chapter 10.4) but are summarized here more succinctly. Beginning with the broadest level of inquiry:

(1) When and how could the *chaupiyunga* be classified as a demographic, political, economic, and/or cultural boundary or periphery? (2) How did these boundaries change over time? (3) What boundary interactions may account for these changes?

To start, the boundaries bundled within the *chaupiyunga* clearly changed over time, so it is easiest to begin with the earliest Guañape Phase (~1600 – 500 BCE) landscape. This landscape was less readily identifiable as having any boundaries *per se* and could be more easily identified as being peripheral: the earliest *huacas* were at the edge of much larger developments downstream and the earliest *chaupiyunga* populations were far smaller to the larger settlements downstream. Huaca la Divisoria emerged as a possible example of *chaupiyunga* communities building a *tinku* between the highlands and *chala* but not enough is known about the highland side of that equation to be sure at this point. This status as a demographic – and likely political – periphery continued into the Salinar Phase (~500 – 1 BCE) even as the old *huacas* that unified the landscape were abandoned. Increased settlement in defensible locations and the construction of fortifications both point towards conflict being an important and influential part of this landscape. Though such evidence does appear more often in the survey zone and other *chaupiyungas* in the Moche Valley,

the widespread nature of conflict during this time downstream and in other valleys towards a broader process at play that isn't necessarily inherent to the *chaupiyunga* borderlands. Conclusions regarding this phase suffer from the same issues as those for the Guañape Phase: not enough is known about the highland side of the borderland equation during this time.

It is only during the Gallinazo and Moche Phases (~1 – 900 CE) that the Moche Valley *chaupiyunga* very clearly can be classified as a demographic, political, economic, and cultural boundary and not just a periphery. A series of demographic movements during the Gallinazo Phase (~1 – 400 CE) brought highland colonists into the *chaupiyunga* and made the region a cultural and political boundary between highlanders and those from the *chala*. Thus, the shifting demographic boundaries in the region were instrumental in creating cultural and political boundaries. The Moche Phase (~400 – 900 CE) saw the establishment and expansion of the Moche *huaca*-colony at Katuay that then shifted the cultural and political coastal-highland boundary further back up-valley and into the *chaupiyungas*. In this case, the expansion of a political boundary shaped the others and even expanded the economic boundary of cultivated land much deeper into the *chaupiyungas* than it had been before. Even through all of this, however, the *chaupiyunga* was still a relatively sparsely occupied demographic periphery to much more densely occupied *chala* and highland landscapes on either side.

Finally, the Chimú and Chimú-Inka Phases (~900 – 1550s CE) saw another shift in these many boundaries bundled upon the Moche Valley *chaupiyunga* and its final infilling with more permanent villages. Another burst of colonization of groups from the highlands into the *chaupiyunga* led to the establishment of several frontier villages which occupied a risk-laden political boundary between the Kingdom of Chimor and smaller, but belligerent, kingdoms in the highlands above. It is possible that the settlement of these *chaupiyunga* communities in the earlier centuries of this phase (~900 – 1200 CE) could have led to water shortfalls downstream and the eruption of intense coastal-highland conflicts within the *chaupiyunga*. However, such tensions clearly persisted throughout the phase, well into the Chimú-Inka Wars, and likely even through the rebellion of the 1500s CE. Unlike in the previous phase, however, the boundaries of this phase were less shaped by the transformation of any Chimú political boundary. The coastal kingdom was only indirectly exerting its authority in the region. Instead, the inherent geographic positioning of the *chaupiyunga* between the highlands and coast combined with the presence of new frontier

villages to result in a particularly volatile – and often violent – landscape of many overlapping spheres of influence and interest.

Moving now to the set of more detailed and *chaupiyunga*-specific questions:

(a) When and how did this region become a true coastal-highland demographic and cultural boundary as opposed to just a periphery of either? (b) How did the expanding political authority of the Moche or Chimú regimes transform or adapt to existing boundaries in the *chaupiyunga*? (c) How did these regimes differ in their approach to the *chaupiyunga* and/or how different were the *chaupiyunga* landscapes they contended with? (d) At what points did this region become contested and were any of the likely flash-points for conflict directly related to boundary interactions?

To begin, the *chaupiyunga* could be said to truly have become a coastal-highland demographic and cultural boundary during the Gallinazo/Moche Phase. Specifically, the influx of highland colonists during the Gallinazo Phase marked the first time that mixed assemblages were recorded and pointed towards the *chaupiyunga* being a boundary rather than just a periphery. This insight was more-or-less known from previous research but the long-term perspective of this dissertation did complicate the picture a bit. I found that some of the communities with mixed assemblages were likely holdovers from the previous Salinar Phase: indigenous *chaupiyunga* communities that either used mixed assemblages or accepted new members into the community. All subsequent phases saw this region as a cultural boundary as well: an influx in coastal settlement occurred during the Moche Phase while another highland wave of colonization occurred during the Chimú Phase. This being said, the upper parts of the *chaupiyunga* remained as a demographic periphery throughout most of prehistory and only saw substantial settlements – larger villages and towns – during the Chimú/Chimú-Inka Phase.

While the expansion of Moche authority into the *chaupiyunga* transformed the landscape considerably, the Chimú had a far more hands-off approach. The entrance of the Moche into the *chaupiyunga* began with the establishment of the *huaca*-colony of Katuay which immediately exploded into being the largest town in the area. Meanwhile, several canal-*huacas* up-valley were built to take advantage of the ample cultivable land and feed the growing centers down-stream. The transformative quality of Moche authority in the *chaupiyungas* may have been – in part –

because the landscape that Moche people and polities entered was far more sparsely occupied. The areas around the new *huaca*-colony at Katuay or the canal-*huacas* further up-valley only had small hamlets or ephemeral camps that preceded them. The Chimú basically built off of previous nodes of Moche authority but did not expand much further: agents or affiliates of Chimor constructed a rural palace at Quebrada de Katuay and likely subsidized the grand fortifications at the confluence. Further up-valley a possible colony at Cerro los Chiles and a possible smaller palace and outpost were likely residues of Chimú authority in a chaupiyunga otherwise dominated by four frontier villages that were already settled by the time the Kingdom of Chimor had truly risen to power. Here we can see one possible reason for the more hands-off approach taken by the Chimú regime: the landscape was already more-or-less settled by the time they rose to power. In the interest of not igniting conflicts with highland allies or affiliates of any of these *chaupiyunga* villages, perhaps a more cautious and less overt approach of influencing the region was adopted by Chimú nobility and the royalty they eventually answered to.

Finally, there were two broader phases during which the *chaupiyunga* appears to have been a contested zone: the Salinar Phase and the Chimú/Chimú-Inka Phase. The conflict of the Salinar Phase appears far more wide-spread and present in adjacent regions and was thus not as clearly associated with the status of the *chaupiyunga* as a borderland. Conversely, evidence for conflict during the Chimú/Chimú-Inka Phase was far more intense along the *chaupiyunga* borderlands than elsewhere in the valley. In the earlier centuries of this phase, the inter-regional conflict predicted by the "contested *chaupiyunga*" hypothesis could very well have been shaping the landscape but only as long as the Kingdom of Chimor had not fully unified the *chala*. The conflict of later centuries was likely linked to the area being a political boundary between many overlapping – and often incompatible – claims of authority over *chaupiyunga* lands and peoples themselves. The many dispersed camps and ephemeral occupations observed in the area do point towards attempts to diffuse such tensions but the ubiquity of fortifications and defensive settlement show that these and other attempts likely failed quite often. The result was a landscape full of opportunity and danger for the people and polities of the *chala*, *quechua*, and *chaupiyungas* alike.

10.3 Politics, Geography, and Long-term Trajectories

Zooming out from a focus solely on borderlands, here I identify three additional insights gained from this dissertation on (1) ancient politics, (2) the limits imposed by geography, and (3) the importance of looking at long-term trajectories.

Beginning with politics, this dissertation presents yet another example of how the political traditions that many would call "empires" do not necessarily shape landscapes in more profound ways than "states". Instead of these categories, the nature of expansion seems far more dependent on how exactly different traditions were building authority in landscapes, what tools political actors had at their disposal, and what landscapes were being confronted. Moche *huaca*-polities – what many call states – often expanded their authority through the founding of new noble lineages that carried followers with them to colonize and transform a landscape to meet their needs. This was true in the case of the Upper Moche Valley *chaupiyunga*: the founding of the *huaca*-colony of Katuay inserted a new demographic center in the region and led to political and agricultural expansions at the canal-*huacas* up-valley. Meanwhile, the Kingdom of Chimor – what many would call an empire – was often more focused on incorporating older communities into their vast network of authority and was less interesting in creating and colonizing new communities. This too seemed to be the strategy taken by Chimú nobility or royalty in their engagements with the already-settled *chaupiyunga* landscape to their east: a border was established and fortified at the confluence but most local communities were more-or-less left in place. Obviously, variability existed within both of these traditions and my case-study from the *chaupiyunga* is just one example from the many contexts and landscapes that the ancient people who shaped these political traditions engaged with. Though useful in broad comparative exercises or as teaching tools, I have found that categorical approaches to describing political traditions (e.g., states, empires, etc.) seem wholly inadequate at truly capturing the variability we have recorded between and within the political traditions we study.

This dissertation also shows how important geography can be in the trajectory or history of humanity in certain regions. Pages of writing and analyses were expended in Chapter 3 to show how the geography of the *chaupiyunga* lent many advantages to those who settled its hills: first access to water, excellent conditions for cultivation (and *coca*), strategic positioning for coastal-

highland exchange, a valley floor resistant to ENSO overflows, and many other boons benefited the region. Despite all of these advantages, I ultimately believe the *chaupiyunga* was lacking the space to support the most advantageous resource of all: people. Compared to the adjacent regions of the lower valley or the highlands, the *chaupiyunga* simply could not support massive population centers because communities were limited by the much smaller amount of cultivable land at their disposal. This simple feature likely pre-disposed this region to the peripherality it constantly was assigned in prehistory and – in many ways – still experiences today. People are power and the *chaupiyungas* have a relatively short supply of the former. It was often only through wily negotiations with more powerful neighbors could these communities succeed. Though exceptions can often be found and argued to thwart away environmental determinism, the realities of certain environmental settings or situations are eventually something that peoples and polities do have to contend with sooner or later.

Finally, the most important insight lent by this dissertation is the importance of looking at longer-term trajectories when attempting to understand everything from individual sites to larger regional developments. When I first proposed this dissertation to my committee and then the National Science Foundation, it began as a simple comparison between Moche and Chimú political strategies in a borderland region. However, as I became more and more familiar with the dataset and the landscape, it became apparent that neither could be understood without first knowing what came before. How could I do justice to the rise of Katuay without an understanding of the previous importance of the confluence and the lack of prior settlement in that particular area? How could I understand the settlement of the first villages in the upper *chaupiyungas* without first understanding how Moche canal-*huacas* were built to expand cultivation of the areas? The legacies left in the landscape by those who came before would often – if not always – shape the lives and futures of those who came after. Engaging with the depth of time in specific places – whether through settlement or vision – allowed me to begin to detangle these legacies instead of simply assuming each phase was a discrete temporal object independent of what had come before. This primacy of the past was the reasoning for the title of this dissertation: the legacies that people and polities left in the *chaupiyunga* landscape were often what shaped the borderlands more profoundly than any specific event, political tradition, or geographic feature.

10.4 A Narrative of Borderland Processes in the Upper Moche *Chaupiyunga*

Following Parker, I have also found it useful to take a more narrative approach to describing the borderland processes and boundary interactions that were identified. Such a narrative is what I offer here. From the beginning, the confluence immediately emerged as a persistent political and demographic hub bordering a more sparsely settled *chaupiyunga* upriver and a densely occupied and politically related *chala* downstream. The Guañape Phase *huacas* of the confluence mark the beginning of this trend: built with orientations and positionings that called to the alignments of the river and confluence itself. The viewsheds offered at Huaca Menocucho and Huaca La Divisoria were also built to give vision to adjacent landscape features and capitalize on the intermediate positioning of the area. Though locally central, the *huacas* of the confluence were still somewhat peripheral to the far larger *huaca* complex of Caballo Muerto down-valley in the *chala*. Thus, the starting point for the local demographic and political centrality of the confluence throughout prehistory was doubtlessly linked to its geographic positioning as a boundary. Poised at the likely intersection of coastal-highland and inter-valley corridors of movement for the more mobile communities of previous phases, this intermediate positioning of the confluence was memorialized in the *huacas* built there and the people who were gathered within and around them.

The confluence continued to be a central place during the Salinar Phase but the nature of the demographic and political boundaries of the region shifted. The previous "unity" offered by the *huacas* of the confluence was replaced by fortified walls and defensively positioned settlements. The up-river side of the confluence and the *chaupiyunga* beyond was probably along the more violent edge of this contested boundary: with most communities shoring up against shared external threats. Even through this turmoil, however, the direct legacy of several Guañape Phase communities and places persisted. The more-or-less continued occupation around Huaca Menocucho and Dos de Mayo show some traces of this continuity while the small community at Cerro Pedregal was built at the intersection of two ancient *huacas* that had overlooked the confluence before it. Though perhaps just an artifact of incomplete ceramic chronologies, the lack of fortifications at Huaca Menocucho could also imply that larger communities with more powerful pasts were somewhat sheltered from the more violent landscape just up-river. Even with

these changes, the confluence remained a central node within a comparatively sparsely occupied demographic boundary at the edge of a much more densely occupied *chala* with larger community clusters at Pampa la Cruz or Cerro Oreja. Thus, the *chaupiyunga* of the Salinar Phase may have been more violent and less "unified" but the demographic and political boundaries positioned upon it were still somewhat bound to those of more peaceful pasts.

This trend of centralization around the confluence reached its peak during the Gallinazo and Moche Phases even as the hints of future change were established in the *huacas* and communities up-river. An influx of highland migration across the broader Moche Valley *chaupiyungas* during the Gallinazo Phase brought with it new communities and traditions. This migration most visibly seen in highland domestic and corporate wares found at communities within the *chaupiyunga*. The use of such wares pointed towards the migration of families as well as the political traditions that bound them to each other and to parent communities in the highlands above. Though some of the smaller hamlets and camps were probably occupied and used by these highland colonists, the larger communities of the survey area had a more diverse blend of wares and were spatially linked to preceding communities of the Salinar Phase. In this way, the demographic landscape of the past continued to shape that of the present even through the clear transformation of the region into a cultural and political boundary between highland-, indigenous *chaupiyunga*-, and *chala*-based families, communities, and traditions.

The rise of Moche authority in the *chala* below brought the founding of the *huaca*-colony at Katuay: an event that simultaneously accentuated the trends of past boundary sets while bringing many changes that would shape the boundaries of the post-Moche future. This *huaca*-colony at Katuay held some echoes of the older Guañape Phase *huacas* in (1) its location on the confluence and (2) its connection to the surrounding *chaupiyunga* landscape through vision. However, these echoes prove deceptive upon further examination. The *huaca*-colony actually weakened the ties of communities like Cerro Jesus Maria to their Salinar, and eventually Guañape, Phase pasts. In fact, it is the absence of a previous and substantial community around Katuay that perhaps paved the way for the *huaca*-colony's exact location: no more than a few small hamlets preceded it. The way in which authority was being constructed and distributed in this landscape was also different from that of the Guañape Phase and was uniquely Moche. Canal-*huacas* at Huaca El Castillo and Huaca Poroto were built to connect *chaupiyunga* fields and, to a lesser extent, communities with

the nobility of the broader Moche world and probably Katuay at the confluence. This extension of Moche authority up-river brought with it the likely expansion of a new economic boundary of cultivation into the *chaupiyunga* with canal-*huacas* opening new tracts of land for cultivation on the hills above the floodplain. Finally, the expansion of Moche authority up-river brought *chala*-leaning ceramic assemblages and ties with it. This shifted the previously diverse cultural boundary up-river as the confluence became a solidly *chala*-affiliated zone.

Thus, the *chaupiyunga* borderland of the Moche Phase was superficially quite similar to those that had preceded it: the confluence continued to serve as the central node of regional demography and politics while the broader region was still very much a political and demographic boundary at the edge of the *chala*. However, the expansion of Moche political authority in this same landscape changed it in important ways. The political boundary with the *chala* was extended upstream while the cultural fluidity of the Gallinazo Phase gave way to more *chala*-dominated assemblages and communities. This same political boundary also extended the economic boundary of cultivation above the floodplain well into the *chaupiyunga* where previously such a boundary may only have been located at or just above the confluence. However, the nature of Moche authority at canal-*huacas* and *huaca*-towns precluded any demographic boundary from following such expansions: subjects could be gathered in the *huaca*-towns and be periodically dispersed to canal-*huacas* to tend noble fields. The degree to which boundaries synchronized or differentiated within this Moche Phase borderland can be seen as inextricably tied to how Moche authority was built and how it was bound to the landscape.

Finally, the Chimú and Chimú-Inka Phases saw the reversal of the trends towards demographic and political centralization around the confluence along with the reduction of *chala*-based political and cultural boundaries up-valley. Conflict and contestation ravaged this landscape, cleaving it in two even as both sides remained bound to Moche pasts. At the confluence, *chala*-affiliated communities remained somewhat tethered to their Moche predecessors while submitting to the political authority of the Kings of Chimor as they rose to regional dominance in the *chala* below. The nobility or royalty of this *chala* Kingdom shaped the political landscape of the confluence considerably. Associated nobles built a rural palace that expanded upon the older Moche canal at Katuay and later built a palace upon the mountain above to overlook much of the confluence and the *chaupiyunga*. The idealized bounds of this *chala* authority were even given

physical form with the large walls built to connect Cerro Katuay and Cerro Jesus Maria. Just up-river, the likely colony of Cerro Los Chiles sat as the last bastion of this unambiguously *chala*-dominated landscape: built upon the ruins of an older community with which it shared no bond but a contested past.

The *chaupiyunga* up-river saw a burst of newer communities with more diverse assemblages that suggested more diverse affiliations tying the families of these communities both to the *chala* below and the *quechua* above. Lacking ties to older communities like their *chala* neighbors down-river, these communities were instead tied to the expanding economic boundary enacted through the expansion of Moche authority built at canal-*huacas*. While separating themselves from the canal-*huacas* and whatever Moche authority they represented, these communities co-opted and expanded upon the old canals for their own benefit. Though these local communities surely benefited from the resulting expansion in cultivable land, its productivity was probably still tied to the *chala* Kingdom of Chimor or the larger highland communities and fiefdoms to the east. Securing survival at the edge of more populous and powerful neighbors would have likely come with its price. The outposts of Cerro Poroto and Cerro El Brujo stood as monuments to these larger histories at play. The titanic clash of the royal families of Cuzco and Chimor and their corresponding networks of authority bringing more chaos and uncertainty to an already chaotic and uncertain life.

Thus, the *chaupiyunga* borderlands of the Chimú and Chimú-Inka Phase held legacies of the Moche Phase past but most of the boundaries sets within these borderlands had transformed entirely. The collapse of Moche authority was contemporary with an explosion of conflict that created a contested boundary that was likely political but amongst a variety of actors from the *chala*, *chaupiyunga*, and *quechua* alike. The political boundary of clear *chala* influence retreated back to the confluence where it was re-enforced with a rural palace of Chimor and large fortified walls. This more clearly defined political boundary was synchronized with a cultural boundary that separated more chala-affiliated communities with the more diverse affiliations of those communities up-river. The region remained a demographic boundary at the edge of a far more densely occupied *chala* but the newly settled communities of the *chaupiyunga* proper did curb the previous trend towards more centralization at the confluence. The expansion of this element of the

demographic boundary was surely bound to the contemporary expansions of the economic boundary of cultivated lands: people, fields, and canals were bound together.

10.5 Legacies in the Landscape

Emerging from this discussion, we can see how Parker's borderland processes can be reimagined as legacies in the landscape. These chains of interactions and outcomes were often bound to and inseparable from the places they occurred: with scales ranging from the *chaupiyunga* as a whole to the slope of a single mountain. The vaguest legacies were those bound to the broader geography of the region. The geographic positioning of the confluence was doubtlessly why it was so unrelenting as a locus of demographic and political centralization. It seems inevitable that this meeting of rivers and multiple corridors of movement so consistently brought people together around such a specific locale. The geographic positioning of the *chaupiyunga* between the *chala* and *quechua* was also pretty obviously why it was so consistently a boundary between the peoples and polities of either. These boundaries may have shifted up- and down-river with the tides of whatever time they were in, but the place between or on the peripheries was very consistently the *chaupiyunga*. Finally, the geographic limits of cultivable land in the *chaupiyunga* were almost surely why it was never as heavily populated as its much larger neighbors. A simple lack of ample space to cultivate and live seems to have fated this region to be a demographically sparse boundary, a trend that persists even in modern times. These broader legacies left by geography had, and still have, important consequences for those who decide to call the *chaupiyunga* home.

The more specific legacies left by people themselves were no less consequential in shaping these *chaupiyunga* borderlands in prehistory. These legacies can be traced through the demographic, political, economic, and cultural boundaries as they were wound together over time upon the *chaupiyunga*. Some features of the demographic boundary of the region seemed to perpetuate themselves: the location of past communities could often have a bearing on those that would follow. Though the *huacas* of the Guañape Phase faded in their importance, the legacies of some of their associated communities can be traced for nearly three millennia. At the confluence, this legacy was observed through the continued tethering of subsequent communities to one

another: as the Chimú Phase hilltop community at Cerro Jesus Maria could ultimately be traced back to the Guañape Phase community around Huaca Menocucho. But were these communities building off of one another or was the confluence simply just a good place to live? I suspect a bit of both, but also that the *huacas* of the Guañape Phase themselves may be giving us hints towards an even more complicated answer. If these *huacas* indeed were linked to ancient canals then perhaps these canals themselves would have provided an additional anchor onto which communities could tether. Subsequent communities may have built upon or expanded these old canals of the confluence even as the older *huacas* at the intakes became less central to claiming the water that flowed below. This would imply that the observed demographic continuity represents a complex interaction between expanding economic and political boundaries as well.

Somewhat clearer are the varying legacies left by the Moche and Chimú political traditions as they were expanded and projected into the *chaupiyunga*. These traditions themselves were quite different, as were the landscapes they expanded into. The expansion of Moche authority into the region was an event that carried a lasting impact in the demographic, political, economic, and cultural boundaries of subsequent phases. The founding of the *huaca*-colony at Katuay had direct bearing on the persistence of *chala*-affiliated authority and settlement at the confluence, but this founding was itself was not necessarily unique to the *chaupiyunga*: it was simply an outcome of how Moche politics worked in the Moche Valley. As communities and noble families splintered off from the larger *huaca*-polities downriver, they brought *huaca*-colonies with them into the more sparsely settled places in the landscape. Katuay proved an excellent locale for a *huaca*-colony to be founded: (1) it lacked a substantial prior occupation, (2) it offered an ideal location for a canal and fields that spanned further down-river, and (3) it was positioned at an assumedly important corridor for coastal-highland movement. The expansion of Moche authority also meant the construction of several canal-*huacas* even further up-river: demographically isolated stages of authority where Moche nobility could claim the productivity of newly-constructed canals and fields. This unique arrangement led to the expansion of an economic boundary of cultivated lands but without a large demographic expansion to follow it.

Even as the influence of the Moche political tradition waned, the legacies it left in the landscape continued to shape future boundaries. The expanded economic boundary of cultivation eventually fell out of the direct authority of *chala*-based nobility: dissolving the hold that this

authority had on demographic expansion within the same region. The resulting wave of colonization into this landscape saw a host of communities that seemed to have co-opted and expanded these relic Moche canals while eschewing nearby canal-*huacas* and the *chala* authority they represented. As more new communities were settled, the economic boundary of cultivation in the landscape expanded to extents that eventually far surpassed their Moche predecessors and were not witnessed again until modern times. The families who settled these communities showed a diversity of coastal/*chala* and highland ties that suggest diverse backgrounds and compositions: a stark contrast to the heavily *chala*-leaning ties of their contemporary neighbors down-stream at the confluence. However, these communities at the confluence were similarly shaped by Moche pasts. The old *huaca*-colony at Katuay persisted as a *chala*-affiliated political and demographic center in the area even as the community itself shifted uphill and became more directly tangled within the networks of authority cast from the Kingdom of Chimor.

More generally, the expansion of Chimú authority into this landscape appeared less about creating new boundaries and more about managing, or attempting to reinforce, existing ones. The rural palace at Quebrada de Katuay was likely associated with an expansion of the old Moche canal in the area by a Chimú or Chimú-affiliated noble. Given that this canal would have also served the larger community of Katuay, the community itself probably had a Chimú-affiliated noble and/or owed obligations of labor to a noble family from Chan Chan. The construction of the larger walls that possibly crossed the valley floor to connect Cerro Katuay with Cerro Jesus Maria were simultaneously an attempt to reinforce this space as a boundary of Chimú authority while acknowledging the more fluid political, demographic, and cultural boundaries beyond. However, these walls were little more than echoes of a legacy with Moche origins. Past the confluence, all of the newer communities in the landscape surely had some affiliation to Chimor but the presence of direct Chimú authority was sparse and targeted more at monitoring movement than controlling it.

Even the conflict and contestation that defined this landscape for centuries was just as related to the expansion of Chimor as it was to the economic expansions of *chaupiyunga* communities. Some less existential version of the "contested chaupiyunga" process could have occurred within the fractured post-Moche landscape, as varied *chala* communities and polities could have struggled with the highland-affiliated *chaupiyunga* settlements that were drawing more

and more precious water up-river. However, such a struggle would have only lasted as long as the *chala* remained divided: the Kingdom of Chimor would have had more than enough people to overwhelm any *chaupiyunga* or highland neighbors. The persistence of conflict in the region was also probably somewhat structured around raiding and predation of the *chaupiyunga* by larger neighbors. Though the embattled communities of the *chaupiyunga* had access to ample land to provide tribute or bribes, such arrangements were probably flexible and highly dependent on the chaotic political landscape of the local highlands or the broader interests of the nobles and royalty of Chimor. In fact, the indirect nature of Chimú authority in the region could very well have been intentional: a commitment to avoiding getting embroiled in highland conflicts and/or an allowance of affiliated nobles to deal with such conflicts on their own. The larger struggles between Chan Chan and Cuzco may have finally prompted a more structured attempt at managing this boundary. This being said, these small frontier communities would have been ill-equipped for the massive armies that could have been mustered for such conflicts and instead the focus of Chimor seems to have been more on surveillance and warning.

In sum, these varying legacies in the landscape serve as guides that can lead us through borderland processes as they shaped the prehistory of the *chaupiyunga*. The geography of the region likely predisposed this landscape towards being a sparsely occupied demographic boundary, a chala-*quechua* cultural and political boundary, and a fluid economic boundary. The communities and polities who grappled with these limitations brought their own legacies: legacies that went on to shape this landscape even further. Communities often served as anchors for subsequent settlement, a relationship possibly mediated through the productivity of canals and associated fields. The lasting legacy of Moche authority throughout the *chaupiyunga* varied with the variation of how such authority was expressed. At the *huaca*-colony of Katuay, this led to the continuity of older boundaries as the community persisted as a local demographic and political center. At the canal-*huacas* at Huaca El Castillo and Huaca Poroto, this led to the creation and expansion of new boundaries as new and diverse communities took over old canals. The legacy of Chimor in this same landscape was far less clear, and those places where it was clear were mainly shaped by Moche legacies. The rural palace and large wall around the confluence were grafted upon a part of the landscape with a long history of *chala* affiliations. Past this point, communities seemed to have been left to their own devices even as they likely used their ample lands to provide some manner of tribute to Chimor. Even here, these ample fields and diverse communities could

trace their own positions in the landscape back to the canal expansions pioneered by Moche forbearers. Within these legacies we can see how demographic and economic boundaries tend to be intertwined as repeated entanglements between communities and canals in the area proved to be long-lasting. Moreover, we can see that the expansion of political boundaries can have lasting effects on demographic and economic boundaries even long after specific traditions of political authority themselves fade.

10.6 A Persisting Borderland

The modern communities and families who call the Moche Valley *chaupiyunga* their home continue to inhabit a borderland. This landscape witnessed centuries of Spanish authority, the political consolidation of the Viceroyalty of Peru, and the many iterations of the sovereign polity that would grow into the modern Republic of Peru. The historical processes bundled into these centuries doubtlessly shaped the *chaupiyunga*: the boundaries within it shifting and changing with new regimes, technologies, and traditions. Even so, there are some threads of continuity that connect past and present borderlands.

Politically, the *chaupiyungas* of the Moche Valley make up their own districts but some are still within the larger province of Trujillo based in the *chala* below. Two of these districts, Poroto and Simbal, are based in the *chaupiyunga* towns of the same names and have administrative extents divided around the La Cuesta Valley: spanning from the edges of the Otuzco and Carabamba Highlands all the way to the final confluence of the Moche River. The districts in the highlands above are administered within different provinces, Otuzco and Julcan, and thus put the *chaupiyunga* districts of Poroto and Simbal at the political boundary between the Trujillo province and its highland neighbors. The confluence itself and the lands down-valley are under the administration of the district of Laredo based in the *chala* town of the same name. This urban "town" lay just beyond the gates of the Moche Valley and within a short walk of the ruins of Galindo and Caballo Muerto. Thus, even within the province of Trujillo, Poroto and Simbal stand out as the only districts and towns without political centers in the *chala*.

Demographically, the *chaupiyunga* is less populated than neighboring regions but far more similar to the districts of the neighboring highlands than to those in the adjacent *chala*. In the 2017 census, the districts of Poroto and Simbal were recorded as housing 3,586 and 4,061 people, respectively. Most of the modern towns of these *chaupiyunga* districts have no more than 100 or so people but the vast majority of *centros poblados* had no more than a few dozen people. Even the "larger" capitals of Simbal and Poroto only house 874 and 769 people, respectively. These figures can be compared with the tens, even hundreds, of thousands of people packed within the more urban cities, towns, and neighborhoods of the *chala* below. The more "rural" districts of Laredo or Moche do have some smaller *centros poblados* within them, but the larger towns at their centers each house over 20,000 people. Looking to the highlands, the demographic landscapes are more varied and can be somewhat more similar to the *chaupiyunga*. The larger district of Otuzco has an urban center housing a little over 10,000 people but most of the other districts (e.g., Julcán, Carabamba, etc.) have far more modest towns of several thousand at most. Thus, the *chaupiyunga* represents a more lightly occupied demographic boundary between the *chala* and *quechua* but holds far more similarities with the latter rather than the former.

The degree to which we can call the *chaupiyunga* a cultural boundary is difficult to assess without a devoted research program. Though perhaps more demographic than cultural, I can offer a few anecdotes about migration from my two years in Casa Blanca. Many of my neighbors had deep connections with the local, and rural, highlands and traced their family ancestry back to nearby highland towns where relatives still lived. These family ties often brought them to distant highland towns for important events and the occasional odd job. Meanwhile, it was not uncommon that the adult children of some of these same families moved to Trujillo, or one of its many outlying neighborhoods, in search for employment and opportunity. These individuals periodically return to the *chaupiyunga* for larger community events, funerals, and marriages but seldom come back for good. There are always exceptions, but most of this inter-generational movement inevitably led to Trujillo and the opportunity for upward economic mobility offered by larger urban centers. Even the census data seem to suggest that the region loses just about as many inhabitants as it gains: the census count of Poroto in 2007 recorded 15 more people than that taken in 2017. Thus, we could perhaps say that the modern *chaupiyunga* sits as a sort of inter-generational staging ground for highland/rural families: with some family members staying, while others move to the *chala* and the urban centers that give it promise.

Figure 10.1 Photo of the Upper Moche Valley *Chaupiyunga* taken by Neil Alvarado McCallum

The economic boundary of the modern *chaupiyunga* similarly reflects such fluidity. Positioned closer to the wealthy urban centers and robust transportation networks of the *chala*, some *chaupiyunga* families stay in the region but use it as a staging area to find work down-valley. The degree of mobility adopted in the ever-vital search for work could often be extreme. Several of my neighbors in Casa Blanca worked for agricultural conglomerates as far away as the Virú Valley: picked up by company buses in Poroto in the early hours of the morning to work long hours on minimal pay. Others were similarly mobile but within the local landscape: working at distant *chacaras* one day while doing paid work in nearby sugarcane fields the next. Buses and cargo trucks fill the main roads of the *chaupiyunga* as goods and people pass through the landscape on their way to or from the highlands or coast. While travelers and truck drivers may stop to stretch their legs, buy a bag of *coca*, or enjoy some of the sweet pineapple grown on *chaupiyunga* hills, they seldom stay. Even so, the beauty of the landscape and its climate are not lost on those who become familiar with it (see Figure 10.1). A modest amount of tourism is supported by the more isolated bungalows, small amusement parks, and country homes frequented by *chala* families seeking respite from the bustling haze of Trujillo. The wide green lawns, sparkling swimming

pools, and intimidatingly high compound walls of several country estates owned by the wealthier Trujillo-based families stand in stark contrast to the more modest residences of those who live full-time in the *chaupiyunga*. Such elaborate residences are all but empty shells for most of the year, maintained only by local relatives or families that are paid by their distant and wealthy patrons.

There are surely echoes of the past in this present I've described. A politically distinct *chaupiyunga* dominated by a more distant *chala* political authority. A rural countryside with only a few towns and hamlets at the edge of urban centers downstream. Communities with migrant families hailing from adjacent regions. A fluid economic landscape in which people traveled, or were moved, great distances to toil in fields for their own benefit or the benefit of distant and powerful institutions. Bustling movement corridors through which goods and people could travel between the highlands and the coast. Empty but elaborate country estates of the wealthy elites living in larger centers. At least some of these common threads must be more than echoes. Some must have legacies that future research could trace more directly to past peoples and landscapes.

10.7 Looking Forward

Thinking of all that still can be improved, refined, learned and discovered about the prehistory and history of the Moche Valley and its *chaupiyunga*, I am reminded of Rowe's lamentation on Chimor: "We have only done enough to catch a glimpse of our own ignorance." (Rowe 1948: 56)

In terms of this dissertation and the research objectives of PARFAM, this study could be improved by expanding its spatial scope, engaging with more detailed drone data, and obtaining better excavated data on chronology. Starting with scope, the survey area clearly straddled the confluence and thus only was capturing the upper part of whatever larger patterns were being noticed. Both the complex at Huaca Menocucho and the *huaca*-colony at Katuay would have likely continued down-stream in their influence and scale and including such areas are vital to understanding either. This issue of scope can also be applied to the chaupiyungas: the majority of the Upper Moche Valley remained out of this survey area and still remains to be recorded. Perhaps larger Guañape, Salinar, or Gallinazo/Moche Phase settlements exist in this area and are simply

waiting to be discovered to show a more substantial occupation of this zone? Fortunately, the future goals of the MVSD should ameliorate this issue of spatial scope as I unify my own dissertation data with the rest of the database and begin to expand my survey project into the Carabamba and Otuzco Highlands. Part of this unification process will also be more statistical analyses that will finally be appropriate because of the larger dataset available: such analyses did not make sense in the context of my dissertation work solely because I the region I was studying so clearly extended down-valley into areas covered by Billman's 1990 survey.

In the PARFAM survey area and Billman's 1990 survey area, a completion of the drone mapping program will permit for a host of new analyses and understandings. At fortified communities, analyses of defensibility can help us understand the degree to which they may have differed and how such differences may be reflective of community size or composition (McCool 2017). Additionally, discrete or related architectural traditions could be recognized and correlated with different time periods and populations with which they were correlated. These architectural data could also offer insights when compared to the occupational densities suggested by surface sherd densities: just because houses or domestic terraces were built doesn't mean they were all full-time residences. To this end, a program of test-pit samples across the many different communities identified in these survey areas would help us greatly in understanding (1) discrete occupational histories and (2) obtaining a more fine-grained chronology of community occupations. These are tasks that will be associated with future MVSD work.

Looking beyond the *chaupiyunga*, the Moche Valley is in desperate need of a more complete and detailed ceramic chronology than the rather crude one I offer here (Appendix A). Such an endeavor will require the collaboration of regional specialists and the integration of more than just the fancier pottery that is often the subject of publications and scholarly debate. Combined with the survey data collected by the CC-MVP, Billman, and myself, such a chronology would allow for a more nuanced re-appraisal of settlement patterns and political traditions in the Moche Valley. Even in the course of me writing this dissertation, the available information on Guañape and Salinar Phase pottery expanded considerably thanks to the work by Gabriel Prieto in the area in and around Huanchaco. Given the burst of projects using modern methodologies in the region, I suspect we are at the cusp of having a far more nuanced and detailed ceramic chronology specially tailored for the Moche Valley and its *chaupiyungas*.

More generally I think that borderlands and landscape perspectives should be explored by more scholars who study ancient polities, especially those in the Andes. Every part – except maybe the core – of an empire or a state started as a political boundary at one time or another. These boundary areas were the forges of the empires and states that expand into and incorporate them. Once this is recognized, we see that any study of political dynamics is ultimately a borderland study. Along these lines, a landscape perspective is absolutely as vital to understanding ancient polities as it is to understanding modern ones. How could someone hope to understand the byzantine complexity of the American political system just by excavating in and around Washington D.C. or any given state capital? This core-centric tendency is particularly endemic amongst *Mocheologo/as*: many scholars are inevitably drawn to the largest *huacas* rather than looking at the landscape as a whole. A polity cannot function without the people who create, sustain, and transform it. As we've seen in this dissertation, the broader landscapes around political centers often carried the residues of the people who helped these polities work: from the small villages that may have provided local laborers to the ephemeral camps used by farmers who could have come from near or distant lands. I hope that the insights lent regarding Moche political landscapes in this dissertation have hopefully illustrated the value of survey and landscape approaches in a way that encourages future scholars to look up from their excavation units and into the landscape that surrounds them.

Finally, the inclusion of a wider scope and array of narratives will only work to enrich our understandings of the prehistory and history of the Moche Valley and any region for that matter. By widening the scope of our own narratives, we can look past individual sites or time periods to appreciate the broader landscapes that shaped and were shaped by the people whose lives we study. Looking up from the artifacts we find and interacting with local communities can provide many unique insights into the daily lives of modern – and past – people. By widening the array of narratives that we include in our work, we diversify the community of voices and perspectives that are included in our discipline. Local stories about dangerous *huacas* are no less valid descriptions of these parts of the landscape than the summaries of surface assemblages or architectural dimensions offered in our own publications. By including these stories in our own work or doing what we can to expose such stories to larger audiences, we can help foster a more robust, equitable, and valuable array of narratives of the past for future generations to inherit and enjoy.

APPENDIX A: A CERAMIC CHRONOLOGY FOR THE MOCHE VALLEY AND ITS CHAUPIYUNGA

INTRODUCTION

Though the Moche Valley has figured prominently in Andean archaeology and prehistory for over a century, no complete ceramic chronology has been published or proposed that spans the entirety of the valley's prehistory. The vast majority of the projects that have data relevant to developing such a ceramic chronology in the Moche Valley focus on specific sites or time periods (e.g., Boswell 2016; Brennan 1978; Briceño and Billman 2018; Kanigan 1994; Keatinge 1973; Nesbitt 2012; Prieto 2015; Ringberg 2012; Topic and Moseley 1983; Topic J. 1977; Topic T. 1977), and are only applicable to fragments of the wider temporal and spatial breadth of human occupation in the valley. Those chronologies that do span multiple periods or large regions often depend heavily on grave goods and fine-wares (e.g., Donnan and Mackey 1978), and are thus of limited use to survey and household archaeologists who only rarely encounter such materials. Other chronologies were general or preliminary (e.g., Billman 1996; Topic and Topic 1982), and are understandably vague or lack the detail and illustrations to be used extensively as references. In fact, for reference material, Moche Valley archaeologists commonly use the detailed, but now over 70-year-old, seriated ceramic sequence of the neighboring Virú Valley (Collier 1955; Ford 1949; Strong and Evans 1952). Though its continued use is a testament to its quality, the Virú Valley sequence is not without its flaws and its application outside of Virú has proven problematic or misleading in a few cases (Bennyoff 1952; Donnan 2009; Millaire 2009; Downey 2014). As a first step to doing a long-term study of the Moche Valley *chaupiyunga*, I found it necessary to synthesize a unified, albeit crude, ceramic chronology for the area from the work of my colleagues and predecessors. An older version of this appendix served as a reference guide to understanding and interpreting the material recovered in my own survey so I thought writing it up may prove helpful to colleagues and future colleagues in the Moche Valley.

What follows is a brief treatment of the Virú Valley sequence, the Gallinazo "problem", and the utility of separating domestic and corporate ceramic wares. This then transitions into an outline of my synthesis of the available prehistoric ceramic data on the Moche Valley and western

edges of the Otuzco and Carabamba highlands. The irony of starting the present work from the Virú Valley sequence and its critiques is palpable, but doing so is unavoidable given the wide use and references to that seminal project in the Moche Valley literature. The Gallinazo "problem" is a saga worth retelling and eventually led to an important appreciation of the differences between domestic and corporate ware traditions (Millaire 2009a, 2009b; Downey 2014). Such a perspective served as a springboard for the approach I took in building my rough ceramic chronology. I synthesized a number of domestic and corporate ware traditions for the Moche Valley and its *chaupiyunga* for which I provide a detailed description of the wares, their rough date ranges, and the sources I used to synthesize them.

THE VIRÚ VALLEY SEQUENCE 70 YEARS LATER

The Virú Valley Project was a collaborative endeavor conducted in the 1940s that brought together several scholars in order to piece together an occupational sequence for the Virú Valley in northern Peru. Bennett (1950), Strong and Evans (1952), and Collier (1955) all used excavations of burials or deep stratigraphic cuts at specific sites to establish chronological sequences that could be combined and correlated with material remains. Ford (1949) used surface collections from a host of archaeological sites in the valley, in addition to the excavation data from his colleagues, for a wider seriation of ceramic trends. Willey (1953) synthesized these data with his own survey to construct his prehistoric settlement pattern study that would serve as a template for generations of settlement pattern studies in Peru and elsewhere. Finally, the project's explicit focus on seriating the more mundane plainware ceramics stood in sharp contrast to the more common use of opulent grave goods as temporal markers (e.g., Larco 1948).

The goal of Ford's seriation, and any ceramic seriation for that matter, was to arrange assemblages of ceramic artifacts in a reasonable order that illustrated the passage of time. To this end, project members constructed a ceramic typology that effectively categorized the notable trends they recognized in plainwares and fancier wares over the three millennia, ~1800 BCE to ~1500 CE, that were the focus of their work (Ford 1949; Bennet 1950; Strong and Evans 1952; Collier 1955). Though the foundation of the typology was established by Ford (1949), targeted excavations by Strong and Evans (1952) added detail to the first half of the sequence while those of Collier (1955) did so with the latter half and a missing piece of the first half (Collier 1955: 28-

29). All four developed and agreed upon a long list of interrelated types of ceramics according to observed commonalities in construction technique, pastes, and firing in addition to subdivisions by decorative elements like appliques, incisions, paints, etc. Putting proportions of these types side-by-side and organizing them by surface assemblages or stratigraphic cuts, they created 'battleship' graphs that illustrated the rise and fall of certain ceramic types over time (Ford 1949: 44-45; Strong and Evans 1952: 204-205; Collier 1955: 106-107; Figure A.1). The result was a ceramic chronology that was incredibly detailed, well-supported, simple to navigate, and actually included descriptions of plainwares. Given these qualities, it should not be surprising that this sequence was widely used on the north coast of Peru and is still being discussed in this dissertation over 70 years later.

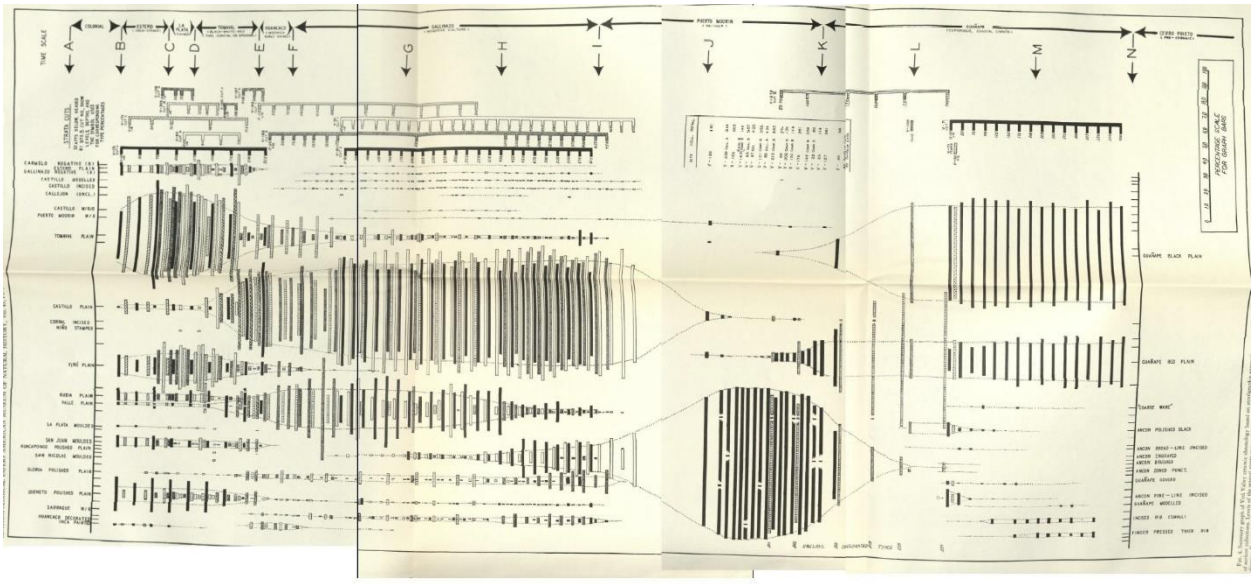


Figure A.1 The Virú Valley Battleship Graph (adapted from Strong and Evans 1952:204-205)

Though they were not oblivious to the cultural significance of certain styles that appeared in the resulting typology, the explicit objective of their typology was chronological, not cultural. As Downey states, Ford "was strictly concerned with the passage of time; cultural relationships and the explanation of culture change could wait until the actual passage of time was better understood" (2014: 31). However, in practice, several of their time periods reflected clearly "cultural" phenomenon that they suspected were at play and felt the need to articulate. For example, the Huancaco period was mostly defined not by a detectable change in plainwares but instead by the appearance of Huancaco Decorated types (Strong and Evans 1952:216-226). These

types were tied to the wider "Mochica" culture that had been discussed by their contemporary, Larco (1948), and was well known in Peru at the time. A visual perusal of Ford's (1949:44-45) original seriation shows how miniscule the proportions of these Huancaco Decorated sherds were in comparison with the titanic proportions of Castillo Plain that persisted across the Gallinazo and Huancaco periods (Figure A.1). In fact, if one steps back and ignores the smaller 'boats' of Huancaco Decorated, Gallinazo Negative, and Carmelo Negative during the Huancaco and Gallinazo periods, the two periods look like adjacent parts of the same massive Castillo Plain 'battleship'.

THE GALLINAZO: A CASE-STUDY IN CONFUSION

It was this understandably muddled juncture between culture, time, and ceramic types that would serve as the nexus for the most egregious confusion involving the Virú Valley sequence: the Gallinazo. The Gallinazo period was principally defined by the Virú Valley project through the presence of negative painting, often on finer wares, recognized in the Gallinazo Negative and Carmelo Negative types (Strong and Evans 1952:211-216). In many ways, this was not remarkable, and simply echoed the project's similar process in defining the Huancaco period. However, Bennett's (1950) associated work at the Gallinazo Group depicted these negative painted finer wares side-by-side with plainware pots adorned with simple applique and incised decorations, most notably the famous pinched face-neck jars (Donnan 2009: 20; Figure A.2). Donnan called this the beginning of the "Gallinazo illusion": in which many archaeologists, including other members of the Virú Valley Project, came to conflate the two as synonymous with a Gallinazo "culture" (2009:20-21). In reality, these plainware decorations were described as Castillo Modeled and Castillo Incised and were part of the larger plainware tradition of Castillo Plain. Curiously, both Ford (1949, Figure A.1) and Strong and Evans (1953:309-325) showed or at least noted that Castillo Incised and Castillo Modeled had roots in the previous Puerto Moorin period, peaked during the Gallinazo, and persisted into the Huancaco period. At some point, these patterns seemed to have been either confused or ignored.

Over the next 50 years the illusion persisted. Following from the separation of the Gallinazo and Huancaco periods, it was posited that the Gallinazo peoples were conquered by and separate from the Mochica (Willey 1953). Soon, the plainware decorations of Castillo Incised and

Modeled alone were enough to argue for a Gallinazo occupation. In only a few decades the dominion of the Gallinazo "culture" had spread as far and wide as any north coast archaeologist had found the distinctive pinched face-neck jars "diagnostic" of Gallinazo people (see Millaire 2009a:3-8 and Donnan 2009 for a summary of some of these studies). However, the illusion began to fade as research was renewed in the Virú Valley, and the work of Bourget (2004) and Millaire (2004) made two key insights. First, there was no evidence of a violent Moche invasion of the Virú or a conquest of any Gallinazo people. In reality many of the "intrusive" Huancaco Decorated type vessels would be better described as local Virú imitations of Moche pottery and were even contemporary, at times, with the Gallinazo and Carmelo Negative decorative types. Second, the plainware decorations incorrectly attributed as Gallinazo were decorative embellishments of the wider Castillo Plain tradition, not the original Virú Valley Project's Gallinazo period or any invented Gallinazo "culture". This exposed the original sin of much of the Gallinazo confusion: the conflation of decorative elements of a long-lasting and wide-spread plainware ceramic tradition with a separate, short-lived, and spatially confined fancy decorative ceramic tradition.

Figure A.2 The Face-Neck Jars "Diagnostic" of Gallinazo People (adapted from Donnan 2009)

As more north coast archaeologists recognized similar patterns, the Gallinazo illusion fell thanks to several workshops led by Millaire that culminated in an edited volume (2009). Many of the scholars were left with the same question: what exactly was the plainware tradition everyone had come to start calling Gallinazo? Recognizing the Gallinazo Negative and Carmelo Negative decorative styles as part of a localized ceramic tradition that was associated with Virú Valley elites, Millaire hoped to avoid future confusion by referring to this elite tradition as Virú (Millaire 2009: 12-13). The wider plainware tradition now being called Gallinazo, he argued, was essentially the domestic "popular substrate" that underpinned and persisted through the various corporate, or elite, traditions like Moche or Virú across the north coast (Millaire 2009:13). Castillo Butters even went as far to make a classist argument that "we can assume that the presence of Gallinazo ceramics inside rich Moche graves simply corresponds to offering items of somewhat lower status." (2009: 223) To avoid further confusion, some scholars refer to these plainwares as Castillo Plain (Ringberg 2012) or as part of a broader *tradicion norcostena* (Millaire 2009; Downey 2014), but many still simply call them Gallinazo. I will refer to this domestic ware tradition as Castillo Plain unless I am specifically talking about the Gallinazo "problem". In the end, those who tackled the Gallinazo "problem" came to two important conclusions: (1) Castillo plainwares were a wide-spread and basic domestic ceramic tradition of the north coast and (2) fancier Moche or Virú decorative styles were more regionally and temporally specific corporate traditions used by elites, particularly in burials.

Thus, a fortunate result of this unfortunate saga was a simple but absolutely necessary realization: the domestic and corporate ceramic traditions amongst any given population are likely related but do not necessarily align in chronology or realms of use. This point seemed to congeal amongst Millaire and others as they worked to solve the Gallinazo "problem" and was further expanded by Downey (2014) in his re-interpretation of the Virú Valley sequence. Downey sums it up concisely by stating that "corporate and domestic ware ceramics were made for different reasons and evolved along separate timescales." (2014:18) To Downey, domestic wares were those ceramics assumedly produced for regular household activities and tended to be incredibly conservative and generally widespread (2014:66-71). Though corporate wares were often derived from domestic wares, they could be distinguished as they were generally fancier and assumedly produced for more specific corporate or political activities (Downey 2014:71-77). He is vague on this point, but these wares are assumedly linked to local corporate or political traditions that,

though variable, tended to be far more limited in their temporal and spatial breadth. Making this distinction seems vital to avoiding another Gallinazo debacle.

INTRODUCTION TO A CERAMIC CHRONOLOGY FOR THE MOCHE VALLEY

This chronology was built by tying together the ceramic data from several projects in and around the Moche Valley. The ideal was to mainly lean on data that were (1) from secure archaeological contexts in the Moche Valley itself and (2) could be correlated with absolute dates. In many cases this ideal could not be met and I had to settle for one or the other, sometimes neither. Several examples were brought in from the Chicama or Virú Valleys in order to help give wider regional context to Moche Valley materials or fill in gaps. Specifically, the Virú Valley sequence was used to corroborate the proposed Moche Valley domestic ware traditions, provide additional detail, and serve as a source for naming conventions. The dates that I list alongside these traditions should be seen as attempts to bracket the main "hulls" of each ware if they were modeled in a battleship graph. Overlap between many of these wares is clear from the data at hand, and is especially apparent from the Virú Valley seriation data. Such points of overlap are discussed in the text but putting a definite date on the "bow" or "stern" of any of these wares would be premature. I provide several tables to illustrate some general dating schemes put forth by other scholars (Table A.1), the dating of specific sites or projects that I discuss in the text (Table A.2), and the dating of the domestic and corporate ware traditions that I discuss (Table A.3, Table A.4).

In terms of the physical attributes of the ceramics themselves, I focused mostly on elements that reflected techniques of production (e.g., surface treatment, firing environments, etc.). I assume these are indicative of wider shared traditions of pottery making. Forms and decoration were also a focus, as such features were assumedly produced because they were important to pottery users in utility and/or aesthetics. As reference material I compiled most of the available information on forms and decoration for each of the assemblages into one large database (over 800 files and thousands of pictures) that I hope to further consolidate and publish at a later date. For now, I have only included a few reference pictures but would encourage any interested reader to closely check my citations as I direct you exactly to where I collected my data. Along these lines, I did the vast majority of this work between 2017 and 2018 which means I am missing several important publications that have come out in the meantime (mainly regarding Guañape and Virú ceramics in

the Moche Valley). In the interest of not going insane continuously editing this monstrosity, I elected to leave further refinements for the ultimate consolidation and publication of my main database. Because this was a valley-wide synthesis that stretches into the *chaupiyunga*, any discussion of paste, temper, or inclusions is done very broadly and represents a gross simplification of clear variability. In many cases I condensed dozens of wares from site-based ceramic analyses into one or two condensed ware types. Such variability should be expected, specifically in terms of temper/inclusions, since pots were no doubt coming from a variety of clay sources and potters throughout the valley. In the end I was only able to make very broad statements about pastes, tempers, and inclusions that could work to vaguely separate coastal-valley wares from those likely coming from the upper *chaupiyungas* or eastern edges of the local highlands. With this in mind, I provide a discussion of the seven domestic and nine corporate ware traditions I synthesized and conclude with a more general overview of the dynamics of these ware traditions.

Table A.1 General Chronologies Referred to in the Text

YEAR	GENERAL CHRONOLOGIES						
	Andean Chronology	North Coast Regional Phase	Moche Valley (Billman 2002)	Moche Valley (Donnan & Mackey 1978)	Viru Valley (Downey 2014)	Viru Valley (Willey 1953: 37)	Moche Highlands (Topic & Topic 1982)
1800 BCE	Initial Period	Initial Period	Early Guanape	Gramalote (?)	Cerro Prieto	Cerro Prieto	
1700 BCE			1800-1300 BCE	1900-1500 BCE(?)	?-1200 BCE	?-1200 BCE	
1600 BCE							
1500 BCE				Cupisnique			
1400 BCE				1500-450 BCE(?)			
1300 BCE		Early Horizon	Middle Guanape				
1200 BCE			1300-800 BCE		Guanape	Guanape	
1100 BCE					1200-400 BCE	1200-400 BCE	
1000 BCE							
900 BCE							
800 BCE			Late Guanape				Phase 1
700 BCE	Early Horizon		800-400 BCE				?-200 BCE
600 BCE							
500 BCE							
400 BCE		Early	Early Salinar	Salinar	Early Viru	Puerto Moorin	
300 BCE		Intermediate	400-200 BCE	450-200 BCE	400-200 BCE	400-200 BCE	
200 BCE		Period	Late Salinar	Gallinazo	Middle Viru	Gallinazo/Viru	Phase 2
100 BCE			200-1 BCE	200 BCE - 100 CE	200 BCE - 600 CE	200 BCE - 600 CE	200 BCE - 500 CE
100 CE	Early		Gallinazo				
200 CE	Intermediate		1-200 CE	Moche I-V			
300 CE	Period		Early Moche	100-800 CE			
400 CE			200-400 CE				
500 CE			Middle Moche				
600 CE			400-800				Phase 3
700 CE	Middle				Late Viru	Huancaco	500-1000 CE ?
800 CE	Horizon				600-750 CE	600-750 CE	
900 CE		Middle Horizon	Late Moche	Chimu	Late Epoch	Tomaval	
1000 CE		Late	Early Chimu	800-1450 CE	750-1532 CE	750-1100 CE	
1100 CE	Late	Intermediate	Middle and Late				Phase 4
1200 CE	Intermediate	Period	Chimu			La Plata	1000-1532 CE?
1300 CE	Period		1000-1470			1100-1470 CE	
1400 CE	Late	Late					
1500 CE	Horizon	Horizon					
1600 CE			Chimu-Inka	Chimu-Inca		Estero	

Table A.2 Site-Based Chronologies Referred to in the Text

YEAR	YEAR	SITE-BASED CHRONOLOGIES											
		Huaca Negra (Chen 2019)*	Caballo Muerto (Nesbitt 2012)	Gramalote (Prieto 2015)	Cerro Arena (Brennan 1980)*	Cerro Leon (Ringberg 2012)*	Ciudad de Dios (Bardolph 2017)*	Huacas del Moche (Castillo 2010)	Galindo (Lockard 2005)*	Licapa II (Koons 2012)*	Chan Chan (Kannigan 1994)	Chan Chan (Topic & Moseley 1985)	Cerro Huancha (Boswell 2016)*
1800	1800 BCE	Phase 3b											
1700	1700 BCE	1850-1650 BCE											
1600	1600 BCE	Phase 4a	Cortijo Phase										
1500	1500 BCE	1650-1450 BCE	1600-1100 BCE	Phase 1									
1400	1400 BCE	Phase 4b		Phase 2									
1300	1300 BCE	1450-1250 BCE		Phase 3									
1200	1200 BCE												
1100	1100 BCE		San Lorenzo										
1000	1000 BCE		Phase										
900	900 BCE		1100-800 BCE										
800	800 BCE		Laredo Phase										
700	700 BCE		800-600 BCE										
600	600 BCE		Curaca Phase										
500	500 BCE		600-200 BCE										
400	400 BCE				Salinar (?)								Salinar (?)
300	300 BCE				400-1 BCE (?)								400-1 BCE (?)
200	200 BCE												
100	100 BCE												
100	100 CE												
200	200 CE					HEIP-Gallinazo		Huaca de la Luna					
300	300 CE					100-400 CE		100-600 CE					
400	400 CE												
500	500 CE												
600	600 CE						Middle Moche						
700	700 CE							Huaca del Sol	Galindo	Huaca A			
800	800 CE							600-850 CE	650-850 CE	Huaca B			
900	900 CE									635-829 CE	Phase A	Phase 1	
1000	1000 CE										850-1100 CE	850-1000 CE	LIP/LH Phase 1
1100	1100 CE											Phase 2	900-1270 CE
1200	1200 CE										Phase B	Phase 3	
1300	1300 CE										1100-1350 CE	1100-1350 CE	LIP/LH Phase 2
1400	1400 CE										Phase C	Phase 4	1229-1470 CE
1500	1500 CE										Phase D	Phase 5	
1600	1600 CE												LIP/LH Phase 3

Table A.3 Domestic Ware Traditions Referred to in the Text

YEAR	YEAR	DOMESTIC WARE TRADITION CHRONOLOGIES											
		Viru Valley Domestic Ware Traditions (Downey 2014:78; Collier 1955; Ford 1949; Strong and Evans 1952)				Moche Valley Domestic Ware Traditions							
1800	1800 BCE												
1700	1700 BCE												
1600	1600 BCE	Guanape Plain				Guanape Plain							
1500	1500 BCE	1800-400 BCE				1650-400 BCE							
1400	1400 BCE												
1300	1300 BCE												
1200	1200 BCE												
1100	1100 BCE												
1000	1000 BCE												
900	900 BCE												
800	800 BCE												
700	700 BCE												
600	600 BCE												
500	500 BCE		Huacapongo				Huacapongo						
400	400 BCE		Polished Plain				Polished Plain						
300	300 BCE		500 BCE - 100 CE				500 BCE - 100 CE						
200	200 BCE			Castillo Plain						?			
100	100 BCE			200 BCE - 1550 CE						?			
100	100 CE							Castillo Plain					
200	200 CE							200 BCE - 900 CE		Early Highland			
300	300 CE									200 BCE - 900 CE			
400	400 CE				Late Plainwares								
500	500 CE				200-1550 CE								
600	600 CE												
700	700 CE												
800	800 CE									?			
900	900 CE							?		?			
1000	1000 CE											?	?
1100	1100 CE												Late Highland
1200	1200 CE										Tomaval-Estero	Rubia Plain	Plain
1300	1300 CE										Plain	900 - 1600 CE	900 - 1600 CE
1400	1400 CE										900 - 1600 CE		
1500	1500 CE												
1600	1600 CE												

Table A.4 Corporate Ware Traditions Referred to in the Text

YEAR	CORPORATE WARE TRADITION CHRONOLOGIES Moche Valley Corporate Ware Traditions								
1800 BCE									
1700 BCE									
1600 BCE	Ancon								
1500 BCE	1650-400 BCE								
1400 BCE									
1300 BCE									
1200 BCE									
1100 BCE									
1000 BCE									
900 BCE									
800 BCE									
700 BCE									
600 BCE									
500 BCE		Salinar Fine							
400 BCE			?						
300 BCE		500 BCE - 100 CE	?						
200 BCE				?					
100 BCE				?					
100 CE				Early Highland	Viru Negative				
200 CE			Quinga	Fine	200 BCE - 800 CE				
300 CE			200 BCE - 900 CE	200 BCE - 900 CE		Moche			
400 CE						200-900 CE			
500 CE									
600 CE									
700 CE									
800 CE			?	?					
900 CE			?	?					
1000 CE							Transitional-Early		
1100 CE							Chimu		
1200 CE							900-1200 CE		
1300 CE								Middle-Late	
1400 CE								Chimu	
1500 CE								1200-1550 CE	Chimu-Inka
1600 CE									1450-1550 CE

DOMESTIC WARE TRADITIONS OF THE MOCHE VALLEY

Domestic ware traditions form the necessary base for this chronology and, through simplifying considerable variability, I identified seven: (1) Guañape Plain, (2) Huacapongo Polished Plain, (3) Early Highland Plain, (4) Castillo Plain, (5) Late Highland Plain, (6) Rubia Plain, and (7) Tomaval-Estero Plain. Although these wares were more "plain" than the elaborately decorated corporate wares, there were a host of decorative elements on domestic wares that I identified as sometimes, but not always, correlating with those found on corporate wares. These decorative features were described as being additional parts of general domestic ware traditions and noted to be possibly useful for chronological purposes. It is very important to emphasize that these traditions are almost surely amalgamations of smaller traditions and there is a considerable amount of "lumping" going on in how I define them. That being said, they do prove useful as vague categories in the absence of pretty much any other attempt at a more detailed ceramic chronology for the valley. What follows is a summary of the domestic wares that I synthesized with brief descriptions of (1) the bibliographic sources used and general chronological information,

(2) general ware characteristics, (3) forms associated with the ware along with the general use of the ware, and (4) decorations associated with the ware.

Guañape Plain (~1650 – 400 BCE)

Guañape Plain is the earliest domestic ware tradition in the Moche Valley. The descriptions here were mainly synthesized from the work of Prieto (2015:388-511) at Gramalote, Nesbitt (2012:199-293, 2008:276-281) at Caballo Muerto, and Billman (1996:126-127) in his valley-wide survey. This synthesis is bolstered by work from the Virú Valley by Chen (2019:277-289) at Huaca Negra and the ware categories of Guañape Red and Black Plain as identified by Virú Valley Project members (Collier 1955:196-210; Strong & Evans 1952:253-286; Ford 1949:76-78). The earliest of these ceramics have absolute dates going back to at least 1600 to 1500 BCE in the Moche Valley (Nesbitt 2012: 199; Prieto 2015: 127). These dates align well with those of similar, if not identical, ceramics found in the Virú Valley that have absolute dates of least 1650 BCE (Chen 2019:109-113). The transition from this domestic tradition into Huacapongo Polished Plain is poorly understood but, it appears that Guañape Plain fell out of use sometime between 600-200 BCE (Nesbitt 2012:276-293; Downey 2014:115), so I split the difference at 400 BCE. Some of the questions surrounding this transition will be discussed in more detail in the proceeding section on Huacapongo Polished Plain.

Guañape Plain was a hand-modeled and relatively thin ware that was fired inconsistently in oxidized or reduced environments to produce paste colors ranging from red to reddish-brown to black. Surface exteriors were most often left untreated or smoothed, but were occasionally burnished or polished. Interior surfaces often have evidence of rough scraping or finger marks assumedly left by the act of removing excess clay or smoothing out coils. Though the temper/inclusions of this ware were generally a mix of granitic and quartzite sand, several authors specify that large quartz inclusions are diagnostic of Guañape sherds (Prieto 2015:388-511; Collier 1955:196-210). The presence of large quartz inclusions may be specific to coastal and lower valley assemblages, as I did not encounter such inclusions in the Guañape Plain assemblages of the upper valley *chaupiyungas*. I did find a few sherds that could be highland variants of Guañape Plain but they are treated later in my discussion of the Early Highland Plain domestic ware traditions. The Virú Valley project initially observed that the reduced version of this ware was more frequent

earlier than the oxidized version (Collier 1955: 196-210). However, more recent work would suggest that such patterns are likely coincidental and should not be used to inform chronology (Chen 2019:277-289).

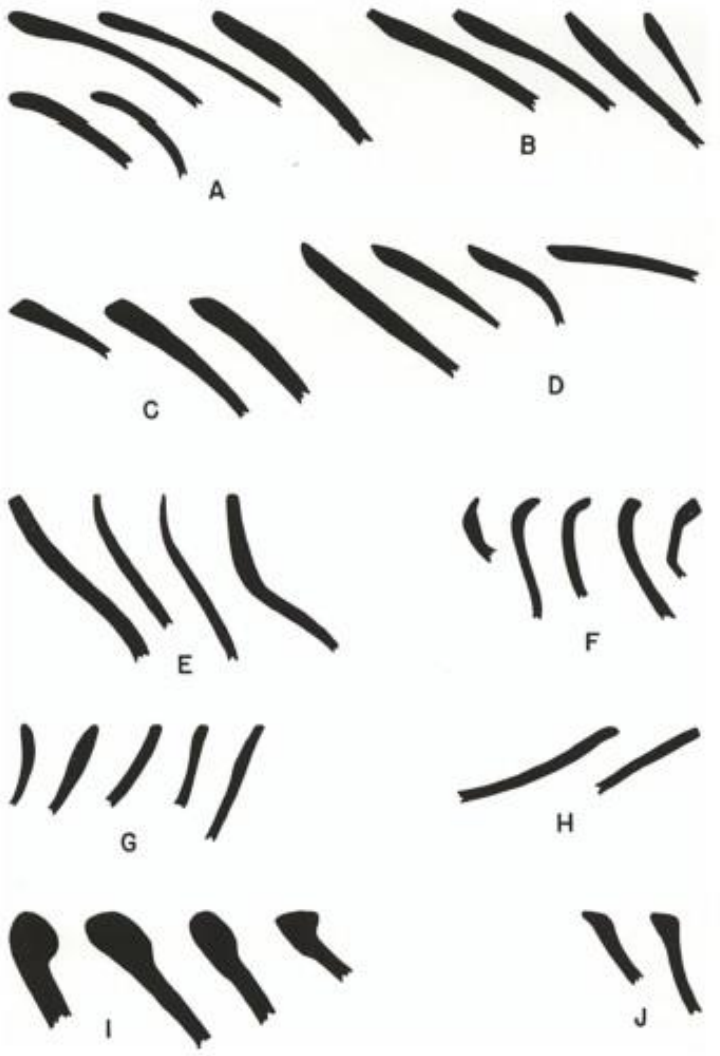


FIG. 66. Rim profiles of Guañape Red Plain and Black Plain; rim exteriors to the right. × 0.4.

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Figure A.3 Guañape Plain Rim Profiles (adapted from Collier 1955)

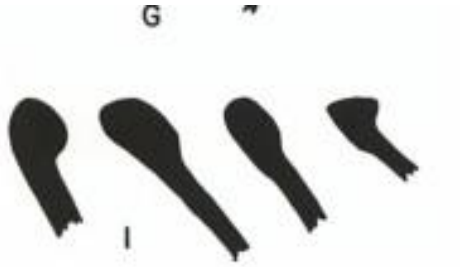

Figure A.4 Guañape Large Jars that May be Huacapongo Polished Plain (adapted from Collier 1955)

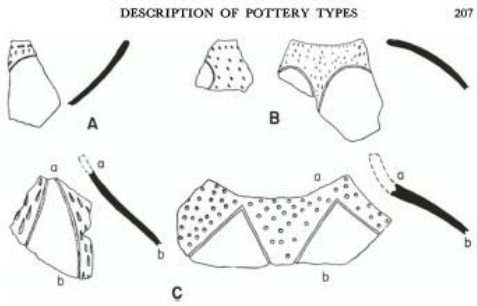

FIG. 70. Sherds and sherd profiles of Guañape Zoned Punctate; × 0.4.

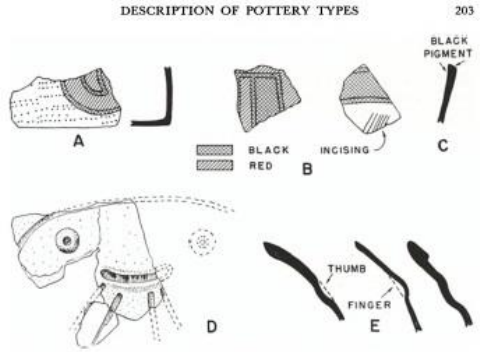

FIG. 68. Sherds and sherd profiles. A–C, Guañape Zoned Red; D and E, Guañape Modeled. × 0.4.

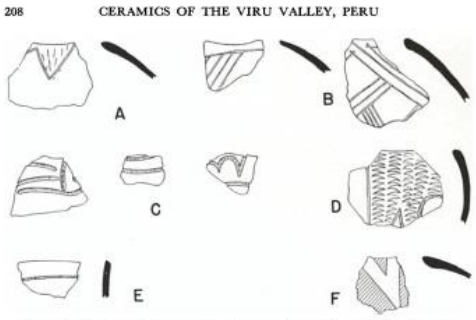

FIG. 71. Sherds and sherd profiles. A, Ancón Zoned Punctate; B, Ancón Fine-line Incised; C, Ancón Broad-line Incised; D, Ancón Rocker Stamped; E, Ancón Engraved; F, Guañape White-on-Red. × 0.4.

Figure A.5 Guañape Decorations (adapted from Collier 1955)

Compared to later domestic wares, Guañape Plain has a paucity of forms. Neckless ollas are dominant in most assemblages but jars with slightly everted rims, bowls, and bottles are usually present to some degree (Figure A.3). The prevalence of a variety of neckless ollas is a somewhat diagnostic feature of Guañape Plain, as it stands in stark contrast with the dominance of flared or straight-necked jars and ollas in later domestic ware assemblages. Most of the forms discussed by the Virú Valley project align well with the more recent work discussed here, but Collier does describe a large jar form with "constricted mouths and externally thickened rims" that does not appear (1955:198-199; Figure A.4). He mentioned that this jar form is very similar to one of the subsequent Huacapongo Polished Plain (Collier 1955:199) so I suspect this form may be a later development. Generally, Guañape Plain seems to lack any forms that are specifically diagnostic of earlier or later periods of the ware's use. As would be expected, Guañape Plain appeared to be mainly used for "processing, serving, and storing food" (Prieto 2015:391). As a domestic ware, it likely shared many of these roles with gourds and other softer household technologies (Prieto 2015; Chen 2019). I would argue this is the principal reason for the paucity of forms for this ware: Guañape Plain was likely a limited part of a much broader domestic assemblage of perishable, thus more archaeologically invisible, household items.

Decorative elements associated with Guañape Plain wares are mainly composed of incisions, punctations, modeling, and appliques but also include some paints and slips. During the earlier half of the Guañape Plain tradition (~1650-1200 BCE) it appears that decoration was mostly seen in simple incisions, punctation, and applique ribs, but modeled decorations occasionally have been observed (Prieto 2015: 425-431; Chen 2019:277-289; Nesbitt 2012:199-227; Billman 1996:126; Figure A.5). Most of these earlier decorative norms persist throughout the existence of Guañape Plain even if their relative popularity may have waned. This being said, decoration seems relatively rare in early domestic contexts: Prieto stated that less than 2% of his sample of 25,364 sherds were decorated (2015:435-436). The latter half of the Guañape Plain tradition, beginning by at least 1100 BCE, appears to be best defined by the added use of red slips, graphite paint, post-fired engravings, and rocker stamping (Nesbitt 2012:228-293, Billman 1996:126-127; Collier 1995:196-210). The final additions, beginning around 700 BCE, are decorative elements like stamped or incised concentric circle designs, the circle and dot motif, and pottery that more generally has "clear stylistic influence from Chavín de Huantar" (Nesbitt 2012:327). Nesbitt describes many of these later decorations in detail (2008:276-281, 2012:199-293) but it would

seem that they are more often employed on the finer wares that I lump together into the Ancón corporate ware tradition. The addition of graphite paints and red slips seem like decorations that are diagnostic of the latter half, from around 1100 to 400 BCE, of the Guañape Plain domestic ware tradition. As we will see, the red slip noted on later Guañape Plain domestic wares likely persisted and was further developed as a decorative technique in its successor, Huacapongo Polished Plain.

In sum, the Guañape Plain domestic ware tradition is the earliest ceramic tradition in the Moche Valley and is somewhat limited in forms and decorations. The variety of decorations on these wares appear to increase after 1100 BCE as paints, slips, and again after 700 BCE when a few additional incised and stamped decorations are added. This being said, the latter half of this domestic ware tradition and its transition into HPP are very poorly understood.

Huacapongo Polished Plain (~500 BCE – 100 CE)

Huacapongo Polished Plain (HPP) directly developed out of, and eventually replaced, Guañape Plain as the main domestic ware tradition in the Moche Valley. The limited synthesis developed here came mainly from the work of Brennan (1978:585-665) at Cerro Arena, Billman (1996:187-188) in his valley-wide survey, and Donnan and Mackey (1978:25-44) in their valley-wide burial pattern survey. Due to the lack of data from the Moche Valley, this synthesis was forced to lean heavily on the ware category of Huacapongo Polished Plain as described by the Virú Valley project for detail (Collier 1955:191-196; Strong and Evans 1952:258-261; Ford 1949:76). The chronology of this ware is poorly understood but calibrated dates from the coastal site of La Poza range from around 400-100 BCE (Millaire et al. 2016; Bardolph 2017:104) and several from Cerro Arena range between 400-1 BCE (Brennan 1980: 3; Millaire 2020:8). Given that the ware likely did not appear out of nowhere at 400 BCE, I have pushed back the beginning of this ware to at least 500 BCE. The transition from HPP to Castillo Plain in the Moche Valley is equally as unclear. Though discussed in more detail later, what is clear is that HPP was in decline and had almost completely been replaced by Castillo Plain as the main domestic ware tradition of the valley by the first centuries CE.

Caballo Muerto may be relevant to understanding the chronology of the earlier transition from Guañape Plain to HPP and warrants further discussion. Earlier projects at the site identified

several Salinar Fine burials with likely HPP pottery (Donnan and Mackey 1978:39-43; Pozorksi, T. 1976) but these appear to be intrusive and later additions. The Curaca Phase, identified by Nesbitt as spanning from 700 to 200 BCE (2012:276-293), would have stretched well into any hypothetical transition between Guañape Plain and HPP. Although the general use of red slip noted by Nesbitt during the Curaca Phase is consistent with the use of red slips on HPP pottery, he describes only two jar forms (2012:282-283) and neither are flared nor have the thickened lip typical of many HPP jars. Finally, this phase has a small sample size of 46 diagnostics and only descriptions of forms are provided (Nesbitt 2012:276), so I am hesitant to consider it in my discussion of HPP. Given the absolute dates recently obtained from La Poza and Cerro Arena, I would argue that the cutoff for the Curaca Phase at 200 BCE seems a bit too late. I suspect that at least 400 BCE would be more appropriate, but this is speculative and would be an easier determination to make with more data.

It is worth continuing this brief detour to discuss "Salinar" and its potential to be confused with HPP. The term "Salinar" has been used in the Moche Valley to describe (1) domestic wares belonging to the tradition I refer to as HPP, (2) corporate wares often associated with HPP, and (3) the time period during which these corporate and domestic wares were used. I explicitly call this domestic ware HPP, and not Salinar, in order to avoid confusion with the Salinar Fine corporate ware tradition. The Salinar corporate ware tradition was originally defined as a Chicama Valley contemporary of the Puerto Moorin White-on-Red tradition of the Virú Valley. This tradition was first identified by Larco and then later seems to have been co-opted by Moche Valley scholars to describe the finer wares that often featured white-on-red decorations. To make things more confusing, in the Virú Valley, the Puerto Moorin White-on-Red decorative tradition actually cross-cuts both HPP and earlier forms of Castillo Plain in its chronological distribution. It is also found on both domestic and corporate wares. Finally, the time period from around 500 to 1 BCE, during which this corporate ware tradition was used, is also widely referred to as Salinar.

It is promising that Salinar, as a time period, appears to be seeing a revival in its study that could help clarify all of this confusion (Ikehara and Chicoine 2011; Gonzalez-Macqueen 2018; Millaire 2020). However, as we move forward, it is essential that the broader archaeological community be clear about what exactly we mean when we call something "Salinar". In this dissertation, I try to avoid such issues by (1) using HPP to refer to the domestic ware tradition

between Guañape Plain and Castillo Plain in the Moche Valley and (2) referring to the contemporary corporate ware tradition described by Donnan and Mackey (1978:25-44) as "Salinar Fine". Given that recent publications seem to use "Salinar" in reference to the time period (Ikehara and Chicoine 2011; Gonazalez-Macqueen 2018; Millaire 2020), I think that archaeologists in the Moche Valley should use a more distinct name for the corporate tradition that we have been calling "Salinar". This is my reasoning behind using the name of "Salinar Fine", but it is a temporary fix for the purposes of this dissertation. Shared consistency is what is important and a general accord amongst regional specialists on this matter is vital if we are to avoid another Gallinazo debacle.

Huacapongo Polished Plain was a hand-modeled, hard, and thin ware that was fired in mostly oxidized environments to produce brick red colors. A notable feature of this ware is that it was often fired inconsistently to produce black firing clouds and/or a gray "sandwich" core (Collier 1955:192; Downey 2014:68). Exterior surfaces of this ware can be left untreated but were often polished or burnished, sometimes with parallel polishing tracks as a form of decoration. Interior surfaces of this ware were scraped to remove excess clay. In my experience, scraping marks often seem to indicate the use of hard and textured objects, possibly discarded sherds. The temper/inclusions of this ware were mainly a mix of granitic and quartzite sand and are generally very similar to Guañape Plain but without the large quartz inclusions typical of the earlier ware (Collier 1955:191-196; Strong & Evans 1952:258-261; Ford 1949:76). Even so, the similarities between oxidized versions of Guañape Plain and HPP are striking. Especially during the transition between the two wares, it is often difficult to the differentiate them (Collier 1955:197). Without the large quartz inclusions as a guide, differentiating between Guañape Plain and HPP in the *chaupiyunga* of the Moche Valley proved particularly challenging. As I discuss in the methodology section, I often had to lean more on forms to help.

The HPP domestic ware tradition saw the introduction of a host of new forms. Though neckless ollas and bowls remained popular, a wider variety of short, flared, and vertical necked jars became common (Brennan 1978:585-665; Collier 1955:193; Strong and Evans 1952:258; Figure A.6). One common feature of many of the short and vertical necked jars are lips that tend to be thickened, reinforced, or slightly protruding (Collier 1955:191-196; Billman 1996:187-188). Given the limited data at hand, it is difficult to recognize any chronological patterns of forms within the HPP tradition. Citing the relative lack of short necked jars with thickened rims in the

assemblage recorded by Brennan at Cerro Arena, Billman posited that perhaps such jars were characteristic of earlier HPP assemblages (1996:187-188). Recent work has indicated that Cerro Arena may have been occupied much earlier, between 400 and 300 BCE (Gonzalez-Macqueen 2018:20-21; Millaire 2020:8), so this position no longer seems tenable. I would also argue that some of the Type F and Type H short necked jars with flaring or slightly thickened rims described by Brennan (1978:638-645) are reminiscent of those Billman describes. More generally, I see these short-necked jars with thickened or highly flared rims as the most diagnostic form of any HPP assemblage in the Moche Valley (Figure A.7). This is mainly because they appear to be exclusive to HPP and do not have corollaries in the preceding Guañape Plain tradition or the later Castillo Plain tradition.

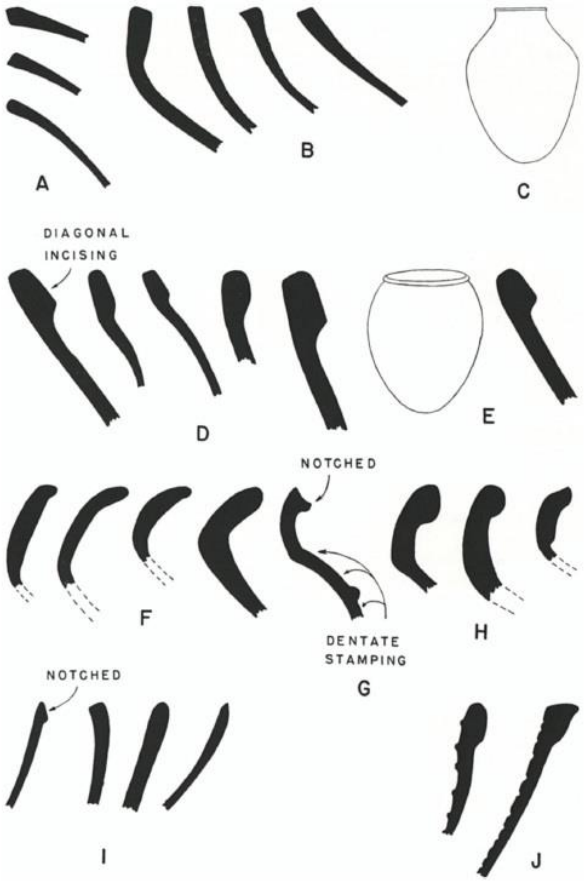

FIG. 65. Rim profiles and jar outlines of Huacapongo Polished Plain; rim exteriors to the right. × 0.4, except for C and E, left.

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Figure A.6 HPP Forms (adapted from Collier 1955)

In any case, it is glaringly apparent that a number of HPP forms noted by the Virú Valley project are missing from the Cerro Arena assemblage. One of these forms were large bowls with incised corrugations on their interiors often called "graters" (Collier 1955:194-195). Though the purpose of these bowls remains elusive, I see them as a likely coastal corollary to the better-known colanders or tostaderos of highland assemblages that were used for toasting or drying foods, possibly even *coca*. Also missing from the Cerro Arena assemblage are the large short-necked, almost neckless, jars with rim straps that seem to be early forms of the large storage vessels, called tinajas, of later phases (Collier 1955:192-195). Why these forms are missing from the Cerro Arena assemblage is puzzling, but I suspect it may be more associated with the brief nature of occupation at the site than any chronological issue. In any case, it is clear that most of the HPP assemblage was used in everyday household activities like cooking, serving, and storage. Compared to Guañape Plain, it is interesting that HPP assemblages have more necked jar options, namely the short-necked jars, that would have been conducive to storage or as receptacles for liquids. Also, the addition of the large grater bowls seems notable as a new medium for cooking or drying goods.

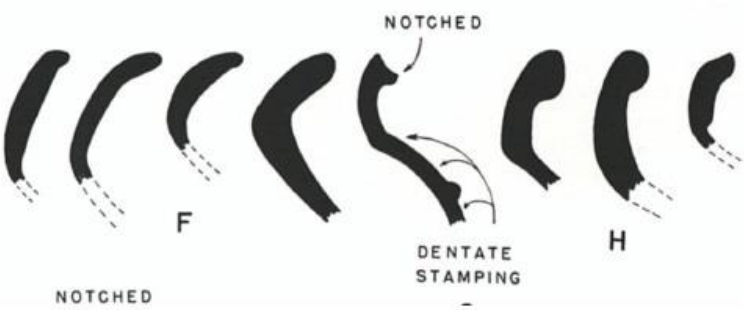

Figure A.7 Highly Diagnostic HPP Forms (adapted from Collier 1955)

The most characteristic decorations of the HPP domestic ware tradition are patterned burnishing and red slips but incisions, punctations, modeled appliques, and white paints were also common (Brennan 1979:585-665; Billman 1996:187-188; Donnan and Mackey 1978:25-44; Collier 1955:191-196; Strong and Evans 1952:258-261). Patterned burnishing with parallel polishing tracks is a very common decoration found on most vessel types. Billman noted that earlier assemblages had red slips that could be washed off and were likely post-fire additions while later assemblages had pre-fire slips (1996:187). The use of red slips noted by Nesbitt in later Guañape assemblages gives credence to the likelihood that such red slips were well in use by early

HPP. Incisions and punctations were commonly observed in many HPP assemblages, illustrating more continuity between the Guañape Plain and HPP domestic wares. They appear to be most frequently employed as decorations on or around thickened rims (Billman 1996:187-188; Collier 1955:191-196; Figure A.8) though they are also found elsewhere (Donnan and Mackey 1978:26). Curiously, such incised decorations were rare occurrences at Cerro Arena (Brennan 1979:638) adding to the many questions that surround the assemblage of that site.

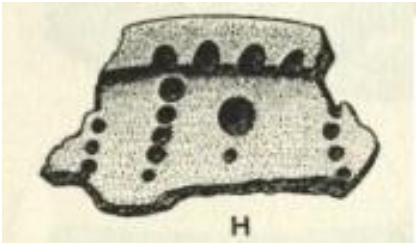

Figure A.8 Typical HPP Decorated Rim (adapted from Strong and Evans 1952)

Another common decoration was the use of white paint to create geometric designs, especially chevrons and dots, on a red slip or red vessel surface. This decorative tradition is often called Puerto Moorin White-on-Red and was used on both domestic and corporate wares spanning both HPP and its successor, Castillo Plain (Strong and Evans 1952:295-301). Relevant to my discussion of HPP domestic wares, this decoration was often applied to short-necked jars with flared rims, neckless ollas, or ollas with slightly everted rims (Donnan and Mackey 1978:25-44; Strong and Evans 1952:298; Figure A.9). Though these were mainly recovered in burial contexts, it seems likely they could have also been used as storage vessels in domestic contexts given their wide distribution at seemingly domestic settlements like Cerro Arena. The exact chronology of this white-on-red tradition in relation to HPP domestic wares is unclear. Billman suggests that it is a later addition (1996:188) but this is again based on the assumed later occupation at Cerro Arena which now appears unlikely.

It is notable that, except for the patterned burnishing, many of the decorations (e.g., white-on-red, incisions, punctations, modeling) used on HPP have direct correlates in Castillo Plain. The clear overlap between the decorative traditions associated with these two wares is good evidence that the Castillo Plain tradition likely developed directly out of, or at least side-by-side with, the preceding HPP tradition. Though the connection between the wares is likely, the timing of this

transition can only be divined from the seriation data of the Virú Valley project (Ford 1949; Figure A.1): before or at the start of the prevalence of Virú Negative and during the wide use of Puerto Moorin White-on-Red. By my reckoning this would put the transition sometime between 200 BCE to 100 CE. Such a dating aligns well with the estimates of Downey for HPP as being used from 500 BCE to 100 CE and Castillo Plain starting at 200 BCE (2014:115).

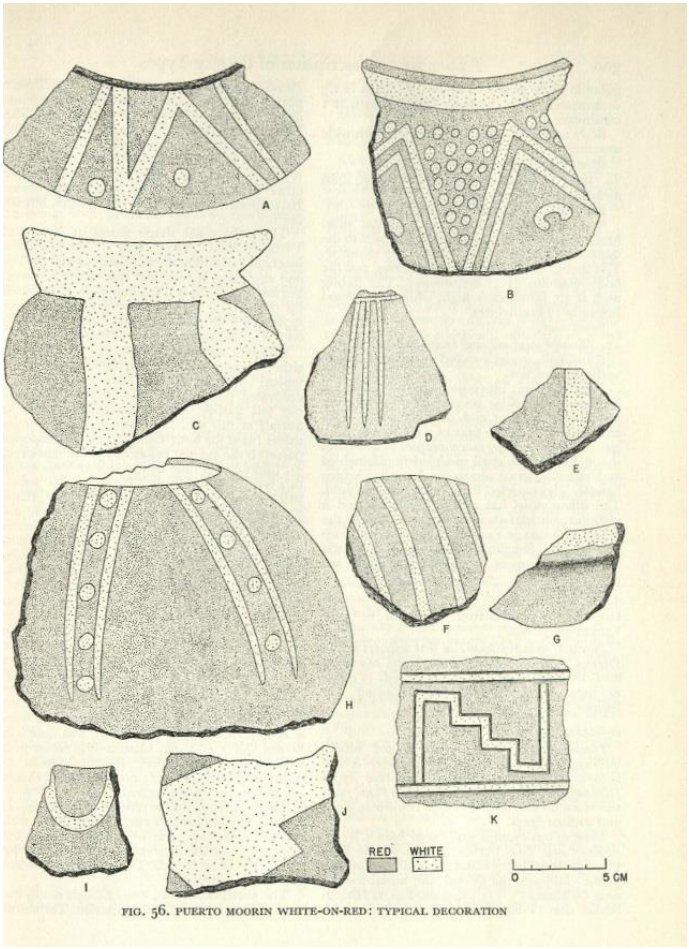

FIG. 56. PUERTO MOORIN WHITE-ON-RED: TYPICAL DECORATION

Figure A.9 Examples of Puero Moorin White-on-Red on HPP (adapted from Strong and Evans 1952)

In sum, the HPP domestic ware tradition sees an increase in the variety of forms and decorations and is quite clearly a transitional tradition between Guañape Plain and Castillo Plain. Patterned burnishing and the presence of short necked jars with thickened rims are the most diagnostic features of HPP domestic ware assemblages. Other decorations, like incisions and white-on-red painting appear to be shared with later Castillo Plain wares and are thus less diagnostic of solely HPP wares. Though it is the only settlement with extensive ceramic data, there

are so many questions surrounding Cerro Arena that its use as a type-site for HPP wares in the Moche Valley is problematic. As such, a better understanding of HPP domestic wares in the Moche Valley awaits future scholars to conduct excavations at more Salinar period settlements and document the domestic assemblages they encounter.

Early Highland Plain (~200 BCE – 900 CE)

What I call the Early Highland Plain domestic ware tradition is an amalgamation of at least two domestic wares that likely have their origins in the adjacent Otuzco or Carabamba highlands, possibly even the upper edges of the Moche Valley *chaupiyunga*. Though they may be from the upper *chaupiyunga* and not technically "highland", one thing is clear: they are not coastal or lower valley ceramics. Early Highland Plain was mainly synthesized from the Cerro Leon and Otuzco wares identified through the work of Ringberg, Billman, and Briceño (Ringberg 2012:158-170; Briceño and Billman 2018:107-121) at Cerro Leon in the middle Moche Valley. The Phase 2 highland ceramics described by John and Theresa Topic (Topic and Topic 1982:13-16) during their survey of the local highlands also proved useful in defining this ware tradition. The Virú Valley project did identify some highland wares, calling them Callejon (Strong and Evans 1952:347-351), but most of their examples were fancier and I include them instead in the Quinga and Early Highland Fine corporate ware traditions.

The only absolute dates available for Early Highland Plain domestic wares that I describe are from the *chaupiyunga* community of Cerro Leon and range between 100 to 400 CE (Bardolph 2017:93-94, 105). However, from the data at hand it is clear that the Early Highland Plain traditions likely predated the founding of Cerro Leon and persisted past its abandonment. Before excavating at Cerro Leon, Billman argued for date ranges of between 100 and 300 CE for occupations with Early Highland Plain ceramics (1996:265-268). He used multiple lines of evidence that correlated Early Highland Plain wares and their associated fine wares with Castillo Plain and Virú Negative wares (1996:265-268). These estimates were remarkably accurate for Cerro Leon, but recent work in the Virú Valley has shown Virú Negative with dates ranging back to at least 200 BCE (Downey 2014:58). Also, the tentative dating for Phase 2 of the highland sequence described by the Topics is from around 200 BCE to 500 CE (Topic and Topic 1982:13). Though I agree that 100 to 400 CE seems to be the height of Early Highland Plain in Moche Valley *chaupiyunga* assemblages, I

would argue that a starting date of 200 BCE would more accurately represent the possible date ranges of this ware. The later chronology of this ware is not even remotely understood but the speculative ending date of 900 CE was chosen for two reasons. First, Boswell's work at Cerro Huancha found no Early Highland Plain domestic wares and the occupation there likely began around 900 to 1000 CE (Boswell 2016:302-304). Second, the associated corporate traditions of Quinga and Early Highland Fine have not been recorded as frequent parts of any Transitional-Early Chimú assemblages I could find and were thus also assumedly out of use by 900 to 1000 CE.

Before delving deeper into the Early Highland Plain domestic ware tradition, it is worth briefly discussing possible predecessors. The Topics describe Phase 1 of their highland sequence as being around the later part of the Early Horizon and the earlier part of Early Intermediate Period (Topic and Topic 1982:13), so from around 600 to 200 BCE. Though they provide no drawings or photos, they describe Phase 1 pottery as thin, sandy, and oxidized, with high frequencies of neckless ollas, bowls, and red slips (Topic and Topic 1982:13). From this characterization, I believe that their Phase 1 aligns well with my descriptions of HPP and the latter half of Guañape Plain domestic wares. In fact, in my survey of the *chaupiyunga* I found a handful of sherds that had the brown pastes and crushed quartz temper/inclusions typical of local highland or upper *chaupiyunga* wares but were constructed into forms that were more reminiscent of those found in coastal Guañape Plain or HPP assemblages (Appendix D). The limited number and speculative status of these sherds precluded any creation of separate domestic ware traditions for them. The fact that, outside of the paste, these sherds were indistinguishable from the other *chaupiyunga* examples of the Guañape Plain or HPP domestic ware traditions led me to fold them into these traditions but take note of the paste differences. In any case, it is interesting that local highland domestic ware traditions seem to have been running parallel, at least in terms of forms and techniques, with those on the coast until at least 200 BCE, after which they diverged considerably from contemporary coastal wares like Castillo Plain.

The two main variants of Early Highland Plain domestic wares are (1) Cerro Leon plain (Ringberg 2012: 158-167) and (2) Otuzco buff plain wares (Ringberg 2012:167-170). Cerro Leon was a hand-modeled, thin, plain ware fired in an oxidized or partially oxidized environment to produce a reddish-brown to brown color. Occasionally Cerro Leon sherds will exhibit a

"sandwich" cross section with a diffuse margin between brown exteriors and a dark black or gray core. The exterior of this ware was often burnished or smoothed but rarely was polished. Interiors were scraped using a hard implement to remove excess clay and achieve thin vessel walls. The temper/inclusions are distinctly angular, possibly crushed, cream or white grains of quartz or some related lighter igneous rock. Ringberg found that the paste and temper/inclusions of this ware aligned almost exactly with clay coming from the modern area of Huacaday in the Otuzco highlands and the upper edge of the *chaupiyunga* (Ringberg 2012:142-143). Otuzco buff plain wares were identical to Cerro Leon plain wares in almost every way except: (1) pastes were yellow-brown to buff colored instead of brown, (2) the "sandwich" cross sections had sharp margins instead of diffuse ones, and (3) the temper/inclusions tended to be a bit finer.

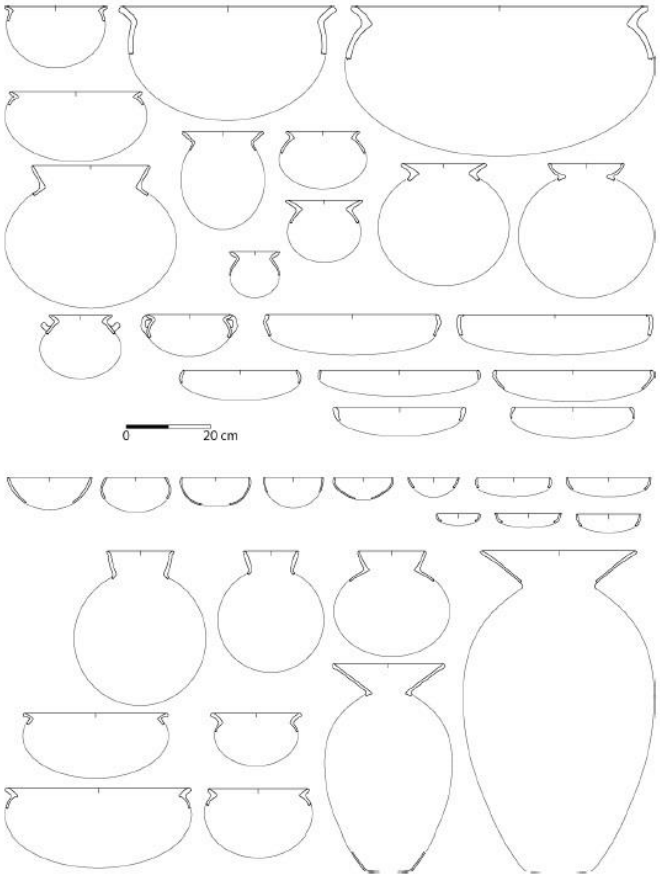

Figure 7.3.2. Reconstructions of Cerro León Series highland vessels, cooking and toasting vessels above, liquid and semi-liquid consistency food serving and storage containers below.

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Figure A.10 Cerro Leon Series Forms (adapted from Ringberg 2012)

The Topics divided their Phase 2 ceramics into Northern and Southern Styles that prove relevant to my discussion of Early Highland Plain domestic wares (Topic and Topic 1982:13-17). The Northern Style was common at the Moche-Chicama divide and was a hard ware with orange to blue-ish gray pastes and inclusions/temper composed of "small bits of dark rock" (Topic and Topic 1982:13-14). The Southern Style was more common in the Otuzco and Carabamba highlands and normally featured buff pastes. However, a variant featuring "dark brown paste with heavy sand temper" was argued to be common in the Moche Valley *chaupiyunga* (Topic and Topic 1982:13-17). Thus, it would appear that the Cerro Leon plain ware may be specific to the Moche Valley *chaupiyunga* and immediately adjacent highland areas. Meanwhile, the Otuzco buff plain ware would appear to fit more easily into the broader Southern Style described by the Topics that spanned much of the local Otuzco and Carabamba highlands.

The Early Highland Plain domestic ware tradition features several forms that are quite distinct from its coastal contemporaries. The only "complete" assemblage of this tradition comes from Cerro Leon and is discussed in incredible detail in Ringberg's dissertation (2012). She identified seven principal forms: (1) cooking and serving pots consisting of neckless and short-necked ollas, (2) extra-large storage vessels called tinajas, (3) large liquid storage vessels called cantaros, (4) jars and pitchers, (5) toasting or storage pans called tostaderas, (6) bowls, and (7) bottles (Ringberg 2012:193; Figure A.10). Many of the short-necked ollas of Cerro Leon appear similar to those found in HPP and Castillo Plain assemblages of the Moche Valley, though several subtle differences are clear. Most notably, the cantaros of Early Highland Plain are characteristic of this ware and have incredibly distinct flared vessel necks and rims that often feature pronounced or thickened lips. The large pans Ringberg calls tostaderas, often called colanders elsewhere, seem to be unique to highland assemblages and analogous forms are observed later in Late Highland Plain assemblages. These would likely be the highland corollary for the grater bowls that became common in HPP and Castillo Plain coastal assemblages. Interestingly, the Otuzco buff wares were almost exclusively found as jars or cantaros (Ringberg 2012:167-170). Looking at several of the cantaro rim profiles provided by the Topics for the Southern Styles of Phase 2 (Topic and Topic 1982:13-15), I would argue they align well with those described by Ringberg. However, the forms for the Northern Styles of Phase 2 are quite distinct from those seen at Cerro Leon and have grooved lips and necks/rims with heavily accentuated curves that often have convex curls (Topic and Topic 1982:13-15; Figure A.11). Though the Topics argued this style was not found in the

valleys (Topic and Topic 1982:14), I encountered many similar forms in my survey collections. In fact, these often had the brown pastes that are characteristic of Cerro Leon wares and were likely local *chaupiyunga*-highland wares. In terms of use, the Early Highland Plain domestic ware tradition included many forms for cooking, serving, and storing food that had analogies in HPP assemblages. Cantaros were notable additions of unique vessels that appeared to have been specialized for storing or serving liquids. Additionally, tostaderos appeared to be specialized for toasting or drying food or goods.

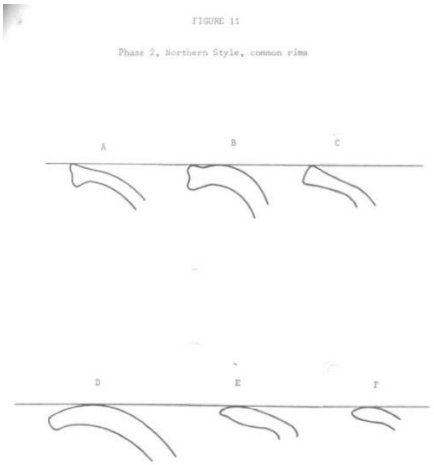

Figure A.11 Phase 2 Southern Style Forms (adapted from Topic and Topic 1982)

Figure A.12 Estilo Serrano Decorations (adapted from Briceño and Billman 2018)

The decorative traditions of Early Highland Plain domestic wares are intertwined with coastal decorations at points but clearly distinct at others. The main decorative elements are red slips, white-on-red painting, polychrome painting, negative painting, burnishing, polishing, incisions, modeling, and punctations (Ringberg 2012:209, 222, 230, 232-233; Figure A.12). Red slips are the most common decorative additions on domestic wares and are often applied on the rims, mouths, or necks of flared cantaros or short-necked serving ollas (Ringberg 2012:222, 232-233). The lips of cantaros and jars are also common targets for decorations: pronounced or thickened lips were often slipped red or had simple incised or punctated designs (Ringberg 2012:209, 222, 232-233). Sometimes red or white slips or paints were also used to create simple geometric designs on these cantaros and slipped or painted areas tended to be burnished or polished (Ringberg 2012:230). Interestingly, many of these designs are actually quite similar to those described as part of the Salinar Fine and Virú Negative traditions. In general, however, the more complex decorations like white-on-red, polychrome, and negative painting seem to be far more common, even exclusive, to the bowls of the Early Highland Fine or Quinga corporate wares. Any tighter chronological placement of the decorative elements found on this ware is impossible with the data on hand: the majority of our understanding of this ware comes from one site.

In sum, the Early Highland Plain domestic ware traditions present the first solid examples of "foreign" domestic wares being used by communities in the *chaupiyunga* of the Moche Valley. The general characteristics, forms, and decorations of Early Highland Plain domestic wares indicate they were likely coming from potters or clay sources on the upper edge of the Moche Valley *chaupiyungas* and highlands around Otuzco or Carabamba. It is interesting that forms seem shared between the Cerro Leon brown-wares and the Otuzco buff-wares, and suggests to me they are wares from the same general highland tradition that are simply being made by different potters or from different clays. More excavation is desperately needed in the upper *chaupiyunga* and adjacent highland to help clarify temporal and spatial breadth of this tradition, its predecessors, and its likely subdivisions.

Castillo Plain (~200 BCE – 900 CE)

The Castillo Plain domestic ware tradition was the dominant domestic ware for nearly a millennium in the Moche Valley and most of the north coast of Peru. Unlike many of the other

wares synthesized in this dissertation, Castillo Plain is relatively well documented. My synthesis of the Castillo Plain domestic ware tradition was taken mainly from the work of Theresa Topic (1977:318-320, 412-422, 499-526) at the Huacas del Moche and the Castillo Plain ceramics described by Ringberg (2012:151-158) at Cerro Leon. These data are supplemented by the ware categories of Castillo Plain, Sarraque Cream, Gloria Polished Plain, and Valle Plain that were established by the Virú Valley project (Collier 1955:186-191; Strong and Evans 1952:262-271; Ford 1949:74-76). To make the sample of forms even more robust, I added the work of Koons (2012:239-240, 249-252, 460-467) at Licapa II in the Chicama Valley. The production and use of Castillo Plain likely began around 200 BCE and it has been recorded as being the main ware in assemblages dating as far back to around 100 BCE (Millaire et al. 2016:18-19). Castillo Plain dominated the assemblage at Huacas del Moche, which was occupied at least from 100 to 850 CE (Uceda 2010:157). The cutoff of this ware at 900 CE represents only an approximation of the mid to late Tomaval Period of the Virú Valley sequence: which illustrated the waning prevalence of Castillo Plain and increased frequencies of Tomaval-Estero and Rubia Plain (Collier 1955:106). This transition is discussed in more detail later but the important point here is that the Castillo Plain domestic ware tradition likely developed into the Rubia and Tomaval-Estero Plain traditions. Thus, the Castillo Plain tradition didn't really disappear, it just changed in substantive enough ways for archaeologists to start calling it something else.

Castillo Plain is a hand-modeled and often thick ware that was well fired in an oxidized environment to produce a distinct brownish-red to orangish-red color. Exterior surfaces were most often smoothed, wiped, or left untreated and only rarely were burnished or polished. Interior surfaces were smoothed or untreated and lacked consistent evidence for scraping. This led Ringberg to explicitly associate Castillo Plain with the paddle and anvil technique as opposed to coil and scrape (Ringberg 2012:145). The result of this technique is that vessel walls appear thicker when compared to Guañape Plain, HPP, and the contemporary Early Highland Plain wares. It is interesting that this switch from scraping interiors to using a paddle and anvil technique occurred between Castillo Plain and HPP domestic ware traditions but did not carry over into the Early Highland Plain domestic ware traditions. The temper/inclusions of this ware are a mix of granitic and quartzite sand, usually rounded or sub-rounded, that create a "salt and pepper" look (Ringberg 2012:151). Theresa Topic identified 22 different ware types based mainly on color and inclusion/temper sizes, of which most seem to fit within my more general description of Castillo

Plain (Topic 1977:220, 412-422). One notably different ware that she identified with relative frequency (n=1011) was her "purple polka-dot ware", or Ware 22, that had a purplish-red paste and was tempered with white calcite (Topic 1977:234). I did not encounter this ware in the *chaupiyunga*, but it seems distinct enough to be recognized if present in any other location in the Moche Valley.

The wares of Valle Plain, Gloria Polished Plain, and Sarraque Cream were identified by the Virú Valley project and I see them as likely variants of the broader Castillo Plain domestic ware tradition (Collier 1955:186-191; Strong and Evans 1952:262-271; Ford 1949:74-76). Valle Plain consisted of coarser wares that tended to be thicker, less consistent in their firing, and have much grittier temper/inclusions that are easily classified as gravel. Sarraque Cream wares were essentially just Castillo Plain wares that had white or cream slips or paints that were often sloppily applied. Finally, Gloria Polished Plain wares represented the finer end of Castillo Plain and were thinner, often polished or burnished, and had finer sand inclusions/temper. For the Moche Valley, I subsume all of these into Castillo Plain simply because they share so many features and are consistently found in the same assemblages. Put simply: they all seem to be part of the same broader domestic ware tradition. Gloria Polished Plain is the only exception, as it was surely also used for Virú Negative and Moche corporate wares. In any case, there is remarkable uniformity in Castillo Plain and it is often clearly distinguishable from other earlier or contemporary highland domestic wares because (1) it lacks consistent interior scraping and (2) it was consistently and thoroughly fired in oxidizing environments.

The Castillo Plain domestic ware tradition sported a wide variety of new forms, specifically in terms of necked vessels like ollas and jars. In her thorough study of the Castillo Plain assemblage at the Huacas del Moche, Theresa Topic identified over 370 rim forms that she split into six main categories: (1) bowls and plates, (2) neckless ollas, (3) short-necked ollas, (4) jars, (5) floreros, and (6) coarse ware ollas (1977:238; Figure A.13). Among her bowls and plates, there seemed to be a variety of different sizes including examples of larger bowls, pans, and graters. Many of the neckless, flared, and short-necked ollas she described for Castillo Plain are reminiscent of those observed in HPP assemblages. However, new c-shaped, carinated ollas, and straight or longer necked jars were additions that were not present in HPP assemblages. The flared vases called floreros are another novel vessel form attributed to Castillo Plain, though here I argue they are

better described as part of the Moche corporate ware tradition. Finally, Castillo Plain seems to have enjoyed a wide array of different coarse ware storage vessels that ranged from neckless to short-necked. These were all classified as part of the Valle Plain ware of the Virú Valley project. The increase in large storage vessels is particularly interesting when compared to the very limited number of forms of this type observed in HPP assemblages.

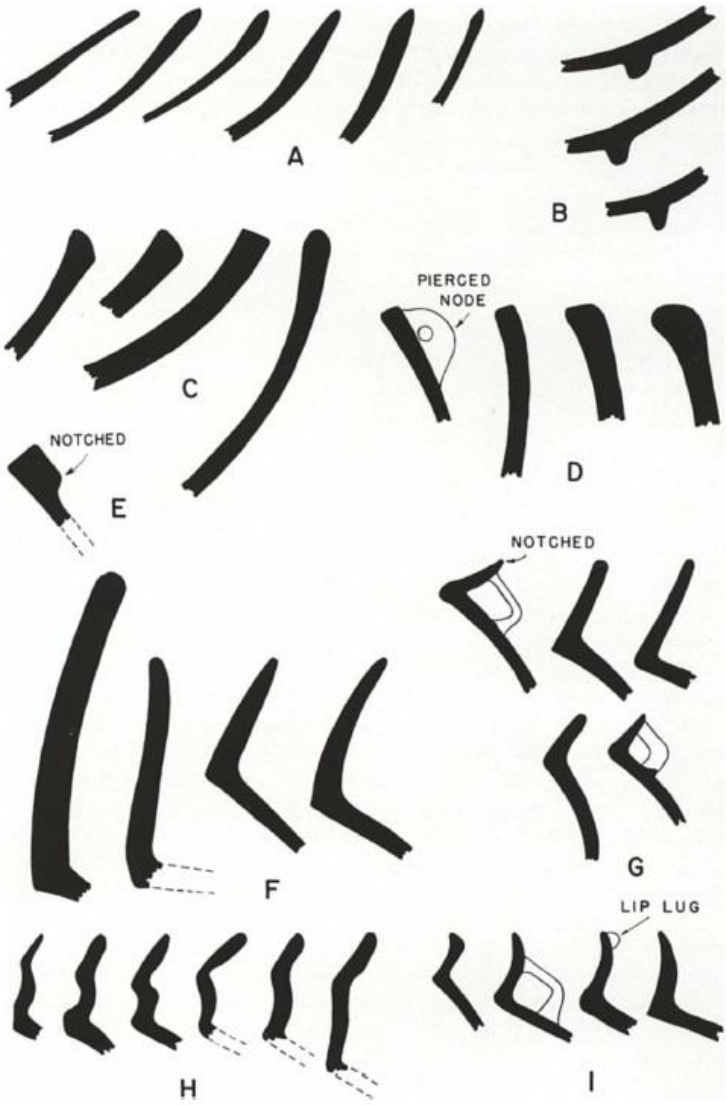

FIG. 63. Rim profiles of Castillo Plain; rim exteriors to the right. × 0.4.

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Figure A.13 Castillo Plain Rim Profiles (adapted from Collier 1955)

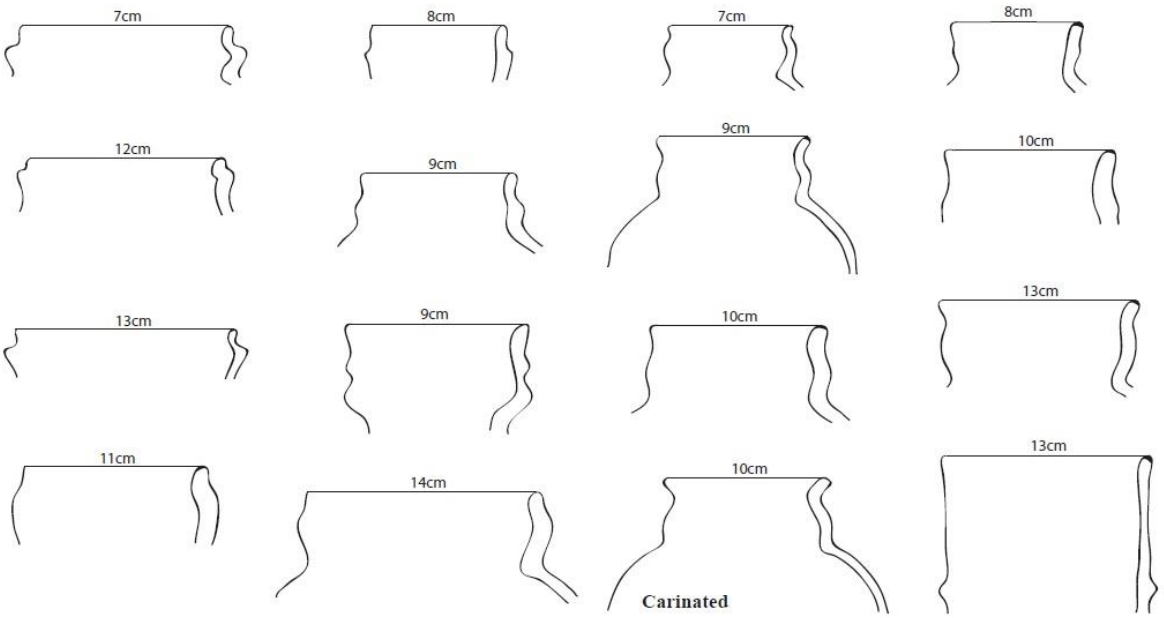

Figure A.14 Later Castillo Plain or Rubia Plain Carinated Rim Profiles (adapted from Koons 2012)

Given Topic identified 370 rim forms, it is not surprising that her Huacas del Moche sample overlaps with or has corollaries in many recorded assemblages of Castillo Plain. The more limited Castillo Plain assemblage recorded at Cerro Leon seems to reflect many of the same forms found at Huacas del Moche but is focused mainly on storage and cooking vessels (Ringberg 2012:187). The Castillo Plain assemblage recorded by the Virú Valley project members also echoes many of the forms recorded by Topic (Collier 1955:186-191; Strong and Evans 1952:262-271; Ford 1949:74-76). Though most of the sample provided by Koons from the Chicama Valley aligns well with the Huacas del Moche assemblage, it is interesting that a wider array of carinated forms are clearly present at Licapa II (Koons 2012:464; Figure A.14). Koons does note that these carinated forms were rare and were mainly found in the upper levels of the site (Koons 2012:251). In the Virú Valley sequence, such variety in carination was mainly observed in the later assemblages of Castillo or among the Rubia Plain domestic ware assemblages (Collier 1955: 186). I consider such carination as mainly diagnostic of later oxidized-fired wares, but this is discussed in far more detail in my overview of the Rubia Plain domestic ware tradition. Generally, Castillo Plain domestic ware assemblages appear to represent the full array of forms that would have been used for the everyday household activities of cooking, serving, and storing. The Castillo Plain repertoire

represents a significant expansion in terms of the variety of different forms present, specifically those devoted to storing, or even preparing, large volumes of goods.

Several decorative elements likely carried over from HPP to Castillo Plain, but there were new additions like the use of molds and more intricate uses of paints. Incision, punctation, modeling, and applique are commonly found in Castillo Plain domestic wares and were described generally under the categories of Castillo Incised and Castillo Modeled by the Virú Valley project (Strong and Evans 1952:309-325; Figure A.15). Strong and Evans were quite explicit that both decorative traditions had their roots in HPP wares and persisted at least into the Huancaco Phase (1952:316, 325). This would put the tentative date range for such decorations in the Virú Valley from at least 200 BCE up to around 600 to 800 CE. Topic noted several pinched face-neck jars and other plastic decorations that seem to align well with Castillo Modeled and Incised as described by the Virú Valley project (1977:299-317). More recent work at the site has confirmed the use of such decorations on the Castillo Plain domestic wares throughout the occupation of Huacas del Moche (Gayoso and Gamarra 2005; Uceda, Gayoso, and Gamarra 2009). Cerro Leon also sports incised and modeled decorations on its Castillo Plain assemblage, including a few pinched face-neck jars (Ringberg 2012:240). Thus, from the data on hand it seems that the timing of the use of Castillo Incised and Modeled in the Moche Valley aligns well with that recorded for the Virú Valley: from at least 200 BCE to at most 800 CE.

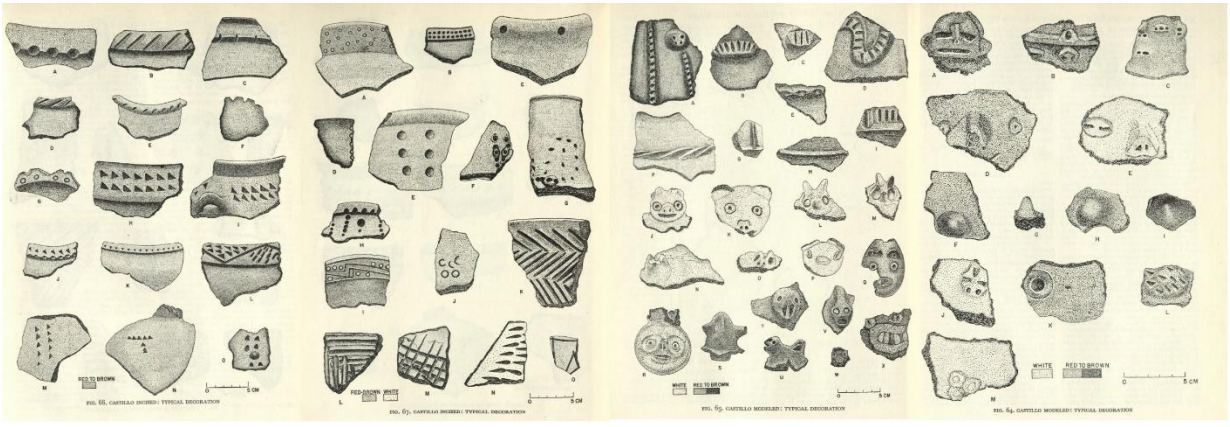

Figure A.15 Examples of Castillo Incised and Castillo Modeled (adapted from Strong and Evans 1952)

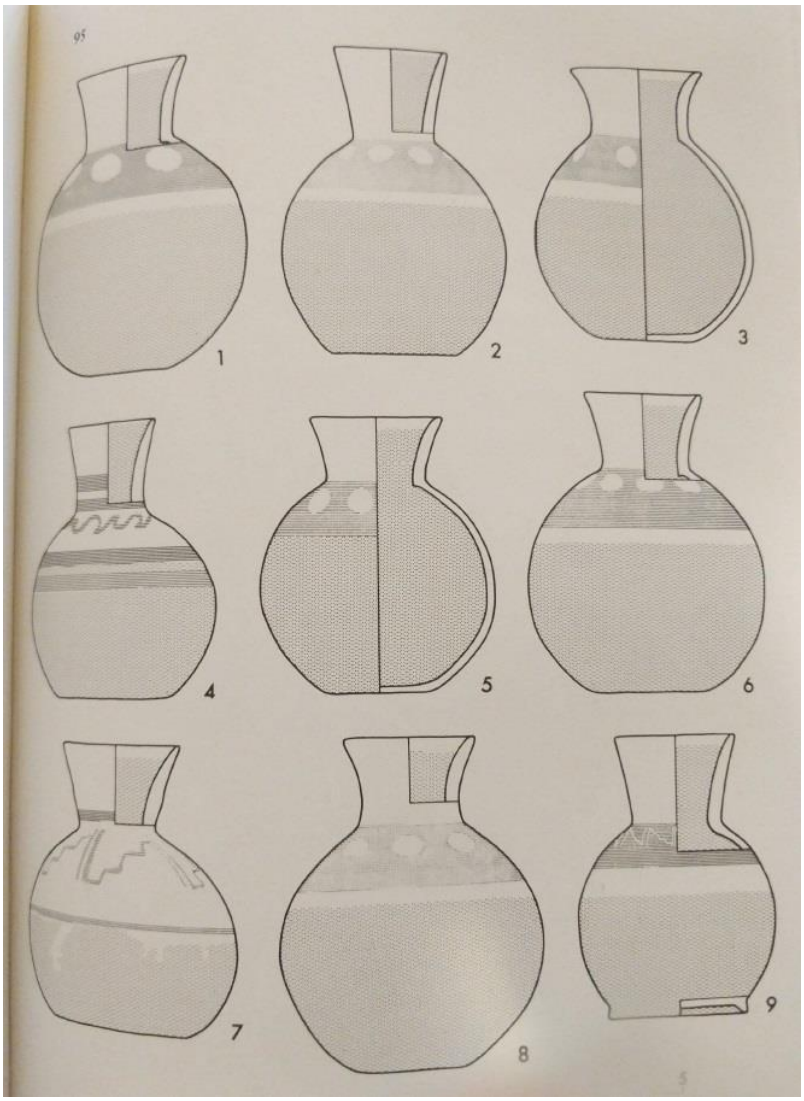

Figure A.16 Basic Paint Schemes Found on Castillo Plain Wares (adapted from Donnan and Mackey 1978)

Painted and molded decorations are found in Castillo Plain domestic ware assemblages but are decorative elements more commonly found in associated corporate wares like Virú Negative or Moche. The most common painted decoration on Castillo Plain domestic wares seems to be a white paint or slip that is applied, sometimes sloppily, over the entire vessel or around the rim. The Virú Valley project created a specific ware category for such vessels: Sarraque Cream (Strong and Evans 1952:261-262). The vessels themselves were simply straight or slightly flared long-necked jars that would otherwise be considered Castillo Plain domestic wares and seem to be common parts of household assemblages. Painted designs aligning with the aforementioned Puerto Moorin White-on-Red decorative tradition are also common in some earlier Castillo Plain vessels (Strong and Evans 1952:300-301). The negative designs associated with the Virú Negative corporate ware

tradition are normally found on finer versions of Castillo Plain wares but these decorations were also no doubt employed on some domestic vessels. Finer versions of Castillo Plain wares also serve as a base for the intricate red, white, and black painted and molded decorations typical of the Moche corporate ware tradition. This being said, less elaborate decorations may be expected on domestic wares. Likely examples are the more modestly decorated tall and slightly flared jars found in some Moche burial contexts that could have easily been used as fancier household storage items (Donnan and Mackey 1978:95-99; Figure A.16). Finally, I follow Koons in categorizing simple molded versions of face-neck jars as domestic wares due to their lack of finer pastes and discovery in non-funerary contexts (2012:232-233; Figure A.17).

Figure A.17 Example of a Molded Face-Neck Jar (adapted from Donnan and Mackey 1978)

In sum, the Castillo Plain domestic ware tradition was the dominant coastal domestic ware for nearly a millennium and was relatively wide-spread in the Moche Valley and the north coast of Peru more generally. The ware itself represents a technological change in how ceramics were made that allows it to be readily distinguished from the preceding HPP tradition and the contemporary Early Highland Plain traditions. Some forms also changed with Castillo Plain, and far more variety was seen among wares meant for cooking and storing large volumes of foods,

liquids, or other goods. Though simpler painted, modeled, and incised decorations persisted through most of the lifespan of Castillo Plain, some decorative traditions linked to corporate ware traditions were also found periodically on the ware. Generally, Castillo Plain is a very well understood domestic ware tradition, although finer studies of forms and pastes will surely illustrate variability in the broad category I use here.

Late Highland Plain (~900 – 1600 CE)

The Late Highland Plain domestic ware tradition is easily the most poorly understood of any ware tradition presented in this dissertation. What little is known about this ware was synthesized here from the work of Boswell (2016:175-184, 333-366) at Cerro Huancha and the Topics (Topic and Topic 1982: 16) in their survey of the local highlands. In my survey of the *chaupiyunga* I originally called this ware "Brujo Plain", naming it after the archaeological site of Cerro el Brujo where I found Late Highland Plain domestic wares in large quantities. However, in order to avoid confusion with the coastal Moche center of El Brujo, I decided it would be best to give it a more generic name and thus arrived at Late Highland Plain. The only absolute dates for this ware are from Cerro Huancha. The dates themselves range from 1100 to 1500 CE but Boswell convincingly argues the site was likely occupied as far back as 900 CE (2016:302-304). This ware generally aligns well with Phase 4 of the highland sequence proposed by the Topics, which was contemporary with coastal Late Intermediate Period assemblages and assumedly ranged from around 1000 to 1500 CE (Topic and Topic 1982:16). The transition from Early Highland Plain to this ware is very unclear other than that it correlates with the waning popularity of the kaolinite bowls that I include in the Quinga corporate ware tradition. Phase 3 of the highland sequence described by the Topics would more-or-less date to the intervening Middle Horizon, from around 500 to 1000 CE, but they provide no photos or rim drawings for this phase (Topic and Topic 1982:15-16). These assemblages are only described as having mixtures of Phase 2 and Phase 4 ceramics but with kaolinites still present, albeit in lower numbers (Topic and Topic 1982:15-16). Given the lack of clarity provided by the Topics, I elected to instead use the work of Boswell as the lower range of Late Highland Plain. The consequence of this was that I extended the upper range of Early Highland Plain and the transition between these domestic ware traditions remains quite unclear. The ending point of Late Highland Plain is also somewhat misleading because the ware likely continued well into the colonial period. As recent as 2018, a master potter at Huacaday

named Sr. Fidel Reyes produces domestic wares remarkably similar in paste and form to Late Highland Plain wares. He sells these wares in the market at Otuzco and several have made their way to my own modern pottery collection in the United States.

Late Highland Plain is a hand-modeled and relatively thick ware that was fired in an oxidized or partially oxidized environment to produce a brown to dark brown color. Surface exteriors of this ware are often left untreated, sloppily smoothed, or sometimes burnished. In my *chaupiyunga* survey, I found that the burnishing used on this ware was quite distinct and potters seemed to have employed a "heavy handed" technique that left visible grooves in the polishing tracks. Surface interiors are most often smoothed or left untreated to produce thicker vessel walls than the preceding Early Highland Plain ceramics, which were mainly scraped. I suspect that the lack of interior scraping may indicate that the paddle and anvil technique had been adopted in the highlands by the time this ware emerged, but it is unclear with the data at hand. The Topics described the temper/inclusions of their Phase 4 ceramics as including "sand, crushed rock, and crushed sherds" with gold mica as a frequent inclusion in pottery coming from the Carabamba Plateau (Topic and Topic 1982:16). The Late Highland Plain domestic wares I encountered in the Moche Valley *chaupiyunga* align well with these descriptions: the temper/inclusions tend to mostly be angular, possibly crushed, cream or white grains of quartz or some related lighter igneous rock. Though often coarser, these temper/inclusions are almost identical to those found in the Cerro Leon ware of Early Highland Plain. In fact, outside of the relative lack of scraped interiors on Late Highland Plain domestic wares, they are almost identical to their predecessors if one is only looking at undecorated body sherds.

The repertoire of forms found for Late Highland Plain is surprisingly limited when compared to its coastal contemporaries and even its predecessors (Figure A.18). The most common forms are jars that often have the heavy flared necks (Boswell 2016:182; Topic and Topic 1982:16). These are similar to the cantaros of their Early Highland Plain predecessors but lack the thickened or accented lips. Other common jar forms are long-necked and everted jars (Boswell 2016:182; Topic and Topic 1982:16). These jars sometimes can be found with oval lugs along the lip exteriors (Topic and Topic 1982:16). Colanders are also found in Late Highland Plain assemblages and their forms are often similar, if not identical, to the tostaderas and pans described by Ringberg in the Early Highland Plain tradition (Boswell 2016:178; Topic and Topic 1982:16).

One difference is that later colanders are described by the Topics as having "very rough exteriors but smoothed interiors" (Topic and Topic 1982:16). Generally, the Late Highland Plain domestic ware tradition has all of the basic parts of any domestic assemblage that needed vessels for cooking, serving, and storing food or other products. However, the variety of forms is scant compared to other assemblages and the only specialized form is the colander, which itself was first introduced as a part of Early Highland Plain assemblages.

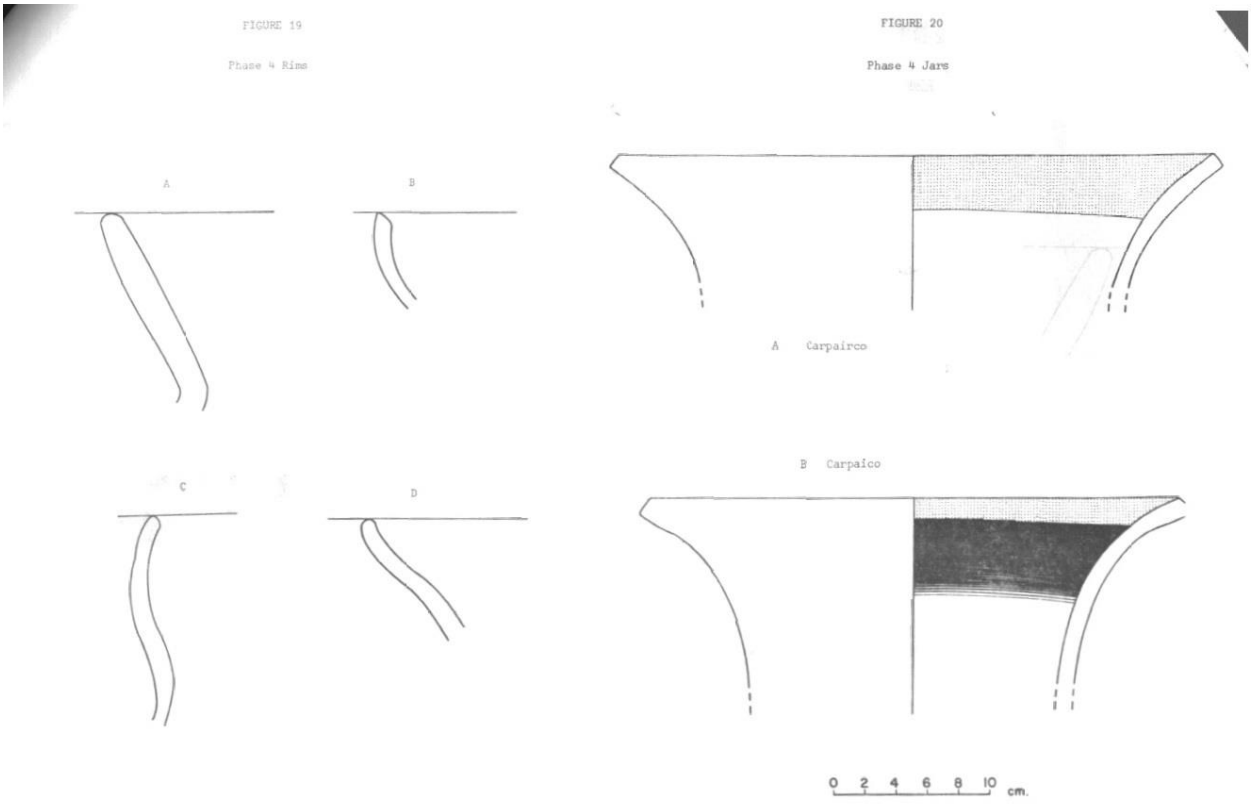

Figure A.18 Phase 4 Highland Rims (adapted from Topic and Topic 1982)

Decorations found in Late Highland Plain domestic wares are infrequent and limited to the use of red, orange, purple, or black paints, some burnishing, and a specific impressed decoration called Huamachuco Impressed. Boswell describes a local painting tradition called Collambay Style that features bands of orange, red, and purple paint applied along vessel lips or in simple designs of concentric circles (2016:341-349; Figure A.19). Painted areas were sometimes burnished over while the paint was still wet or had not adhered entirely to the vessel, creating a smeared look. These descriptions align well with the use of such paints that is outlined by the Topics in their sample of the local highlands (Topic and Topic 1982:16). Boswell also notes a few sherds with an

interesting grayish-black and almost metallic slip. Such decoration is confined to the LIP/LH Phase 3 at Cerro Huancha dating from the mid-1400s up to at least 1532 (Boswell 2016:361). I encountered a few sherds with similar slips, all in later contexts, but more data is needed to be sure such decorations are diagnostic of the Late Horizon and early colonial times. Boswell also noted the presence of a few sherds with the distinct Huamachuco Impressed decoration, describing it as "impressed concentric circles on the neck and shoulder of the vessel" and sometimes with "lines in chevron form… around vessel necks" (2016:92; Topic and Topic 1987:24). Given that Huamachuco was documented as being put in charge of the Moche Valley *chaupiyunga*, I expected to find many sherds that would fit these descriptions but was surprised to find only a few possible examples in my sample of over 16,000 sherds.

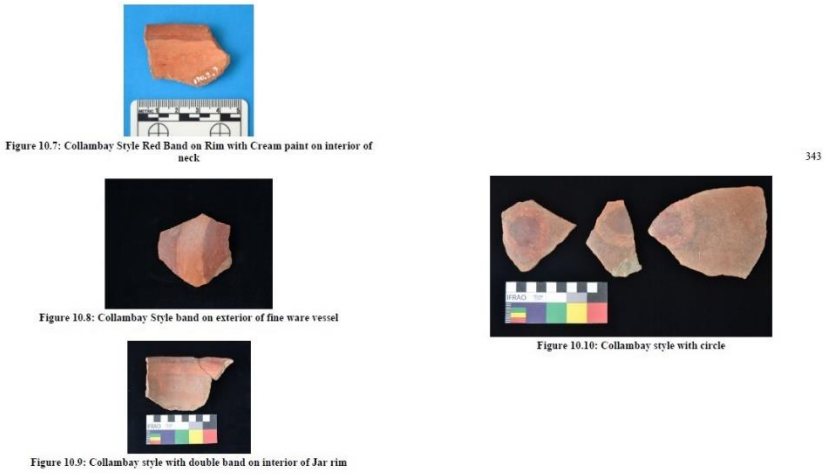

Figure A.19 Collambay Style Decorations (adapted from Boswell 2016)

In sum, Late Highland Plain domestic wares in and around the Moche Valley *chaupiyunga* seem to lack substantive decoration and are limited in their forms, especially when compared to their Early Highland Plain predecessors. In my own experience, while analyzing the assemblage from Cerro El Brujo I was surprised to find that the ceramics appeared so poorly made and scantily decorated. Many of the rims and vessel walls were uneven, and even the "heavy handed" burnishing seemed like it was done as an afterthought. In fact, the ceramics appeared so crude that I was briefly convinced I had made a terrible mistake in my research and that what I had found was some heretofore unknown highland-*chaupiyunga* Guañape Plain or HPP assemblage. As I analyzed more assemblages, it became clear this was not the case. However, this anecdote emphasizes the poor quality of Late Highland Plain domestic wares and I believe is important in

regards to earlier discussions of the socio-political climate in which such wares were produced. The Late Highland Plain does not have any associated fine ware tradition, or at least none that I could identify. This could possibly be reflective of a lack of such corporate networks, but I think it more likely suggests that fancy ceramics were simply not a media that were vital for corporate activities. In general, however, this ware is very poorly understood and a well-coordinated series of projects in the local Otuzco and Carabamba highlands will be the only way for us to attain a better understanding of what a full assemblage looks like and exactly when this ware was being used.

Rubia Plain (~900 – 1600 CE)

The Rubia Plain domestic ware tradition is best described as an amalgamation of the oxidized-fired plainwares commonly used in tandem with Tomaval-Estero Plain. In the Moche Valley, I synthesized this domestic ware tradition from the work of Kanigan (1994:182-410) at Chan Chan and Keatinge (1973:211-398) at Milagros de San Jose, Cero la Virgen, and Medanos la Joyada. In addition, the work of Topic and Moseley (1983:174-173) at Chan Chan and Donnan and Mackey (1978:214-376) at various Chimú sites throughout the Moche Valley provided many valuable insights. The origin of this ware lies with the Virú Valley project, and to create it I drew heavily from their descriptions of Rubia Plain, Purpur Red, Las Lomas Cream, and San Nicolas Molded (Collier 1955:166-169; Ford 1949:71, 73). Regrettably, few absolute dates have been explicitly discussed for Rubia Plain, Tomaval-Estero Plain, or any of the later corporate ware traditions in the Moche Valley. Boswell's work at Cerro Huancha recounts an assemblage that includes what I would call Rubia Plain and thus puts a tentative range at 900 to at least 1500 CE (2016:302-304). Topic and Moseley describe dates ranging from 850 to at least 1470 CE for the occupation at Chan Chan (1983:159), a site that clearly has assemblages that include what I call Rubia Plain. However, they do not cite what dating methods they used to arrive at such precise dates. The Virú Valley project members generally thought this ware was used from their Tomaval Period through to their Estero Period which would be from around 800 to 1600 CE by my reckoning (Collier 1955:166-169; Ford 1949:71, 73). Given these proposed date ranges, I estimate that wares fitting my description of Rubia Plain were common by around 900 CE, possibly earlier, and persisted into Spanish conquest.

Classifying Rubia Plain as its own domestic ware tradition is somewhat misleading, as it is surely linked to Tomaval-Estero Plain and both of these later wares appear to be continuations of the broader Castillo Plain tradition. Rubia Plain was originally defined by Virú Valley project members, who were quite explicit that it was mainly created as a way to track oxidized-fired plainwares in later time periods (Ford 1949:71; Collier 1955:166). Ford and Collier both emphasized that differentiating between Castillo Plain and Rubia Plain was difficult, if not impossible, at times (Ford 1949:71; Collier 1955:166). Such difficulties make sense: the two wares are oxidized-fired with similar temper/inclusions and share many forms. Assumedly because of these ambiguities, Downey went as far as to fold Rubia Plain into his wider category for Castillo Plain (2014:68). His decision was understandable given his focus on earlier phases, but I believe it is inappropriate when looking at the sequence as a whole. A closer reading of the descriptions of Rubia Plain illustrate several subtle differences in production techniques and far more pronounced differences in forms and decorations that readily separate it from Castillo Plain. These same qualities also align it far better with Tomaval-Estero Plain. In my own experience, an undecorated body sherd of what I call Rubia Plain is often difficult to differentiate from Castillo Plain when examined in isolation. However, if one looks at an assemblage as a whole it becomes much easier: namely, the distinctly Rubia Plain decorations and forms become more visible and high frequencies of Tomaval-Estero Plain domestic wares become visible. I definitely acknowledge that using this ware tradition is problematic, but folding it into Castillo Plain risks inflating the presence of earlier ceramic trends at the cost of later ones. As I explain in more detail during my discussion of Tomaval-Estero Plain, I see such trade-offs as unacceptable.

Rubia Plain is a hand-modeled, sometimes mold-made, medium to thick ware that was fired somewhat consistently in an oxidized environment to produce paste colors of grayish-red, brownish-red, purplish-red, or light red. Surface exteriors were most often smoothed or wiped but less frequently were burnished or polished. Horizontal wiping around vessel rims is characteristic of this ware according to Virú Valley project members (Collier 1955:167). Interior surfaces were mostly smoothed or left untreated, though polishing or burnishing was commonly observed on plates or bowls. The temper/inclusions of this ware are a mix of granitic and quartzite sand that is usually rounded or sub-rounded, though the use of crushed ceramics and calcite have also been observed (Kanigan 1994:337-372). Collier noted that the temper/inclusions of Rubia Plain tended to have a “smaller amount of finer sand” than Castillo Plain (1955:167). I was unable to discern

such differences in paste with the data at my disposal for the Moche Valley nor in the Rubia Plain wares identified in my survey materials.

The specific data on pastes and temper/inclusions are excellent for Chimú assemblages in the Moche Valley but also far too detailed to operationalize for the purposes of my ceramic chronology. Kanigan described 36 different ware categories used by John Topic at Chan Chan and Keatinge described 46 different ware categories from three Chimú sites across the Moche Valley (Kanigan 1994:337-372; Keatinge 1973:211-256). Many of these wares were oxidized-fired and fit within my broader definition of Rubia Plain, while others were reduced-fired and would be better categorized as Tomaval-Estero Plain. In terms of chronology, Keatinge observed that oxidized-fired wares were in decline and being replaced by reduced-fired wares up until the colonial period when they experienced a slight increase (Keatinge 1973:157-161). This being said, his sample lacks any earlier sites that would align with the Early Chimú corporate wares described by Donnan and Mackey (1987:214-289). So, while we may expect that Rubia Plain was slowly being replaced by Tomaval-Estero Plain, what is lacking is a good understanding of the transition from Castillo to Rubia Plain that likely took place around 800 to 1100 CE. Though anecdotal, my own experience with what I believe are earlier Rubia Plain wares is that they usually have a dusty light red, sometimes even pink, color that is distinct from the more intensely red or orange hues of the average Castillo Plain assemblage. This being said, it is clear that Rubia Plain and Castillo Plain are quite similar and, as stated earlier, can be difficult to differentiate if the sample at hand is composed of only undecorated body sherds.

Many general forms carry over from Castillo Plain, but the Rubia Plain domestic ware tradition shares most of its forms with its reduced-fired contemporary, Tomaval-Estero Plain. Kanigan divided the domestic ceramics from Chan Chan into six general form categories with their own respective sub-forms: (1) incurving bowls, (2) plates, (3) jars, (4) ollas, (5) urns, and (6) spouts or bottles (Kanigan 1994:182-336; Figure A.20). These align well with the almost identical form categories outlined by Keatinge (1973:211-398). In addition to excellent drawings of these ceramics, Kanigan (1994:182-336) provided raw data with condensed ware categories that allowed me to calculate what percentage of rims of each form were oxidized-fired, reduced-fired, and incomplete or "oddly" fired (Table A.5). Interpreting the oxidized-fired wares as likely examples of Rubia Plain and the reduced-fired wares as likely examples of Tomaval-Estero Plain, it

immediately became clear that most of the forms and sub-categories of forms were shared between the two. The large, coarsely tempered, vessels Kanigan called "urns" were the only form that was exclusive to what I call Rubia Plain wares (Table A.5). Straight necked jars also had relatively high proportions of likely Rubia Plain wares, which was interesting given that such jars were common features of Castillo Plain assemblages. However, most forms appear to have had more modest proportions of Rubia Plain so a discussion of these forms, and their chronology, is reserved for my overview of the reduced-fired Tomaval-Estero Plain domestic ware tradition.

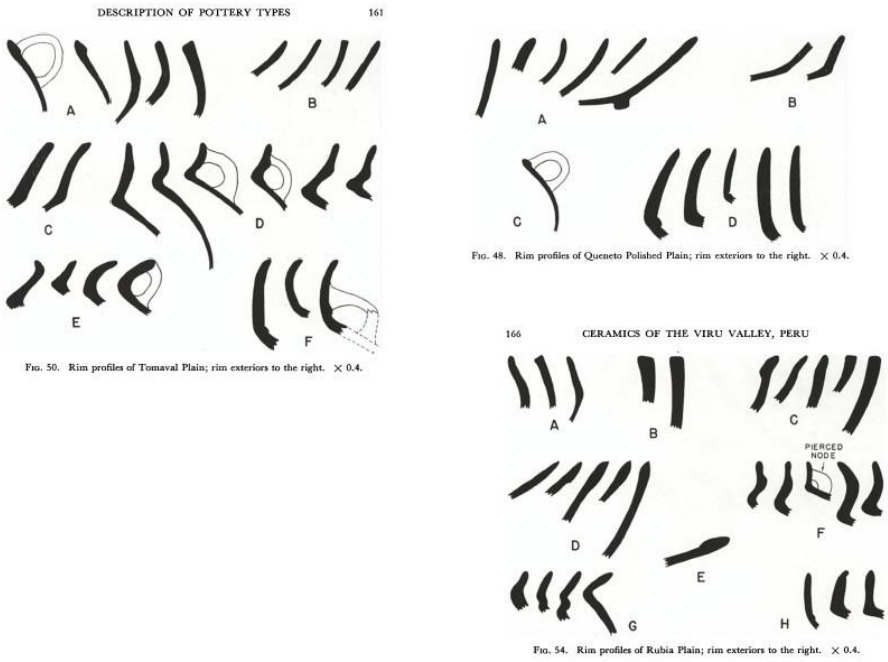

Figure A.20 Rubia, Queneto Polished, and Tomaval Plain Rim Profiles (adapted from Collier 1955)

Table A.5 Distribution of Different Wares by Form at Chan Chan

General Form	REDUCED	OXIDIZED	ODD
Incurving Bowls	**70%**	**19%**	**11%**
Expanded	76%	9%	15%
Plain	59%	32%	8%
Plates	**58%**	**22%**	**21%**
Angled	53%	11%	36%
Smooth	50%	35%	15%
Jars	**48%**	**35%**	**17%**
Straight	35%	56%	10%
Flared Lip	53%	35%	13%

Ollas	**50%**	**33%**	**17%**
Cambered	61%	24%	15%
C-Shaped	41%	34%	24%
Flared	58%	27%	15%
Urns	**1%**	**98%**	**0%**
Spouts	**93%**	**7%**	**0%**

The Rubia Plain assemblages described for the Moche Valley generally align well with those outlined by Virú Valley project members but such comparisons also illustrate some of the issues surrounding the ware (Collier 1955:166-169; Ford 1949:71,73). The Virú Valley assemblage of Rubia Plain appears more limited in the variety of jar forms (Collier 1955:166). Meanwhile, serving wares like bowls or plates are far more prevalent (Collier 1955:166). I would argue this difference is likely more a product of the classification issues in distinguishing Castillo Plain from Rubia Plain than any substantial difference between the late oxidized-fired wares of the valleys. The data of both Collier (1955:189) and Strong and Evans (1952:264-266) indicates that carinated forms were surely later features of Castillo Plain assemblages that only appeared in the Huancaco and Tomaval Periods, or from around 600 to around 1100 CE. Thus, I suspect these scholars would possibly have classified the carinated oxidized-fired rims recounted by Keatinge and Kanigan as Castillo Plain, while I argue they are Rubia Plain. Such issues, and the similarities that cause them, reinforce my statements regarding the close linkages between these three domestic ware traditions. I think it is most likely that Castillo Plain, Rubia Plain, and Tomaval-Estero Plain are all one massive domestic ware tradition in which some new forms emerged and potters began reduced-firing their ceramics more often starting around 900 CE. However, the goal is to utilize these ceramics to tell us about the passage of time, so separating this tradition into its early oxidized (Castillo Plain), late oxidized (Rubia Plain), and late reduced (Tomaval-Estero Plain) iterations is crucial.

Decorative elements associated with Rubia Plain domestic wares are numerous and include a variety of paints, slips, mold-impressed designs, modeled appliques, paddle stamping, and incisions. I table my treatment of modeled appliques, incisions, and paddle stamping for my discussion of Tomaval-Estero Plain solely because there are far fewer examples of such decorative techniques being used on Rubia Plain. One common decoration on Rubia Plain was a white wash, slip, or paint often found applied sloppily on entire vessels, around the lips, or in simple designs.

Such decoration was called Las Lomas Cream by Collier and was seen as a later version of Sarraque Cream but on distinctly Rubia Plain forms (1955:176-177). This was also the most frequent decoration recognized by Kanigan (1994:388) at Chan Chan and is one I encountered often while excavating at the coastal Chimú town of Cerro la Virgen. A less common decoration, Purpur Red, is a red slip or paint applied around the lips and necks of jars and ollas but sometimes on the interior of bowls (Collier 1955:177-179). Though Collier argued this decoration was exclusively found in earlier contexts, the data from Kanigan suggests it was likely common throughout (Collier 1955:178; Kanigan 1994:388). Interestingly, I encountered red slips far more frequently than any white paints or slips among the Rubia Plain assemblages in my survey of the Moche Valley *chaupiyunga*. Intricate geometric designs painted in polychrome in red, white, and black are also found on finer examples of Rubia Plain but these are described later as part of the Transitional-Early Chimú corporate ware tradition (Donnan and Mackey 1978:214-289; Collier 1955:180-184). In general, it is worth mentioning that paints or slips appear to have been far more commonly found on Rubia Plain than on Tomaval-Estero Plain.

The wider use of mold-impressed designs and mold-made vessels is generally a diagnostic feature of the later coastal ware traditions and is frequently found on both Rubia Plain and Tomaval-Estero Plain domestic wares. Collier observed that single-piece molds were used mainly on bowls or plates while two-piece molds with horizontal or vertical joins were used on jars and bottles (1955:126). These molds usually sport one or several decorative designs that range from simple dots and lines to geometric patterns to even representative depictions of animals or humanlike figures. Donnan and Mackey illustrate a number of jars with mold-impressed wave and stepped motifs around the shoulders from burials dating to their Early Chimú period (1978:214-289; Figure A.21). From the photos these wares look oxidized but the authors do not explicitly describe these as Rubia Plain-like wares. At Chan Chan, mold-impressed stippling, locally referred to as *piel de ganzo*, and raised lines were easily the most commonly found decorations throughout the occupation of the site (Kanigan 1994:389-390). Whether or not such decorations were found on Rubia Plain or Tomaval-Estero Plain wares remains unclear with the data on hand. Boswell recorded a few mold-impressed designs on what appear to be red or dusty red wares that could align with Rubia Plain but it is difficult to say with the pictures provided (Boswell 2016:351-352). My own experience is that the use of mold-impressed decorations is very common on Rubia Plain in earlier assemblages but is more common on Tomaval-Estero Plain in later assemblages.

However, this is purely anecdotal and I suspect is a product of there being generally higher frequencies of Tomaval-Estero Plain in later assemblages.

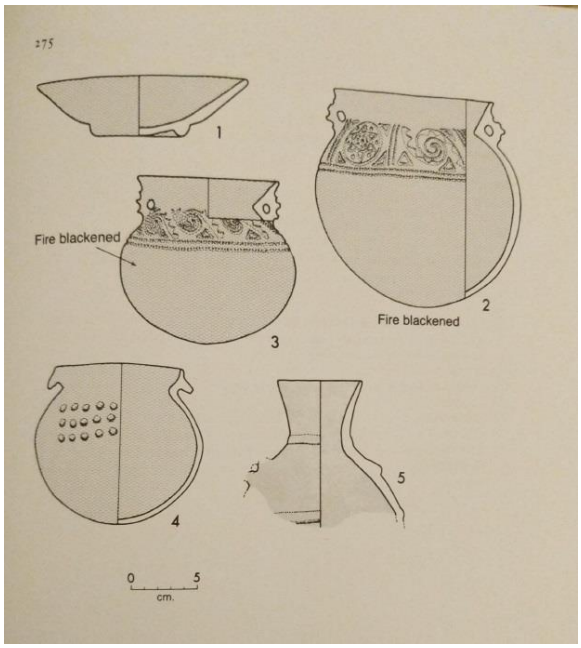

Figure A.21 Mold-Impressed Wave Motif on Rubia Plain Vessels (adapted from Donnan and Mackey 1978)

FIG. 57. San Nicolas Molded sherds from bowls and jars; rims toward top except for large rim sherd above center and rim sherd in center second from bottom. × 0.4.

Figure A.22 San Nicolas Molded Sherds (adapted from Collier 1955)

A variety of mold-impressed designs found on Rubia Plain, and some Castillo Plain, wares were documented by the Virú Valley project with the ware type called San Nicolas Molded (Collier 1955:172-175; Figure A.22). Though this ware type was mostly composed of bowls that I consider part of the Transitional-Early Chimú and earlier Middle-Late Chimú corporate ware tradition, Collier does note that such decoration also occurred on jars and ollas (1955:175). This decorative tradition appears to peak at 6% during the Tomaval, so from around 800 to 1100 CE by my reckoning, but steadily decreases in frequency until it only represents 1% in the latest assemblages (Collier 1955:172). Such a pattern aligns well with my previous anecdotal observation that mold-impressed designs on Rubia Plain tended to be more commonly observed in earlier contexts in the Moche Valley. However, it is important to reiterate that the temporal dynamics of these mold-impressed designs are poorly understood, specifically among those that were possibly contemporary with Transitional-Early Chimú corporate wares.

In sum, the Rubia Plain domestic ware tradition is the late oxidized-fired coastal domestic ware that is linked in most forms and decorations with Tomaval-Estero Plain, both of which are later developments from Castillo Plain. While many forms persisted from Castillo Plain, an explosion of new carinated forms is highly diagnostic of Rubia Plain domestic ware assemblages. Additionally, far more Rubia Plain domestic wares were mold-made and many were decorated with the mold-impressed designs common of later coastal ceramic assemblages. Rubia Plain does stand apart from Tomaval-Estero Plain as it frequently was slipped or painted with red or white paints. The key to futures studies of this ware will likely require excavation at settlements occupied between 900 and 1100 CE during the hypothetical transition from Castillo to Rubia Plain to determine how and if they can be effectively distinguished.

Tomaval-Estero Plain (~900 – 1600 CE)

The reduced-fired Tomaval-Estero Plain domestic ware tradition succeeds Castillo Plain as the hallmark coastal and lower valley domestic ware tradition and is the final domestic ware tradition I describe here. The sources that I used to synthesize this ware in the Moche Valley are identical to those used to describe Rubia Plain: the work of Kanigan (1994:182-410) and Keatinge (1973:211-398) provided much of the necessary detail while the more general treatments by Topic and Moseley (1983:174-173) and Donnan and Mackey (1978:214-376) add insights in terms of

chronology. As with Rubia Plain, the origin of this ware lies with the Virú Valley project and it was synthesized from their descriptions of Tomaval Plain, Estero Plain, Queneto Polished Plain, Virú Plain, San Juan Molded, La Plata Molded, Nino Stamped, and Corral Incised (Ford 1949:72-74; Strong and Evans 1952:270-277; Collier 1955:157-176). Specifically, the name of this ware is derived from combining the two most common reduced-fired wares identified by the Virú Valley project: Tomaval and Estero Plain. The dating for this ware in the Moche Valley, and the sources used to reach these dates, are identical to those used for Rubia Plain and place it between around 900 and 1600 CE (Boswell 2016:302-304; Topic and Moseley 1983:159).

The evidence on hand shows that reduced-fired wares fitting my descriptions of Tomaval-Estero Plain are clearly present in some earlier contexts but only rose to be dominant wares in assemblages after around 900 CE in the Moche Valley. Donnan and Mackey state that only about 5% of the vessels found from Moche contexts in the Moche Valley were reduced-fired though it is likely they were referring mainly to burial wares (1978:55). At Huacas del Moche, Theresa Topic found that reduced-fired wares rose from 1% to 5% of the total assemblage over the course of the Moche occupation of the site (1977:224-225). Keatinge observed that reduced-fired wares dropped from composing 62% down to 29% of assemblages between Middle-Late Chimú and Chimú-Inka contexts (1973:95). Thus, in the Moche Valley we can say that reduced-fired wares likely began to appear starting by around 200 to 400 CE but were in very low quantities. By 1100 CE, these wares were making up the majority of assemblages at sites like Milagro de San Jose and Cerro la Virgen but did appear to decline in popularity sometime after Inka conquest in the 1500s. Given the disparity between the proportions described by Keatinge vs. those discussed by Theresa Topic, the rise in frequency of Tomaval-Estero Plain would hypothetically have occurred sometime between 800 and 1100 CE: after the decline of the Huacas del Moche but before the occupations at Milagros de San Jose and Cerro la Virgen.

A similar arrangement appears in the Virú Valley, where project members recognized Tomaval Plain reduced wares in low frequencies dating to their Gallinazo Period and only rising in prominence in their later Tomaval, La Plata, and Estero Periods (Strong and Evans 1952:276; Collier 1955:160-161). This led Downey to put a starting date of 200 CE on his Late Plainware category that he used as a catch-all for reduced-fired wares (Downey 2014:68). I argue this is far too early a date to assign such wares in the Moche Valley, and even in the Virú Valley for that

matter. The most frequent Tomaval Plain form described by Strong and Evans as being found during their earlier Gallinazo period is a rather unremarkable vertical to flared-neck jar form that has clear Castillo Plain corollaries (Strong and Evans 1952:264, 275-276). It is only by their Huancaco period that some of the more characteristic carinated forms emerge but, even so, their examples lack the wide variety that I have discussed was common in later assemblages (Strong and Evans 1952:275-276). The same can be said about the other reduced-fired wares they found in earlier contexts: Queneto Polished Plain and Virú Plain both only appear in later Gallinazo assemblages or in Huancaco assemblages (Strong and Evans 1952:270-274). Even though they are present, these reduced-fired wares are found in relatively low frequencies compared to Castillo Plain until at least halfway through the Tomaval period, so until around 900 to 1000 CE by my reckoning (Collier 1955:106).

Recalling that Downey combined Rubia and Castillo Plain, I suspect that this decision had several unintended consequences for his conclusions regarding Late Plainwares. Given that Rubia Plain is almost always found side-by-side with Tomaval-Estero Plain, his condensed Castillo Plain and Late Plainware categories would have likely appeared together more frequently. Additionally, the proportions of Castillo Plain would appear far higher in assemblages with Late Plainwares. Both patterns would be the result of interrelations between Tomaval-Estero Plain and Rubia Plain, and not between Tomaval-Estero Plain and Castillo Plain. Given the correlations Downey was observing, I suspect that such patterns likely encouraged him to adopt such an earlier date for Late Plainwares. I also suspect that all of this led to an overrepresentation of Late Plainwares in Castillo Plain assemblages and visa-versa: they would have been correlating with each other more often solely because Rubia Plain had been folded into Castillo Plain. A closer look at his two earlier Castillo Plain dominated time periods supports these suspicions. His Late Virú period dates from around 600 to 750 CE and he argues that it can be identified by frequencies of Late Plainwares ranging from 10 to 20% (Downey 2014:124). This is significantly higher than the 5% noted by Theresa Topic in the contemporary occupations at Huacas del Moche or those generally recorded by Donnan and Mackey (Topic 1977:224-225; Donnan and Mackey 1978:55). Even earlier, his Middle Virú period dates from around 200 BCE to 600 CE and he argues for frequencies of Late Plainwares ranging from 0 up to 10% (Downey 2014:124). Though it is good that his bottom range accounts for occupations in which reduced-fire wares were completely absent, there is no evidence for his upper range of 10% in any of the contemporary assemblages I have described in the Moche

Valley. Given these issues, I do not use his proposed ware proportions for dating any assemblages in the Moche Valley. They simply do not fit the data at my disposal. Instead, I settled on a starting date of around 900 CE for Tomaval-Estero Plain: not because that is when the ware technically started but because that is when it likely started being found in notably higher percentages.

Tomaval-Estero Plain was a hand-modeled, sometimes mold-made, medium to thick ware fired in a reduced environment to produce colors ranging from gray to blue-gray to black. Exterior surfaces were most often smoothed or wiped but were occasionally burnished or, even more rarely, polished. Interior surfaces were often smoothed, wiped, or left untreated although some bowls and ollas featured burnishing or polishing. The temper/inclusions of this ware are a mix of granitic and quartzite sand that is usually rounded or sub-rounded, though the use of crushed ceramics and calcite have also been observed (Kanigan 1994:337-372). The Virú Valley project identified several reduced-fired wares that I subsumed under my broader Tomaval-Estero Plain tradition. First, Estero Plain was described as gray to blue-gray in color and had much finer sand inclusions (Collier 1955:164-166). This ware was not observed in contexts before 900 CE but otherwise shared most of its forms with Tomaval Plain (Collier 1955:164-166). Virú Plain was a poorly fired coarse ware with colors ranging from dark gray to grayish red and temper/inclusion composed of gravel (Collier 1955:168). Finally, Queneto Polished Plain was essentially the finer and polished version of Tomaval Plain and was most often associated with fancier vessels that I consider to be part of the Middle-Late Chimú and Chimú-Inka corporate ware traditions (Collier 1955:157-160). Generally speaking, all of these wares align well with the reduced-fired wares described by Kanigan (1994:337-372) and Keatinge (1973:211-256) with the notable addition of the wider variety of temper/inclusions noted by Kanigan.

Tomaval-Estero Plain domestic wares sported a wide variety of forms, most of which were shared with contemporary oxidized-fired Rubia Plain domestic wares. As stated earlier, Kanigan divided the domestic ceramics from Chan Chan into six general form categories with their own respective sub-forms: (1) incurving bowls, (2) plates, (3) jars, (4) ollas, (5) urns, and (6) spouts or bottles (Kanigan 1994:182-336; Figure A.20). The majority of her forms and sub-forms were found over 50% of the time on reduced-fired wares: plain incurving bows, angled plates, smooth plates, flared lip jars, cambered ollas, and flared ollas (Table A.5). Interestingly, c-shaped ollas had more even distributions and appeared to be found somewhat equally between Rubia Plain and

Tomaval-Estero Plain domestic wares (Table A.5). The overwhelming majority of her expanded incurving bowl category were found to be likely Tomaval-Estero Plain wares at 76% (Table A.5). The forms shown here illustrate all of the necessary vessels needed for the everyday household activities of preparing, serving, and storing food or other goods. Several studies of the relative frequencies of these forms have shown that cooking ollas tend to dominate later domestic assemblages (Mullins 2019: 309-312; Cutright 2015:80), likely illustrating the importance of ceramics in food preparation. There seems to be a wider proliferation of bowls and plate forms, specifically the angled plates in Tomaval-Estero Plain assemblages compared to earlier ones. Given their likely use in corporate activities (Mullins 2019: 309-312), I include these forms as part of the Middle-Late Chimú corporate ware tradition. In addition, the proliferation of new forms of jars and ollas continues from that observed in Castillo Plain assemblages, specifically with the wide variety of carinated/cambered olla forms that are diagnostic of these later assemblages.

Several attempts have been made to create a chronology of the forms belonging to wares that I would classify as Rubia Plain or Tomaval-Estero Plain. Topic and Moseley made some of the earlier and more widely used ceramic chronologies for such forms (1983:174-175). Kanigan offers a more modern synopsis of the trends that she observed and how such trends fit with the work of other scholars (1994:162-173). As Kanigan worked from data collected by John Topic, it should not be surprising that their chronologies were quite compatible with one another. Regrettably, Kanigan proposes no specific dates for these chronologies and instead the estimates I provide here are done by my own reckoning off of the charts provided by Topic and Moseley and should then be considered with extreme caution (1983:159; Table A.2). The biggest change made by Kanigan was that she condensed the Phases 1 and 2 of Topic and Moseley into her Phase A. This was mainly because Topic described his Phase 1 as “hypothetical” and was likely attempting to make up for important Transitional-Early Chimú elements like polychromes that were not present in his collections. Other than this, her phases align well with those proposed by Topic and Moseley but with some minor modifications. Her Phase A is characterized by large amounts of ring-based bowls along with the absence of plain incurving bowls, angled plates, and flat stirrup forms (Kanigan 1994: 162; Figure A.23). Phase B sees the introduction of tripod bowls and the continued absence of flat stirrup forms (Kanigan 1994:162-163; Figure A.24). The date ranges for Phase C are obviously far too specific for ceramics, between 1350 and 1400 CE, but this phase is characterized mainly by introduction of the new angled plate form A3 (Kanigan 1994:

163; Figure A.25). Finally, Phase D was characterized by the appearance of flat stirrup forms and two new cambered olla forms (Kanigan 1994: 163; Figure A.26). The main issue with utilizing this chronology is that the earlier phases are defined by the absence of certain forms while later phases are defined by their presence: the chronology is aggregative and no forms completely disappear.

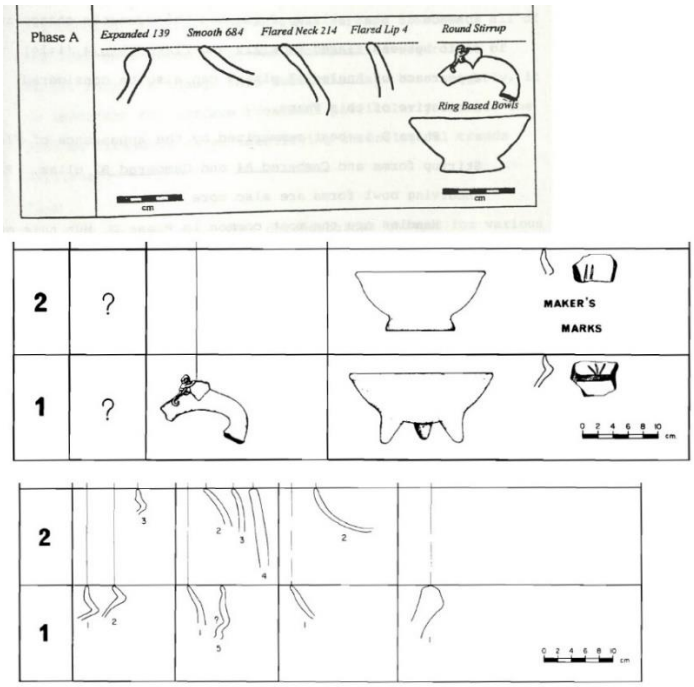

Figure A.23 Phase A (adapted from Kanigan 1994; Topic and Moseley 1983)

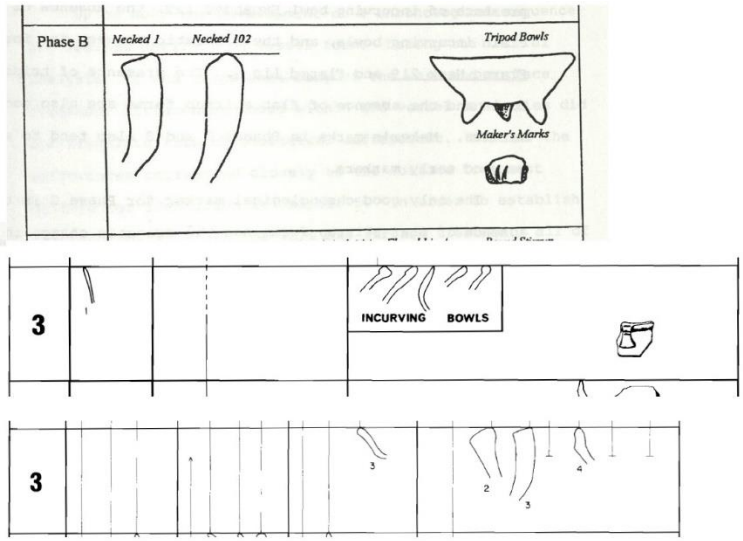

Figure A.24 Phase B (adapted from Kanigan 1994; Topic and Moseley 1983)

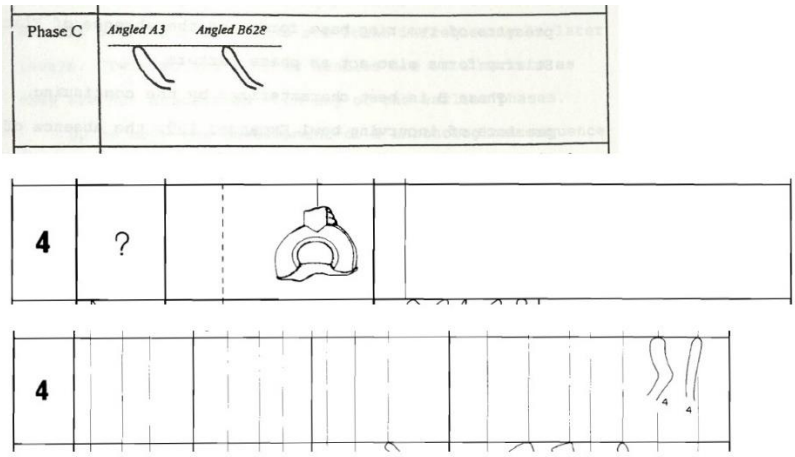

Figure A.25 Phase C (adapted from Kanigan 1994; Topic and Moseley 1983)

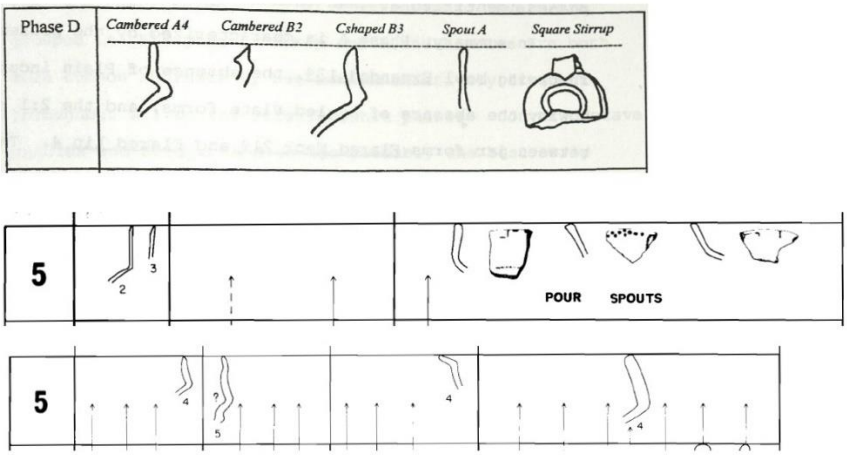

Figure A.26 Phase D (adapted from Kanigan 1994; Topic and Moseley 1983)

These general findings by Kanigan align well with the chronology proposed by Donnan and Mackey for their Chimú periods (1978:214-376), but has important consequences for their Chimú-Inka period. The Early Chimú category of Donnan and Mackey is very similar to Kanigan's Phase A: with ring-based bowls and a lack of angled plates or stirrup-spouts (1978:214-289). However, as we will see in the discussion of Transitional-Early Chimú corporate wares, Kanigan's Phase A lacks the polychrome finer wares that are quite common in Donnan and Mackey's sample. Their Middle Chimú category generally aligns well with Kanigan's Phase B, and they importantly specify that tripod-base bowls were mostly reduced-fired (Donnan and Mackey 1978:289-340). Their Late Chimú category appears to be a combination of Kanigan's Phase C and D, which I would argue is a safer approximation given those phases seemed rather short in Kanigan's

chronology (Donnan and Mackey 1978:340-356). Though the main diagnostics for their Chimú-Inka period are aryballos forms and Inka decorations, they also argue that "plates with squared rims and angled bases" are diagnostic of this period (Donnan and Mackey 1978:356-357). Since such plates were clearly represented in assemblages described by Kanigan, this position no longer seems tenable. In fact, I would argue that the only form that is definitively associated with Chimú-Inka domestic ware assemblages is the aryballos, and variations therein. Even then, aryballoi are better described as corporate wares of the Inka regime. The work of Keatinge does suggest that larger handles tended to replace lugs over time in Tomaval-Estero and Rubia Plain assemblages, but recommends "extreme caution" as his samples were small (Keatinge 1973:120, 153-155).

The most diagnostic decorations of Tomaval-Estero Plain domestic wares are mold-impressed designs and paddle stamping, but incisions, modeled appliques, and burnishing or polishing are also quite common. As mentioned earlier, *piel de ganzo* and raised lines were the most commonly found mold-impressed decorations throughout the occupation at Chan Chan and likely were employed on reduced-fired wares I would describe as Tomaval-Estero Plain (Kanigan 1994:389-390). Keatinge outlines a number of mold-impressed decorations that align well with those described by Kanigan, the majority of which are *piel de ganzo* zoned by raised lines (Keatinge 1973:337-344). Though less frequent than the simpler *piel de ganzo*, more complex designs depicting agricultural or maritime products are also found incorporated into mold-impressed decorations (Keatinge 1973:343-344; Donnan and Mackey 1978:289-357; Kanigan 1944:403-405). The Virú Valley project members identified similar mold-impressed decorations on reduced-fired wares and described them in their categories of San Juan Molded and La Plata Molded (Collier 1955:169-172; Figure A.27). Like on Rubia Plain, these decorations were often found on plates and bowls that I consider part of the Chimú corporate ware tradition. However, such decorations were also very commonly found on jars and ollas that likely served more quotidian and household purposes.

Paddle stamping, locally called *paleteada,* is a novel and frequently observed decorative element employed on many Tomaval-Estero Plain and Rubia Plain domestic wares. Checkered diamond or squared designs that likely emulated fish-nets are the most common of these and are found throughout the assemblages at Chan Chan and all the sites described by Keatinge (Kanigan 1994:160; Keatinge 1973:334-336). This interesting decorative tradition associated with the

paddle and anvil technique further connects the domestic ware traditions of Tomaval-Estero Plain and Castillo Plain. A wide variety of modeled appliques were often found on Tomaval-Estero Plain and Rubia Plain wares: ranging from simple fillets or lugs to more complicated *adornos* of animals or humans (Kanigan 1994:406-409; Keatinge 1973:325-333). Modeled or mold-impressed faces are often paired with applique nubs on the necks of straight or flared jars that appear quite reminiscent of the earlier face-neck jars typical in Castillo Plain assemblages. Interestingly, incised designs found on Tomaval-Estero Plain and Rubia Plain wares are very often checkered and emulate fish-nets or are stippled and emulate the designs typical of mold-impressed decorations (Keatinge 1973:349-352; Kanigan 1994:401-402, 407). Generally speaking, many of the decorations associated with later coastal wares are laden with maritime imagery or symbolism. This being said, non-representational incised lines that are called "makers marks" are also found on a number of vessels along their rims (Keatinge 1973:353).

FIG. 55. San Juan Molded sherds from bowls and jars; rims toward the top. × 0.4.

Figure A.27 San Juan Molded Sherds (adapted from Collier 1955)

In sum, the Tomaval-Estero Plain domestic ware tradition is a highly diagnostic reduced-fired ware that only became widely seen in later coastal assemblages. The forms found among Tomaval-Estero Plain wares are intertwined with those found in Rubia Plain assemblages and many vessels were mold-made. Paddle stamping and mold-impressed designs are the most commonly found decorative elements on Tomaval-Estero Plain wares and often are evocative of coastal or maritime themes. Though this ware is relatively well understood, it would benefit greatly from more detailed investigations that could help determine how separate, other than being reduced, it actually was from contemporary Rubia Plain domestic wares.

CORPORATE WARE TRADITIONS OF THE MOCHE VALLEY

Corporate wares had to be generally associated with corporate or political activities or traditions and were generally finer and fancier wares. Simplifying considerable variability, and acknowledging overlap, I identified nine corporate ware traditions: (1) Ancón, (2) Salinar Fine, (3) Quinga, (4) Early Highland Fine (5) Virú Negative, (6) Moche, (7) Transitional-Early Chimú, (8) Middle-Late Chimú, and (9) Chimú-Inka. Many are broad categories that can often be subdivided (e.g. Moche III-IV and Moche V) but all include suites of forms or decorative features that are associated with explicitly corporate or political activities, mainly elite burial traditions. My discussion of corporate wares here is far less detailed than the one I provided for domestic wares for three main reasons. Firstly, these wares are relatively rare outside of burial and elite contexts and were encountered sparingly in my survey. Second, many of these corporate wares have been intensively studied by a host of anthropologists, archaeologists, and art historians and it is beyond my training and the scope of this dissertation to join the more detailed discourse provided by these scholars. Finally, and along this vein, many of these wares have been studied far more intensively than domestic wares and thus a more detailed synthesis here is unnecessary. I have simply tried to cite the relevant works so that anyone interested may find them. What follows is a summary of these corporate wares with brief descriptions of (1) the sources used and general chronological information, (2) general ware characteristics, (3) forms associated with the ware, (4) decorations associated with the ware, and (5) the general use of the ware.

Ancón (~1600 – 400 BCE)

The Ancón corporate wares that I discuss here are an amalgamation of all of the earliest, and undoubtedly disparate, ware traditions that compose the finer wares associated with Guañape Plain in the Moche Valley. It is important to state plainly that I see this less as a unified tradition and more as a catch-all category for the earliest fancy wares in the region, hence why I use the plural. These wares were mainly synthesized from descriptions of finer wares, specifically bottles, found by Prieto (2015:400-403) at Gramalote and Nesbitt (2012:199-293) at Caballo Muerto in the Moche Valley. Descriptions were also bolstered by the ware categories of Ancón Polished Black and Guañape Polished Red used by members of the Virú Valley project and the general "Cupisnique" burial complex as described by Larco (Collier 1955:196-210; Strong & Evans 1952:253-286; Ford 1949:76-78; Larco 1945). The date ranges of Ancón wares are identical to those dates for Guañape Plain, as they were derived here from the same projects.

Ancón wares are hand modeled, thinner, and finer versions of the Guañape Plain domestic wares. These wares were fired inconsistently to produce paste colors ranging from red to reddish-brown to black. Surface exteriors were usually either polished or heavily burnished, as were bowl interiors. Interiors of other vessel forms were likely scraped and smoothed to produce thin vessel walls. The temper/inclusions are usually very fine, or at least finer than the average domestic ware would be, but sometimes still feature the quartz inclusions characteristic of Guañape Plain (Collier 1955:200-202). It is worth mentioning that some Ancón bottles have been noted as being likely mold-made but the use of molds is not noted among any of the Moche Valley Ancón examples I discuss here (Larco 1941:35-36; Collier 1955:124-125).

The two principal forms of Ancón wares are bottles and bowls (Figure A.28). Neckless ollas are also present and cups only appear in the final centuries of the Ancón tradition. In the earlier half of the Ancón tradition, from 1600-1100 BCE, bottles predominate and are mostly single-spouted with conical or cylindrical necks and a mixture of straight, barrel-shaped, and slightly everted rims (Prieto 2015:400-403; Nesbitt 2012:448). After 1100 BCE stirrup-spout bottles began to be produced, bottle rims became more flared, and bottle lips often had thickened flanges (Nesbitt 2012:228-276). Though present earlier, bowls also became far more popular in

the wares of the latter half of the Ancón tradition and new straight-sided and beveled bowl forms emerged (Nesbitt 2012:228-268). Cups were also later additions (Nesbitt 2012:228-268).

The decorative elements of Ancón wares also predictably align with those described for Guañape Plain (Figure A.29). Earlier decorations that persist throughout the Ancón tradition are mainly incisions, punctations, modeling, and appliques and are found in relatively high frequencies on bottles (Prieto 2015:400-403) and bowls (Nesbitt 2012:199-293). The use of red slips, graphite paint, post-fired engravings, and rocker stamping (Nesbitt 2012:228-293, Billman 1996:126-127; Collier 1995:196-210) are diagnostic of the wares of the latter half of the Ancón tradition. As mentioned earlier for Guañape Plain, the final centuries of the Ancón tradition often feature stamped or incised concentric circle designs, the circle and dot motif, and decorations with "clear stylistic influence from Chavin de Huantar" (Nesbitt 2012:327). It is important to clarify that all of these decorative elements, though chronologically useful, do not neatly replace one another and should instead be thought of as superimposed over time. It is interesting that bottles and serving vessels were consistently used as media for decorations that appear charged with meanings that could be corporate in nature. Using bottles and serving wares for such purposes appears to be pervasive throughout most corporate ware traditions in the Moche Valley, and the Andes more generally. It is notable then that the association between these forms and corporate activities or traditions clearly has roots in the earliest known instances of pottery.

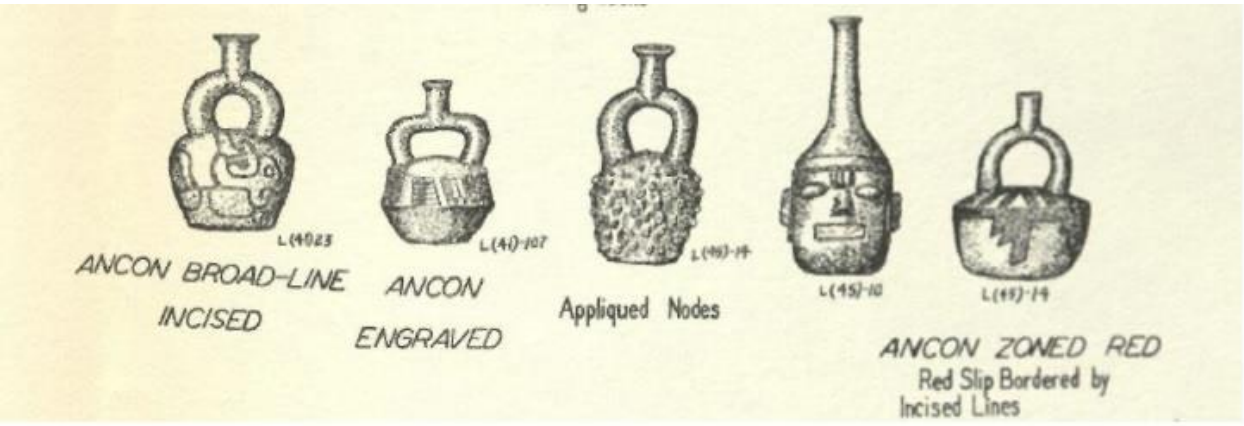

Figure A.28 Ancón Fine Wares (adapted from Ford 1949)

Other than knowing bottles and bowls were important as ritual offerings, what exactly was being done with them remains unclear. At the earlier site of Gramalote, bottles were found discarded in both larger ceremonial contexts (Prieto 2015:400-401) and in household ritual

contexts (Prieto 2015:400). This would at least suggest a fluency between household and larger-scale ritual activities, whatever they may have been. Bowls, and eventually cups, are a bit easier to assume as being vessels linked with the act of serving or offering to either living or supernatural entities. The wide use of bowls at Caballo Muerto (Nesbitt 2012:228-268) could possibly be associated with feasting activities or offerings associated with the *huacas* at the site. Either way, it is important to emphasize that calling Ancón wares "corporate" is only appropriate in that they were apparently non-utilitarian wares that were used in activities that linked households with broader communities. In the end, the dynamics of such interactions, specifically the political dynamics, are poorly understood compared to later periods.

Fig. 20. Fragmentos de cerámica de la fase Laredo (fotos: Jason Nesbitt).

Fig. 18. Fragmentos de cerámica de la fase San Lorenzo (fotos: Jason Nesbitt).

Figure A.29 Laredo and San Lorenzo Phase Diagnostics (adapted from Nesbitt 2012)

Salinar Fine (~500 BCE – 100 CE)

The Salinar Fine corporate ware tradition I describe here is even more unclear than Ancón but is tentatively described as the finer wares that would otherwise be considered HPP. In the Moche Valley, several of such wares were documented in the five burials recorded by Donnan and Mackey from Huanchaco and Caballo Muerto (1978:25-44). The work of Brennan at Cerro Arena also provides a few examples of finer bowls and jars that I would consider Salinar Fine (1978:585-665). The limited data for Salinar Fine in the Moche Valley is further expanded with data from the Virú Valley project on the "Salinar" burial complex and those Puerto Moorin White-on-Red vessels that have seemingly HPP pastes (Ford 1949; Strong and Evans 1952:295-301). Likely the most extensive description of the fancier vessels of this tradition was provided by Larco from the Chicama Valley (1946) but the exact connection between his Salinar burial complex and HPP is often debated. In the Moche Valley one example a bottle similar to those described by Larco was found in association with typical HPP jars with white-on-red decorations (Donnan and Mackey 1978:33). The Virú Valley project also found an association between their Puerto Moorin White-on-Red tradition and several bottle forms that align well with those described by Larco for Salinar (Strong and Evans 1952:298). Though the relationship surely needs to be better articulated, I assume here that Salinar Fine and HPP are inter-related ware traditions. As such, the dates for this corporate ware tradition follow those described for HPP ranging from around 500 BCE to 100 CE (Brennan 1980: 3; Millaire 2020:8).

Salinar Fine corporate wares are hand-modeled or mold impressed fancier versions of the HPP domestic wares that were mostly, but inconsistently, fired in oxidizing environments to produce brick red colors with occasional firing clouds. As in HPP, the inconsistent firing often produced 'sandwich' cores (Collier 1955:192; Downey 2014:68). Surface exteriors were either highly polished or featured decorative polishing tracks identical to those found on HPP. Interiors of jars were scraped or smoothed while bowls were often polished or burnished. The temper/inclusions seem quite similar to those found in HPP and are not always necessarily finer (Strong and Evans 1952:49). Larco identified that molds were still used into his Salinar period but with less frequency than in his preceding Cupisnique period (Larco 1948:21; Collier 1955:124-125).

Diverging slightly from Ancón, the Salinar Fine corporate ware tradition still includes bottles and bowls but jars do appear far more frequently (Figure A.30). The bottles of this tradition appear to have a wider variety of forms that include stirrup-spouts, double-spouts with handles, and single-spouts with handles (Larco 1946). The bowls described by Bawden exhibit some variety including some slightly incurving bowls with curved bottoms in addition to more flat-bottomed bowls with straight or slightly flaring rims (1978:585-665). The jars of Salinar Fine are mostly short necked with flaring rims or short rims with thickened lips and often have angled shoulders (Donnan and Mackey 1978:25-44). These jars have clear analogues in most domestic assemblages described for HPP but appear in high enough frequency in burial contexts that they are included here as part of the corporate ware assemblage as well.

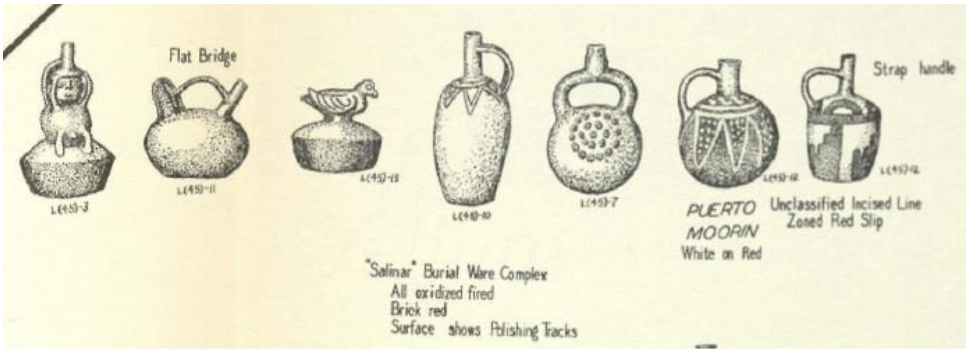

Figure A.30 Salinar Burial Ware Complex (adapted from Ford 1949)

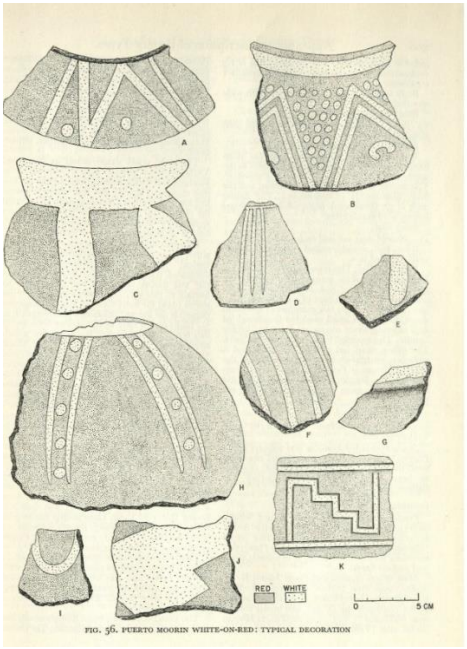

Figure A.31 Puerto Moorin White-on-Red (adapted from Strong and Evans 1952)

The decorative elements found among Salinar Fine corporate wares include incision, punctation, modeled appliques, white-on-red painting, patterned burnishing, and polishing (Figure A.30; Figure A.31). Modeled and somewhat simple depictions of animals, structures, or humanoids are frequent additions found on Salinar Fine bottles (Ford 1949; Larco 1946; Donnan and Mackey 1978:25-44). Patterned burnishing is a common feature on all Salinar Fine corporate wares and is most often found in the form of simple parallel tracks although some bowls mentioned by Brennan do feature zig-zag patterns (1978:617, 628). Red and white paints are very common decorative elements on Salinar Fine wares with the simple white-on-red geometric designs being the most common (Donnan and Mackey 1978:25-44; Strong and Evans 1952:295-301; Larco 1946). In the Moche Valley, sometimes incision was used as a decorative element to outline white painted zones (Donnan and Mackey 1978:25). It is important to note that the broader white-on-red decorative tradition is associated with, but not exclusive to, what I call Salinar Fine. These are often conflated, but Virú Valley project members were quite explicit that Puerto Moorin White-on-Red was found on what I call Salinar Fine, HPP, and Castillo Plain wares (Ford 1949; Strong and Evans 1952:295-301).

As this corporate ware tradition is very poorly understood, how and for what exactly it was used is entirely speculative. Some of the bottles doubled as whistles (Larco 1946) and thus could have possibly played active roles as part of the burials in which they were often found. The inclusion of jars in burial contexts (Donnan and Mackey 1978:25-44) and domestic contexts (Brennan 1978:585-665) could suggest that such vessels were serving a role as containers in both domestic life and mortuary rituals. Bowls appear in domestic contexts (Brennan 1978:585-665) and I suspect played a role in feasting and community integration. However, unlike with the bowls of the Quinga, Early Highland Fine, and Middle-Late Chimú corporate wares, there is less direct evidence for such an association. It is possible these bowls could simply be fancier serving vessels that were used in every-day household activities, but I suspect the finer and more decorated examples were likely used in more corporate-leaning contexts. Clearly, our understanding of Salinar Fine is limited and most of what I propose here is speculative.

In conclusion, this ware seems to illustrate some continuity from Ancón but with the notable additions of more consistently oxidized pastes of HPP, a wider use of paints, the inclusion of jars, and a wider variety of bottles. These features link it with later corporate traditions and thus

make it somewhat transitional to wares like Virú Negative and Moche. What remains to be seen is the extent to which the Salinar wares described by Larco or Puerto Moorin wares described by the Virú Vally project were actually linked to the people living at Cerro Arena or other settlements in the Moche Valley during Salinar times. Such questions are outside of the scope of this dissertation but beg further study.

Quinga (~400 BCE – 900 CE)

The Quinga corporate ware tradition that I describe here is a composite of the varied fine white clay wares, principally bowls, that were frequently found in contexts shared with Early Highland Plain domestic wares. This ware was mainly synthesized from the descriptions of the Quinga series ceramics at Cerro Leon (Ringberg 2012:170-175) but is clearly part of a wider and longer lasting highland tradition of white clay fancy serving wares (Lau 2006: 161; Topic and Topic 1983:252). At Cerro Arena, Brennan describes "exotic sherds" and possibly his Type C bowls that fit my descriptions of Quinga (1978:602, 609-614; Mujica 1984:12; Ikehara and Chicoine:156). Additionally, the Topics and Czwarno describe a variety of kaolin bowls recovered in the Moche Valley and the adjacent highlands (Topic and Topic 1982:15-16; Czwarno 1983). Finally, several white clay wares, mainly bowls, were identified by the Virú Valley project as part of their Callejon Unclassified ware category (Strong and Evans 1952:348-351). The dates of this ware have a minimum starting point of around 400 BCE since they were found at Cerro Arena (Brennan 1980: 3; Millaire 2020:8). Though I do not doubt the use of white clay wares elsewhere before this admittedly arbitrary date, these wares do not seem to be linked to Guañape Plain. In fact, I would argue that since they are likely not local, they could have been relatively sudden introductions into Moche Valley assemblages. By between 100 and 400 CE, Quinga corporate wares were common features in Early Highland Plain assemblages in the *chaupiyunga* like those found at Cerro Leon (Ringberg 2012:170-175; Bardoph 2017:93-94). Though there are no absolute dates for the tail end of this tradition, the lack of Quinga wares at Cerro Huancha would suggest that by at least 900 CE these wares were either rare or absent in the Moche Valley.

Quinga corporate wares are hand-modeled, thin, white clay wares that were mostly, but inconsistently, fired in oxidizing environments to produce white to cream colors with occasionally grey to black cores. Exterior surfaces were usually burnished or polished but sometimes were left

smoothed. As most of these wares were bowls, interior surfaces were usually burnished or polished as well. Though the wares are thin, it is unclear if they were scraped since interiors were treated in a way that would mask this process. The temper/inclusions of this ware are very fine and the pastes themselves are likely composed of either kaolinite or illite clays. Ringberg noted a source of illite outside of the EIP archaeological site of Cuidista on the Carabamba Plateau (2012:142-144) that could suggest those Quinga wares made from illite are relatively local in origin. The name of this ware appears to be based on the highest mountain on the Carabamba Plateau: Cerro Quinga. Czwarno also discussed possible prehistoric kaolinite clay sources clustered around the modern regions of Cajamarca, Callejón de Huaylas, and Huamachuco that seemed to be represented in his sample of Quinga sherds (1983:64-74). Thus, it is clear that these bowls were likely imports from both the local highlands in addition to a wider range of areas across the northern highlands.

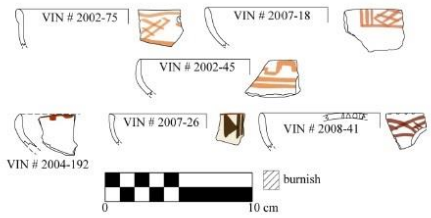

Figure 7.4.15. Cerro León Black, Burnished, and Quinga Painted individual serving bowls.

Figure A.32 Quinga Painted (adapted from Ringberg 2012)

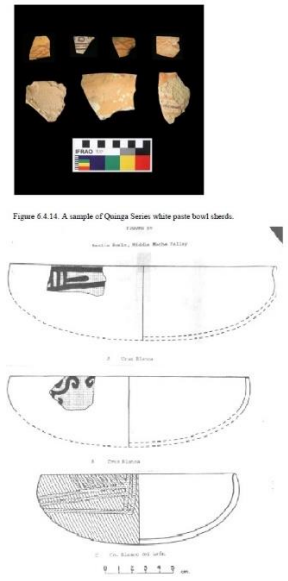

Figure 6.4.14. A sample of Quinga Series white paste bowl sherds.

Figure A.33 Quinga Series Wares (adapted from Ringberg 2012; Topic and Topic 1982)

Bowls were the only form recorded in the Moche Valley by the sources I used to define the Quinga corporate ware tradition (Figure A.32; Figure A.33). These bowls normally have slightly curved bottoms with sides that gradually straighten out to vertically oriented rims with lips that come to a point (Topic and Topic 1982:15; Ringberg 2012:220). There is some minor variability, as several rims appear to be slightly incurving or have lips that are more rounded or slightly thickened (Ringberg 2012:220). Finally, it is important to note that a wider variety of kaolinite vessel forms, including elaborate bottles, are documented as rare mortuary goods in the Recuay and Cajamarca traditions of the northern highlands. However, such vessels were not reported by any of the projects cited here for the Moche Valley.

A number of decorations are frequently found on Quinga corporate wares and include the use of a variety of red, orange, black, and brown paints in addition to some negative painting, incisions, and etching (Figure A.32). At Cerro Leon, Ringberg noted that orange, red, and brown painted or slipped geometric designs were applied just under lip exteriors of Quinga series vessels (2012:172, 220). She also observed that orange slips were the most common and that their use to create "diamond shapes filled with cross-hatched lines" was confined to the Quinga series and was not present on other fine bowls (Ringberg 2012:172, 264). The Topics illustrate painted decorations of parallel lines, dots, and spirals on "exotic maroon/kaolin" sherds they identified as coming from "Salinar" contexts in the Chicama Valley (Topic and Topic 1982). These decorations are somewhat similar to those illustrated by Brennan on a possibly Quinga or Early Highland Fine sherd he identifies as Type D (1978:602). Otherwise, the Topics describe a wide array of decorations they associate with Callejon and Cajamarca traditions of kaolin bowls (Topic and Topic 1982: 18). They identify a few sherds from the Moche Valley *chaupiyunga* site of Cruz Blanca as being "probable Cajamarca pre-cursive bowls" that featured broad painted lines of brown, red, and/or orange paint (Topic and Topic 1982). Incision is also a common feature found on recorded Quinga corporate wares and is most often found as a single line just under the lip of rim exteriors (Brennan 1978:602; Topic and Topic 1982; Ringberg 2012: 220). Interestingly, this decoration appears on the only definite Quinga bowl recorded by Brennan (1978:602). It is also noted as being a main decoration found in Phase 2 and 3 of the highland chronology of the Topics and is specifically associated with their Callejon kaolin bowl analogues (Topic and Topic 1982:18). Thus, this decoration appears to be consistently popular throughout the use of Quinga

corporate wares in the Moche Valley. Finally, many Quinga bowls at Cerro Leon were decorated on their lips using "fingernail impressions, scalloping, and castellation" (Ringberg 2012:174).

Ringberg argues that the Quinga and Early Highland Fine bowls found at Cerro Leon were serving wares that would have "been important features for social occasions involving food." (2012:264) That these wares were also some of the most overtly "highland" vessels in the assemblage at Cerro Leon is likely no coincidence. These were fancy and highly visible elements of the inter-household feasting activities that were likely occurring at Cerro Leon and other *chaupiyunga* settlements throughout the EIP. Whether they were explicit references to some shared "highland" identity or were simply signs of prestige is unclear with the data at hand. What is clear is that they were meant to be viewed by a larger corporate group which is why I consider both Quinga and Early Highland Fine as corporate wares. In sum, Quinga corporate wares are highly visible elements of EIP assemblages in the Moche Valley *chaupiyunga* that likely had origins in both the local highlands of Carabamba and further afield in Cajamarca and the Callejon de Huaylas. Whatever their origin, it is clear that Quinga corporate wares played important, but poorly understood, roles within and between the communities of the *chaupiyunga*.

Early Highland Fine (~200 BCE – 900 CE)

The Early Highland Fine corporate ware tradition that I describe here is principally composed of the finer bowls and some highly decorated cantaros and jarras found among Early Highland Plain assemblages. Most of this ware was synthesized from the painted, polychrome, and negative bowls described by Ringberg at Cerro Leon (2012:165, 219-220). The Topics also noted a number of brown-ware bowls among their Phase 2 highland ceramics that are relevant to this discussion (Topic and Topic 1982:14-15). Interestingly, Ringberg noted a few similarities between the finer bowls at Cerro Leon and several of the bowl categories identified by Brennan (Ringberg 2012:176-177). Though I agree that these affinities are striking, I am hesitant to include these bowls in my description of Early Highland Fine only because they are far less clear than his example of a likely Quinga bowl (Brennan 1978:602). Thus, the dates of this ware align predictably with those of Early Highland Plain, from around 200 BCE to 900 CE, but with the caveat that they could be earlier.

Early Highland Fine corporate wares are hand-modeled, fancier, and thinner versions of the regular Early Highland Plain domestic wares. Exterior surfaces are most often burnished or polished, as were the interiors of bowls. Like in Early Highland Plain assemblages, the interior surfaces of jarras and cataros were likely scraped. The temper/inclusions of this ware are much finer than those found in Early Highland Plain. The color of this ware in the Moche Valley *chaupiyunga* is often brown with the occasional "sandwich" core but buff pastes are also commonly found (Topic and Topic 1982:14). Thus, Early Highland Fine could be identified in both Cerro Leon and Otuzco varieties and, like Early Highland Plain, should not be thought of as conscribed to one or the other. It is worth including here that the jarras and cantaros that could be seen as possible parts of the Early Highland Fine corporate ware tradition do not appear to have as fine temper/inclusions as the bowls. As such they are far closer to Early Highland Plain in terms of their general attributes.

The principal forms found in what I call Early Highland Fine corporate wares are individual-sized bowls, although some of the fancier cantaros and jarras can be included (Figure A.34). At Cerro Leon, brownware bowls all appear quite similar in their general forms to those described for Quinga wares (Ringberg 2012:219-220). In their wider survey of the *chaupiyunga* and local highlands, the Topics recorded considerably more variability in rim orientations and flourishes (Topic and Topic 1982). My own survey material echoes such variability. Ringberg suggests that the highly decorated versions of Early Highland Plain cantaros and jarras also likely played key roles as containers for food or beverages in the same corporate feasting activities attributed to finer bowls and Quinga wares (2012:263-264). However, the decorations found on these container vessels are far less ornate than those found on bowls and, as mentioned earlier, the vessels themselves have pastes that align much better with Early Highland Plain. Thus, I only tentatively include such wares as parts of Early Highland Fine assemblages because they seemed to have been linked to the same corporate activities but less care was put into building them than the ornate bowls.

Early Highland Fine corporate wares were most often decorated with burnishing or a simple red slip but also sometimes featured an array of white, red, and orange paints or slips in addition to some negative black painting and incisions (Figure A.34; Figure A.35). One of the most common decorations on bowls is a simple red slip applied on both the interior and exterior

(Ringberg 2012:164, 167, 219). Common geometric designs included parallel lines, zig zags, and concentric circles and were made using white, orange, and red paints or slips on the exteriors of these bowls. These are often done on a red slip background and are referred to as polychrome, white-orange-red, and white-on-red (Topic and Topic 1982; Ringberg 2012:219). Ringberg also noticed the used of smudged black negative techniques to create somewhat similar geometric designs (Ringberg 2012:220). The connection between the negative painting on Early Highland Fine and that diagnostic of Virú Negative is unclear in the Moche Valley but it has been suggested that the coastal decorations were emulating popular highland wares (Downey 2014:74-75). The highly flared-neck cantaros of the Cerro Leon assemblages also showed several examples of somewhat similar polychrome and red slip decorations in addition to simple incisions employed along their lips (Ringberg 2012:233).

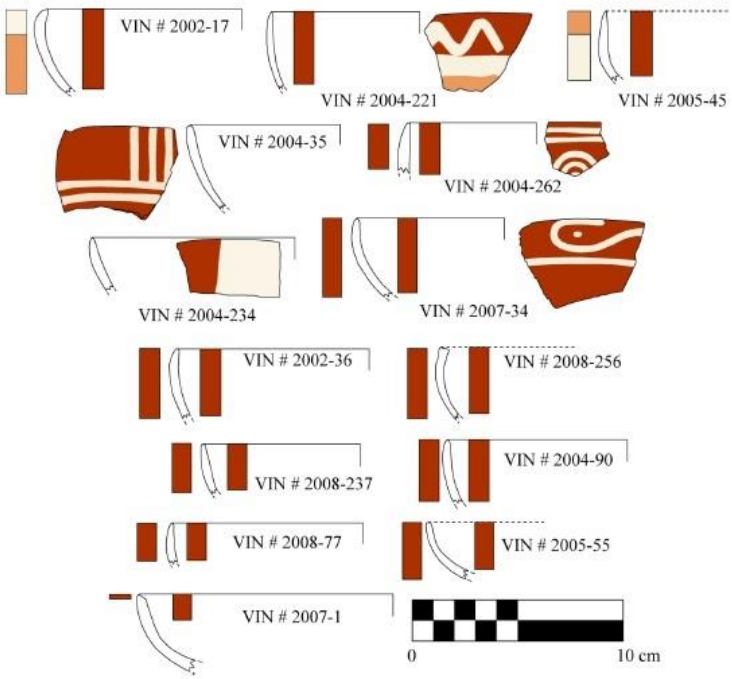

Figure 7.4.14. Cerro León Polychrome, White-on-red, and Red Slipped individual serving bowls.

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Figure A.34 Cerro Leon Polychrome, White-on-red, and Red Slipped (adapted from Ringberg 2012)

Figure 6.4.9. Slip and slip-paint common in Cerro León Series vessel assemblage.

Figure A.35 Slip and Slip-Paint in Cerro Leon Series (adapted from Ringberg 2012)

At Cerro Leon, Early Highland Fine bowls appeared to have served a similar role as Quinga bowls, but were far more common than their white clay counterparts (Ringberg 2012:253). As such, I consider them corporate wares by way of the same reasoning I used for the Quinga corporate wares. Recalling the possibility that the more ornately decorated jars or cantaros could be consider corporate wares, such vessels could have served as containers for the liquids or goods that were being served in the fancier bowls. Particularly in cantaros, decorations often targeted the inside of flared rims at the top of the vessels and thus would have been highly visible to individuals seated or standing nearby (Ringberg 2012:232-234). Thus, it is possible that such wares were relaying a similar message as the smaller and finer serving wares. This, however, is far much more of a stretch than the argument made for the serving wares. In sum, Early Highland Fine corporate wares appeared to have served similar roles to that argued for Quinga but are far more common in Moche Valley *chaupiyunga* assemblages. Their clear ties to Early Highland Plain connect them more readily with local highland or upper *chaupiyunga* ceramic traditions, though they are clearly intertwined with their more exotic white clay contemporaries.

Virú Negative (~200 BCE – 800 CE)

As its name implies, the Virú Negative corporate ware tradition is a corporate tradition of negative painted finer wares that have their origins in the neighboring Virú Valley. Most of the depictions and descriptions of Virú Negative come from the work of Virú Valley project members through their Gallinazo and Carmelo Negative Wares (Ford 1949:75; Strong and Evans 1952:301-309). The reach of this corporate ware in neighboring valleys, including the Moche Valley, appears relatively circumscribed to coastal or lower valley areas (Millaire et al. 2016:23). In the Moche Valley, relatively high frequencies of Virú Negative ceramics have only been recorded at the coastal settlement of Pampa la Cruz and the small lower valley mound complex at Huaca las Estrellas (Millaire et al. 2016:21-22; Gayoso and Angulo 2011). In fact, the only Virú Negative ceramics illustrated thus far for the Moche Valley come from those reported at Huaca las Estrellas (Gayoso and Angulo 2011:562). The occupations contemporary with Virú Negative ceramics at both of these sites appear to be associated with the earlier half of the corporate ware tradition. This would range from at most 200 BCE until the rise of the Moche mound center at Huacas del Moche at around 200 CE (Millaire et al. 2016:21-22). Only a few Virú Negative corporate wares were recorded at Cerro Leon and they seem to be only very rarely found in the assemblages of the Moche Valley *chaupiyungas* (Ringberg 2012:266; Billman 1996:237). I encountered no Virú Negative wares in my survey of the *chaupiyunga*. The Chicama Valley appears to illustrate a similar pattern as the Moche: with dates ranging from 100 BCE to 400 CE for contexts with Virú Negative ceramics at Huaca Prieta (Millaire et al. 2016:19). In contrast to the Moche and Chicama Valleys, in the Virú Valley these wares appear as early as 200 BCE and are common in elite assemblages up until at least 800 CE (Millaire 2010:231). In sum, I adopted this wider date range of 200 BCE to 800 CE as it illustrates the complete array of dates with which this corporate ware tradition could possibly be associated. This being said, it seems likely that if one encounters a Virú Negative sherd in the Moche Valley that it would likely be in a context that would date between 1 CE until at most 400 CE.

Virú Negative corporate wares appear to be found on fancier and thinner versions of what otherwise would be called Castillo Plain wares, although this association is less clear from the data on hand. Interestingly, Virú Valley project members are quite vague in describing the ware attributes of Virú Negative and do not associate it explicitly with Castillo Plain or HPP (Ford

1949:75). Strong and Evans do describe Virú Negative wares as being "brick red" and as illustrating signs of inconsistent firing: attributes they also assigned to HPP wares (Strong and Evans 1952:301). In terms of seriation, the chronology of this ware appears to post-date the main 'battleship' of HPP and thus I would expect it to be more closely associated with the contemporary Castillo Plain or fancier Gloria Polished Plain wares (Ford 1949). Millaire and others describe these wares as being "systematically burnished" and "fired in an oxidizing atmosphere" which further supports this association (Millaire et al. 2016:18). Finally, the few possible examples of Virú Negative sherds recovered in my survey appeared to be fancier versions of what I call Castillo Plain wares and did not have the characteristics of HPP wares.

The forms attributed to Virú Negative corporate wares are mostly bottles and jars but also include some more specialized vessels like corn poppers (Figure A.36). The Virú Valley project combined their data with that recorded by Larco to illustrate the variety of bottles found with Virú Negative decorations: stirrup-spouts, double spouts with handles, single spouts with handles, and several double spouts with handles that have modeled figures replacing one of the spouts (Strong and Evans 1952:304). These are intermingled with several more mundane forms of jars, in addition to the infamous pinched face-neck jars that played a role in the Gallinazo "problem" (Strong and Evans 1952:303-304, 308). Small neckless jars with long handles called corn poppers or dippers are also recorded as part of this corporate ware tradition though they are also common in the contemporary Huancaco corporate tradition of the Virú Valley (Strong and Evans 1950:303, 308; Bourget 2010:201). The Virú Valley project members also noted a few different bowls and one with a pedestal base (Strong and Evans 1952:303-304).

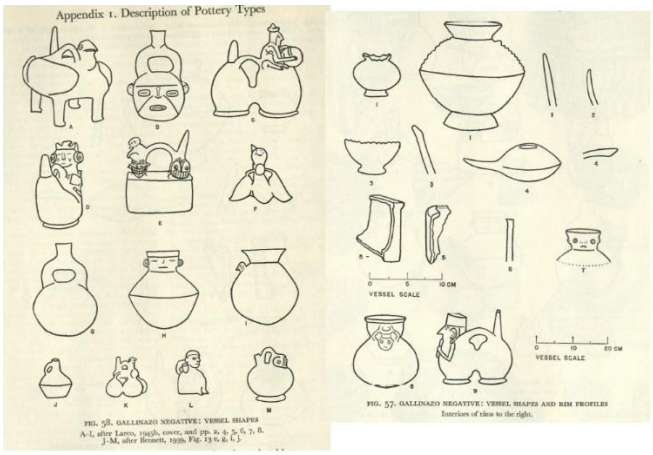


Figure A.36 Gallinazo Negative (adapted from Strong and Evans 1952)

Figure A.37 Gallinazo Negative (adapted from Strong and Evans 1952)

The most notable decorations associated with Virú Negative corporate wares are obviously the use of negative- or resist-painted designs but such wares also feature slips, modeling, and incisions (Figure A.37). The Virú Valley project members split negative decorations into two types that are useful for this discussion: Gallinazo Negative and Carmelo Negative (Strong and Evans 1952:301-309). Gallinazo Negative decorations were characterized by the use of black paint to highlight the negative space that would either be the polished oxidized vessel surface or a dull white slip (Strong and Evans 1952:301). The resulting designs were often simple geometric and curvilinear combining broad wavy lines, dots, and spirals. Carmelo Negative decorations were quite similar but exhibited finer lines with larger white design areas (Strong and Evans 1952:309). This liberal use of white slip led Downey to suggest that it was an "attempt to replicate or emulate kaolin-clay Recuay styles using local materials" (2014:75). This is an intriguing possibility, though the question remains whether such replication was targeting the aesthetic of Quinga-like wares or the corporate activities with which they seemed to be associated. Obviously, this is a gross simplification of the negative decorations and more in-depth studies have outlined far more

detailed subdivisions (Bourget 2010). In any case, from the drawings provided it appears that the Gallinazo Negative variety of Virú Negative was the predominant version found at Huaca las Estrellas and I have seen no examples of Carmelo Negative recorded for the Moche Valley (Gayoso and Angulo 2011:562). Modeled and incised decorations are frequently used in concert with negative painting and are also integrated into bottle and jar forms. Modeled additions to vessels often include a variety of animals, especially birds, in addition to some humanoid or anthropomorphic figures (Strong and Evans 1952:303-304). Incised ribs are also very common additions and are often integrated into negative painted designs themselves (Strong and Evans 1952:306).

Generally, the forms associated with Virú Negative corporate wares were mainly found in elite or fancy burials and are thus assumedly linked to corporate mortuary traditions. However, such wares were also uncovered in contexts linked with the mounds at Huaca las Estrellas and thus likely served roles in corporate activities that transcended burial (Gayoso and Angulo 2011:562). Millaire and others use the presence of Virú Negative corporate wares as one line of evidence to support the hypothesis that the early Virú polity had expanded some manner of authority over or association with the center at Huaca Prieta (Millaire et al. 2011:18-19). This is the first corporate ware identified as part of this chronology that is linked not with vague notions of elites or corporate ideologies but with a specific political tradition: that associated with the Virú polity as identified by Millaire and others (Millaire et al. 2011; Millaire 2010). Thus, in the Moche Valley, the presence of such Virú Negative corporate wares can be seen as evidence of the tendrils of interaction, and possibly authority, emanating from the Virú political tradition in the neighboring Virú Valley. In sum, Virú Negative is a distinct corporate ware tradition that is characterized by the use of negative- and resist-painting and clearly has its source in the neighboring Virú Valley. Importantly, this is the first example in the corporate wares of the Moche Valley where pots are seen as beginning to equal specific political traditions.

Moche (~200 – 900 CE)

The Moche corporate ware tradition is easily the most intensively studied ceramic tradition of the Moche Valley and exhibits an explosion of new forms and decorative elements. Entire volumes have been dedicated entirely to the wide array of opulent Moche grave ceramics and

iconography throughout the north coast of Peru (Donnan and McClelland 1999). As one of the hubs of the Southern Moche political tradition, the Moche Valley played an important role as an emanating source of its own styles of Moche corporate wares and iconography among the southern valleys. Here I favor Moche corporate wares that were taken from secure archaeological contexts in the Moche Valley and lean mainly on the work of Donnan and Mackey (1978:59-210) at the Huacas del Moche in addition to the work of Lockard (2005:280-308) at the later center of Galindo. These data are supplemented by the Huancaco ceramics observed by the Virú Valley project (Strong and Evans 1952:326-347), the subsequent revisions of Huancaco by Bourget (2010), and the work of Koons at Licapa II (2012:241-249, 253-263, 478-493) in the Chicama Valley. The exact chronology of Moche corporate wares is a hotly debated issue but the best synthesis with modern methodologies is that provided by Koons and Alex (2014). Generally speaking, Moche III styles of corporate wares appear to be the earliest in the Moche Valley and are possibly associated with the rise of the center at Huacas del Moche by around 150 CE (Koons and Alex 2014:1049-1050). Also likely originating at Huacas del Moche, the Moche IV styles of corporate wares appear around 600 CE and are associated with a time of wide change in the Southern Moche world (Koons and Alex 2014:1050). The Moche V style of corporate ware appears to be associated with the center at Galindo and its rise at around 650 CE (Lockard 2009; Koons and Alex 2014:1042). Moche III and IV persisted until at least around 900 CE in the Moche Valley (Uceda et al. 2008) and Moche V likely lasted until around 900 CE as well (Lockard 2009). More generally, Koons and Alex suggest that the Moche corporate wares, and the political tradition more generally, should be seen as spanning from 200 to 900 CE (2014:1052).

Moche corporate wares are generally found on finer and thinner wares that are somewhat analogous to Castillo Plain in their red to orange color. This being said, it is clear that reduced fired techniques were also intentionally employed on Moche wares and accounted for around 5% of those observed in the Moche Valley (Donnan 1965:127; Donnan and Mackey 1978:55). In some bottles or other mold-made Moche wares, the constricted openings led vessel interiors to be reduced while the exteriors were clearly oxidized. Most vessel exteriors were highly burnished or polished, as were the interiors of bowls or floreros. Koons provides a far more detailed analysis of the variety of pastes found in Moche corporate wares from across the Southern Moche world. Interestingly, she found that the two pastes identified from the Huacas del Moche were unique to

the site (Koons 2012:475, 478-479). This suggests that, at least for the Huacas del Moche, the pots were likely associated with the polity.

A plethora of new forms emerged with Moche corporate wares although a few have clear corollaries with those found in Virú Negative wares or even the more mundane Castillo Plain wares (Figure A.38). As is clear from the previously mentioned corporate ware traditions of this chronology, stirrup-spout bottles have a much deeper antiquity but are also are easily the most famous Moche forms. Such bottles are often used as a media for elaborate painted themes and are also found incorporated into a wide variety of mold-made representations including figures, animals, structures, plants, or even individual portraits. The spouts of these vessels themselves are the main identifier for Larco's original 5-phase sequence for the Moche: Moche I-II spouts have a slightly bulbous lip, Moche III spouts are slightly flared, Moche IV spouts are straight, and Moche V spouts are slightly tapered. In addition to stirrup spouted bottles, single spouted bottles with handles are also common additions to Moche assemblages. Interestingly, double spouted bottles are not common in Moche contexts in the Moche Valley and only re-appear later as part of the corporate ware tradition I call Transitional-Early Chimú. The most diagnostic form of the Moche corporate ware tradition are the highly flared vases called floreros. These forms are common at the main centers of Huacas del Moche and Galindo (Topic, T. 1977:319-320; Lockard 2005:281), are found in and out of funerary contexts, and are often used as the media for elaborate painted themes. Floreros can have both flat and ring bases. Curiously, very few plates or bowls appear in the Moche burials recorded by Donnan and Mackey, though they are present (1978:119). A plethora of other ceramic objects including figurines and instruments are also often associated with Moche corporate activities and thus included in my general Moche corporate ware category (Billman 2010:191-193). Dippers or corn poppers are also common funerary offerings and are found with a wide array of modeled, molded, and painted decorations (Donnan and Mackey 1978:135, 137). Though the most common form seen in the iconography in relation to elites is the goblet, these are rarely found in the archaeological record. Finally, a large proportion of the funerary wares reported by Donnan and Mackey are composed of simple jar forms with slightly flared rims and flat or ring bases (Donnan and Mackey 1978:59-210). More elaborate molded, modeled, or painted designs are sometimes integrated into these jars but most often they appear to be only modestly painted (Donnan and Mackey 1978:99, 187).

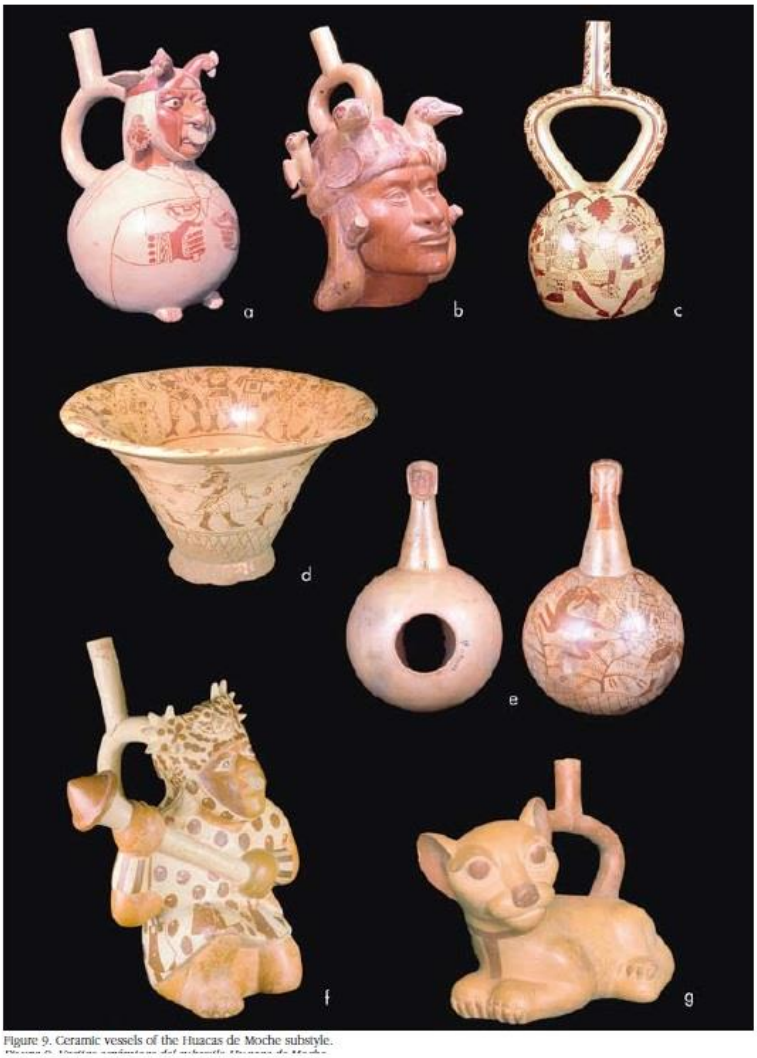


Figure 9. Ceramic vessels of the Huacas de Moche subistyle.

Figure A.38 Huacas del Moche Finewares (adapted from Donnan 2011)

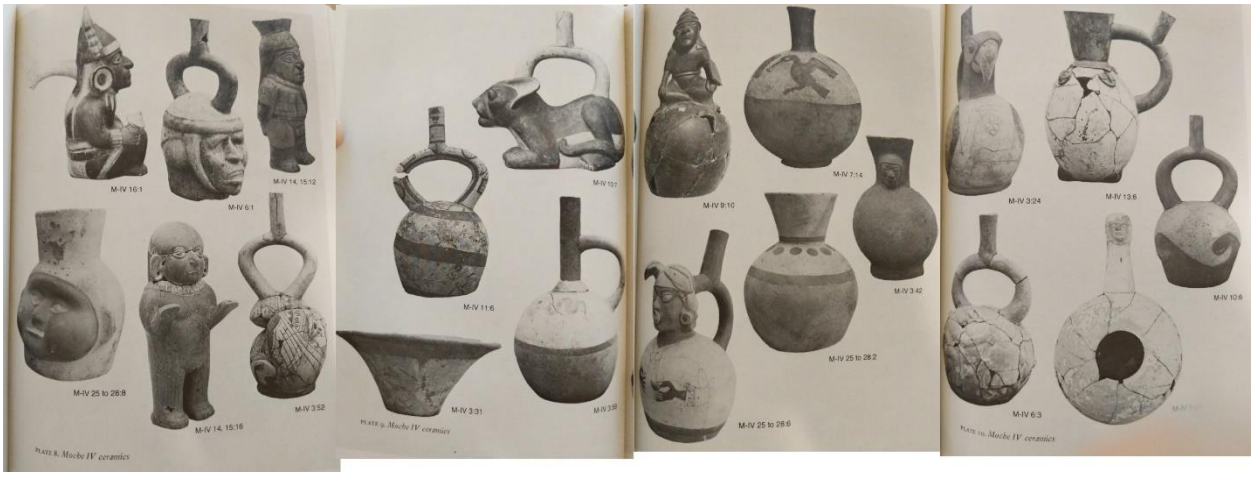


Figure A.39 Moche IV Ceramics (adapted from Donnan and Mackey 1978)

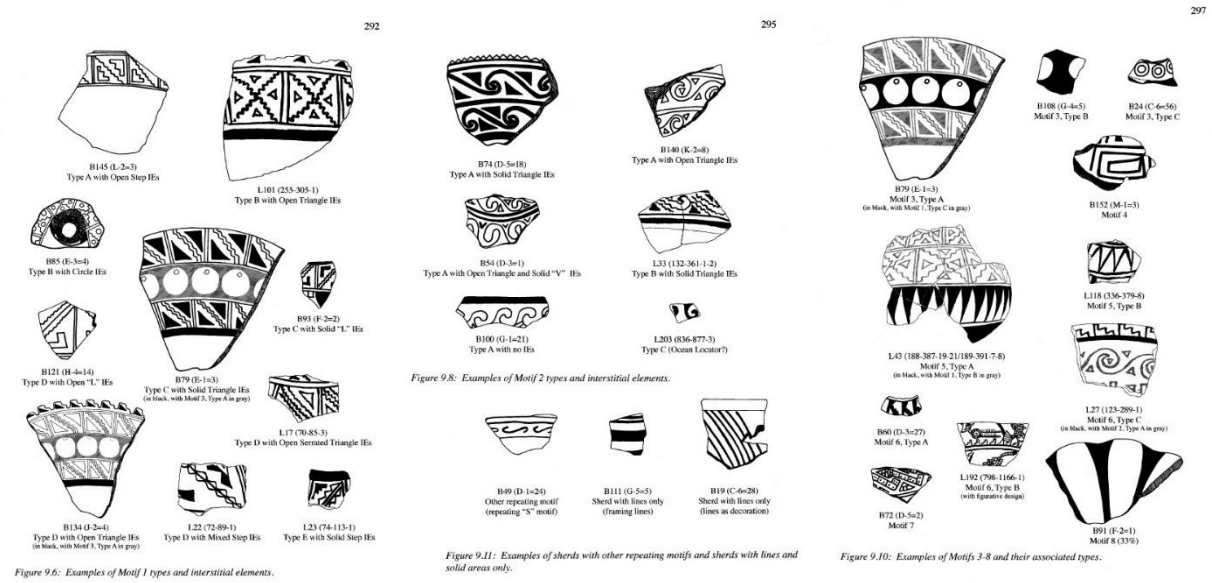


Figure A.40 Moche V Ceramics (adapted from Lockhard 2005)

Moche corporate wares exhibit some of the most elaborate painted and molded decorations of any of the corporate ware traditions discussed here for the Moche Valley. The simpler painted designs often combine red and white paints or slips with red vessel surfaces to create simple geometric designs. The most modest examples are somewhat reminiscent of older white-on-red traditions in the use of dots and straight or wavy broad lines. More complex, but still relatively simple, examples often exhibit wave, step, and net motifs using medium to broad brush strokes. The more ornately painted Moche corporate wares employ red, dark red, or black paint on a white or cream slip and utilize finer brushstrokes to create elaborate figurative scenes or composites of geometric motifs.

The painting styles of Moche III-IV and Moche V corporate wares are somewhat different and moderately distinguishable. The Moche III-IV fineline examples shown by Donnan and Mackey tend to have more blank space, use somewhat broader brushstrokes, and focus more on figurative rather than geometric themes (1978:64, 97, 105, 107, 113, 134-137, 157; Figure A.39). The Moche V fineline examples shown by Lockard more tightly pack decorative elements together, exhibit somewhat finer brushstrokes, and focus more on geometric than figurative themes (2005:289, 292, 295, 297, 298, 302, 303; Figure A.40). Finally, while the use of red paint for fineline is almost always employed on Moche III-IV wares, Moche V finelines are sometimes also painted using gray or black paints (Lockard 2005:280-281).

Molds were used extensively on Moche corporate wares to create entire vessels or raised decorations on vessel bodies. The bodies of stirrup spouted vessels were often the subjects of molded representations of animals, anthropomorphic figures, plants, structures, or even the faces of individuals. Paint was also frequently employed to elaborate or add detail to such molded representations. Molds were sometimes used to create raised surfaces on vessel bodies that depict an equally wide array of figurative and representational themes (Donnan and Mackey 1978:137). These were also often painted. The handles of the aforementioned corn poppers or dippers were frequently the subjects for mold impressed faces. Though floreros almost never feature molded decoration, some Moche V forms have lips that were cut to create serrations, step motifs, or even loafed edges (Lockard 2005:292, 295, 297).

Most of the forms among the Moche corporate wares discussed here were clearly grave goods, though some were likely also used in corporate activities outside of Moche funerary traditions. Generally, bottles appear to be the most iconic Moche funerary offering but are referenced in the iconography in a variety of contexts that, though usually ritual, are not always funerary in nature (Donnan and McClelland 1999:126-127). The general lack of fancier bowls or plates in Moche assemblages is odd given the importance of such forms in other corporate ware traditions I describe for the Moche Valley. However, if one interprets floreros as highly stylized Moche analogues to such forms, their possible role in Moche corporate activities is somewhat clearer. In fact, one iconographic depiction on a Moche IV stirrup spout illustrates a vessel that looks like a florero sitting between a Moche lord and tribute that is being presented to him on legged plates (Donnan and McClelland 1999:113; Figure A.41). It is possible that floreros could have served as symbolic receptacles linked with how nobles received tribute, though this is obviously speculation. In any case, such iconography at least links floreros as playing some central role in the political activities of Moche lords. Lockard also observed that sherds decorated with Moche themes, whether fineline or figurative, were found in relatively higher frequencies in mound and elite residence contexts, while being quite rare in lower-status residences (Lockard 2005: 306-309).

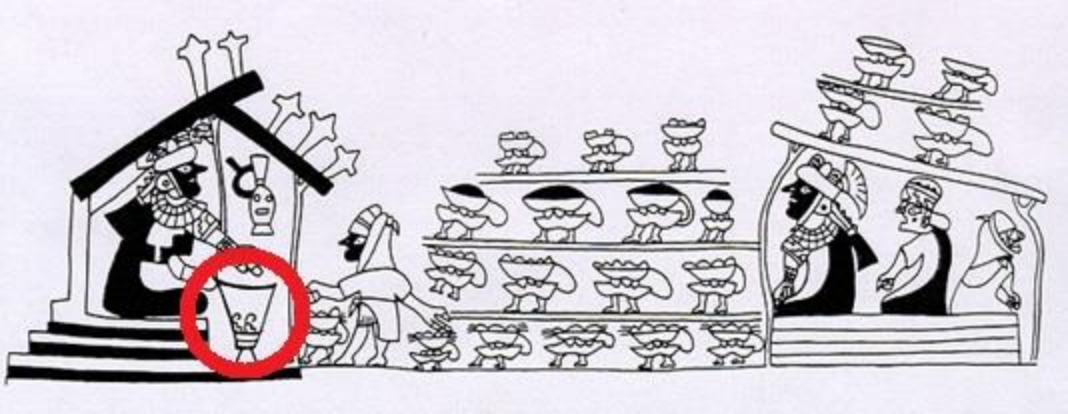


Figure A.41 Depiction of Tribute with a Possible Florero (adapted from Donnan and McClelland 1999)

All of these data points are suggestive that Moche corporate wares were likely important wares in whatever political relationships were being constructed in elite and ceremonial spaces. With their elaborately painted or modeled decorations and easily recognizable themes, such vessels could serve as more portable media for signaling Moche ideology in whatever corporate activities were occurring in mound contexts and elite residences. Donnan supports such an idea by suggesting that certain Moche centers likely had their own "styles" which would have served as symbols for that polity, or those who chose to associate with it, abroad (2011:117). In sum, the Moche corporate ware tradition is a composite of several traditions that used highly distinctive fineline painted and molded decorations to exhibit the iconography of Moche ideologies. For this corporate ware tradition, many of the finer pots almost assuredly equaled politics. In the Moche Valley I think it is likely that finer Moche III-IV wares signaled affiliations with the Huacas del Moche polity or elite while finer Moche V wares did so with the Galindo polity or elite.

Transitional-Early Chimú (~900 – 1200 CE)

The Transitional-Early Chimú corporate ware tradition I describe here is best characterized as an amalgamation of varied corporate wares spanning the period between Moche and Middle-Late Chimú corporate ware traditions. My descriptions of this ware tradition are based partially on the Early Chimú wares described by Donnan and Mackey (1978:214-289) from intrusive burials at the Huacas del Moche and a looted cemetery on the southern margin of the valley called Banderas. Castillo provides a more modern and in-depth analysis of similar such burials found at Huacas del Moche (2019). In an in-depth analysis of funerary wares, he subdivided Donnan and Mackey's original phase into 5 sub-phases: Casma Impressed, Huari, "Lambayeque?", Cajamarca,

Early Tanguche, and Early Chimú (Castillo 2019:233). I combine these into my Transitional-Early Chimú for the sake of simplicity and because such wares were so rare in my *chaupiyunga* sample. These descriptions from the Moche Valley are supplemented by the ware categories of Santa Elena White and Black-on-Red, Sausalito Black-on-Orange, Calunga Red and Black-on-White, and Carranza Black-on-Orange established by Collier of the Virú Valley project (1955:180-184).

Only two absolute dates are available from Transitional-Early Chimú contexts in the Moche Valley, but they appear to be from the latter part of the wares I lump together into this tradition. As such, much of the dating of this ware was divined from its absence in dated assemblages and by consulting seriations. The starting point at 900 CE is justified by the lack of Transitional-Early Chimú corporate wares comingled with Moche V wares at Galindo or Moche III-IV wares at Huacas del Moche. Donnan and Mackey noted that the Transitional-Early Chimú intrusive burials at the Huacas del Moche were dug into melted and consolidated adobe, meaning that the Moche center had been abandoned for at least a few ENSO events before the burials were interred (1978:241). Keatinge did not note any wares that neatly fit my description of Transitional-Early Chimú in his collections, and only the ring-based bowls of Kanigan's Phase A align well with those I attribute to Transitional-Early Chimú. However, such bowls appear to have carried over from Transitional-Early Chimú corporate wares into Middle-Late Chimú corporate wares so it is difficult to equate her Phase A with Transitional-Early Chimú. What is clear is that her Phase B is definitely not a Transitional-Early Chimú assemblage. Castillo recently published two AMS dates from contexts that equate with later forms of what I call Transition-Early Chimú corporate wares (Castillo 2019:265-266). These dates are somewhat problematic because they fall right on a plateau, but seem to range between 1000 to 1200 CE (Castillo 2019:265-266). Boswell did not report any unambiguously Transitional-Early Chimú sherds at Cerro Huancha. This could indicate that either (1) the site did not have any occupations earlier than her absolute dates suggested or (2) the Transitional-Early Chimú corporate ware tradition simply did not reach that far into the *chaupiyunga*. Judging by the paucity of Transitional-Early Chimú wares in my own survey materials, I suspect the latter is the case. Consulting the Virú Valley sequence, the various wares that compare to my Transitional-Early Chimú ware appear to span the Tomaval period (Collier 1955:106) or from around 800 to at least 1100 CE by my reckoning. Though this seems a bit early for the Moche Valley, the positioning of these wares in the seriation is notable: at the general time period that reduced-fired wares started their rise to prominence in Virú Valley assemblages. In the

Moche Valley, the dates for Transitional-Early Chimú wares also echo such positioning: during the transition from Castillo Plain to Rubia and Tomaval-Estero Plain domestic wares. Thus, I argue that Transitional-Early Chimú corporate wares date to around 900 CE, possibly earlier, and were likely out of use or had blended into Middle-Late Chimú corporate wares by 1100 or 1200 CE.

Transitional-Early Chimú corporate wares were mainly built on what would otherwise be considered Rubia or Castillo Plain wares. Donnan and Mackey simply describe their Transitional-Early Chimú ceramics as being composed of both oxidized and reduced fired wares but also specify an "oxidized ware decorated with red, white, and black slip pigment" (Donnan and Mackey 1978:219). In the Virú Valley, those wares identified by Collier that align well with my Transitional-Early Chimú corporate ware all appear to have been found on both Castillo and Rubia Plain or just on Rubia Plain wares (1955:180-184). It is interesting that Collier does not specify that Transitional-Early Chimú wares were finer than their domestic ware counterparts. Given how ornate some of the vessels found by Donnan and Mackey appear (1978:214), I would assume that at least some of these corporate wares were constructed using finer pastes. Vessel exteriors tended to either be polished or left smoothed, while bowl interiors were often polished. Though Transitional-Early Chimú corporate wares were contemporary with the rise of reduced-fired wares that I describe as Tomaval-Estero Plain, it does not appear that corporate wares were commonly reduced-fired until the Middle-Late Chimú corporate ware tradition.

The general forms found among Transitional-Early Chimú corporate wares are bottles, bowls, ollas and jars (Figure A.42). Interestingly, double spouted bottles with handles re-appear from their apparent hiatus during the Moche corporate ware tradition (Donnan and Mackey 1978:214). In some such vessels, one spout is replaced with molded or modeled representation of animals, mainly birds (Donnan and Mackey 1978:214). The presence of single-spouted bottles with handles illustrates some continuity from the Moche corporate ware tradition as does the inclusion of modeled or molded faces upon the necks of bottles and jars. Ringed platform bases are quite common among these bottles and jars, though some do have rounded bottoms. The bodies of several of these vessels have a distinct football shape and the use of lugs, including stepped or "serrated" lugs, is quite common (Donnan and Mackey 1978:219). Short-necked ollas that I would otherwise consider early Rubia Plain domestic wares are also sometimes included as burial offerings but are never found to be as ornately decorated as jars or bottles. They are also frequently

cited as having fire-blackened bases (Donnan and Mackey 1978:265, 267), further supporting my suspicion that such wares may be better understood as domestic wares being used in funerary contexts. Finally, relatively simple bowls with ring-bases are common features of Transitional-Early Chimú corporate ware assemblages but also carry over in the Middle-Late Chimú tradition.

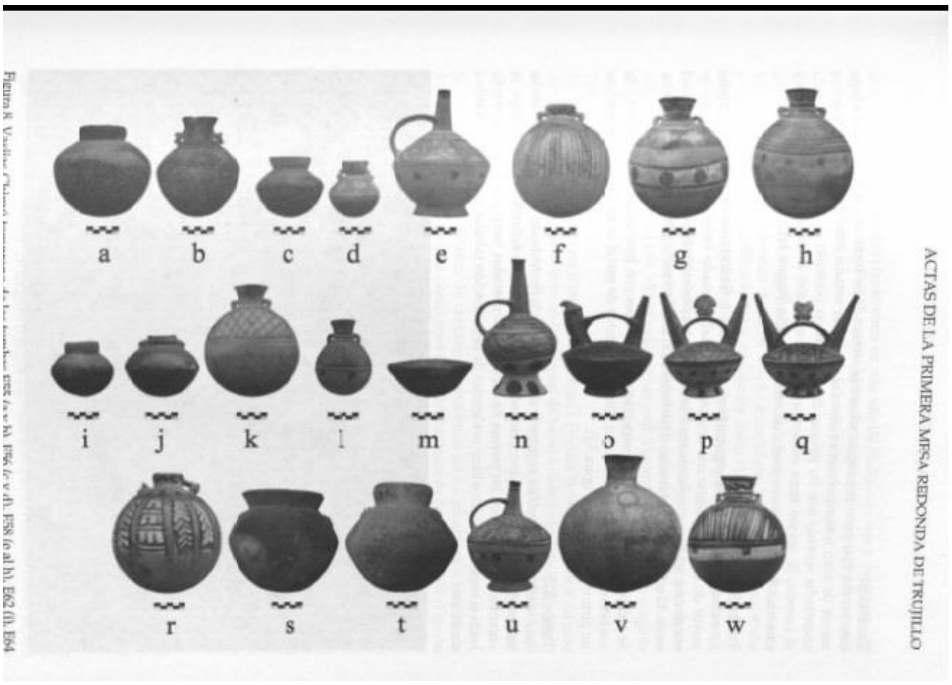


Figure A.42 Transitional-Early Chimú Corporate Wares (adapted from Castillo 2019)

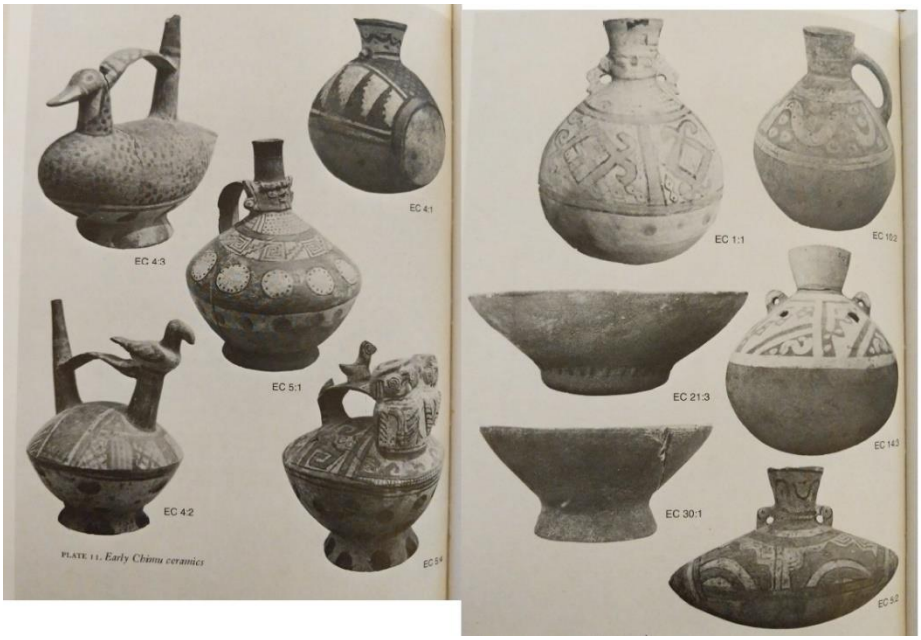


Figure A.43 Early Chimú Ceramics (adapted from Donnan and Mackey 1978)

Transitional-Early Chimú corporate wares were embellished with a wide variety of paints and slips in addition to mold-impressed or molded decorations (Figure A.43). The most diagnostic feature of Transitional-Early Chimú corporate wares is the use of black, white, and red polychrome paint or slips to create complex geometric and some more abstract figurative designs (Donnan and Mackey 1978:214-219). Black paint or slip was usually used to outline or add detail to white or red painted designs but simpler black painted designs and molded decorations are also common. Though the focus on geometric designs is somewhat reminiscent of Moche V styles, the use of polychrome and general aesthetic of these painted wares seems somewhat foreign to the coastal assemblages described thus far for the Moche Valley. It is likely no coincidence that Collier put Transitional-Early Chimú wares side-by-side with his "Tihuanacoid" style for the Virú Valley (1955:184-186) and that Ford actually referred to them as coastal "Tihuanaco" sherds (1949:71). The affinities between Transitional-Early Chimú and highland Wari or Tiwanaku styles are striking but it is important to recall that polychrome painting was well developed in the Quinga and Early Highland Fine wares of the Moche Valley *chaupiyungas*. Polychrome red, yellow, and orange Moche IV vessels have also been recorded (Donnan and McClelland 1999:84-85) but were not found in any of the archaeological contexts I cite here. Even some of the later Huancaco wares from the Virú Valley were utilizing polychrome (Donnan 2011:115). This being said, it is worth at least acknowledging the possibility that this aspect of Transitional-Early Chimú corporate wares represents some echo of highland influence on coastal corporate ware traditions. Finally, simpler black painted designs are sometimes found on ring-based bowls (Donnan and Mackey 1978:265, 269) but otherwise most painted decoration appears circumscribed to jars and bottles.

Mold-impressed or molded decorations are sometimes integrated into polychrome designs but are also stand-alone features that become staples of later Chimú assemblages. Face-neck jars were likely produced in molds and early forms of *piel de ganzo* with larger stipples are found on several of the Transitional-Early Chimú vessels illustrated by Donnan and Mackey (1978:214-219). Mold-impressed bands of stepped and wave motifs are quite commonly found around the shoulders of ollas, though such decoration is likely better associated with the earlier forms of Rubia Plain domestic wares. A few examples of ring-based bowls also exhibit mold-impressed decorations like large *piel de ganzo* stipples (Donnan and Mackey 1978:265).

As all of the data for the Transitional-Early Chimú corporate ware tradition comes from a series of internments, the only corporate tradition they can be confidently associated with is some manner of elite burial tradition. Compared to earlier such traditions in the Moche Valley, many of the forms seen in Transitional-Early Chimú illustrate continuity: bottles, jars, and bowls. The inclusion of possible cooking ollas is an interesting departure, and seems to become more common in the other Chimú funerary assemblages described by Donnan and Mackey. The return of bowls from their brief hiatus during the dominance of *floreros* in Moche assemblages is also intriguing. I have argued elsewhere about the importance of bowls and plates in the political activities of provisioning or feasting associated with building relationships of authority between regimes and subjects in later Chimú contexts (Mullins 2019:309-312). In his study of the Chotuna and Chornancap complex further north in the Lambayeque, Donnan recorded northern versions of Transitional-Early Chimú wares that were securely in palace and mound-center contexts (Donnan 1990:234-237). These data suggest that perhaps the Transitional-Early Chimú corporate wares I describe were used in a similar manner to that argued for some Moche corporate wares: as tools used in building authority between subjects and regimes. Additionally, it is clear that bowls had already begun to play a more intensive role as serving wares in such processes. However, this is difficult to say with any certainty since we have next to no understanding of what any Transitional-Early Chimú polity looked like in the Moche Valley.

In sum, the Transitional-Early Chimú corporate ware tradition appears to be simultaneously transitional from Moche to Chimú while also having several qualities that seem foreign and puzzling. Without any research from non-funerary contexts, it is difficult to say with certainty what other corporate activities Transitional-Early Chimú corporate wares were associated with. Until then, we can only guess they were some manner of hybrid between Moche and Chimú that were likely linked with burgeoning Chimú lords or some other dynasty that would eventually give way to that based in Chan Chan.

Middle-Late Chimú (~1200 – 1550s CE)

What I call the Middle-Late Chimú corporate ware tradition is relatively well documented in the Moche Valley and is a composite of the wares that are clearly associated with the rise of the Chimú Empire. As the heart of the empire was in Chan Chan, I was able to synthesize this ware

almost exclusively from data from the Moche Valley. Donnan and Mackey provided a good example of some typical Middle-Late Chimú grave goods from the Middle and Late Chimú burials they excavated at the Huacas del Moche, Banderas, and Chan Chan (1978:289-356). The fancier vessels, bowls, and plates recorded by Kannigan at Chan Chan were also helpful in understanding the dynamics of these wares in the Chimú capitol (1994:162-173). Likewise, Keatinge's work provided insight into more rural and hinterland examples of Middle-Late Chimú corporate wares (1973:211-398). These data are supplemented by some of the fancier vessels, bowls, and plates that were part of the Queneto Polished Plain, San Nicolas Molded, San Juan Molded, La Plata Molded, Tomaval, and Estero Plain wares as described by Virú Valley project members (Collier 1955:157-176).

Though the sample of ceramics is quite robust, the dating of Middle-Late Chimú corporate wares suffers from the same lack of absolute dates as the Tomaval-Estero and Rubia Plain domestic ware traditions. As such it requires quite a bit of estimation. Middle-Late Chimú corporate wares are either absent or poorly represented at Cerro Huancha and most of the mold-impressed wares (Boswell 2016:351-353) appear to be more likely decorated domestic wares. Unfortunately, this means that the dating of Middle-Late Chimú corporate wares must lean heavily on approximations from charts made by Topic and Moseley (1983:159; Table A.2) and how these charts align with the phases outlined by Kanigan (1994:162-173). As discussed earlier, Kanigan's Phase A shows some overlap with Transitional-Early Chimú but it is clear that by Phase B the assemblage was what I would call Middle-Late Chimú (1994:162-173; Figure A.23; Figure A.24). This would place the beginning of Middle-Late Chimú sometime around 1000 to 1100 CE by my reckoning. Recalling the absolute dates presented by Castillo for the later Transitional-Early Chimú wares (2019:265-266), such dates now seem a bit early for Middle-Late Chimú wares. As such I tentatively would put the starting date at 1200 CE but with the knowledge that this tradition possibly started a bit earlier at around 1100 CE. Consulting the general positioning of related wares in the Virú Valley seriation places them at the latter half of the Tomaval and through to the Estero Period (Collier 1955:157-176; Ford 1949; Figure A.1), so from around 1000 to the early 1500s CE by my reckoning. The ending point of this ware is particularly problematic because coastal ceramic assemblages after Inka conquest illustrate more continuity than change. This is not surprising as the time between such conquest was from around 1470 to 1530, so around two to three generations. I would argue it is safest to assume this ware was still being used in some limited sense by Chimú

lords left in place to administer parts of the valley, and perhaps even by those lords left in charge during early colonial times. Thus, the very tentative date range for Middle-Late Chimú corporate wares is between around 1200 to at least the early 1500s CE but probably a bit later.

The Middle-Late Chimú corporate ware tradition mostly included fine reduced-fired wares that would align well with fancier versions of Tomaval-Estero Plain domestic wares, though some oxidized ring-based bowls do carry over from Transitional-Early Chimú. Vessel exteriors were most often highly polished, though some exhibit a combination of polishing and smoothing. Bottle interiors were obviously untreated while the interiors of most bowls and plates were burnished or polished. Most of the fancier vessels described by Donnan and Mackey appear to have been reduced-fired blackwares though they do note that "oxidized redware vessels are also common, especially in domestic wares." (1978:340). This fits well with my previous descriptions of Rubia and Tomaval-Estero Plain during this general time period. They also specify that the tripod bowls that are common in the earlier half of Middle-Late Chimú are most often reduced-fired wares (Donnan and Mackey 1978:289). Looking back at the condensed ware categories synthesized from Kannigan's data (Table A.5), it is clear that the angled plates that are the hallmark serving vessel in the latter half of this tradition are mostly reduced-fired wares. Additionally, the bottle forms she recorded as "spouts" were overwhelmingly reduced-fired at around 93% (Table A.5). Though there are obviously some exceptions, most Middle-Late Chimú corporate wares appear to have been reduced-fired black or grey wares.

Forms apparent in Middle-Late Chimú corporate wares include bottles, jars, ollas, bowls, and plates (Figure A.44). A variety of stirrup spouted bottles and single spouted bottles with handles are present among Middle-Late Chimú corporate wares and are most often reduced-fired and highly polished (Collier 1955:159, 162-163; Keatinge 1973:314-315; Kanigan 1994:330-336; Donnan and Mackey 1978:291). Interestingly, double spouted bottles with handles appear to be rare during the florescence of the Chimú Empire in the Moche Valley: none are recorded by Kanigan or Keatinge and only one is recorded by Donnan and Mackey (1978:319). Kanigan specifies that squared stirrup spout vessels appear during her Phase D in the last century of the occupation at Chan Chan while rounded spouts are common throughout (Figure A.26). This is corroborated by Donnan and Mackey, who identify "stirrups with square cross sections" as Late Chimú (Donnan and Mackey 1978:157). It is worth noting that generally, bottles appear to have

been rarer inclusions in Middle-Late Chimú contexts when compared to their prevalence during Moche times. The most common forms found in burial contexts by Donnan and Mackey are a variety of jars that usually have lugs or handles on their shoulders or necks (1978:289-356). Such jars often have press-molded faces applied to their necks, sometimes with small lugs as 'ears' of sorts (Donnan and Mackey 1978:329). Some shorter necked ollas are also found including both c-rimmed and carinated forms. Donnan and Mackey mention that earlier jars and ollas were football-, oval-, or barrel-shaped but only oval-shaped forms persisted into Late Chimú (1978:340). As previously mentioned, ring-based bowls likely persisted into Middle-Late Chimú corporate ware assemblages but the most diagnostic wares of the earlier half of Middle-Late Chimú assemblages are tripod-based bowls (Donnan and Mackey 1978:289; Kanigan 1994:162-173). Angled plates dominate the serving wares of the latter half of Middle-Late Chimú assemblages and are noted by Kanigan as being diagnostic of her Phase C (1994:162-173). Such plates also appear frequently in Keatinge's assemblages, which were all likely later, but are notably absent in any of the funerary assemblages noted by Donnan and Mackey. One reduced-fired and mold impressed cup was also recorded by Donnan and Mackey (1978:319).

The decorations on Middle-Late Chimú corporate wares align almost exactly with those described for Rubia Plain and Tomaval-Estero Plain, but are usually done on polished or burnished reduced-fired surfaces (Figure A.45). Stirrup spouts belonging to the Middle-Late Chimú corporate ware tradition often feature a modeled monkey on one side that appears to be holding the spout at its join (Collier 1955:159). The most common mold-impressed decoration is piel de ganzo but a wide variety of plants, animals, and figures are also found. Paddle-stamping is also common and an important novel decorative element that sets this tradition apart from Transitional-Early Chimú. All of these decorations can be left unburnished but many have burnishing or polishing around or even on them at times. Small modeled or molded figures and faces are also frequent additions to vessels, whether they be incorporated into spouts, built into necks, or are protruding from vessel shoulders (Collier 1955:162-163; Donnan and Mackey 1978: 290-291, 341). Again, it is very important to re-iterate that these decorations were also very popular on a wide array of domestic wares and I believe are better linked with the Rubia and Tomaval-Estero Plain domestic ware traditions rather than any specific polity. Such confusions risk yet another case of the Gallinazo "problem", and conflate domestic wares with corporate wares and thus

people with politics. Simply put: *piel de ganzo* blackwares do not necessarily equal the presence of the Chimú Empire, they equal the presence of people using a coastal domestic ware tradition.

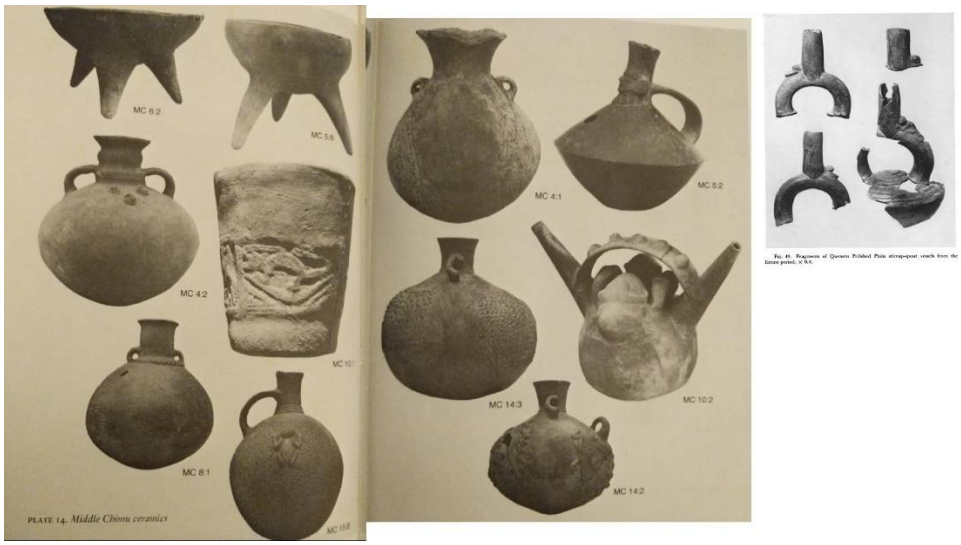


Figure A.44 Middle and Late Chimú Ceramics (adapted from Donnan and Mackey 1978; Collier 1955)

FIG. 55. San Juan Molded sherds from bowls and jars; rims toward the top. × 0.4.

Figure A.45 San Juan Molded Sherds (adapted from Collier 1955)

The forms included in Middle-Late Chimú are a mixture of typical funerary wares like stirrup spouts, moderately decorated storage and cooking vessels, and serving wares. This represents some continuity from the Transitional-Early Chimú and Moche traditions, which had mixed assemblages of very fine wares with what essentially appear to be domestic wares, some of which were decorated. Bowls and plates were found in inordinately high proportions at the small Chimú palace at Milagros de San Jose and are thus argued here to be associated with whatever feasting or provisioning activities were going on at such nodes of authority (Mullins 2019: 309-312). These associations link them with the political activities that were seemingly important in building relationships of authority between regimes and subjects in the Chimú Empire. It is interesting though that only the tripod bowls of the earlier half of the Middle-Late Chimú tradition are present in funerary contexts while plates appear absent in later funerary contexts. In any case, it is important to acknowledge that the line between domestic and corporate ware becomes far fuzzier starting with Middle-Late Chimú wares. Fancy bottles are the only unambiguous elements of this corporate tradition, as similar forms had been used as offerings, grave goods, and high-status items for nearly three millennia by the time the Chimú Empire rose to prominence. Plates and bowls are a bit more ambiguous as they were likely used in normal domestic activities but were also very clearly linked to political activities involving lords of the Chimú Empire operating outside of Chan Chan. Jars and ollas are only linked through their inclusion in burial contexts, but are otherwise widely found in domestic contexts. It is important to re-iterate that reduced-fired wares and mold-impressed decorations were common on Middle-Late Chimú wares but are not themselves necessarily linked with the Chimú Empire in the same way Moche III-IV or V wares could be linked to specific political traditions. The Chimú Empire, or at least the lords operating within it, can be more readily visible in ceramics through the presence of fancier bottles or very high proportions of tripod bowls or angled plates.

In sum, Middle-Late Chimú corporate wares consist of the fancier bottles, plates and bowls, and fancier decorated jars and ollas that are found in funerary contexts and at nodes of authority associated with the Chimú Empire in the Moche Valley. The overlap between many of these wares and domestic wares make them problematic to use in a simple "pots equal politics" sense. However, if one finds fancier bottles or assemblages with high proportions of Middle-Late Chimú plates or bowls in the Moche Valley, it is likely that such goods were linked with lords or elites associated with the Chimú Empire.

Chimú-Inka and Inka (~1460 – 1550s CE)

The Chimú-Inka and Inka corporate ware traditions presented here are a composite of the finer wares that are associated with the Inka administration of the Moche Valley after the conquest of the Chimú Empire. Examples of these wares are sparse in archaeological contexts in the Moche Valley but some were presented by Donnan and Mackey from a few Chimú-Inka burials at Chan Chan (1978:356-357). Keatinge also reported a few likely Chimú-Inka wares at Medanos la Joyada (1973:318-319), as did Boswell at Cerro Huancha (2016:363-365). In the Virú Valley, several possible Chimú-Inka or Inka wares were identified by project members (Collier 1955:156-157; Ford 1949:71). Conrad also included several drawings of Inka corporate wares from his work at Chiquitoy Viejo in the Chicama Valley (1977:15). Farther north in the Lambayeque Valley, Mackey recorded a few Chimú-Inka and "Provincial Inka" wares in her excavations at Farfan (2003:336-337) that are also relevant to my proposed chronology.

The chronology of Chimú-Inka and Inka wares in the Moche Valley is most often based on a summary of ethnohistoric documents done by Rowe, who places the Inka conquest of Chimor as likely being between 1462 and 1470 (Rowe 1948:40). Most scholars have seemed to settle on 1470, although no absolute dates have been attributed to the conquest. As I argue in Chapter 4, the Moche Valley *chaupiyunga* could possibly have seen Inka wares a bit earlier than the 1460s. If the Inka supposedly conquered Cajamarca sometime around 1461, or earlier, they would have likely needed to conquer, set up temporary alliances, or exchange gifts with local highland lords for an unhindered passage north (Rowe 1948:42). This could have begun the circulation of Inka wares in some of the highlands adjacent to the Moche Valley before the actual conquest of Chimor occurred. As with Middle-Late Chimú corporate wares, Chimú-Inka and Inka wares were likely used through Spanish conquest and perhaps for a few decades afterwards but this period is very poorly understood in the Moche Valley. Thus, the very tentative dating of such wares in the Moche Valley is between around 1460 CE and the early- and mid-1500s.

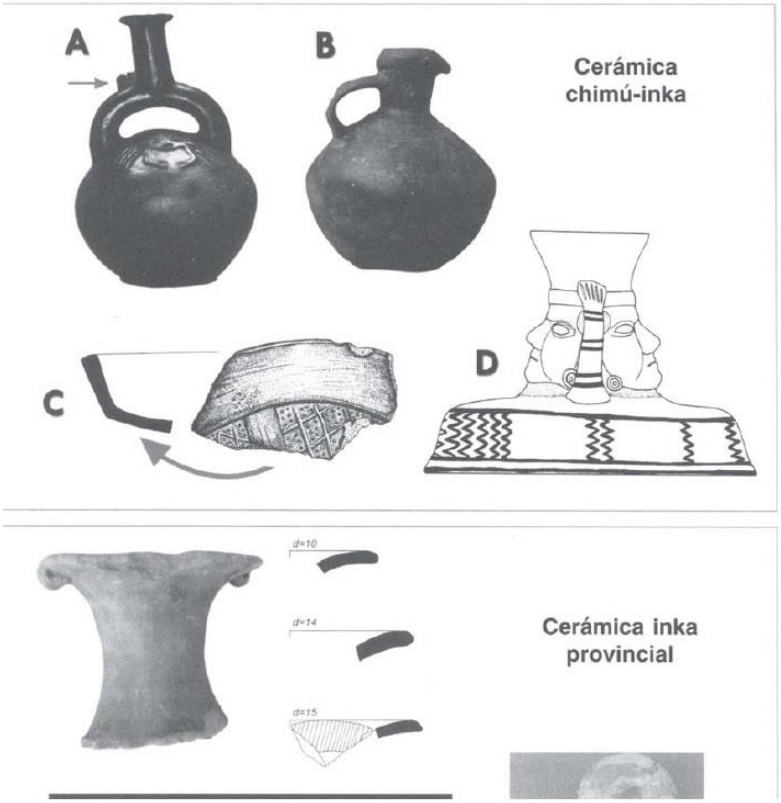


Figure A.46 Chimú-Inka and Provincial Inka Sherds (adapted from Mackey 2003)

Chimú-Inka corporate wares are often found as reduced-fired wares and have many affinities with the previously described Middle-Late Chimú corporate wares. Those described by Donnan and Mackey appear to reflect this, as most are reduced-fired (1978:356-357). Several vessels in the Virú Valley collection that I would describe as possibly Chimú-Inka wares are classified in ware categories like Tomaval, Estero, and Queneto Polished Plain, that were generally used to describe Middle-Late Chimú corporate wares as well (Collier 1955:159, 162-163). Those shown by Boswell also appear to mainly be reduced-fired (2016:363, 365). This being said, Collier does describe two aryballoi as having paste like "Rubia Plain" in his Inka-influence or Inka-associated ware type (1955:157). He also describes his Inka Painted and Inka Non-Painted wares as having pastes ranging from gray to red to red-brown (1955:156-157). Curiously, Ford describes these same wares as having a "gray, reduced-fired paste" in his description of pottery types and then later as having "brown paste" and being "sand tempered" in his later graphic of the Virú Valley chronology (1949:71). Local Inka corporate wares would assumedly have more foreign

pastes so perhaps this sort of variability would be expected in the wares that Mackey would call "Provincial Inka".

The aryballos form, or variations therein, is the most diagnostic form of Chimú-Inka and Inka corporate wares with other common forms seeming to overlap considerably with Middle-Late Chimú corporate wares (Figure A.46). Aryballos are found in both Chimú-Inka and Inka corporate wares and are globular jars with tall necks ending with highly flared lips that sometimes have small lugs attached (Mackey 2003:337). Bases are usually pointed and the sides of the vessel body often have handles attached. More modest hybrid forms of the aryballos found in Chimú-Inka assemblages have rounded bottoms, shorter necks, and are less ornate (Donnan and Mackey 1978:368). The flaring lip diagnostic of aryballos was often applied to Chimú-style stirrup spouted bottles to create the hybrid forms common in Chimú-Inka corporate wares (Mackey 2003:337). Donnan and Mackey state that double spouted bottles with handles make a come-back in Chimú-Inka contexts from their brief hiatus in Middle-Late Chimú corporate wares (1978:357). This is relatively well corroborated from description of similar vessels by Collier, who places them solidly within the Estero period of the Virú Valley project (1955:162-164). Mackey specifies that angled plates with square rims and mold-impressed bottoms are Chimú-Inka at Farfan, while un-decorated examples could be earlier (2003:336-337). I encountered mold-impressed decorations on such forms during my work at Fortaleza de Quirihuac, but I have argued that the site itself and others like it are most likely pre-Inka (Mullins 2012; 2016; 2019). This being said, it is entirely possible that there were re-occupations after the Inka conquest that would have left such wares (Mullins 2019:313-314). However, given that Kanigan also noted high frequencies of such plates at Chan Chan (Kanigan 1994:206-207), I would more readily describe them as Middle-Late Chimú corporate wares that carried over into Chimú-Inka. In the interest in not investing more time on these somewhat obscure plates, we must move on while keeping in mind there may be more subtle differences that will become clear with more research.

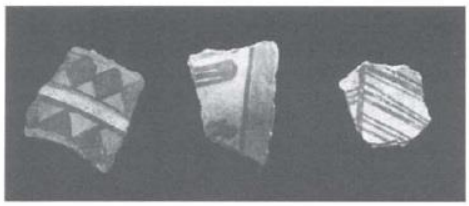


Figure 10.21 Chimú-Inca Bird Adorno

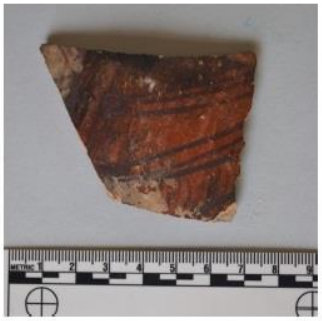


Figure 7.7: Cuzco-Inca aryb

Figure A.47 Chimú-Inka and Cuzco-Inka Sherds from Collambay (adapted from Boswell 2016)

Many decorative norms also carry over from Middle-Late Chimú into Chimú-Inka corporate wares, but some subtle differences and the very recognizable Inka designs and painting serve as good diagnostic markers (Figure A.47). Continuing the theme of revivals from Transitional-Early Chimú, birds seem to be very well-represented as modeled adornos to vessels, molded vessel bodies themselves, and even sometimes replace the monkey common on Middle-Late Chimú stirrup spouts (Donnan and Mackey 1978:359,373; Mackey 2003:336-337; Boswell 2016:363). Donnan and Mackey note that the use of wave and spiral motifs along vessel shoulders also returns (1978:357, 368, 373). This being said, the decorations appear on different forms and have a bit more geometric aesthetic than those seen in Transitional-Early Chimú wares. Inka painted designs typically are polychrome using some variation including black, red, dark red, white, and cream paints or slips to create geometric or naturalistic designs (Collier 1955:156-157; Boswell 2016:239; Mackey 2003:336-337; Conrad 1977:15). Such painted designs are readily

distinguishable in any later coastal assemblage in the Moche Valley, as none of the domestic or corporate wares used between around 1100 to 1460 CE were using anything even remotely similar.

With the notable exception of the aryballos, the Chimú-Inka and Inka corporate wares appeared to serve very similar roles to Middle-Late Chimú corporate wares. Aryballos served very important roles as vessels for the presentation and serving of chicha in Inka state rituals and thus were quite explicit corporate wares associated with Inka authority and reciprocity (Bray 2003). That Chimú-Inka corporate wares illustrate hybrids of this Inka corporate ware with Chimú forms, pastes, or decorations is a fascinating testimony to local potters translating Inka norms of authority with more ancestral Chimú ones. It is possible that plates continued to play important role in how authority was being built between local lords and subjects even under Inka administration. However, without form frequency data from Farfan or other provincial Chimú-Inka centers it is difficult to say whether or not this was the case.

In sum, Chimú-Inka and Inka corporate wares are clearly linked to the overarching Inka regime and the local Chimú lords that were likely doing the day-to-day administration of the new coastal subjects of the Inka. I would argue that the hybridity of the wares themselves is reflective of the hybridity of Inka and local Chimú modes of authority as they combined and created new provincial political traditions that were neither Chimú nor Inka but a combination of the two. Though obvious signs of Inka influence like aryballos are the safest markers for this short period in the Moche Valley, more research is needed to confirm some of the more subtle diagnostics proposed by many of the scholars studying Chimú-Inka wares.

TRAJECTORIES OF CERAMIC TRADITIONS IN THE MOCHE VALLEY

Having gone through over three millennia of ceramic traditions in the Moche Valley, its *chuapiyungas*, and parts of the adjacent highlands, it is now important to step back and discuss some of the broader patterns that appear to connect and differentiate these traditions. It generally appears that domestic wares were all quite similar throughout the valley until at least 200 BCE, when they appeared to have split into two trajectories: one mainly being used around the coast and middle valley areas (coastal-valley) and the other mainly being used around the *chaupiyunga* and highland areas (*chaupiyunga*-highland). The oldest, and possibly underlying, domestic ware tradition appears to be one of inconsistently fired red-, black-, and brown-wares produced through

the coil and scrape technique (Guañape Plain and HPP). The coastal-valley trajectory then began with an earlier tradition of consistently oxidized-fired red-wares produced by the paddle and anvil technique (Castillo Plain) that was succeeded by a later tradition characterized by both oxidized-fired and reduced-fired red- and black-wares produced by the paddle and anvil technique or by molds (Rubia Plain and Tomaval-Estero Plain). The *chaupiyunga*-highland trajectory began with an earlier tradition of inconsistently fired brown- and buff-wares produced by the coil and scrape technique (Early Highland Plain) that was succeeded by a later tradition of inconsistently fired brown-wares likely produced by paddle and anvil or perhaps just some manner of coil and smooth technique (Late Highland Plain).

This is obviously a gross simplification of the domestic ware traditions of the Moche Valley. However, I find it is a useful perspective that allows us to see the general trends without getting bogged down in minutiae. Generally speaking, the coastal-valley trajectory aligns quite well with that described for the Virú Valley, even withstanding its revisions (Downey and Millaire 2019). The origins of the *chaupiyunga*-highland trajectory are a bit more problematic, as it is quite possible that there are Guañape Plain and HPP corollaries that are just not visible with the data at hand. If this was the case, there would be no divergence and instead two parallel trajectories would have existed for the entirety of the sequence: one coastal-valley and one *chaupiyunga*-highland. This being said, the affinities in production techniques between HPP and Early Highland Plain domestic wares lead me to believe that they are likely related. That local highland domestic ware traditions are generally thought to be more conservative when compared to the coast only strengthens my suspicions on the matter. Additionally, I do not think it is coincidental that the possible divergence of coastal-valley and *chaupiyunga*-highland domestic ware traditions occurred in the middle of the Salinar period: a period argued to be a general time of conflict and social disintegration, especially in the Moche Valley. Perhaps it was out of this period of upheaval that new, but related, domestic ware traditions were established in coastal-valley and *chaupiyunga*-highland spheres? Following this further, is it possible that such differing traditions reflected a deepening division between more general coastal and highland domestic traditions, political traditions, and perhaps community identities? Truly answering these questions was obviously out of the scope of this dissertation, but they are intriguing nonetheless.

A similarly broad perspective of corporate ware traditions paints a somewhat more complex and disjointed set of trajectories. It is difficult to assess the continuity between the earliest corporate ware traditions because the Ancón tradition that I describe is really a composite of many different wares and the Salinar Fine tradition is very poorly understood. This being said, since Guañape and HPP domestic wares were clearly interrelated it is not a stretch to assume that Ancón and Salinar Fine corporate wares were likely related in some way. Quinga corporate wares appear as the first widely-used highland corporate tradition in the middle and upper parts of the valley, and are interestingly contemporary with some Salinar Fine wares. Virú Negative corporate wares represent a somewhat foreign, but still coastal, imposition on the Moche Valley from the Virú polity to the south. This being said, even these seem somewhat related to Quinga wares and have clear corollaries with many of the Salinar Fine wares. Early Highland Fine corporate wares are thrown into this mix at around the same time, and seem to be part of the larger package of *chaupiyunga*-highland wares that includes more Quinga wares and follows Early Highland Plain assemblages as new groups moved into the middle valley.

By 200 CE, the earliest Moche corporate wares emerge as part of a political tradition that appears indigenous to the Moche Valley. It is important to note that these wares were likely influenced by Virú Negative wares, and by proxy, Quinga wares. This political tradition, and the corporate wares that serve as visible markers of its expression, expanded throughout the valley and splintered into sub-styles that likely correlated with new centers of political power within the valley. By 900 CE this tradition had begun to dissolve and was replaced by a motley assortment of corporate wares that seem both foreign and local. In many ways, the Transitional-Early Chimú corporate ware tradition appears to me quite similar to Chimú-Inka: a mix of decorations and forms that are local with ones that clearly are coming from far afield. If for corporate wares pots equal politics, it would appear that this transitional period was not one of unimpeded sovereignty for the Moche Valley. Whatever the case, by at least 1200 CE a new political power indigenous to the Moche Valley had risen and quickly expanded throughout the valley and abroad. Associated with this polity was a corporate ware tradition, the Middle-Late Chimú, that was clearly related to its Transitional-Early Chimú antecedents but quite different from the Moche. Additionally, ceramics seemed to be playing somewhat different roles in corporate activities associated with the Chimú political tradition and became more important in feasting or provisioning. The conquest of the Chimú Empire by the Inka led to another period of hybridity and change as the Inka co-opted the

middle and lower echelons of Chimú nobility to rule locally for the larger empire. Interestingly, Chimú-Inka corporate wares reflected the coexistence of these multiple political traditions: playing off of both local and foreign symbols of power.

Thus, the corporate ware traditions of the Moche Valley illustrate fluctuating periods of sovereignty, disorganization, and foreign influence that can be seen in both the timing and nature of the wares themselves. As corporate wares are tied to the corporate or political traditions that use them, such dynamism should be expected as the power of certain traditions peak and wane. It is quite fascinating that the Moche Valley appeared to have been the cradle of at least two massively successful and wide-spread corporate ware traditions. That the florescence of both of these traditions, and the political traditions of which they were part, were preceded by periods of clear foreign influence, local disarray, or lack of sovereignty is also notable. Even more intriguing, that the Moche and Middle-Late Chimú corporate ware traditions appear so dissimilar yet were clearly interrelated. However, ceramic traditions alone are only one line of evidence archaeologists may use to discuss political dynamics. Chapter 4 and Chapters 6-9 delve far deeper into the differences and similarities between the Moche and Chimú political traditions and how they built their power into the Moche Valley and *chaupiyunga* landscapes.

Over the course of this appendix, I compiled all of the most current data available to me between 2017 and 2019 to build what I believed was the best possible framework for interpreting the ceramics that I encountered in my full-coverage survey of the Upper Moche *Chaupiyunga*. Differentiating between domestic and corporate wares proved incredibly useful and at several points helped me avoid starting new Gallinazo "problems" in my own work. Though I believe it serves the purposes of this dissertation, this chronology is only a cursory attempt and should be seen as a first step towards a larger and more collaborative endeavor between a host of regional specialists.

APPENDIX B: SELECTED EXCERPTS ON THE INKA CONQUEST OF CHIMOR

This appendix provides an annotated summary of the accounts of the Inka conquest of Chimor from the chronicles that are cited in Chapter 4. It proceeds chronologically by author and includes (1) a short aside about the authors, (2) a quick summary of the relevant passages, and then (3) the specific passages being described with relevant areas underlined. It is important to note that this list is still being expanded. For a more recent overview one will (hopefully) be able to consult an upcoming article that Dennis Correa-Trigoso and myself are currently preparing for publication in *Ñawpa Pacha*. The manuscript we have prepared goes into more detail about the consequences of the Chimú-Inka Wars for the Chimor and the urban center of Chan Chan in particular. This being said, we "have only done enough to catch a glimpse of our own ignorance" (Rowe 1948: 56) and I have no doubt that more will be uncovered as more archival and archaeological work is conducted.

PEDRO CIEZA DE LEON (1520 – 1554)

Starting with Cieza de Leon and his *Crónica del Perú* written around 1553 CE, he refers to Chimor as being conquered once by the Inka Topa Yupanqui (Cieza de Leon 1967 [1553]: 368-372) and then possibly as being quelled during part of a pacification campaign undertaken by his son, Inka Huayna Capac (Cieza de Leon 1967 [1553]: 422-424). The story begins with Topa Yupanqui having conquered much of the northern highlands and, having heard of the great riches in the valleys below, the King descended from Quito to conquer those lands from the north. The description of the initial conquest of Chimor by Topa Yupanqui recounts a fierce battle in which an Inka victory was unsure but was eventually won. Topa Yupanqui generally appears to have been a benevolent conqueror: pardoning those with whom he fought, leaving the Chimo to their old customs and leaders, and trusting the Chimo not to take up arms against him. However, he also apparently took Chimo metal workers back to Cuzco, had his new Chimo subjects deliver tribute to Cajamarca, and left an Inka delegate behind in Chimor. Later, Cieza de Leon refers to Huayna Capac as also traveling through the coastal valleys, again from the north, to bring order: assisting in legal issues, water distribution, and mandating the people of the valleys not to be at war. Chimo is referenced twice in these same lines but it is admittedly unclear if Chimor was among those

areas that Huayna Capac had to bring into order. Clearly under this newly established order, the landscape thrived for the Inka: Huayna Capac was recorded as being given a handful of particularly tasty ("muy dulce") cucumbers somewhere around Trujillo during this journey and enjoyed eating them.

Cieza de Leon 1967 [1553]: 368-372

"Como el rey Tupac Inca determinase de ir a los valles de Los Llanos, para atraer a su servicio y obediencia los moradores dellos, abajo a lo de Tumbez y fue honradamente rescibido por los naturales, a quienes Tupac Inca mostro mucho amor; y luego se puso del traje quellos usaban para mas contentarles y alabo a los principales el querer sin guerra tomarle por Senor, y prometio de los tener y estimar como a hijos propios suyos. Ellos, contentos con oir sus buenas palabras y manera con que les trataba, dieron la obediencia con honestas condiciones y permitieron quedar entre ellos gobernadores y hacer edificios; puesto que, sin esto que algunos indios afirman, tenian otros que Tupac Inca paso de largo sin dejar hecho asiento en aquella tierra, hasta que Guayna Capac reino; mas si hemos de mirar estos dichos de los indios, nunca concluiremos nada.

Saliendo de aquel valle camino el rey Inca por lo mas de la costa, yendo haciendo el camino real tan grande y hermoso como hoy parece lo que del ha quedado; y por todas partes era servido y salian con presentes a le servir; aunque, en algunos lugares, afirman que le dieron guerra, pero no fue parte para quedar sin ser vasallos suyos. En estos valles se estaba algunos dias bebiendo y dandose a placeres, holgandose de ver sus frescuras. Hicieron por su mandado grandes edificios de casas y templos. En el valle de Chimo dicen que tuvo recia guerra con el Senor de aquel valle, y que teniendo su batalla estuvo en poco quedar el Inca desbaratado de todo punto; mas, prevaleciendo los suyos, ganaron el campo y vencieron a los enemigos, a los cuales Tupac Inca con su clemencia perdono, mandandoles, a los que vivos quedaron, (que) en sembrar sus tierras entendiesen y no tomasen otra vez las armas para el ni para otros. Quedo en Chimo su delegado; y lo(s, los) mas destos valles iban con los tributos a Caxamalca; y porque son habiles para labrar metales, muchos dellos fueron llevados al Cuzco y a las cabeceras de las provincias, donde labraban plata y oro en joyas, vasijas y vasos y lo que mas mandado les era. De Chimo paso adelante el Inca y en Parmunquilla mando hacer una fortaleza, que hoy vemos, aunque muy gastada y desbaratada.

Estos Yuncas son muy regalados y los senores viciosos y amigos de regocijos; andaban a hombros de sus vasallos; tenian muchas mujeres, eran ricos de oro y plata y piedras y ropa y ganados. En aquellos tiempos servianse con pompa; delante dellos iban truhanes y decidores; en sus casas tenian porteros; usaban de muchas religiones. Dellos de voluntad se ofrecieron al Inca y otros se pusieron en armas contra el; mas, al fin, el quedo por soberano Senor dellos todos y monarca. No les quito sus libertades ni costumbres viejas, conque usasen de las suyas, que de fuerza o de grado se habian de guardar. Quedaron indios diestros que les impusieran en lo que el rey queria que supiesen, y en aprender la lengua general tuvieran cuidado grande. Pusieronse mitimaes y, por los caminos, postas; cada valle tributaba moderadamente lo que dar de tributo podia que en su tierra, sin lo ir a buscar a la agena, hobiese; a ellos guardabase la justicia, mas cumplian lo que prometian; cuando no, el dano era suyo y el Inca cobraba enteramente sus rentas. Senorio no se tiro a senor natural ninguno, pero sacaronse de los hombres de los valles muchos, poniendose de los unos en los otros y para llevar a otras partes para los oficios que dicho se han.

Diose el Inca a andar por los demas valles con el mejor orden que podia, sin consentir que dano ninguno fuese hecho en los pueblos ni en los campos de las tierras por do pasaba; y los naturales tenian mucho bastimento en los depositos y aposentos que por los caminos estaban hechos. Y con esta orden el Inca anduvo hasta que llego al valle de Pachacama, donde estaba el templo tan antiguo y devoto de los Yuncas, muy deseado de ver por el; y como llego a aquel valle, afirman que solamente quisiera que hubiera el templo del sol, mas como aquel era tan honrado y tenido por los naturales no se atrevio y contentose con que se hiciese casa del sol grande y con mamaconas y sacerdotes, para que hiciesen sacrificios conforme a su religion. Muchos indios dicen que el mesmo Inca hablo con el demonio que estaba en el idolo de Pachacama, y que le oyo como era el hacedor del mundo y otros desatinos que no pongo por no convenir; y que el Inca le suplico le avisase con que servicio seria mas honrado y alegre y que respondio que le sacrificasen mucha sangre humana y de ovejas.

Pasado lo sobredicho, cuentan que fueron hechos grandes sacrificios en Pachacama por Tupac Inca Yupanqui y grandes fiestas, las cuales pasadas dio la vuelta al Cuzco por un camino que se le hizo, que va a salir al valle de Xauxa, que atraviesa por la nevada sierra de Pariacaca, que no es poco de ver y notar su grandeza y cuan grandes escaleras tiene, y hoy dia se ven por entre aquellas nieves, para la poder pasar. Y visitando las provincias de la serrania y proveyendo y

ordenando lo que mas convenia para la buena gobernacion allego al Cuzco, a donde fue recebido con grandes fiestas y bailes y se hicieron en el templo grandes sacrificios por sus victorias."

Cieza de Leon 1967 [1553]: 213-216

"CAPITULO LXVIII

En que se prosigue el mismo camino que se ha tratado en el capitulo pasado, hasta llegar a la ciudad de Trujillo Deste valle de Collique se camina hasta llegar a otro valle que nombran Zana, de la suerte y manera que los pasados. Mas adelante se entra en el valle de Pacasmayo, que es el mas fertil y bien poblado de todos los que tengo escripto, y adonde los que son naturales deste valle, antes que fuesen senoreados por los ingas, eran poderosos y muy estimados de sus comarcanos, y tenian grandes templos, donde hacian sus sacrificios a sus dioses. Todo esta ya derribado. Por las rocas y sierras de pedregales hay gran cantidad de guacas, que son los enterramientos destos indios. En todos los mas destos valles estan clerigos o frailes, que tienen cuidado de la conversion dellos y de su dotrina, no consintiendo que usen de sus religiones y costumbres antiguas. Por este valle pasa un muy hermoso rio, del cual sacan muchas y grandes acequias, que bastan para regar los campos que del quieran los indios sembrar, y tiene de las raices y frutas ya contadas. Y el camino real de los ingas pasa por el, como hace por los demas valles, y en este habia grandes aposentos para el servicio dellos. Algunas antig|ruedades cuentan de sus progenitores, que por las tener por fabulas no las escribo. Los delegados de los ingas cogian los tributos en los depositos que para guarda dellos estaban hechos, de donde eran llevados a las cabeceras de las provincias, lugar senalado para residir los capitanes generales, y adonde estaban los templos del sol. En este valle de Pacasmayo se hace gran cantidad de ropa de algodon y se crian bien las vacas, y mejor los puercos y cabras, con los demas ganados que quieren, y tiene muy buen temple. Yo pase por el en el mes de setiembre del ano de 1548, a juntarme con los demas soldados que salimos de la gobernacion de Popayan con el campo de su majestad, para castigar la alteracion pasada, y me parecio extremadamente bien este valle, y alababa a Dios viendo su frescura, con tantas arboledas y florestas llenas de mil generos de pajaros. Yendo mas adelante se llega al de Chacama, no menos fertil y abundoso que Pacasmayo por su grandeza y fertilidad, sin lo cual hay en el gran cantidad de canaverales dulces, de que se hace mucho azucar y muy bueno, y otras frutas y conservas; y hay un monasterio de Santo Domingo, que fundo el reverndo padre

fray Domingo de Santo Tomas. Cuatro leguas mas adelante esta el valle de Chimo, ancho y muy grande, y adonde esta edificada la ciudad de Trujillo. Cuentan algunos indios que antiguamente, antes que los ingas tuviesen senorios, hubo en este valle un poderoso senor, a quien llamaban Chimo, como el valle se nombra agora, el cual hizo grandes cosas, venciendo muchas batallas, y edifico unos edificios que, aunque son tan antiguos, se parece claramente haber sido gran cosa. Como los ingas, reyes del Cuzco, se hicieron senores destos llanos, tuvieron en mucha estimacion a este valle de Chimo, y mandaron hacer en el grandes aposentos y casas de placer, y el camino real pasa de largo, hecho con sus paredes. Los caciques naturales deste valle fueron siempre estimados y tenidos por ricos. Y esto se ha conocido ser verdad, pues en las sepulturas de sus mayores se ha hallado cantidad de oro y plata. En el tiempo presente hay pocos indios, y los senores no tienen tanta estimacion, y lo mas del valle esta repartido entre los espanoles, pobladores de la nueva ciudad de Trujillo, para hacer sus casas y heredamientos. El puerto de la mar, que nombran al arrecife de Trujillo, no esta muy lejos deste valle, y por toda la costa matan mucho pescado para proveimiento de la ciudad y de los mismos indios.

CAPITULO LXIX

De la fundacion de la ciudad de Trujillo, y quien fue el fundador En el valle de Chimo esta fundada la ciudad de Trujillo, cerca de un rio algo grande y hermoso, del cual sacan acequias, con que los espanoles riegan sus huertas y vergeles, y el agua dellas pasa por todas las casas desta ciudad, y siempre estan verdes y floridas. Esta ciudad de Trujillo es situada en tierra que se tiene por sana, y a todas partes cerrada de muchos heredamientos, que en Espana llaman granjas o cortijos, en donde tienen los vecinos sus ganados y sementeras. Y como todo ello se riega, hay por todas partes puestas muchas vinas y granados y higueras, y otras frutas de Espana, y gran cantidad de trigo y muchos naranjales, de los cuales es cosa hermosa ver el azahar que sacan. Tambien hay cidras, toronjas, limas, limones. Frutas de las naturales hay muchas y muy buenas. Sin esto, se crian muchas aves, gallinas, capones. De manera que se podra tener que los espanoles vecinos de esta ciudad son de todo proveidos, por tener tanta abundancia de las cosas ya contadas; y no falta de pescado, pues tiene la mar a media legua. Esta ciudad esta asentada en un llano que hace el valle en medio de sus frescuras y arboledas, cerca de unas sierras de rocas y secadales, bien trazada y edificada, y las calles muy anchas y la plaza grande. Los indios serranos abajan de sus provincias a servir a los espanoles que sobre ellos tienen encomienda, y proveen la ciudad de las cosas que

ellos tienen en sus pueblos. De aqui sacan navios cargados de ropa de algodon hecha por los indios, para vender en otras partes. Fundo y poblo la ciudad de Trujillo el adelantado don Francisco Pizarro, gobernador y capitan general en los reinos del Peru, en nombre del emperador don Carlos, nuestro senor, ano del nacimiento de nuestro salvador Jesucristo de 1530 anos."

AGUSTIN DE ZARATE (1508 – 1578)

Agustin de Zarate wrote his *Historia Del Descubrimiento y Conquista de la Provincia del Peru* around 1555 CE and referred to an apparent rebellion by the Chimocappa against Huayna Capac (Zarate 1968 [1555]: 138-140). Though this passage is widely cited by Chimú scholars, it is actually one of the only references to Chimor in Zarate's work and is itself quite short. Interestingly, in the same line that he refers to the Chimocappa as being in rebellion, he also mentions the King of Chimor as having dominion over 100 leagues, over 500 kilometers, of land. This could perhaps be a suggestion that the entirety of the old domains of Chimor rose up with their old lord but could also just be a reference to the former glory of the Chimocappa. Whatever the case, the rebellion of the Chimocappa was ultimately unsuccessful and, because of the insolence of their actions, those living in Chimor were outlawed from carrying arms. Even so, a Chimo successor was apparently left in charge after Huayna Capac departed.

Zarate 1968 [1555]: 138-140

"Y porque un senor que habia en los llanos, que se llamo Chimocappa, que tenia mas de cien leguas de tierra, se le rebelo, fue sobre el y le vencio y mato y mando que, en pena del delito, ningun indio de los llanos trajese armas; lo cual guardan hasta el dia de hoy; caso que al sucesor deste rebelado le dejo en que viviese la provincia de Chimo, donde agora es Trujillo."

DAMIAN DE LA BANDERA (1520 – 1590)

Damian de La Bandera wrote his *Relacion del Origen e Gobierno Que los Ingas Tuvieron* sometime around 1557 CE and only briefly mentioned a Chimo Capac who held sovereignty over the valley of Trujillo (Bandera 1968 [1557]: 494-495). Though not particularly useful in any understanding of the conquest of Chimor, this reference is notable in that Bandera refers to the Chimo Capac himself as a conqueror, like the Inka, and that his subjects would have given him corn, *coca*, and *aji* (peppers) as tribute. He also mentions that the Chimo Capac ruled the most

"Inkas" but was assumedly referring more generally to the large number of indigenous people that the Chimo Capac ruled over and not of Chimor as ruling the Inka at any point.

Bandera 1968 [1557]: 494-495

"Antes que los Ingas conquistasen este reino no habia tanta pulicia ni buen gobierno como hubo despues que senorearon los Ingas. Habia curaca, senor principal de un valle, y ten sus curacas y mandones, todos subjetos al mayor; tenian siempre guerra con sus comarcanos y no habia comunicacion con los comarcanos marcanos a causa de estar enemistados. Era uso que el que subjetaba los subjetos le habian de hacer chacara de maiz y coca y aji y llevarsela; y desta manera hubo muchos que conquistaron, como fue el senor del valle de Truxillo, que se llamaba Chimo Capac, que senoreo lo mas de los Ingas, y otro senor que hubo en los Chocorbos, que se llamaba Asto Capac, que senoreo mucha tierra."

HERNANDO DE SANTILLAN Y FIGUEROA (1519 – 1575)

Hernando de Santillan y Figueroa wrote his *Relacion del Origen, Descendencia, Politica y Gobierno de los Incas* sometime around 1563 CE and also only briefly mentions a Chimo Capac who held sovereignty over the valley of Trujillo (Santillan 1968 [1563]: 104). This reference is essentially identical to that of Damian de La Bandera and I suspect that the information was drawn from that slightly earlier work and just elaborated a bit. Santillan does, however, specify that the Chimo Capac was the lord over most of the people of the Yungas: possibly clarifying the confusion regarding the "Inkas" that came up in Bandera's work.

Santillan 1968 [1563]: 104

"Los senores que parece haber sido destos ingas, segund la memoria que hay, son estos: Pachacoch, Viracochay, Yupangi o Capac Yupangui, Inga Yupangui, Topa Inga Yupangui, Guayna Capac, Guascar Inga, Atabaliba. Y a lo que se puede entender, comenzaron a ensenorearse de poco mas de doscientos anos a esta parte. Entienden haber sido estos los senores, porque como un senor dellos subjetaba una provincia o valle, los naturales le hacian luego casa y le senalaban chacaras e indios para beneficiarlas, y le daban mujeres en senal de vasallaje y subjecion; y ansi son hoy conocidas las casas y chacaras que a cada uno de los dichos senores fueron hechas y dadas; y por aqui se ve cuantos ha habido y quienes son.

Antes quellos comenzasen a senorear no habia esa orden ni policia; antes en cada valle o provincia habia su curaca, senor principal, y tenian sus principales mandones subjetos a el curaca, y cada valle destos tenia guerra con su comarcano, y desta causa no habia comercio ni comunicacion alguna entrellos; y en cada valle habia su lengua distinta de la del otro; dabanse guazabaras los unos a los otros, y era uso que al que quedaba con la victoria y sujetaba al otro, le hacian los subjetos sementeras de maiz y coca y aji, y dabanle ovejas y de lo demas que tenian, en reconocimiento. Y desta suerte hubo algunos curacas que subjetaron algunos valles y provincias en particular, como fue el senor del valle que agora se dice de Trujillo, el cual se llamo Chimo Capac, senoreo la mayor parte de las (sic) Yungas; y otro senor hubo en los Chocorvos que se llamo Hasto Capac, y ensenoreo ciertas provincias comarcanas; pero esto era en particular, pero en general ninguno se apodero ni redujo la tierra a modo de reino e imperio hasta que comenzaron a reinar los ingas, cuyo senorio y gobierno fue mas general y mas pulitico y ordenado que otro ninguno que haya habido en aquella tierra de que haya memoria; y aun para fuera della y para gentes mas capaces, tuvie. ron en muchas cosas formas de gober. nar tan buenas, que pueden ser alabadas y aun imitadas."

PEDRO SARMIENTO DE GAMBOA (1532 – 1592)

Pedro Sarmiento de Gamboa wrote his famous *Historia de los Incas* in 1572 CE and recounts an initial defeat of the Chimo Capac by the General Capac Yupanqui (Sarmiento de Gamboa 1965 [1572]: 242-244), the assistance of the Chimo Capac in helping fight Colla rebels for the Inka Pachacuti Yupanqui (Sarmiento de Gamboa 1965 [1572]: 245-246), and the subsequent looting of Chimor by the Inka Topa Yupanqui (Sarmiento de Gamboa 1965 [1572]: 251-256).

The story of Sarmiento de Gamboa begins with Capac Yupanqui, half-brother to the famous conqueror Inka Pachacuti Yupanqui, chasing Chanca deserters into the northern highlands. Some intrigue involving Cuzco nobles being jealous of the honor gained by the brave Chanca warriors in the storming of a fortress called Urcocollac prompted this desertion of the Chanca. Though the Inka Pachacuti Yupanqui had instructed his brother not to go past a territory called Yanamayo, Capac Yupanqui, in his anger, followed the deserters against his King's will. Unable to find his quarry, Capac Yupanqui instead set his eyes on Cajamarca: the land of a wealthy

"tryant" lord named Guzmango Capac who was quickly alerted of the Inka intruder. Interestingly, Sarmiento de Gamboa says here that the Chimo Capac was actually a "tributary" of the Guzmango Capac and that the Chimo lord came to help his highland superior to find and defeat Capac Yupanqui. Whatever their relation, both lords were defeated and captured by Capac Yupanqui, who seized a bounty of gold, silver, precious stones, and valuable shells. The Inka also took the sons of Chimo Capac and Guzmango Capac, along with a few other local leaders, as hostages. Though it is unclear if Capac Yupanqui also conquered Chimor at this time, he assembled his wealth and hostages in the plaza at Cajamarca and set off to Cuzco with the expectation he would be greeted by his people with triumph. Angry he had been disobeyed and suspicious that his brother was planning on usurping the throne, Pachacuti Yupanqui instead had Capac Yupanqui, and another brother Guayna (Huayna) Yupanqui, executed before they could get to Cuzco. The King was apparently dismayed by having to kill his brothers but this did not stop him from taking the spoils of their victories. In fact, Pachacuti Yupanqui seems more upset that the glory and wealth of victory in the north had not gone to his son, Topa Yupanqui.

Following this set of events, Sarmiento de Gambo recounts how Pachacuti Yupanqui held a set of celebrations to commemorate the Inka triumph over "Chinchaysuyo". Though Chinchasuyu is a vague term meant to encompass all of the northwestern provinces of the Inka, here we can assume it at least included Chimor and Cajamarca as vassals. This would be a safe assumption given that, in the story at least, the sons of the Chimo Capac and Guzmango Capac were probably being held captive in Cuzco. Festivities were interrupted by the defection of the sons of a powerful lord in Collao, men who fomented a large rebellion among the Colla and other nations of the southeastern provinces of Collasuyu. Preparing for a great war, Pachacuti Yupanqui is said to have asked for a "favor of men" from Guzmango Capac and Chimo Capac: assumedly petitioning them to provide soldiers for his impending war with the Colla. One notable part of these preparations for war was the making of *capacocha* sacrifices of children by burying them alive. Though doubtlessly an example of the frequent obsession and exaggeration that Spanish chroniclers demonstrated when confronted with Andean traditions of sacrifice, it is compelling that such a *capacocha* is mentioned the line after a mention of Chimor. It is even more compelling if we recall the mass child sacrifices recently uncovered at Huanchaquito – Las Llamas (Prieto et al. 2019). In any case, the Colla were brutally defeated but no further mention is given of the soldiers or captains of the Chimo Capac as assisting in the conflict.

Finally, Sarmiento de Gamboa follows his famous and widely debated description of the great ocean voyage undertaken by Topa Yupanqui with a brief mention of the sacking of Chimor. Returning from his island-hopping adventure, Topa Yupanqui marched to Chimor and pulled the gold and silver from the wooden houses of the Chimo Capac. No resistance or battle is even briefly described and the use of the past tense almost gives the impression that Topa Yupanqui was looting palaces that had already been abandoned. Following the same route as his ill-fated uncle, the young Topa Yupanqui gathered these riches in Cajamarca before bringing them back to Cuzco to see his ailing father.

Sarmiento de Gamboa 1965 [1572]: 242-244

"Cuando Pachacuti Inga Yupangui vino de la conquista de Collasuyo y las otras provincias comarcanas, como en el precediente capitulo es dicho, era ya cargado de dias, aunque no cansado de las guerras, ni harto de la sed que de tiranizar el mundo tinia. Y por su vejez quiso quedarse en el Cuzco de asiento, para darle en las tierras que habia sujetado con trazas que sabia bien dar. Y por no perder tiempo, hizo juntar la gente de guerra, de la cual escogio, segun dicen, como setenta mil hombres, proveyo de armas y cosas necesarias al uso militar y nombro por capitan general de todos a su hermano Capac Yupangui y diole por companeros a otro su hermano llamado Guayna Yupangui y a un su hijo de Inga Yupangui llamado Apo Yanqui Yupangui. Y entre los otros capitanes particulares que en el ejercito iban, fue uno llamado Anco Ayllo, de nacion Chanca, el cual habia quedado preso en el Cuzco desde el tiempo que el inga vencio a los Chancas en el Cuzco y en Ichopampa. El cual sicmpre andaba triste, y, segun dicen, imaginando como librarse. Mas disimulabalo de manera que los Cuzcos ya le tenian por hermano y se fiaban de el. Y como a tal el inga le nombro por capitan de la gente Chanca que en el ejercito iba; porque a cada nacion le daba el inga el capitan de su natural, por que conforme a su condicion los supiese mejor mandar y ellos le obedeciesen mejor. Y este Anco Ayllo, viendo que se le ofrecia ocasion para efectuar su deseo, mostro regocijarse de lo que le encomendaba el inga y prometio que le haria grandes servicios, como hombre que conocia aquellas naciones que iban a conquistar. Y despues que el ejercito estuvo presto para marchar, el inga dio al capitan general armas suyas de oro y a los demas capitanes, de su mano, con las cuales entrasen en las batallas, y hizoles un razonamiento exhortandoles a la empresa y mostrandoles el premio de la honra que ganarian y mercedes que el les haria si le sirviesen en aquella guerra como amigos. Y al Capac Yupangui le mando

expresamente que llegase con aquella gente conquistando hasta una provincia llamada Yanamayo, terminos de la nacion de los Hatunguayllas, y que alli pusiese sus mojones, y que por ninguna cosa pase adelante, sino que, conquistando hasta alli, se volviese al Cuzco dejando en las tales tierras bastante guarnicion, y que por los caminos dejase puestos postas de media a media legua, a que ellos llaman chasquis, por los cuales le avisase por dias de lo que sucedia e iba haciendo.

Con esta expedicion y mandato partio Capac Yupangui del Cuzco e iba arruinando todas las provincias que de su voluntad no se le daban. Y llegando a una fortaleza llamada Urcocollac, cerca de Parcos, terminos de Guamanga, los naturales de aquella comarca se le resistieron valerosamente. Y al cabo los vencio, y en el combate de la fuerza, los Chancas se senalaron y aventajaron de manera que ganaron honra mas que los Cuzcos orejones y que las otras naciones.

La nueva de esto fue al inga; al cual peso mucho de que los Chancas se hubiesen senalado y ganado mas honra que los ingas, e imagino que por esto se le ensoberbecerian, y propuso de hacerlos matar. Y asi despacho un mensajero que de su parte mandase a Capac Yupangui que diese traza como matase a todos los Chancas como mejor pudiesc; y que supiese que si no los mataba, que el le mataria a el. El correo del inga llego con este mandamiento al Capac Yupangui y no pudo ser tan secreto que no lo supiese una mujer del Capac Yupangui que era hermana del Anco Ayllo, capitan de los Chancas. Esta mujer dio de ello aviso a su hermano; el cual, como siempre traia en la voluntad su libertad, diole esta ocasion mas prisa por salvar la vida. Y asi secretamente dio de ello parte a los Chancas soldados suyos y pusoles por delante la furia y crueldad del inga y el premio de libertad, si le siguiesen. Y conformandose todos con su parecer y llegados a Guaraotambo, terminos de la ciudad de Guanuco, todos los Chancas se huyeron con su capitan Anco Ayllo, al cual demas de los Chancas tambien siguieron otras naciones. Y pasando por la provincia de Guayllas la robaron, y siguiendo su camino, huyendo del inga, acordaron de buscar tierra aspera y montuosa, donde los ingas, aunque los buscasen, no los pudiesen hallar. Y asi se entraron por las montanas entre Chachapoyas y Guanuco y pasaron por la provincia de Ruparupa. Y esta es la gente que se cree, segun las noticias que ahora se tienen y se supieron cuando el capitan Gomez Darias entro por Guanuco en tiempo del marques de Canete, ano de cincuenta y seis, que esta por el rio del Pacay, y en la noticia que se tiene, desde alli hacia el levante por el rio que llaman de Cocama, que desagua en el gran rio del Maranon. Asi que aunque Capac Yupangui fue tras los Chancas, ellos se dieron tanta priesa en el huir que no los pudo alcanzar.

Yendo tras ellos llego hasta Caxamarca, pasados los terminos que traia por instruccion de Inga Yupangui que no pasase. Y aunque se acordo del mandamiento del inga, como se vio ya en aquella provincia de Caxamarca, que muy poblada de gente y rica de oro y plata era, a causa de un gran cinche que en ella habia, llamado Guzmango Capac, gran tirano y que habia robado muchas provincias comarcanas a Caxamarca, acordo de conquistarla, aunque no tenia comision de su hermano para ello. Y empezando a entrar en la tierra de Caxamarca, fue sabido por Guzmango Capac. El cual apercibio su gente y llamo a otro cinche su tributario, nombrado Chimo Capac, cinche de los terminos donde ahora es la ciudad de Trujillo en los llanos del Piru. Y juntos los poderes de ambos, vinieron en busca de Capac Yupangui; el cual, con cierta celada que les puso y con otros ardides, los vencio, desbarato y prendio a los dos cinches Guzmango Capac y Chimo Capac, y hubo innumerables riquezas de oro y plata y otras cosas preciosas como piedras preciosas y conchas coloradas, que estos naturales entonces estimaban mas que la plata ni el oro.

Y junto Capac Yupangui en la plaza de Caxamarca los tesoros que alli habia habido; y como vio tanta suma y grandeza, ensoberbiose y dijo gloriandose que mas habia el ganado y adquirido que su hermano el inga Yupangui. A los oidos del cual vino la arrogancia y loa que se habia atribuido para si su hermano Capac Yupangui, y aunque le peso mucho y lo sintio gravemente y quisiera poderlo haber luego, para lo matar, mas disimulo por entonces hasta verlo en el Cuzco. Y aun temia Inga Yupangui que su hermano se le rebelase, y por esto fingio semblante alegre delante los embajadores que su hermano le habia enviado. Y con ellos mismos le envio a mandar se viniese al Cuzco trayendo las riquezas que habia habido de aquella guerra, y trajese los principales hombres de aquellas provincias que habian sujetado, y los hijos de Guzmango Capac y Chimo Capac, y que a los dos cinches mayores dichos los dejase en sus tierras con guarnicion bastante que tuviese aquellas tierras por el. Con este mandado del inga partio Capac Yupangui con todos los tesoros que alli hubo, y marcho para el Cuzco muy soberbio y arrogante. Lo cual sabido por Inga Yupangui que habia ganado tantas tierras, tesoros y honra, tuvole envidia, y aun, segun dicen, temor, y busco achaques para lo matar. Y asi cuando supo que Capac Yupangui estaba en Limatambo, ocho leguas del Cuzco, mando a un su teniente del Cuzco, llamado Inga Apon, que le fuese a cortar la cabeza. dandole por culpa el habersele ido el Anco Ayllo y el haber pasado del termino que le habia mandado. Fue su gobernador, y como el inga se lo mando, mato a Capac Yupangui su hermano y a Guayna Yupangui, su hermano tambien. Y mando a los denas que entrasen en el Cuzco, triunfando de sus victorias. Los cuales lo hicieron asi, y el inga les piso los

despojos y los honro e hizo mercedes. Dicen que le peso que su hermano hubiese ganado tanta gloria y que quisiera haber enviado a su hijo, que le habia de suceder, llamado Topa Inga Yupangui, para que gozara de tan grandes honras, y que de esta envidia lo mato."

Sarmiento de Gamboa 1965 [1572]: 245-246

"Despues que Inga Pachacuti hizo las fiestas del triunfo del vencimiento de Chinchaysuyo y hizo los mitimaes, despidio los ejercitos y el se fue a Yucay y hizo los edificios cuyas ruinas y vestigios ahora alli parecen. Y estos acabados, fue por el mismo valle y rio de Yucay abajo a un asiento que ahora llaman Tambo, ocho leguas del Cuzco, adonde hacia unos suntuosisimos edificios, y la obra y albaneria de los cuales andaban trabajando como cautivos los hijos de Chuchi Capac, el gran cinche del Collao, a quien, como antes dije, vencio y mato el inga en el Collao. Estos hijos de Chuchi Capac, viendose tratar tan aviltadamente y acordandose de que eran hijos de un hombre tan principal y rico como su padre, y viendo que a la sazon Inga Yupangui habia despedido la gente de guerra, acordaron de aventurar la vida procurando su libertad. Y asi una noche se huyeron con toda la gente que alli estaba, y dieronse tal diligencia, que, aunque el inga envio tras ellos, no pudieron ser alcanzados ni habidos. Y por las partes por donde pasaban, iban alzando la tierra contra el inga. Y no era menester mucho, porque, como todos estaban violentados, no aguardaban mas que la primera coyuntura para se alzar. Y con este tal favor facilmente se alzaron muchas naciones, aun los que estaban muy cerca del Cuzco, y principal se alzo Collasuyo y todas sus provincias.

El inga, visto esto, mando juntar mucha gente de guerra y pidio favor de gente a Guzmango Capac y a Chimo Capac. Y junto gran numero de gente, y hechos sus sacrificios y calpa, y enterrando algunos ninos vivos, a que llaman capac cocha, porque sus idolos favoreciesen en aquella guerra, y estando todo a punto para se partir a la guerra, nombro por capitanes del ejercito a dos hijos suyos, hombres valerosos, nombrados el uno Topa Ayar Mango y el otro Apo Paucar Usno. Y partio el inga del Cuzco con ms de doscientos mil hombres de guerra y camino en demanda de los hijos de Chuchi Capac, que tambien estaban con mucho poder de gente y armas y ganosos de se ver con el inga y pelcar por la vida con los Cuzcos y sus devotos.

Y como los unos buscasen a los otros, brevemente se toparon y se dieron una batalla muy porfiada y sangrienta, adonde hubo grandes crueldades, porque los unos peleaban por la vida y

libertad y los otros por la honra. Y como los Cuzcos eran mas disciplinados y diestros en la guerra y mas en numero que los contrarios, hacianles ventaja. Mas los Collas, por no verse cautivos de hombre tan inhumano y cruel como el inga, querian mas morir peleando que verse rendir; y asi se metian por las armas de los orejones, los cuales con grandes crueldades mataban de los Collas cuantos se les ofrecian delante. Y los hijos del inga hicieron este dia grandes cosas por sus manos en la batalla.

Y asi los Collas fueron vencidos, muertos y presos la mayor parte de ellos, y de los que huyeron siguieron el alcance hasta un pueblo llamado Lampa. Y curo alli los heridos de su compo y reparo los escuadrones y mando a sus dos hijos Topa Ayar Mango y Apo Pucar Usno que pasasen adelante conquistando hasta los Chichas y alli pusiesen sus mojones y se volviesen. Y el desde alli se torno al Cuzco a triunfar de la victoria ganada.

Llego el inga al Cuzco, triunfo, y hizo fiestas por la victoria y porque hallo que le habia venido un hijo, al cual llevo ante el Sol y se lo ofrecio y le puso nombre Topa Inga Yupangui, y en su nombre ofrecio muchos tesoros de plata y oro al Sol y a los demas oraculos y a los demas guacas y hizo ademas sacrificio de capac cocha. Y ademas de esto hizo las mas solemnes fiestas y costosas que jamas se habian hecho por toda la tierra, porque el Inga Yupangui queria que este Topa Inga le sucediese, aunque tenia otros hijos mayores y legitimos de su mujer y hermana Mama Anaguarque. Porque, aunque la costumbre de estos tiranos era que el primero y mayor hijo legitimo heredase el estado, pocas veces lo guardaban, antes senalaban al que mas amor tenian o a cuya madre mas amaban o el que de los hermanos mas podia e se quedaba con todo."

Sarmiento de Gamboa 1965 [1572]: 251-256

"Navego Topa Inga y fue y descubrio las islas Anachumbi y Ninachumbi y volvio de alla, de donde trajo gente negra y mucho oro y una silla de laton y un pellejo y quijadas de caballo; los cuales trofeos se guardaron en la fortaleza del Cuzco hasta el tiempo de los espanoles. Este pellejo y quijada de caballo guardaba un inga principal, que hoy vive y dio esta relacion, y al ratificarse los demas se hallo presente y llamase Urco Guaranga. Hago instancia en esto, porque a los que supieron algo de Indias les parecera un caso extrano y dificultoso de creer. Tardo en este viaje Topa Inga Yupangui mas de nueve meses, otros dicen un ano, y como tardaba tanto tiempo, todos le tenian por muerto, mas por disimular y fingir que tenian nuevas de Topa Inga, Apo Yupangui,

su capitan de la gente de tierra, hacia alegrias; aunque despues le fueron glosadas al reves, diciendo que aquellas alegrias eran de placer, porque no parecia Topa Inga Yupangui; y le costo la vida.

Estas son las islas que yo, el ano de sesenta y siete, a treinta de noviembre, descubri en el mar del Sur, ducientas y tantas leguas de Lima, al poniente de Lima, yendo al gran descubrimiento de que yo di noticia al gobernador e licenciado Castro. Y no las quiso tomar Alvaro de Mendana, general de la armada.

Luego que Topa Inga desembarco del descubrimiento de las islas, fue a Tumibamba a visitar a su mujer y hijo y aprestose para irse al Cuzco a ver a su padre, que le dijeron que estaba malo. Y de camino envio gente por los llanos de la mar hasta Truxillo, llamado Chimo, adonde hallaron grandisima riqueza de oro y plata labrada en varillas y maderos de casas del cinche Chimo Capac, todo lo cual juntaron en Caxamarca. Desde donde Topa Inga Yupangui tomo el camino del Cuzco, adonde llego habiendo seis anos que habia salido a esta conquista.

Entro Topa Inga Yupangui en el Cuzco con el mayor, mas solemne y mas rico triunfo que jamas inga habia entrado en la Casa del Sol, trayendo muchas diversidades de gentes, extranezas de animales, innumerable suma de riquezas y toda la gente muy rica. !Y mirad la mala condicion de Pachacuti Inga Yupangui y su avaricia, que, con ser Topa Inga su hijo, cuyo aumento procuraba, tuvo tanta invidia de que su hijo hubiese ganado tanta honra y fama en aquel camino y conquista, que mostro publicamente pesadumbre por no ser el el que triunfaba de aquello y por no haber el en persona halladose en todo! Y por esto determino de matar a sus dos hijos Tilca Yupangui y Anqui Yupangui que habian ido con Topa Inga, poniendoles por culpa que habian sido transgresores de su mandado en tardar mas tiempo del que les habia dado por comision, y que habian llevado a su hijo Topa Inga muy lejos, adonde se creyo que no volviera al Cuzco. Y asi dicen que los mato; otros dicen que no mato mas de a Tilca Yupangui. De que se sintio mucho agraviado Topa Inga Yupangui, porque le hubiese su padre muerto a quien tanto habia trabajado con el. Final disimulo la muerte del dicho con muchas fiestas, que se hicieron por las victorias de Topa Inga; duraron estas fiestas un ano."

MIGUEL CABELLO DE BALBOA (1535 – 1608)

A little over a decade after the works of Sarmiento de Gamboa, Miguel Cabello Balboa wrote his *Miscelanea Antartica: Una Historia del Peru Antiguo* around 1586 CE and tells a somewhat similar story of the initial defeat of Chimor by Capac Yupanqui (Cabello Balboa 1951 [1586]:312-320), a subsequent campaign and the eventual looting of Chimor by Topa Yupanqui (Cabello Balboa 1951 [1586]:312-320, 329-333), and even a vague reference to the lords of Tucume as possibly being part of a Chimo uprising (Cabello Balboa 1951 [1586]:465-473). The story provided by Cabello Balboa regarding Capac Yupanqui is almost identical to that told by Sarmiento de Gamboa but does have a few additional, and possibly important, details. In his rampage north after the Chanca rebels, Capac Yupanqui is described as actually bringing war to "friendly" confederate nations on his way to Cajamarca. Of these "friendly" confederate nations, Huamachuco is mentioned as having been passed through after some victories over the Conchucos. During Cabello Balboa's description of the joint defense of Cajamarca, the Chimo Capac was described as having his own empire spanning from Huarmey to Tumbez, was commanding his own standing army, and was almost surely not the subordinate to Guzmango Capac. Guzmango Capac is instead killed in these conflicts and Cabello Balboa is explicit about Chimor not yet being conquered. He also briefly refers to an Inka garrison being left behind at Cajamarca when Capac Yupanqui departed to meet his fate on the road to Cuzco.

Cabello Balboa provides far more detail, and context, in his discussion of the campaigns of Topa Yupanqui. Wanting his son to own the glory of conquering Chinchasuyu, Pachacuti Yupanqui sent Topa Yupanqui north after Capac Yupanqui was put to death. Still a young man and not ready for battle, Topa Yupanqui was instead accompanied by at least two brothers, Auqui Yupanqui and Tillca Yupanqui, who were not the heirs apparent and instead served as his captains. Ready for war, Topa Yupanqui and his captains marched back through the lands initially trodden by their uncle: conquering those lands that remained independent and putting rebellions down in those which had rejected Inka rule. Eventually they came to Cajamarca to find the Inka garrison still intact after having withstood several assaults by the persistent Chimo Capac. In his description of Chimor in this section, Cabello Balboa goes as far as to state that the Chimo were "no less powerful in the lands of the plains than the Inka were in the mountains". To meet this formidable threat, Topa Yupanqui took a large number of his army and descended from the land of the

Huamachucos to invade the Valley of Chimo itself. What followed was a series of great struggles in which the Chimo rebelled against the power of the Inka and fearfully hid behind their walls for many days. The Inka army then is said to have passed to Pacasmayo and "disturbed" the surrounding valleys until eventually returning to Cajamarca.

The specific passage recounting this campaign in Chimor is notable for several reasons that are worth discussing in detail. Cabello Balboa refers to "struggles" in the plural: perhaps to suggest that this was a drawn-out affair. The short aside about the Chimo hiding behind their walls for many days also reinforces the apparent length of this campaign. Though his specific mentioning of walls could be referring to some of the aforementioned fortifications in Chimor, it also could simply be a reference to the high palace walls of Chan Chan. The ruins of Chan Chan would surely have been visible to any Spanish visitor to the Moche Valley and the ruins of this area were widely known for their riches. Finally, the passage is ambiguous about whether this endeavor was successful: Cabello Balboa never says Chimor was conquered and even alludes to the Inka forces having "little effect" against the Chimo after they hid behind their walls. The subject assignment in this specific part of the passage itself is rather ambiguous and it could be that he was referring to the Chimo as having "little effect" in hiding behind their walls but, for reasons I go into in the next section, I would argue that he is alluding to an Inka stalemate and retreat from Chimor.

It is only after a discussion of the northern conquests of Topa Yupanqui across parts of Ecuador and the northern highlands of Peru that the Chimo Capac and Chimor re-emerge in the narrative of Cabello Balboa. He begins with a quick, and noteworthy, aside about the Lambayeque being subjected to the Chimo Capac and his "invincible" army. The interesting result of this Chimo conquest was the establishment of a Chimo lord, Pongmassa, as the ruler of Lambayeque. The line of succession of this lordship passed to his son, Pallesmassa, and then his son, Oxa, who ruled in Lambayeque at around the same time that Cajamarca was taken and controlled by the Inka. This familial line of assumedly Chimo lords in Lambayeque was traced by Cabello Balboa up to the arrival of the Spanish in 1532. Anyways, after winning great victories in northern highlands and valleys of Chinchasuyu, Topa Yupanqui sent his captains to finally return to Chimor. Here they are referred to as "quietly" moving through the valleys to arrive to Chimor and Cabello Balboa admits he is unsure if they were invited by the Chimo Capac or defeated him in battle. Whatever the case, both the Chimo Capac and copious amounts of gold and silver were taken from Chimor

and were brought to Topa Yupanqui in Cajamarca. Topa Yupanqui and his captains, Auqui Yupanqui and Tillca Yupanqui, then returned to Cuzco with their captives, allies, and loot in tow to celebrate their great victories. Unfortunately for the brave captains, the Inka Pachacuti Yupanqui was upset that they had kept his heir, and most beloved son, campaigning for so long. In what should now be a recognizable pattern, he promptly had them killed. The killing of these possible contenders to the throne is also referenced by Sarmiento de Gamboa, but their role in the conquest of Chimor in his stories is a role that is left vague.

A final reference to Chimor in Cabello Balboa is a short aside regarding ties between the Tucumes and the Chimo. He briefly mentions the Lord Caxusoli of the Jayanca as having just completed a series of wars against the Tucumes and refers to the Tucumes as having "made themselves to the devotion of those from Chimo" at some point. Though he is not specific about when exactly the Tucumes were associated with the Chimo, it is possible that the motivation behind the Jayanca aggression towards the Tucumes could have been this association with the Chimo. If Zarate's reference to a Chimo rebellion under Huayna Capac is accurate, this could very well have been the case. However, it is also equally likely that Caxusoli was merely settling old grudges and that the connections between the Tucumes and the Chimo had little to do with the conflict itself and were coincidental. Whatever the case, the earlier reference to the Chimo lords of Lambayeque can be combined with this reference to the Tucumes to help highlight some of the deep bonds that the nobility of these two regions apparently shared.

Cabello Balboa 1951 [1586]: 312-320 or Chapter 16

"Subcedio que quando el Embajador relatado su mensage (que era a la medianoche por quitarlas sospechas) el General Capacyupangui tenia en su cama a una hermana del General de los Changas la qual con muy solicito cuidado atendio a la salud, y vida de su hermano, y de los de su nacion, y con celo de salvarlos, se salio (como mejor pudo) de el aposento, y casa de el general Ynga, y se fue a donde estaua su hermano (bien descuidado de reciuir tan ingrato galardon) y con las mas tiernas y encarecidas palabras que pudo le intimo la orden, y instrucion que de el Cuzco venia tan en dano suyo, y el hermano que no menos deuia ser prudente que animoso reporto su colera, y con disimulacion (el dia siguiente) hizo un combate a sus Capitanes inferiores, y a los mas principales de su tercio y a tiempo que no auia entre ellos ninguno forastero (con palabras mas

graues, y agrauiadas que el supo decir) les declaro copiosa y verdaderamente, lo que contra sus vidas estaua decretado, y dando y tomando en el caso, fue acordado que sin bullicio ni alboroto alguno se saliesen de el seruicio de el Rey tan ingrato, y como se acordo, se puso en egecucion y fue ansi que llegando otro dia a Guaraz tambo (que es a la entrada de el valle de Guaillas) al punto de media noche (sin hacer rumor ni bullicio) se juntaron en un momento los Changas, y apinados, y hechos un cuerpo se salieron del real sin que el general lo entendiessen; quando se comenzaron a mover, entendio mucha de la gente de el Cuzco que con ellos tambien se mouia su General p$a. pasar con silencio adelante, a fin de hacer algun buen efecto, y con tal pensamiento (con el mismo silencio) se levantaron y comenzaron a seguir a los amotinados Changas y como amanecio, y los Cuzcos se desenganaron, y vieron el mal camino en que su engano los hauia puesto, quisieron se bolver, mas fue a tiempo que los Changas les tenian en medio, y les escusaron la buelta, y al que porfio en ella se la dieron tal que nunca mas sospiro por su patria: de esta manera fueron por fuerza, y miedo acompanados de muchos de aquellas naciones: luego otro dia entraron en Guaillas, y entendiendo los naturales que era el Ynga el que venia, la salieron de paz, y como los Changas no yvan para darla comenzaron a erir y matar en ellos, y a saquearles la tierra, y con mucho despojo pasaron adelante y finalmente torciendo sobre la mano derecha atrauesaron las grandes cordilleras interpuestas entre Guanuco, y Chachapoyas, y se poblaron en las vertientes al mar de el Norte en aquella parte de tierra que llaman Hanamayllo, y Ruparupa de quien en estos Reynos se tiene mucha noticia. Ya que los ahuyentados Changas, fueron hallados menos en el Real (al amanecer de el dia siguiente de su partida) recibio increible enojo el General con las guardas, y centinelas de su campo, y sin aguardar a mas se puso en su seguimiento con animo y deliberacion de pasarlos a todos a cuchillo: mas fue impertinente su diligencia, porque fue maior la de los que huian, y quando les pudo dar vista fue en parte que por via ninguna no podia ganar nada con ellos, y ansi los dejo de seguir por aquellas arriscadas asperezas, y paso adelante buscando paso mas llano, y no pudiendolo hallar desconfio de todo punto de la egecucion de la venganza suya y de su Rey, y comenzo a trauar guerras con aquellas naciones confederadas en amistad, y vecindad con los Conchucos, y auiendo de ellos algunas victorias paso a Guamachuco, y de alli a Cajamarca, donde hallo viva, y alentada resistencia en el Senor de aquella Provincia llamado Cusmango Capac, el qual como tuviesse nueva de la venida de los Yngas de el Cuzco, y de el bien guarnecido egercito que traian apellidaron toda la tierra y hicieron con Chimocapaz (que tenian el Ymperio, y Senorio en los llanos, y arenales de el Piru desde Guarmei hasta Tumbez) que les proveiesse de socorro

contra aquel poderoso y cruel enemigo, y Chimocapac (que de ordinario tenia gente en Campana) le proveio de un mediano numero de soldados dandoles por Capitan un animoso mancebo deudo suyo, que hizo en defensa de los Cajamarcas, suertes marauillosas, mas al cabo fueron vencidos, y la tierra tomada, y Cusmango muerto, y puesto en su Alcazar (o fortaleza) presidio de parte de los Yngas como lo tuvieron de costumbre hacer en las tierras que conquistauan. Puesta orden en la pacificacion y conservacion de Cajamarca, y sus conterritorios y asegurando muy bien lo que a los Yngas tocaua, se bolvieron a el Cuzco donde fueron recibidos con el acostumbrado triumpho y aplauso popular, auiendo repasado algunos dias los recien venidos quando creian que el Rey Ynga (en remuneracion y premio de sus trabajos) les auia de hacer mercedes, y repartir con ellos los prisioneros y despojos que auian traido comenzo a manifestar el sentimiento grande que tenia de que su hijo heredero (y no otro ninguno) no oviesse gozado de la honra, y blason que se auia ganado en tan larga y bien sucedida jornada y tomando por achaque de su indignacion, la remision que se auia tenido en el castigo que el mandaua hacer en los Changas, y anidiendo a esto el decir, que auian subcedido de la comision que se les auia dado (pues se auian alezado tanto de el Cuzco a hacer guerra) comenzo a desplegar las velas de su natural crueldad y con ella (y contra toda justicia) mato al General Capacyupangui y a Guaynayupangui hambos hermanos suyos propios como dicho queda y juntamente a otras personas senaladas, y de estimacion y cuenta. Con este hecho se puso tan mal quisto Yngayupangui con su republica que todos deseauan su muerte porque entendia cada uno, que con ella se escusaria la suya. Auiendose passado aquel Ynvierno que sobreuino, y estando ya las gentes militares deseosos de huir la presencia de tan cruel Senor se puso en platica el bolver a Cajamarca, y a conquistar y traer a la obediencia de el Ymperio, las naciones de que adelante se tenia noticia, en este tiempo era ya su hijo heredero Topa Yngayupangui, de edad de comenzar a seguir la guerra, no para pelear (porque aun era muy mozo) mas para ser ocassion que los demas peleassen, por virtud de su presencia, y para que los occiosos se alentassen a ymitacion de su Rey a dejar los regalos, y tomar las armas, y trocar el ocio infame por la ocupacion onorosa, y ansi fue acordado por el Ynga su padre que (acompanado de un hermano mayor que tenia bastardo llamado Topa capac valeroso en las armas, y de Auqui yupangui, y Tillca yupangui todos Capitanes valientes y expertos, y que en las guerras, y ocasiones pasadas auian dado claras muestras de su valores) su hijo eredero comenzasse a gustar de los trabajos de la guerra, y destierro de los regalos caseros, y con mejor y mas reforzado exercito que jamas del Cuzco auia salido, tomaron el camino por Chinchasuyo, y caminaron sin contradiccion

ninguna. Por otra parte (y con comision de el mismo Topa Ynga) Apoc Auqui Capitan valiente y famoso entre los de aquel tiempo, fue conquistando tierras, y venciendo naciones hasta meter sus esquadrones en Amaybamba, y se apodero de todo el valle echando de el los naturales que lo habitauan y con notables victorias llego hasta Pillasuni, y dandole contento el valle de Maybamba, quiso tomar en el posesiones y dejar alli memoria de su linage, y ansi en nros dias vive su posteridad y descendencia de este Capitan en aquella tierra, y se llama el mayor de los que oy de su linage vive, Don Juan yupangui. Topa Ynga fue siguiendo su camino, y en la Prouincia de los Quichuas tomo por fuerza de armas la fortaleza de Toara, y la de Cayara, y luego la fortaleza de Curamba. Paso de alli a la Provincia de los Angaraos donde allo resistencia en los naturales, y hechos fuertes en una fortaleza de Orcolla, y Guaila Tucara, y aunque le fue en alguna manera impedimento para el paso, o disinio que su exercito llevava no quiso pasar adelante hasta tomarla y al cabo de algunas escaramuzas, y recuentros vino a manos de los de el Cuzco, y en ella murio mucha gente de la encastillada en la fortaleza, y fue preso su Cacique, y principal caudillo llamado Chuquisguaman. De alli paso el exercito vencedor al Valle y Prouincia de Xauxa, y con perdida de alguna gente ganaron a Siquilla pucara, y conquistando gentes y naciones llegaron a el Valle de Guai las, y tomaron la fortaleza y tierra de Chunco marca, y Pillaguamarca con notable castigo de los rebeldes. De alli passaron a Caxamarca, y hallaron sus soldados en buena orden, y por el Ynga, y en su obediencia la tierra, aunque auian sido molestados muchas veces de los Yndios yungas (que ansi llaman a los que abitan en tierras calientes y llanos de este Piru) porque en el Valle de Chimo estaua un importuno contendor de sus disinios llamado Chimo Capac no menos poderoso en la tierra de los llanos que eran los Yngas en las tierras Serranas contra la pujanza de este valeroso Rey Chimo Capac embio Topa Ynga una buena parte de su Exercito, y bajando por la tierra de los Guamachucos, llegaron a los llanos, y tubieron grandes contiendas los Cuzcos, y los de Chimo, y no sabre contarlas por entenso, por auer prescripto de las memorias de los que oy viven, y por la poca curiosidad de nuestros Espanoles que no se les a dado cosa ninguna por saber los antiguos sucesos de estas gentes, mas sabese por muy cierto que las armas de los Yngas pusieron en rebato a los del ancho y espacioso valle de Chimo, y tuvieron atemorizados a sus moradores, y hartos dias encerrados detras de sus empinados paredones de alli (sin hacer por entonces efecto) pasaron a la tierra regada por el Ryo que llaman Pacaz mayo, y turbaron todos aquellos valles, y por el de Nepos arriba se bolvieron a Caxamarca de donde tambien Topa Ynga, y sus Consegeros auian despachado gentes a la parte de Celendin, y de alli tuvieron noticia de los Chachapoyas, y

caminaron hasta Raymibamba y pasaron a Chazmal, y a Xalca y a Apia, y Javanto dieron vista a todo lo que auia de ver, y su bolvieron con muchas relaciones y prisioneros a Caxamarca de donde Topa Ynga con su gente junta tomo el camino para los Guambos, y allano y sugeto Llaucanes, y Chotas, y Cutervos y Guambos, de alli fue a Guanca bamba, y tuvo algunos impedimentos de poca quenta con ellos, y los dejo sugetos a su obediencia: paso a Cusibamba, y vencio a los Paltas con muertes de muchos que se le chicieron fuertes en las asperezas de Zaraguro alli le vinieron los Canares a dar la obediencia, sin osar provar la mano con aquella nacion vencedora llegaron a Canaribamba, y a Tumibamba, donde por algunas reuoluciones que entre los Canares se comenzauan a levantar por ser gentes noveleras y de poca constancia hizo notables castigos el Ynga, y prendio a Pisar Capac, y a Canar Capac y a Chica capac Caciques y Senores de aquella nacion. Y mandaron los Yngas a los rebeldes (en pena de su delicto) que le hiciessen una fortaleza en Quichi Caxa, y en esta dejo muy bastante presidio de gente de otras naciones (a quien llaman Mitimaes) y dejo cargo a los naturales de la tierra que los proveiessen de lo necesario para su sustento, fabrico otra fortaleza en el Azuay, y aposentos en Tiocaxas, para que fuesse frontera de los Purvaes, y Chimbos, que eran gentes que andauan alteradas, y hizo otra fortaleza en Pomallacta contra algunas naciones de dura ceruiz que no le auian acudido a sus llamamientos de quien eran caudillos Apoc chauan callo, y Apocanto en el asiento de Tumibamba le nacio un hijo a Topa Yngayupangui de Mama ocllo su prima hermana y manceba llamose el hijo Guayna Capac de quien trataremos adelante, de aqui partio determinado de entrar en Quito lo qual hizo como se vera en el Capitulo siguiente."

Cabello Balboa 1951 [1586]: 329-333 or Chapter 18

"Ya queda visto como por la muerte merecida que dieron los suyos a Fempallec quedo el Senorio de Lambayeque (y lo a el anexo) sin patron ni Senor natural en el qual estado estuvo aquella numerosa republica, muchos dias hasta que cierto Tirano poderoso llamado Chimo capac vino con invencible exercito, y se apodero de estos valles, y puso en ellos presidios, y en el de Lambayeque Senor y Cacique de su mano, el qual se llamo Pongmassa natural de Chimo este murio pacifico Senor, y dejo por sucesor a un hijo suio llamado Pallesmassa, a este sucedio su hijo O xa, y fue esto en el tiempo y coyuntura que los Yngas andauan pujantes en las Prouincias de Caxamarca porque es ansi que este Oxa fue el primero que entre los de su linage tuvo noticia de los Senores Yngas desde las temporadas de este comenzaron a bivir con sobresalto de ser

despojados de sus Senorios por mano y armas de los de el Cuzco. A este Oxa sucedio en el Cacicazgo un hijo suyo llamado Llempisan muerte este le vino el Senorio a Chullumpisan a este subcedio un hermano suyo llamado Cipromarca, y tras este senoreo otro hermano menor que se llamo Fallenpisan. Vino despues de este a tener el mando Efquempisan, muerto este subcedio Secfunpisan en cuyo tiempo entraron en este Piru n$ro (nuestro)s Espanoles, y dejaremos aqui el hilo cortado para anudarlo quando a nuestra tela conviniere, porque para dar fin a este Capitulo quiero decir la causa porque estos Senores que avemos acabado de nombrar durauan muy poco en el Senorio y mando, y tan poco que afirman no auerlo poseido ninguno 12 anos, y algunos no aver durado en el dos cabales era pues la ocasion que como el Demonio tenia tanta mano y poder en sus estragados entendimientos hacialos poner en tan estrechos y asperos ayunos (luego que tomauan el cargo) que con abstinencias y vigilias, y largos ayunos, se desflaquecian de tal manera que jamas podian arribar a perfecta salud, ya que de los ayunos escapassen, y otros morian entre las manos de su infructuosa penitencia, y de esta manera se yvan heredando hermanos a hermanos, y a todos el infierno en pago y remuneracion de sus pecados. Entre las gentes y naciones que dejamos nombrados de estos Valles tenia Chimo capac repartidos presidios, y guarniciones y contrastando la voluntad de todos auian de hacer su viage los Capitanes de Topa Yngayupangui para irse a juntar con el a Caxamarca como quedo acordado en Pohechos de lo qual trataremos en el Capitulo siguiente.

Cap. 18. de mucbas, y muy importantes jornadas que Topa Yngayupangui bizo y de la renunciacion de el Reyno que Yn gayupangui bizo en su bijo Topa Ynga, y de la fundacion del Templo de el Valle de Pacbacama.

Del Valle de Pohecho (como dicho queda) se apartaron de su Principe los Capitanes valerosos, que hasta alli auian seguido su fortuna y compania estos fueron Auqui yupangui, y Tillcayupangui Tios del Ynfante Topa Ynga porque Topa capac su hermano bastardo fue acompanando siempre a su Rey y hermano, y suuiendose con la mitad de su exercito por la tierra de los Guayacundos tomaron lo alto de la gran cordillera por la parte de Guanca bamba, y dieron una vista a la tierra de los Pacamoros, y porque entendiessen que demas proposito se les aria la guerra el ano venidero (si entre tanto no se reducian a su seruicio) les dejo hecho un Pucara para pavor y espanto de toda aquella tierra, y en el dejaron guarnicion a costa y espensas de las tierras mas cercanas: hecho esto tomo su camino Topa Ynga y por sus jornadas llego a Caxamarca donde

fue bien recibido Auqui, y Tilcayupangui siguieron su camino por los llanos sin allar en todos ellos quien se les opusiesse solo se dice que venidos estos Capitanes con su exercito a la tierra y Provincia de los Jayancas fueron a traycion, y sobre siguro, asaltados de unos Yndios barbaros que vivian a las faldas de la sierra llamados Penachies, y mataron algunos de los de el Cuzco de lo qual los dos Capitanes Yngas se agraviaron mucho, y assi prendieron a el Cacique de Jayanca, sospechando auer sido hecha por orden suya aquella fealdad y torpeza, y preso fue lleuado a el Cuzco, y alla estuvo muchos anos hasta que comprovo la inocencia que en aquella maldad el tuvo, y auiendo ydo un su hijo a el Cuzco a solo ver a su padre, y ayudarle en su justicia, se le dio el Topa Ynga sacandolo de la prision, y de alli a pocos dias murio el viejo y muerto y embalsamado mando, el Ynga que lo llevassen a Jayanca, publicando que era vivo hasta meter por orden y mandado suyo a su hijo en la posesion de el Senorio, y ans i fue hecho, y hasta n$ro (nuestro)s dias tienen sus descendientes el mando y govierno en Jayanca. Bolviendo a nuestros Capitanes Yngas ellos pasearon quietamente la tierra de los llanos, y llegaron a el valle de Chimo donde hallaron increible copia de riquezas de oro y plata y piedras de estima, no sabre decir si por amor y amistad, o si por ventaja de armas se les entrego Chimo capac mas dicesse que de este viage lo sacaron consigo de Chimo, y lo llevaron a Caxamarca donde el Topa Ynga yupangui y su gente los estaua esperando, y de alli se fueron juntos a el Cuzco; dejando orden y recado en toda la tierra entro Topa Ynga yupangui en su deseada Patria con el mas rico y soberuio triumpho que jamas antes auia entrado Principe de su linage. Que demas de la infinita cantidad de oro plata baxillas, y joyas que traia, fueron tantas, y tan varias las naciones de gentes que consigo lleuo (sugetas, y para triumphar de ellas) que hizo estar imbidioso a su propio padre lo qual mostro muy claro a pocos dias despues de su llegada. Por la forma que dejamos dicho en los Capitulos precedentes entro triumphando el valeroso Topa Yngayupangui acompanado de los que en su peregrinacion y trabajos le auian sido companeros, y ansi ellos, como toda la Pirulera republica nadauan en un mar profundissimo de gloria y regocijo, y luego se comenzaron a celebrar las fiestas mas solemnes que se podra escriuir, y fueran dignas de grande y loable nombre sino fueran manchadas con tanta cantidad de sangre de ynocentes con lo qual escurecieron estos Reynos su mucho valor. Acabadas las soberuias, y pomposas fiestas de el Triumpho comenzo el Demonio tan bien a querer triumphar de aquellos que ya tenia vencidos: y porque con razon se diga que el fin de las alegrias ocupa el luto, subcedio que el Emperador viejo Yngayupangui comenzo (como tenia de natural costumbre) a derramar el rio de ponzona inbidia, que en su encendido pecho auia tenido represado: y formo

queja de sus dos hermanos Tillcayupangui, y Auquiyupangui increpandolos de desleales por auer lleuado a su hijo heredero a tierras y partes tan remotas, y de tan notables y conocidos riesgos, anidia mas diciendo que no auia el dado comision, ni consentimiento para que se alejassen tanto de el Cuzco a conquistar naciones finalmente el mando matar a sus dos hermanos Auquiyupangui, y Tillcayupangui, y juntamente con ellos a Topacapac su hijo bastardo, como si los unos y los otros, no huvieran hecho bastantemente el deuer. Sintio tanto Topa Yngayupangui esta sentencia, y conocio tanta malicia y crueldad en ella que dio orden como salvar las vidas a los que tantos auian quitado a sus enemigos mas no pudieron tanto sus diligencias que a todos tres pudiessen ser saludables, porque al cabo fue preso Tilcayupangui y muerto con barbara y injusta crueldad, negocio fue este que a Topa Ynga le causo mas pena que contento le auian dado las pasadas victorias y triumphos mas fuele forzoso disimularla por no dar ocasion a mas disgusto."

Cabello Balboa 1951 [1586]: 465-473 Chapter 32

"Alli tuvieron noticia nuestros Espanoles de la mucha gente que adelante auia y de la potencia y magestad, del Valle de Chimo y sus anexos: y dejando en la nueva Ciudad de Piura, la gente que parecio combenir encaminaron sus intentos a el Valle de Jayanca; y en el fueron receuidos con gran contento de su Cazique Caxusoli, que era ya viejo, y acabaua de concluyr ciertas guerras con los Tucumes, gentes que se auia hecho a la deuocion de los de Chimo, capitales enemigos de Caxusoli. En este Valle descansaron los Espanoles algunos dias, y se derramo por toda la tierra la nueua de su venida, y muchos principales y Caziques de los Valles, acudieron a ellos a saludarlos de paz, y amistad."

MARTIN DE MURUA (1525 – 1618)

Moving on to Martin de Murua and his *Historia General del Peru, Origen y Descendencia de los Incas* written around 1590 CE, his narrative is vaguely familiar to those that came before: he describes the conquest of Cajamarca by Capac Yupanqui and the defeat and sacking of Chimor by Topa Yupanqui and his brothers (Murua 1962-4 [1590]:50-54). One notable departure from previous narratives when compared with that of Murua is that Capac Yupanqui is not attributed with the conquest of Chimor. Instead, Chimor is only later included in a long list of the lands conquered by Topa Yupanqui and his brothers. This being said, it is only after further campaigns in the far north that Chimo returns to the narrative and, once again, the brothers of Topa Yupanqui

are credited with sacking the houses of the Chimo Capac. The amount of text that Murua devotes to the richness of the palaces of Chimor is almost certainly telling us that he is leaning on some contemporary knowledge of the copious amounts of gold being extracted by Spanish soldiers and looters at Chan Chan and Huacas del Moche.

Murua 1962-4 [1590]: 50-54

"TRES madres hermossisimas y amadas de todos los hombres engendran y paren tres hijas feisimas y abominables. Aunque la culpa no es suya, sino de la malicia del hombre que tiene deprabada la naturaleza. Quien ay que no ame y quiera la verdad como tan linda y tan bella y que sobre todo tiene ser vno de los principales atributos del ymmenso y soberano Dios de quien se deriua toda verdad. Pero que hija o hijo tan feo pare como es el odio que procede della. La conuersion que es la otra madre siendo vna cossa que todos los hombres de buen entendimiento se recrean en ella y con ella pare y produce vn hijo tan desdichado como el menosprecio. La felicidad y honrra humana que la otra madre apetecida, y desseada de todos pare vn hijo o hija tan tan (sic) abominable como es la ymbidia, vicio tan asqueroso y aborrecido en general de todos los hombres y que todos los vicios teniendo algun ceuo de que asir y con que lleuar tras si a los hombres y enganallos solo este es tan ynfame que se deshaze y consume el hombre que le tiene sin gusto, ni contento teniendo tristeza y pena del bien de su amigo. Todo esto traigo con ocassion de lo que sucedio a Ynga Yupanqui viendo la victoria y vencimiento que hauia hauido su hermano y Capitan General Capac Yupanqui, que no embargante que la honrra y gloria principalmente hera suya y el prouecho de la conquista y el senorio y despoxos todos le pertenecian y vinieron a su poder y manos todavia triste, apesarado y embidioso, porque no hauia embiado a su hijo heredero Topa Ynga Yupanqui a aquella conquista para que fuera suya la gloria della. La paga con que satisfizo al desdichado de Capac Yupanqui y el premio que le dio por el augmento de su senorio y riquezas que le hauia traydo fue / buscar ocassion de matalle, y al otro hermano Huayna Yupanqui, y para colorear su ymbidia y dorar su vicio detestable, tomo por achaque, y causa decir que porque se hauian dado tan mala mana en cumplir su mandato y executar su horden de matar los Chancas y los hauian dexado huir y escapar, y porque sin lleuar orden suya hauian excedido della y de su mandado, y llegado a Caxa Marca y conquistado aquella prouincia, y con este color los mando matar y lleuaron en premio de sus seruicios ynominiosa muerte.

Acauada esta triste tragedia mando Ynga Yupanqui a su hijo y heredero que hauia de sucederle en el senorio, llamado Tupa Ynga Yupanqui, fuesse a la guerra con grandissimo exercito y anssi despacho dandole por companero, porque aun hera de poca edad a Topa Capac, su hijo bastardo, y fueron capitanes Yanque Yupanqui y Tilca Yupanqui, el qual fue companero en armas en esta conquista de Tupa Ynga Yupanqui, su hermano. Tambien fueron con el Amaro Tupa Ynga y Tupa Yupanqui, hermanos de Tupa Yupanqui, de padre y madre. Yapuyanqui Yupanqui, que fue valeroso capitan. Y en vida de su padre Ynga Yupanqui, cuyo hijo mayor fue, conquisto el valle de Amaybamba y echo a los naturales del, y llego hasta Pilcosuni, cuyos descendientes estan al presente en el valle de Amay Bamba.

Salieron del Cuzco Tupa Ynga Yupanqui y sus hermanos con vn numeroso exercito de diferentes naciones, y empezaron su conquista de la prouincia de los quichuas, donde tomaron la fortaleza de Cayara y Tohara y la de Curabamba, y en la prouincia de los Angares la de Vicolla-Huayla Pucara, y alli prendieron al cacique llamado Chuqui Huaman, en la prouincia de Xauxa Asiclla Pucara, y en la prouincia de Huailas, Achunca Marca, Pilla Huamarca y a Huanuco, y en los Chachapoyas a Pia y a Palcay, a los Paltas y a Pasmayo y a Chimo, y luego la prouincia de los Canares. Y los Canares oyendo la fama de Tupa Inga Yupanqui y los castigos que hacia en quien no le daua luego la obediencia temerosos de su destruycion les salieron / a reciuir y le obedecieron, y algunos que vbo dellos rebeldes, los sujeto por fuerza de armas, y asolo y prendio a sus caciques Pisar Capac y Anar Capac y Chica Capac, y para tenellos mas sujetos hizo una fortaleza famosa en Quinchi Capa, y en esta frontera y fortaleza puso muchos mitimas, que son yndios de otras partes traidos alli como adelante haremos mas copiosa relacion, y prosiguiendo Tupainga Yupanqui en su conquista, llego a la muy poderosa prouincia de Quito, donde huuo grandissimos rencuentros y batallas con la gente della, pero al fin los vencio y postro prendiendo a su cacique y senor pillahuaso y lo metio en triunfo quando boluio al Cuzco, y de alli bajo a los Huancas Vilcas, donde levanto y edifico la fortaleza de Huachalla, y desde ella entro a la conquista de los Huancas Vilcas, y aunque dificultosa mediante la muchedumbre de su gente y el valor e yndustria de sus cappitanes los sugeto, y a los principales y a Huacapi Huamo y Manta Yucara y Quisiri a Huachumpi y Nina Chumpi (rubricado).

ACAUADAS las conquistas susodichas de Tupa Ynga Yupanqui, anssi en la sierra como en los llanos, en todas las prouincias de Quito. Hizo en Tumbes vna fortaleza para poner mas en

freno y sugecion aquellas prouincias de aquellas partes de los llanos que cayan a la mar, y trato de boluerse al Cuzco a dar quenta y relacion a Ynga Yupanqui, su padre, de todo lo que hauia conquistado, y allanado y poniendo guarnicion en las prouincias nueuamente ganadas y gouernadores que las rigiesen y guardasen. Se boluio hasta Caxa Marca hauiendo embiado por los llanos a sus dos tios hasta Truxillo, los quales se apoderaron de aquella rica y fertilissima tierra donde hallaron ynnumerables riquezas de oro y plata y famosas y ricas baxillas y maderos de plata y oro con que tenian hechas y edificadas las cassas Chimo Capac, senor de aquellas prouincias, cossa yncreyble y que de ningun monarca del mundo se lee tal y desta verdad dieron muchas y manifiestas senales las Guacas, que despues de hauer los espanoles venido y apoderadose desta tierra se descubrieron y hallaron en Truxillo, que fueron las mas soberuias, ricas y numerosas que se an descubierto hasta oy en las Yndias, que todo es yndicio de la riqueza y abundancia de Chimo Capac, senor natural de Truxillo. Todo este oro y plata y vaxillas trugeron a Tupa Ynga Yupanqui a Caxa Marca, y de alli se vinieron a la ciudad del Cuzco, a do entro con el mas magnifico y soberuio triunfo que xamas Ynga metio en el antes ni despues, trayendo diversidad de gentes y naciones sugetas y domadas, haziendo vna pomposa muestra de todos los curacas principales y capitanes que hauia prendido en las batallas los quales trujo de sus tierras para solo este efecto.

Y como el corazon embidioso aun de sus mismas cosas tiene embidia y pesar, Ynga Yupanqui, su padre reciuio deste triunfo grandeza y magestad de su hijo gran pena y tristeza viendo sus victorias y gloria por no hauer ydo el a aquella conquista y jornada, y que a el solo se le atribuyese esta honrra y ansi vrdio de matar a sus dos hijos Tilca Yupanqui y Yanque Yupanqui, y mato solo a Tilca Yupanqui, dando por caussa y achaque de su muerte que para que hauian pasado la comission y mandato que les hauia dado en las conquistas y tierra que hauian de procurar sugetar y hauian lleuado a sus hijos: Tupa Yupanqui a prouincias tan remotas y lexanas y puestole en peligro de perderse y a su exercito. Visto por Tupa Ynga Yupanqui la muerte tan injusta y sin razon de / su hermano reciuio grandissima pena y melancolia, dando della grandissimas muestras. Del oro que en esta sazon se trujo mando Ynga Yupanqui hazer las estatuas de oro del sol y Viracocha y las de Palpa Ocllo y Ynga Ocllo y adornar con este oro el templo de Curicancha y enriquecello.

Del oro que a este tiempo se trujo tomo ocasion Tupa Ynga Yupanqui de hazer descubrir minerales de oro y plata, y anssi lo mando por toda la tierra y se empezaron a manifestar las

riquezas de metales abundantissimos de oro y plata y esmeraldas, que despues se an ydo prosiguiendo y prosiguen en todas estas prouincias sacandose cada dia mas y hauiendo cada dia nueuas muestras mas que en ninguna de las prouincias y reynos de todo el orbe con grandissimo espanto y marauilla que parece que este reyno del Piru es el deposito de todo el de riquezas.

Y viendose ya Ynga Yupanqui viejo, deseando ver a su hijo Tupa Yupanqui en posesion del reyno y senorio, lo trato con el y con todos sus hermanos y deudos y linage y con los capitanes y gouernadores que en el Cuzco hauia. Los quales todos vinieron en ello por ser muy amado y querido en general de chicos y grandes Tupa Ynga Yupanqui, y viendo su padre la voluntad de los orejones tan dispuesta hizo vna Junta General y lleuo a Tupa Ynga Yupanqui a Curicancha y lo pusso delante la estatua del sol y dixo al sol: veis aqui vuestro hijo el que ha de suceder en mi lugar en todos mis senorios y en todas las prouincias que poseo, y luego le hizo vestir vna bestidura riquissima que llaman capac vncu-tarco hualcay, que quiere decir vestido rico y preciado, y luego se pusieron la borla en la frente que llaman ellos mascai pacha, que es la Corona Real que ellos vsaban, hecha de la lana finissima colorada, y despues le dieron el suntur paucar y el tupa yauri, que es el ceptro que como diximos son las insignias que le dauan al Ynga quando le coronauan y jurauan por Rey y Senor, y dauanle vnos vassitos de oro llamados, tupa cusi napa, y acauadas estas ceremonias y ritos los sacerdotes del sol que estauan presentes a quien pertenecia lo leuantaron sobre los hombros con grandes boces, y assi quedo coronado y jurado por senor y buelto Ynga Yupanqui a todos los de su linage, capitanes y gouernadores que estauan alli para este efecto les dixo: veis aqui vuestro senor, que yo soy ya biejo e ympedido y no puedo gouernaros, el os ha de regir y mandar de aqui adelante y a el haueis de obedecer y respectar y seguir su orden y mandado en todo. Entonces los hermanos, parientes y todos los orejones, gouernadores y capitanes se hincaron de rodillas ante Tupa Yupanqui y le besaron las manos y los pies con mucha humildad, y acabado esto se salieron a la plaza a hazer y celebrar la fiesta de la coronacion a su vsanza, con gran summa de vailes y danzas, cantando, comiendo y vebiendo."

AN ANONYMOUS HISTORY OF TRUJILLO (1604)

Though the entire document is relevant for Chimor, the final paragraphs of the Anonymous History of Trujillo importantly describe the conquest of Chimor by Topa Yupanqui and the captivity of Minchançaman (Rowe 1948: 28-30; Vargas Ugarte 1936: 231-233, 1942: 55-57). This

passage in the Anonymous History of Trujillo has no mention of Cajamarca but does mention Topa Yupanqui as descending from Cuzco with a great army to conquer all of the coast: subjecting the lands of Minchançaman, killing many of the coastal people, and taking much of the gold and silver they had. The Valle of Chimor is particularly devastated because of the stout resistance Minchançaman offered. However, this resistance was to no avail and the King of Chimor is described as being taken to Cuzco and being forced to marry a daughter of Topa Yupanqui. There is even a possible mention of Minchançaman dying in Cuzco.

One son of Minchançaman, Chumun-caur, was chosen by Topa Yupanqui to rule in his father's stead. This choice hardly seems coincidental for several reasons. The mother of Chumun-caur, Chanquirguanguan, is described as a lady of the Huaura Valley: a rather peripheral land at what was likely on the southern frontier of Chimor. Given this location, the pairing between Minchançaman and Chanquirguanguan was probably politically motivated and a remnant, or even a spoil, of the aggressive southern expansions made by this ambitious Chimú King. The young lord who was the product of the union, Chumun-caur, is specifically referenced as having lived in the valley of his mother and was thus not even living in Chimor at the time of the Inka invasion. It seems likely that Topa Yupanqui, in this story at least, was choosing an outsider from an otherwise peripheral valley to do his bidding in Chimor. Even more, the proximity of the Huaura Valley to the Cuzco-friendly lords of Lima and Pachacamac would have meant that the former home of Chumun-caur, and his mother, were closer to allies of the Inka than they were to Chimor.

The document also specifies that Chumun-caur, and his descendants up to the arrival of the Spaniards, were tributaries of the Inka: annually sending tribute of silver, textiles, and daughters of nobility to Cuzco. In total there seem to have been four Kings of Chimor who were tributaries of the Inka: Chumun-caur, his grandson Guaman-chumo, his great-grandson Ancocuyuch, and his other great-grandson Caja-çimçim. Not much seems to have occurred under Inka rule but, in a tangent from his mention of Ancocuyuch, the author does take note that the communities of Chimor were divided into lordships that were mainly ruled by the sons of powerful rulers. It is unclear if the Inka were behind such divisions or if they were there before: the fact that he says "already" leads me to believe they were there before. Importantly, the Inka is noted as being needed to give "consent and blessing" to these young lords when they were appointed their holdings. Thus,

though they clearly extracted tribute, the Inka are portrayed as having a more of an advisory role in the local politics of Chimor in the narrative of the Anonymous History of Trujillo.

Rowe 1948: 28-30; Vargas Ugarte 1936: 231-233, 1942: 55-57

"…in this house he remained for the space of one year, performing…, the said ceremonies and of the communication that he had with… Indians whome he conquered he learned the language, and they obeyed him and gave him their daughters. From that point he came to take the name of Chimor Capac.

It is not known whence came this… except that he gave them to understand that a great lord…, was, had sent him to govern this land… from across the sea. The yellow powders which he used in his ceremonies and the cotton cloths which he wore to cover his shameful parts are well known in these lands and the balsa of logs is used on the coast of Payta and Tumbez, from which it is presumed that this Indian did not come from a very distant region.

This Tacaynamo had a son who was called Guari-caur, who acquired more power than his father, conquering the Indians and important men of this valley. He had a son who was called Ñançen-pinco who conquered in the upper part of the valley toward its mountain headwaters and likewise overran the coast to the south as far as a town named Mayao, where the Villa of Santa now stands, 18 leagues from this city [Trujillo], and to the north the Valley of Chicama as far as Pacasmayo close to the Villa Saña, 24 leagues from this city.

After this Guari-caur seven rulers succeeded him in order, all of them his children and descendants, until the time of Minchançaman who was the conqueror of the coast towns to Carbaillo and Tumbez, more than 200 leagues of land. In his time the Inca called Topa Yupanqui came down from Cuzco with a great force of armed men and conquered all the coast and made himself lord of all Minchançaman's land, killing many Indians and taking away the gold and silver and other things that they had. He did the greatest damage to this valley of Chimor because of the resistance he met with, and carried Minchançaman away to Cuzco where he married him to one of his daughters. Since he had heard that Minchançaman had a son named Chumun-caur who was in the valley of Guara with his mother, who was a lady of that valley named Chanquirguanguan, he sent to summon him and ordered him to go and govern this land in place of his father

Minchançaman, who died in Cuzco [last phrase crossed out in the ms.]. He ordered him to pay tribute, which he did until the Spaniards came, sending him every year to Cuzco silver, clothing, and other things, and women, daughters of the nobility.

This Chumun-caur had a son named Guaman-chumo who governed the whole land; at his death his son Ancocuyuch succeeded him; in his time the towns of the above-mentioned coast were already divided in feudal holdings (cacicazgos) because as sons multiplied partitions were made between them to give each town its ruler with the consent and blessing of the Inca to whom they were subject.

At the death of Ancocuyuch his brother Caja-çimçim took over power and lordship of this valley of Chimor; in his time the Spaniards entered the land and subdued all the feudal lords (caciques) beginning at Tumbez which was the first port where they disembarked in the year 1513 [sic. For 1528]. This Caja-çimçim became a Christian and took the name of Don Martín; when he died they buried him in the church of Santa Ana in this city. The next night the Indians took the body out of its grave and carried it away to bury it according to the rite of his ancestors, and it has not been able to find out where it is.

After this Caja-çimçim, six Christian caciques, descendants of the former ones, have succeeded, down to Don Antonio Chayguar who is living today and is cacique of this valley of Chimor."

INCA GARCILASO DE LA VEGA (1539 – 1616)

The Inka Garcilaso de la Vega provided two rich chapters solely devoted to Chimor and its conquest in his *Comentarios Reales de los Incas* written around 1609 CE (Garcilaso de la Vega 1976 [1609]: 72-77, 212). Composed elegantly and full of interesting details, the writing of Garcilaso on Chimor has some important departures from the previous narratives. I would venture to guess that many of these are a result of his heritage as the son of an Inka noblewoman: it would likely behoove him not to speak too ill of relatives or ancestors. First, Garcilaso's work is absent of any mention of Gusmango Capac as being an ally of Chimor nor any reference to Capac Yupanqui as defeating any agents of Chimor in the process of earning the fealty of Cajamarca

(Garcilaso de la Vega 1976 [1609]: 68-71). In fact, the lord of Cajamarca is described as submitting to the Inka willingly and any mention of Capac Yupanqui being executed is absent.

The conquest of Chimor is undertaken by a young Topa Yupanqui after his father gives him thirty thousand men to conquer the central and northern valleys up to Cajamarca. After assembling his army and captains in Pachacamac to consult with the oracle and the temple devoted to Inti, Topa Yupanqui sent out the customary messages of peace or war to the territories he was tasked with subduing. Garcilaso refers to the ruler of Chimor as the Chimú and described him as a widely feared and powerful lord that ruled the valleys spanning from Paramonga to Trujillo. The Chimú responded to the message of Topa Yupanqui with defiance: saying he would die defending his homelands and that he did not want new gods. Topa Yupanqui of course could not withstand such an insult and marched north to meet the armies of Chimor at Paramonga. In the ensuing battle, thousands of soldiers on both sides fell but the Chimú eventually emerged victorious. Appealing to his father for more soldiers, Topa Yupanqui was eventually assisted instead by two central coast lords from Pachacamac and Runahuanac. These lords held grievances with the Chimú, who had apparently attacked their lands and taken many captives, and they fought fiercely for the young Inka. With this help, Topa Yupanqui and his allies were eventually able to overwhelm the Chimú and his army at Paramonga.

Though this victory at Paramonga appears to have given the armies Topa Yupanqui momentum, they are described as having to fight tooth and nail over each of the river valleys up to Chimor. Garcilaso takes every opportunity to point out how the Chimú was being a bad ruler by not accepting defeat: seeing it as a great injustice that the Chimú forced his loyal subjects and allies to fight against an inevitable Inka victory. Eventually, with the Inka quite literally at his gates, the stubborn Chimú capitulated to the pleas of his own lords and allies and surrendered to Topa Yupanqui himself. It is notable that, even after this epic struggle, Topa Yupanqui took the Chimú as his vassal: allowing the Chimú to keep much of his status but forcing him to throw his idols of "fish and animal figures" to the ground and accept Inti as his god. Following this conquest, the Inka ordered the Chimú and his lords to build him royal palaces, storage houses, and new irrigation canals to expand new lands for cultivation. To commemorate his victory, and the loss of so many lives, Topa Yupanqui also ordered the construction of a fortified palace at Paramonga. Garcilaso makes sure to mention the ruins of Paramonga, confirming my suspicions that these

ruins served as the spatial anchor for the broader story he described: Paramonga being where the story both began and ended.

Finally, Garcilaso briefly mentions the Chimú again in reference to the campaigns undertaken by Huayna Capac along the North Coast of Peru (Garcilaso de la Vega 1976 [1609]: 212). Marching from Quito with forty thousand soldiers, Huayna Capac seems to have used the Moche Valley as a starting point for his conquests in the north which, like many of the conquests described by Garcilaso, were suspiciously peaceful. Following the same pattern as the previous conquest of the Chimú, Huayna Capac is mainly concerned with expanding cultivation in the conquered valleys and does more infrastructure projects than actual fighting. Though filled with many fascinating details, the works of Garcilaso do seem heavily biased towards painting his ancestors in the best possible light: benevolent lords who were mainly concerned with bringing order and plentitude to the lands they conquered. That being said, some of the main characters of the other narratives are present even if their roles are radically different.

Garcilaso de la Vega 1976 [1609]: 72-73

"CAPITULO XXXII

VAN A CONQUISTAR AL REY CHIMÚ, Y LA GUERRA CRUEL QUE SE HACEN

EN LOS ejercicios que hemos dicho, gasto el Inca Pachacutec seis anos, los cuales pasados, viendo sus reinos prosperos y descansados, mando apercibir un ejercito de treinta mil hombres de guerra para conquistar los valles que hubiese en la costa, hasta el paraje de Casamarca, donde quedaban los terminos de su Imperio por el camino de la sierra.

Aprestada la gente, nombro seis Incas, de los mas experimentados, que fuesen coroneles o maeses de campo del ejercito y consejeros del principe Inca Yupanqui, su hijo. Al cual mando que fuese general de aquella conquista, porque, como discipulo de tan buen maestro y soldado de tan gran capitan como su tio Capac Yupanqui, habia salido tan practico en la milicia que se le podia fiar cualquiera empresa, por grande que fuese; y a su hermano, a quien por sus hazanas llamaba mi brazo derecho, mando que se quedase con el a descansar de los trabajos pasados. En remuneracion de los cuales, y en testimonio de sus reales virtudes, le nombro por su lugarteniente, segunda persona suya en la paz y en la guerra, y le dio absoluto poder y mando en todo su Imperio.

Apercibido el ejercito, camino con el primer tercio el principe Inca Yupanqui por el camino de la sierra, hasta ponerse en la provincia Yauyu, que esta en el paraje de la Ciudad de Los Reyes, y alli espero a que se juntase todo su ejercito y, habiendolo juntado, camino hasta Rimac, donde estaba el oraculo hablador. A este principe heredero Inca Yupanqui dan los indios la honra y fama de haber sido el primero de los Reyes Incas que vio la Mar del Sur y que fue el que mas provincias gano en aquella costa, como se vera en el discurso de su vida. El curaca de Pachacamac, llamado Cuismancu, y el de Runahuanac, que habia por nombre Chuquimancu, salieron a recibir al Principe con gente de guerra, para le servir en aquella conquista. El Principe les agradecio su buen animo, y les hizo mercedes y grandes favores. Del valle de Rimac fue a visitar el templo de Pachacamac; entro en el, sin murmullos de oraciones ni sacrificios mas de con las ostentaciones que hemos dicho hacian los Incas al Pachacamac en su adoracion mental. Luego visito el templo del Sol, donde hubo muchos sacrificios y grandes ofrendas de oro y plata; visito asimismo al idolo Rimac, por favorecer a los yuncas; y por cumplir con las capitulaciones pasadas, mando ofrecerle sacrificio y que los sacerdotes le consultasen el suceso de aquella jornada; y habiendo tenido respuesta que seria prospera, camino hasta el valle que llaman los indios Huaman y los espanoles la Barranca, y de alli envio los recados acostumbrados, de paz o de guerra, a un gran senor llamado Chimu, que era senor de los valles que hay pasada la Barranca hasta la ciudad que llaman Trujillo, que los mas principales son cinco y han por nombre Parmunca, Huallmi, Santa, Huanapu y Chimu, que es donde esta ahora Trujillo, todos cinco hermosisimos valles, muy fertiles y poblados de mucha gente, y el curaca principal se llamaba el poderoso Chimu, del nombre de la provincia donde tenia su corte. Este se trataba como Rey, y era temido de todos los que por las tres partes confinaban con sus tierras, es a saber, al levante, al norte y al sur, porque al poniente de ellas esta la mar.

El grande y poderoso Chimu, habiendo oido el requerimiento del Inca, respondio diciendo que estaba aprestado, con las armas en las manos, para morir en defensa de su patria, leyes y costumbres, y que no queria nuevos dioses; que el Inca se enterase de esta respuesta, que no daria otra jamas. Oida la determinacion de Chimu, camino el principe Inca Yupanqui hasta el valle de Parmunca, donde el enemigo le esperaba. El cual salio con un buen escuadron de gente a escaramuzar y tentar las fuerzas de los Incas; peleo con ellos mucho espacio de tiempo, por les defender la entrada del valle, mas no pudo hacer tanto que los enemigos no le ganasen la entrada y el sitio donde se alojaron, aunque con muchas muertes y heridas de ambas partes. El principe, viendo la resistencia de los yuncas, por que no tomasen animo por ver poca gente en su ejercito,

envio mensajes al Inca, su padre, dandole cuenta de lo hasta alli sucedido y suplicandole mandase enviarle veinte mil hombres de guerra, no para los trocar con los del ejercito, como se habia hecho en las conquistas pasadas, sino para abreviar la guerra con todos ellos, porque no pensaba dar tanto espacio a los enemigos como se habia hecho con los pasados, y menos con aquellos, porque se mostraban mas soberbios.

Despachados los mensajeros, apreto la guerra por todas partes el Inca, en la cual se mostraban muy enemigos del poderoso Chimu los dos curacas, el de Pachacamac y el de Runahuanac, porque en tiempos atras, antes de los Incas, tuvo guerra cruel con ellos sobre los terminos y los pastos y sobre hacerse esclavos unos a otros, y los traia avasallados. Y al presente, con el poder del Inca, querian vengarse de los agravios y ventajas recibidas, lo cual sentia el gran Chimu mas que otra cosa alguna, y hacia por defenderse todo lo que podia.

La guerra anduvo muy sangrienta entre los yuncas, que por la enemistad antigua hacian en servicio de los Incas mas que otra nacion de las otras; de manera que en pocos dias ganaron todo el valle de Parmunca y echaron los naturales de el al de Huallmi, donde tambien hubo reencuentros y peleas, mas tampoco pudieron defenderlo y se retiraron al valle que llaman Santa, hermosisimo en aquel tiempo entre todos los de la costa, aunque en este casi desierto, por haberse consumido sus naturales como en todos los demas valles.

Los de Santa se mostraron mas belicosos que los de Huallmi y Parmunca; salieron a defender su tierra; pelearon con mucho animo y esfuerzo todas lad veces que se ofrecio pelea; resistieron muchos dias la pujanza de los contrarios, sin reconocerles ventajas; hicieron tan buenos hechos, que ganaron honra y fama con sus propios enemigos; esforzaron y aumentaron las esperanzas de su curaca, el gran Chimu. El cual, confiado en la valentia que los suyos mostraban y en ciertas imaginaciones que publicaba, diciendo que el Principe, como hombre regalado y delicado, se cansaria presto de los trabajos de la guerra y que los deseos de amores de su corte le volvieran aina a los regalos de ella, y que lo mismo haria de la gente de guerra el deseo de ver sus casas, mujeres e hijos; cuando ellos no quisiesen irse, el calor de su tierra los echaria de ella, o los consumiria, si porfiasen a estarse quedos. Con estas vanas imaginaciones porfiaba obstinadamente el soberbio Chimu en seguir la guerra, sin aceptar ni oir los partidos que el Inca le enviaba a sus tiempos. Antes, para descubrir por entero su pertinacia, hizo llamamiento de la gente que tenian

los otros valles de su estado, y como iban llegando los suyos, asi iba esforzando la guerra, mas y mas cruel de dia en dia. Hubo muchos muertos y heridos de ambas partes; cada cual de ellos hacia por salir con la victoria; fue la guerra mas renida que los Incas tuvieron hasta entonces. Mas con todo eso, los capitanes y la gente principal de Chimu, mirandolo desapasionadamente, holgaron que su curaca abrazara los ofrecimientos de paz y amistad que hacia el Inca, cuya pujanza entendian que a la corta o a la larga no se podia resistir. Empero, por acudir a la voluntad de su senor, sufrian con esfuerzo y paciencia los trabajos de la guerra, hasta ver llevar por esclavos sus parientes, hijos, mujeres, y no osaban decirle lo que sentian de ella.

Garcilaso de la Vega 1976 [1609]: 74-77

"CAPITULO XXXIII

PERTINACIA Y AFLICCIONES DEL GRAN CHIMU, Y COMO SE RINDE

ENTRE TANTO que la guerra se hacia tan cruel y porfiada, llegaron los veinte mil soldados que el Principe pidio de socorro; con los cuales reforzo su ejercito y reprimio la soberbia y altivez de Chimu, trocada ya en tristeza y melancolia por ver trocadas en contra sus imaginadas esperanzas; porque vio, por una parte, doblado el poder de los Incas, cuando pensaba que iba faltando; por otra, sintio la flaqueza de animo que los suyos mostraron de ver el nuevo ejercito del enemigo, que como mantenian la guerra dias habia mas por condescender con la pertinacia de su senor que por esperanza que hubiesen tenido de resistir al Inca, viendo ahora sus fuerzas tan aumentadas desmayaron de golpe, y los mas principales de sus parientes se fueron a Chimu y le dijeron que no durase la obstinacion hasta la total destruccion de los suyos, sino que mirase que era ya razon aceptar los ofrecimientos del Inca, siquiera porque sus emulos y enemigos antiguos no enriqueciesen tanto con los despojos que cada dia les ganaban, llevandose sus mujeres e hijos para hacerlos esclavos; lo cual se debia remediar con toda brevedad, antes que el dano fuese mayor y antes que el Principe, por su dureza y rebeldia, cerrase las puertas de su clemencia y mansedumbre y los llevase a fuego y a sangre.

Con esta platica de los suyos (que mas le aparecio amenaza y represion que buen consejo ni aviso) quedo del todo perdido el bravo Chimu, sin saber donde acudir a buscar remedio ni a quien pedir socorro; porque sus vecinos antes estaban ofendidos de su altivez y soberbia que no

obligados a ayudarle, su gente acobardada y el enemigo pujante. Viendose, pues, tan alcanzado de todas partes, propuso en si de admitir los primeros partidos que el Principe le enviase a ofrecer, mas no pedirlos el, que no mostrar tanta flaqueza de animo y falta de fuerzas. Asi, encubriendo a los suyos esta intencion, les dijo que no le faltaban esperanzas y poder para resistir al Inca y salir con honra y fama de aquella guerra mediante el valor de los suyos. Que se animasen para defender su patria, por cuya salud y libertad estaban obligados a morir peleando, y no mostrasen pusilanimidad, que las guerras tenian de suyo ganar unos dias y perder otros; que si al presente les llevaban algunas de sus mujeres por esclavas, se acordasen cuantas mas habian traido ellos de las de sus enemigos, y que el esperaba ponerlas presto en libertad; que tuviesen animo y no mostrasen flaqueza, pues nunca sus enemigos en lo pasado se la habian sentido, ni era razon que al presente la sintiesen; que se fuesen en paz y estuviesen satisfechos, que cuidaba mas de la salud de los suyos que de la suya propia.

Con estos flacos consuelos y esperanzas tristes, que consistian mas en las palabras que en el hecho, despidio el gran Chimu a los suyos, quedando harto afligido por verles caidos de animo; mas con todo el mejor semblante que pudo mostrar entretuvo la guerra hasta que llevaron los recados acostumbrados del Inca, ofreciendole perdon, paz y amistad, segun que otras muchas veces se habia hecho con el. Oido el recado, por mostrarse todavia entero en su dureza, aunque ya la tenia trocada en blandura, respondio que el no tenia proposito de aceptar partido alguno; mas que por mirar por la salud de los suyos, se aconsejaria con ellos y haria lo que bien les estuviese. Luego mando llamar sus capitanes y parientes y les refirio el ofrecimiento del Inca y les dijo mirasen en aquel caso lo que a todos ellos conviniese, que, aunque fuese contra su voluntad, obedeceria al Inca por la salud de ellos.

Los capitanes holgaron mucho de sentir a su curaca en alguna manera apartado de la dureza y pertinacia pasada, por lo cual, con mas animo y libertad, le osaron decir resueltamente que era muy justo obedecer y tener por senor a un Principe tan piadoso y clemente como el Inca, que, aun teniendolos casi rendidos, los convidaba con su amistad.

Con este resuelto parecer, dado mas con attevimiento y osadia de hombres libres que con humildad de vasallos, se dio el poderoso Chimu por convencido en su rebeldia, y mostrando estar ya fuera de ella, envio sus embajadores al principe Inca Yupanqui, diciendo suplicaba a Su Alteza

no faltase para los suyos y para el la misericordia y clemencia que los Incas, hijos del Sol, habian usado en todas las cuatro partes del mundo que habian sujectado, pues a todos los culpados y pertinaces como el los habia perdonado; que se conocia en su delito y pedia perdon, confiado en la experiencia larga que de la clemencia de todos los Incas, sus antepasados, se tenia; que Su Alteza no se lo negaria, pues se preciaba tanto del renombre amador y bienhechor de pobres, y que suplicaba por el mismo perdon para todos los suyos, que tenian menos culpa que no el, porque habian resistido a Su Alteza mas por obstinacion de su curaca que por voluntad propia.

Con la embajada holgo mucho el Principe, por haber acabado aquella conquista sin derramar la sangre que se temia; recibio con mucha afabilidad los embajadores; mandolos regalar y decir que volviesen por su curaca y lo llevasen consigo para que oyese el perdon del Inca de su misma boca y recibiese las mercedes de su propia mano, para mayor satisfaccion suya.

El bravo Chimu, domado ya de su altivez y soberbia, parecio ante el Principe con otra tanta humildad y sumision, y, derribandose por tierra, le adoro y repitio la misma suplica que con su embajador habia enviado. El Principe, por sacarle de la afliccion que mostraba, lo recibio amorosamente; mando a dos capitanes que lo levantasen del suelo, y, habiendolo oido, le dijo que le perdonaba todo lo pasado y mucho mas que hubiera hecho; que no habia ido a su tierra a quitarle su estado y senorio, sino a mejorarle en su idolatria, leyes y costumbres, y, que en confirmacion de lo que decia, si Chimu temia haber perdido su estado, le hacia merced y gracia de el, para que lo poseyese con toda la seguridad, con que echados por tierra sus idolos, figuras de peces y animales, adorasen al Sol y sirviesen al Inca, su padre.

Chimu, alentado y esforzado con la afabilidad y buen semblante que el Principe le mostro y con las palabras tan favorables que le dijo, le adoro de nuevo y respondio diciendo que el mayor dolor que tenia era no haber obedecido la palabra de tal senor luego que la oyo. Que esta maldad, aunque ya Su Alteza se la tenia perdonada, la lloraria en su corazon toda su vida, y en lo demas cumpliria con mucho amor y voluntad lo que el Inca le mandase, asi en la religion como en las costumbres.

Con esto se asentaron las paces y el vasallaje de Chimu, a quien el Inca hizo mercedes de ropa de vestir para el y para sus nobles; visito los valles de su estado, mandolos ampliar e ilustrar con edificios reales y grandes acequias que de nuevo se sacaron, para regar y ensanchar las tierras

de labor, en mucha mas cantidad que las tenia antes, y se hicieron positos, asi para las rentas del Sol y del Inca como para socorrer a los naturales en anos de esterilidad, todo lo cual era costumbre antigua mandarlo hacer los Incas. Particularmente en el valle de Parmunca, mando el Principe se hiciese una fortaleza en memoria y trofeo de la victoria que tuvo contra el Rey Chimu, que la estimo en mucho, por haber sido la guerra muy renida de ambas partes; y porque la guerra empezo en aquel valle, mando se hiciese la fortaleza en el. Hicieronla fuerte y admirable en el edificio y muy galana en pinturas y otras curiosidades reales. Mas los extranjeros no respetaron lo uno ni lo otro, para no derribarla por el suelo; todavia quedaron algunos pedazos que sobrepujaron a la ignorancia de los que la derribaron, para muestra de cuan grande fue.

Dada orden y traza en lo que se ha dicho, y dejando los ministros necesarios para el gobierno de la justicia y de la hacienda y la gente de guarnicion ordinaria, dejo el Principe a Chimu muy favorecido y contento en su estado, y el se volvio al Cuzco, donde fue recibido con la solemnidad de triunfo y fiestas que de otras jornadas hemos dicho, las cuales duraron un mes.

Garcilaso de la Vega 1976 [1609]: 212

CAPITULO II

REDUCENSE DE SU GRADO DIEZ VALLES DE LA COSTA, Y TUMPIZ SE RINDE

UN ANO despues de aquella solemnidad, mando Huaina Capac levantar cuarenta mil hombres de guerra, y con ellos fue al de Quitu, y de aquel viaje tomo por concubina la hija primogenita del Rey que perdio aquel reino, la cual estaba dias habia en la casa de las escogidas; hubo en ella |ba|c Atahualpa y a otros hermanos suyos que en la historia veremos. De Quitu bajo el Inca a los llanos, que es la costa de la mar, con deseo de hacer su conquista; llego al valle llamado Chimu, que es ahora Trujillo, hasta donde su abuelo, el buen Inca Yapanqui, dejo ganado y conquistado a su Imperio, como queda dicho. De alli envio los requerimientos acostumbrados de paz o de guerra a los moradores del valle de Chacma y Pacasmayu, que esta mas adelante; los cuales, como habia anos que eran vecinos de los vasallos del Inca y sabian la suavidad del gobierno de aquellos Reyes, habia muchos dias que deseaban el senorio de ellos, y asi respondieron que holgaban mucho ser vasallos del Inca y obedecer sus leyes y guardar su religion. Con el ejemplo de aquellos valles, hicieron lo mismo otros ocho que hay entre Pacasmayu y Tumpiz, que son

Zana, Collque, Cintu, Tucmi, Sayanca, Mutupi, Puchiu, Sullana; en la conquista de los cuales gastaron dos anos, mas en cultivarles las tierras y sacar acequias para el riego que no en sujetarlos, porque los mas se dieron de muy buena gana. En este tiempo mando el Inca renovar su ejercito tres o cuatro veces, que como unos viniesen se fuesen otros, por el riesgo que de su salud los mediterraneos tienen andando en la costa, por ser esta tierra caliente y aquella fria.

Acbada la conquista de aquellos valles, se volvio el Inca a Quitu, donde gasto dos anos ennobleciendo aquel reino con suntuosos edificios, con grandes acequias para los riegos y con muchos beneficios que hizo a los naturales. Pasado aquel espacio de tiempo, mando apercibir un ejercito de cincuenta mil hombres de guerra, y con ellos bajo a la costa de la mar, hasta ponerse en el valle de Sullana, que es el mas cercano a Tumpiz, de donde envio los requerimientos acostumbrados de paz o de guerra. Los de Tumpiz era gente mas regalada y viciosa que toda la demas que por la costa de la mar alli habian conquistado los Incas; traia esta nacion por divisa, en la cabeza, un tocado como guirnalda, que llaman pillu. Los caciques tenian truhanes, chocarreros, cantores y bailadores, que les daban solaz y contento. Usaban el nefando, adoraban tigres y leones, sacrificabanles corazones de hombres y sangre humana; eran muy servidos de los suyos y temidos de los ajenos; mas con todo eso no osaron resistir al Inca, temiendo su gran poder. Respondieron que de buena gana le obedecian y recibian por senor. Lo mismo respondieron otros valles de la costa y otras naciones de la tierra adentro, que se llaman Chumana, Chintuy, Collonche, Yacuall, y otras muchas que hay por aquella comarca.

FELIPE GUAMAN POMA DE AYALA (1535 – 1616)

Felipe Guaman Poma de Ayala only briefly mentions the conquests of Chimor in his famous 1615 CE volume the *Nueva Coronica y Buen Gobierno* (Guaman Poma de Ayala 1980 [1615]: 114). Strangely enough, he only briefly mentions the Chimo Capac in a long list of conquests attributed to the captains Urcon Inka, Apomaytac Inca, and Billcac Inka. Some of these captains may be the same individuals cited in previous documents: Billcac is phonetically close to Tillca. However, neither Apomaytac or Urcon sound very similar to Auqui and all three brothers are said to have been mourned and honored by their father after death, with no mention of Pachacuti Yupanqui or them being executed. Generally, this reference is of little use for our purposes other than establishing that Chimor was among the subjected territories.

Guaman Poma de Ayala 1980 [1615]: 114

"El septimo Capitan, Inga Maytag, Inga Urco, fue grandes, valerosos, y grandes capitanes esforzados, fue hijos de Yauar Uacac Inga y conquisto las provincias de Condesuyo, Culauaconde (Collauconde), Coropona, hasta Arequipa, Arica, Pomatambos, Guaynacota, Parinacochas y Changas de la provincia de Andaguayllas, y murio en ellos. Urcon Inga, Apomaytac Inga, y Billcac Inga, conquistaron Soras y Tanquiuas, Bilcas, Guaman, Parejas, Angarays, Andamarcas, Lucanas, Chocorbos, Bilcancho, hasta Tayacaxa, Guaman, y la provincia de Xauxa, hanan y lurin Guanca, y la cordillera de los Yauyos, Upayauyo, Lacuas, Uarochiri, Chaclla, Sisicaya, yungas de Chinchay Mala, Pachacamac, Chimo Capac, Lati, Lima, Lunauana, Sullco, Chincha y Uarco, y ansi puso idolo uaca en Uarco. Y murieron todos despues de la conquista en la ciudad del Cuzco, por donde le peso muy mucho a su padre y fue enterrado muy honradamente."

ANTONIO DE LA CALANCHA (1584 – 1654)

The *Cronica Moralizada del Orden de San Agustin en El Peru* written by Antonio de la Calancha provides some intriguing details about Chimor but the conquests he describes are drawn mainly from those provided by Garcilaso (Calancha 1974-81 [1638]: 1062, 1089, 1234-1235). First, in a few asides while discussing other subjects he calls attention to the fierce and warlike nature of the Chimo. At one point he cites Garcilaso in a vivid description of the armies of the Chimo as bringing with them an idol devoted to a "god of battles" who was offered the blood of conquered foes (Calancha 1974-81 [1638]: 1062). Upon looking through Garcilaso, I was able to find no such reference. This short passage immediately caught my eye as being remarkably similar to the Moche traditions of human sacrifice and the importance of blood in supernatural transactions. However, Calancha did spend quite a bit of time in Trujillo and his writings show that he was knowledgeable about many of the looting operations occurring in the Moche Valley, specifically those at Huaca del Sol. The implication of this being: Calancha very well could have seen a looted Moche vessel, specifically one depicting scenes of sacrifice, and built a story around what he had observed. It is equally likely that he, like many of the other authors of his time, was simply embellishing upon descriptions of the "barbaric" nature of indigenous Andean peoples. Whatever the case, this particular passage will likely remain a mystery until someone finds better evidence for its ultimate origin.

Calancha also provides a few interesting details in regards to the rise of Chimor and the power wielded by the King of Chimor (Calancha 1974-81 [1638]: 1234-1235). He describes the early Kings of Chimor as being ambitious like the Inkas of Cuzco, conquering many of the Yungas, from Paramonga to Tumbes, and subjecting many of these areas as tributaries. He specifies that the Chimo King took his tribute in textiles and food and even states that six thousand highlanders were obligated to bring gold, silver, copper, and beads down to the Chimo lords in the Moche Valley. The coastal language of Quingnam is designated by Calancha as the old language of the Chimo and he describes it as being spoken from Pacasmayo to Lima. He also attributes Muchik and Sec to the other people of the valleys, saying Muchik was spoken at least as far north as Motupe, near modern Chiclayo. Though he has a tendency towards long tirades about demons, the richness of Calancha's descriptions of the traditions of the indigenous people around Trujillo and his familiarity with the region makes his works invaluable in the insights they offer. Such insights are dealt with elsewhere: I attempt to keep the focus of this section on the conflicts between the Inka Empire and Chimor.

According to Calancha, there are possibly two clashes between Chimor and the Inka: the first (and possibly second) was mainly commanded by Topa Yupanqui in several fierce engagements on the coast (Calancha 1974-81 [1638]: 1234-1235). His description of the now familiar story of Topa Yupanqui is somewhat muddled with that of Garcilaso and could be interpreted as describing two separate events. First, he briefly mentions that it cost Topa Yupanqui many soldiers to subdue the Chimo but eventually the valiant and honorable Chimocapac was taken prisoner. There is no mention on where the battle took place or how the Chimocapac and the Inka came to battle. However, or wherever, this happened, the Chimocapac was then released to become a tributary and was said to have been a good vassal who did not rebel. Calancha insinuates that this was perhaps because the Chimocapac was paid well, but he also extols the virtue of the Chimo King: "among noble hearts, courtesies win more than arms". Following this story, he essentially parrots, almost word-for-word at some points, the sequence of events described by Garcilaso. It is mainly the stark differences in how the Chimocapac is described in both stories that would lead me to think they are different stories: either of the same event or two different events. Recalling the multiple conquests of Chimor within the lifetime of Topa Yupanqui that are described in the narratives of Sarmiento de Gamboa and Cabello Balboa, it is possible that Calancha was alluding to that relatively confusing set of events.

Calancha also parrots Garcilaso's description of Huayna Capac as having descended from Quito to Chimor with his army. However, he calls attention to how odd it is that several such lands, namely Chicama and Pacasmayo, would be re-visited when they surely would have been conquered during the earlier campaigns by Topa Yupanqui in Chimor. Reading Calancha's skepticism only strengthens my belief that Garcilaso was probably describing some broader suppression of a coastal rebellion under the reign of Huayna Capac. However, Garcilaso was doing this through his characteristically peace- and order-bringing lens of discussing the role of the Inka in the history of the region. Though recounted in a separate context, is also from Calancha that we see the tragic story of Querrutumi unfold (Calancha 1974-91 [1638]:1260). This valiant captain of Chimor is said to have won three great victories in the south against the armies of Lima but eventually was defeated and, in the pain of this defeat, he killed himself at the base of Cerro Campana in the Moche Valley.

Calancha 1974-81 [1638]: 1062

"Adoravan al Sol, Luna, i estrellas; i al mar enbiavan ofrendas de plata, cobre i chaquiras; i a sus progenitores adoravan por Dioses caseros. Garcilaso dice, que estos Indios Conchucos afligian a los Indios Chimos, que oy se llaman Trugillanos, belicosos Iungas que abitan los llanos, i traian un Idolo en su egercito. A este llamavan Dios de las batallas, i le ofrecian el despojo de sus enemigos, sacrificandole sus vidas, i ofreciendole la sangre. I estos continuaron en tienpos nuestros quitando la vida a los Cristianos, i aziendo oblacion de su sangre a su Dios belico, cruento Idolo, i cruel Demonio.

En Cahuana i Tauca pueblos desta Provincia de Conchucos avia un Idolo celebrado, asi de los naturales como de los estrangeros i advenedizos, llamado Catequilla, que era tradicion, que parte del es de oro; este era venerado i temido en toda aquella Provincia, i al igual en la de Guamachuco donde tuvo su origen. Crecio su nonbre, i estendio su fama, con que pasando por Guamachuco Topa Inga Iupangui padre de Guaynacapac i no de Guascar, como dice el Padre Pablo Josef, escriviendo deste mesmo suceso de que voy ablando, porque Guascar Inga fue nieto de Topa Inga ijo de Guaynacapac, que mato a Atagualpa en Andamarca, enbiando al fratricidio Capitanes que lo matasen estando el preso en Cajamarca por don Francisco Picarro; i asi ni Guascar paso jamas a Quito, ni pudo quemar el tenplo. Fue su padre el dueno desta accion, i asi vamos al caso.

Paso Topa Inga por Guamachuco con un grueso egercito, a castigar a un ermano suyo que se le avia revelado en Quito; convoco todos los Sacerdotes i Sacerdotisas del Idolo Catequilla, que dava de ordinario oraculos i respuestas, siendo el Demonio el que ablava en el Idolo. Tuvieron el ayuno, ofrecioles sacrificios, dedicole ofrendas, porque le digese si avia de bolver vitorioso de aquella batalla, o morir en ella? Respondio el Demonio en el Idolo: Que moriria sin decir quando, ni seria vencedor, o vencido; sucedio, que murio en Quito, tierra que anos antes el avia fundado i conquistado, dejando por su Governador a su ermano a quien bolvio a castigar; desto gano el gran nonbre este Idolo. Entro en el reynado Guaynacapac su ijo que estava en el Cuzco, i bajo a Quito visitando su Reyno, i paso por Guamachuco; alli le digeron, como aquel gran Idolo avia anunciado a su padre la muerte, a cuya causa era tan temido i adorado de todas las Provincias, de donde le venian a consultar i a ofrecer sacrificios, por lo qual estava tan rico, que tenia un tenplo muy suntuoso de piedra labrada con tal primor, que unas encajavan en otras sin mezcla ni betun, tan fuerte, que el modo i la obra (sino tan grande) era como la del tenplo del Sol, que los Reyes Ingas izieron en el Cuzco. Tanto como esto puede con los Gentiles una sola verdad dicha a bueltas de dos mil mentiras. Indignose tanto el Inga Guaynacapac, de que a costa de la vida de su padre, uviese granjeado tan estendidos aplausos, i tan gran abundancia de riquezas, enbidioso de tal grandeza, mando poner fuego al tenplo, i a todas las riquezas de adorno i vasos del sacrificio. Los echizeros i Sacerdotes movidos del amor de su Idolo, quisieron sacarle del incendio, i timidos del enojo del Inga temian el proprio castigo. Pero vencio el amor a los miedos; que la temeridad barbara de los Gentiles, mueve a precipitaciones desesperadas, urtandole este brio a la divina caridad, que da valentias para enprender finezas i engendra resoluciones para conseguir echos eroicos. Por entre llamas se arrojaron los falsos Sacerdotes, anteponiendo el amor de su Idolo, a los dos golpes de muerte que se les oponian ya del fuego que iva abrasando el tenplo, i escapando deste, la muerte atroz que a ellos, i a sus familias les diera el Inga. El animo vencio lo primero, i el secreto escuso lo segundo. Sacaron el Idolo de noche del pueblo de Guamachuco, i trugeronle a Cahuana pueblo destos Conchucos, donde le izieron otro tenplo, i le presentaron muchos dones, en particular mantas i camisetas de finisimos cunbes, mudandole el nonbre i aumentandole el credito. Este Idolo luego que entro el Padre Fray Ernando i el Padre Pineda, trataron de estinguirlo, i urtandole del tenplo, lo escondieron. Amenacas no bastaron, ruegos no le descubrian, ni castigos aprovechavan. El Padre Pablo Josef en el capitulo referido dice, que el padre Fray Francisco Cano, de quien emos ablado, lo destruyo; pero que lo cierto es, que los Indios del pueblo de Tauca urtaron

este Idolo, i que aunque se izieron muchas diligencias para descubrirle en la visita, lo negaron sienpre los viejos de Tauca, i que algunos que se allaron mas culpados, los trugeron a Lima a esta carcel llamada santa Cruz."

Calancha 1974-81 [1638]: 1089

"Lo que oy es ciudad de Trugillo se llamo en su antiguedad el valle de Chimo, nonbre comun de los Reyecuelos de aquel senorio, eredado del primer Cazique llamado el Chimo, que siendo de animo brioso, i de coracon sobervio, dio batallas a sus vezinos, i les tiranizo sus valles, aziendo tributarios a los vencidos, i obligando a su servicio personal a los pueblos. Chimo se llama oy el valle en las provisiones del govierno, i en el comun ablar de los Indios; llamose Trugillo en gracia de don Francisco Picarro, que nacio en el Estremadura, i asi el segundo pueblo que fundo en este Inperio fue este, que oy es egenplar de estragos (remito al tratado del Convento de Guadalupe i su valle mas dilatacion deste punto, donde pondero mas singularidades, i lo que en este capitulo dejare de poner)."

Calancha 1974-81 [1638]: 1234-1235

"Beetria fue el govierno de aquellos valles en su antiguedad; el mayor de la familia era el senor de cada parcialidad, eran pocos los pueblos, i sin policia sus abitadores. Un Cazique de lo que oy se llama Trugillo, llamado el Chimo, siendo de natural brioso, de animo alentado, i de coracon anbicioso, a imitacion de los Ingas del Cuzco (que sienpre las acciones valerosas crian enbidias, i animan desalientos) fue conquistando los Indios Yungas, i aziendo tributarias las Provincias destos llanos desde Parmunga, asta Payta i Tunbes, cobrando tributos en ropa i comidas, i obligando a seys mil Indios a que de las sierras le trugesen oro, plata, chaquiras i cobre; hizose opulento, crecio en vasallos, i fuese introduciendo en magestad su lengua natural, que es la que oy se abla en los valles de Trugillo, era la Quingnam propria deste Reyezuelo; i asi por lisongearle su memoria, se llamo la Provincia del Chimo; los vasallos de Pacasmayo dieron en ablar su lengua, i los demas asta Lima, aunque corronpidos algunos vocablos; los demas valles de los llanos ablavan la lengua Muchic, que oy conservan asta Motupe, i otra que llaman Sec; i la de los Olmos mudan letras i finales, si bien cada pueblo, i aun cada familia tiene lengua propria, o vocablos diferentes, siendo la confusion de sus lenguas castigos de Babilonia, pues izo a los principios la multitud dellas casi enmudecer a los Predicadores; que si el Espiritu santo da don de lenguas i baja en fuego,

el Demonio multiplica lenguas i confunde idiomas, porque se estorve la Fe, i bajen a su fuego infernal. La que entre ellos se llama la Pescadora, mas parece lenguage para el estomago, que para el entendimiento; es corta, escura, gutural i desabrida; con estas dos lenguas mas comunes se tenia la correspondencia de los valles, i se manejava mucho el comercio i contrataciones destos territorios.

Chimos se fueron llamando los senores, i llegaron a estender su juridicion i vasallage asta Parmunca, treynta leguas i mas apartado de Lima. Fueron multiplicando riquezas, i anpliando el senorio. Pero llego a su margen, i acabo su periodo; propriedad de las grandecas desta vida, que entonces comienca a descaecer, quando mas llego su prosperidad a subir. El ultimo destos Chimos, fue el que se llamo Chimocapac, sobrenonbre que se dieron los Indios serranos, porque es vocablo de su lengua general; este fue el que mas se anplio, i el que se vio mas prospero; izo levas de gente, i junto numerosisimo egercito contra el Topa Inga Yupangui decimo de los Ingas, i aguelo de Atagualpa, a quien mato Don Francisco Picarro. Este fue el Inga mas sabio, afable i concertado que tuvo esta monarquia, i conquisto desde Lunaguana asta Quito, i desde Arica asta Chile, i fue senor de todos los Reynos del Peru, estendiendo su Inperio con armas o con caricias. El izo aquel camino entre tapias de casi mil leguas, que Rey umano no llego a pensar, ni Alejandro, Dario, ni Ciro se atrevieran a enprender. Tuvo muy grandes riquezas el Chimo en sus guacas. De la que esta un quarto de legua de Trugillo, sacaron los Espanoles en oro i plata mas de ochocientos mil pesos, i le dieron de quintos a nuestro Rey ciento i quatro mil ducados. I de la que esta en el camino de Guanchaco, guaca menor llamada Tasca, saco Escobar Corchuelo, i otro su amigo, mas de seycientos mil. Mucho gentio le costo la vitoria de los llanos a Topa Yupangui, porque sus Indios son mas fuertes i para mas trabajo que los de las sierras; pero la multitud vencio a la fortaleza, i la buena fortuna solto la rienda a la prosperidad; i ablando en lenguage Catolico, iva disponiendo la providencia de Dios, que todo este Inperio fuese de un solo senor, para que con mas facilidad se introdugese la Fe, i el ser de muchos Reyes, no estorvase la conquista, o la predicacion. Llevaron al Chimo por prisionero al Inga i como era en la opinion riquisimo le llamo Chimocapac, onrole como a igual, no como a vencido, i mandole bolver a su colonia con sugecion a su dominio, aciendole tributario i obligandole a feudo. Este cunplio el Chimo con fidelidad sin rebelarse, porque debio de bolver mas vencido de las onras que le izo, que de los castigos que sus egercitos le avian echo; que entre coracones nobles, mas vencen las cortesias que las armas. Garcilaso Inga en el libro sexto de sus comentarios Reales, primera parte capitulo treynta i dos dice, que el Inga

Pachacutec siendo vivo, i aviendo conquistado por la sierra asta Cajamarca, i por los llanos a todos los Iungas, desde Lunaguana asta Guaman, que nosotros llamamos la Barranca; viendose ya senor de los valles de Chincha, Malla, Chilca, Pachacamac, Lima, Chancay, i Guaura, enbio a su ijo Topa Inga Yupangui, eredero deste Reyno, a que con treynta mil onbres conquistase los valles i Provincias del Chimu, que a la parte del sur tenia cinco valles, Parmunca, Huarmey, Santa, Huanape i Chimu, que aora es Trugillo (quien viere que en algunos vocablos Indios no pongo las mesmas letras que tienen, quando ellos las pronuncian, ya vera que lo ago porque oy se conocen por aquel modo de pronunciar, i no los conocieran los Espanoles ya a ponerse en su natural idioma) para conquistar estos fertilisimos valles dice que se valio el Principe de medios de paz, i amenacas de guerra, que el rico i poderoso Chimo menosprecio sobervio, i retorno arrogante. Fueron aconpanando al Inga los Reyezuelos, o Caziques de Lima i Pachacamac, mas por vengar las ofensas i cautiverios que el Chimu les avia echo en ijos i mugeres, que por servir al Inga. En Parmunca se comenco la batalla, donde con millares de muertos de anbas partes salio vencedor el Chimu, i obligo a Topa Yupangui a pedir mayor socorro a su padre, el qual le enbio veynte mil Indios de los mas valerosos, i con tan grueso egercito pudo ganar el valle de Parmunca, i con nuevo trabajo el de Guarmey. Resistio a varios conbates el valle de Santa entonces pobladisimo, i oy acabado; pero donde se vertio inumerable sangre, i se cautivo sin numero, fue en el valle de Chimu, i con verse tan acabados, era ya la valentia contumacia, i el teson ciega temeridad, las muertes i cautiverios no los sugetaron, i al fin con onrosos partidos, dadivas i quedarse en su antiguo senorio se rindieron, reconociendo al Inga por su Rey, i adorando al Sol por Dios, dando al uno tenplo, i al otro tributo. En memoria desta conquista, que fue la que mas le costo al Inga, i le anadio mas onra, izo en Parmunca una fortaleza, que oy dicen sus ruinas lo que fue su maquina. En el libro 9, capitulo 2, dice, que Guaynacapac ijo deste, i padre de Atagualpa, avido en la ija del Rey de Quito, que era de las virgenes dedicadas al Sol con quarenta mil Indios vino conquistando desde Tumbes asta Pacasmayo viniendo de Quito. Quanto mas conforme a la razon es, que quando conquisto asta Trugillo i al Chimo, conquistase a Pacasmayo, pues no le pone que tuviese otro Rey ni senor, i lo era el Chimo, i no que rodease por la sierra a Quito quinientas leguas, teniendo de Chimo a Chicama solas quatro. La fortaleza que esta en Paramunca, sobre aquel cerro, de quien acaba de ablar Garcilaso; es asentada opinion entre los Indios, que fue uno como palacio que izo con aquellas pinturas que muestra el Cazique de aquellos valles, para una ija que dejo ermosisima, pretendio casarse con ella otro Cazique convezino suyo, a quien ella desdeno, corrido de la repulsa

le izo guerra, i no pudiendo sustentar la defensa, dijo ella, que si le subia agua encanada al jardin de su fortaleza, se casaria con el; subiola, cosa casi inposible, pudolo el amor, casaronse, i quando ella vido la ocasion lo mato."

BERNABE COBO (1582 – 1657)

The latest document I discuss here, the *Historia del Nuevo Mundo* written by Bernabe Cobo and published around 1653 CE, only briefly mentions the conquest of Chimor by Pachacuti Yupanqui (Cobo 1964 [1653]: Chapter 13) and then subsequently mentions the Valle de Chimo as an Inka province along the royal road (Cobo 1964 [1653]: Chapter 32). First, the discussions by Cobo of the Inka conquests in Chinchasuyu make it very clear that the Pachacuti Yupanqui began his conquests in the highlands, including a mention of Cajamarca, and then proceeded to the central and northern coastal valleys. Though he cites that the people of the lands around Lima submitted peacefully, Cobo singles out the Chimo as being particularly powerful and that he was stubborn in his resistance. However, this Chimo was obviously defeated and the coastal valley campaigns of Pachacuti Yupanqui seem to have stopped there. Interestingly, the festivities that followed the conquest of Chinchasuyu were interrupted by Pachacuti Yupanqui promptly bringing war to the Collas, much like in the narrative put forth by of Sarmiento de Gamboa. The second, even more brief, reference to Chimor by Cobo is only a short reference to Chimor as a province located along the Inka road. Though he is admittedly unclear about Chimor particularly having a tambo, he does say that "every principal valley" had its own royal palaces, tambos, and storage depots.

Cobo 1964 [1653]: Chapter 13

"Paso adelante con sus banderas Pachacutic por el camino de Chinchaysuyo, y sujeto las provincias de Vilcas, de los Soras y Lucanas con poco trabajo, por el poderoso ejercito que llevaba, al cual no habia nacion que tuviese fuerzas para resistir. Mas, llegado a Guamanga, hallo a sus naturales puestos en armas con resolucion de defenderse, porque era gente muy belicosa e indomita y confiaban, no tanto en el numero de combatientes en que eran muy inferiores al Inca, cuanto en la fortaleza de un penol bien defendido por naturaleza, en que se habian encastillado. Sitioles el Inca y tuvoles en grande aprieto mucho tiempo, codicioso del senorio de tan rica y fertil provincia; y lo principal, por no perder punto de la reputacion ganada en las empresas pasadas.

Grandes trances pasaron en esta guerra; los cercados, por no perder su libertad, sufrieron constantemente cruel hambre y otras mil desventuras; en fin, no pudieron hacer otra cosa, se hubieron de rendir y dar la obediencia al Inca; el cual, sojuzgada esta provincia, no hallo resistencia en los otros pueblos vecinos a ella, como son los Chocorbos, Angaraes y Parinacochas. Mas la nacion de los Huancas, naturales del valle de Jauja, se defendieron al principio valientemente, los cuales eran mas de treinta mil, aunque al fin fueron vencidos y sujetados. Con tan feliz curso de vitorias no dejo Pachacutic las armas de las manos ni paro hasta la provincia de Tumibamba, que fueron los ultimos terminos y fronteras de su imperio, habiendo encorporado en el todas las que estan antes por el camino de la Sierra, como son Guarochiri, Canta, Tarama, Chinchacocha, Cajatambo, Bombon, Conchucos, Cajamarca y otras.

No dejo pasar mucho tiempo el Inca que no hiciese otra jornada por el camino de Condesuyo, para conquistar las provincias maritimas confiantes con las que habia ganado en la Sierra. Fue el en persona hasta la raya de Los Llanos, y sin bajar de la Sierra a la tierra caliente de la costa de la mar, envio por capitan general a un hermano suyo con treinta mil hombres, y dejo consigo otros treinta mil de respeto, para remudarlos cada dos meses, a causa de ser tierra malsana la maritima para los serranos.

Muchos valles de la costa se dieron de paz y otros fueron guerreados; conquisto en breve todas las provincias maritimas que hoy se comprehenden en la diocesis de Arequipa desde Tarapaca hasta Hacari, que son cerca de doscientas leguas de costa. Entrando por lo que al presente es distrito deste arzobispado de Lima, le ofrecieron la paz los valles de La Nasca, Ica y Pisco, con los indios de Chunchanga y Humay; mas los de Chincha tomaron las armas, que eran muchos, y pelearon muchas veces con la gente del Inca, de la cual quedaron vencidos. No anduvieron menos valientes en su defensa los del Huarco y Lunaguana que los de Chincha, sus vecinos, porque mantuvieron la guerra con notable esfuerzo y constancia muchos meses, en los cuales pasaron cosas notables entre los unos y los otros. Finalmente, los redujo el Inca a tal estado, que se le hubieron de sujetar. Alcanzada esta victoria por el Inca, le dieron la obediencia pacificamente los valles de Mala, Chilca, Pachacama, Lima, Chancay, Guaura y la Barranca, con todos los demas que hay antes del de Chimo. El cacique deste postrero era muy poderoso, y no quiso rendirse al Inca antes de venir con el a las manos y quedar vencido, como quedo. Habidas tantas y tan insignes vitorias, en que pasaron algunos anos, dio vuelta el rey para su corte rico de despojos y mucho mas

de honra y credito, dejando en los puestos convenientes edificadas fortalezas y en ellas los presidios y guarniciones competentes para conservar lo adquirido.

Apenas eran acabadas las fiestas que se le hicieron en el Cuzco por los trofeos de la expedicion pasada, cuando trato de hacer otra por el camino de Collasuyo; porque no tenia quietud ni sosiego su espiritu mientras no se ocupaba en ampliar su imperio. Envio delante con parte del ejercito a un capitan de mucho valor y experiencia llamado Apu-Conde-Mayta, y mandole hiciese alto y le esperase en Lurucache, que era la raya de su senorio y frontera de las provincias del Collao, cuyo cacique era muy poderoso, y comenzaba su estado desde la sierra de Vilcanota, desde adonde, hasta el pueblo de Hatuncolla, donde residia, hay mas de veinte y cinco leguas. Puestas en orden las cosas del Cuzco, partio el Inca con el resto del ejercito, y llegando a Lurucache, sin detenerse alli paso a alojar su cuerpo al pie de Vilcanota, dentro de los terminos de Collana. Sabida por el cacique o rey del Collao la llegada del Inca, le salio al encuentro con todo su poder, resuelto de darle batalla, y lo espero en el pueblo de Ayavire, diez leguas del alojamiento del Inca; el cual, alegre con la nueva de que se le hubiese puesto tan cerca su enemigo, movio sus escuadrones y comenzo a entrar por aquellas tendidas vegas y zabanas que se descubren pasada la sierra de Vilcanota; y acercandose a Ayavire, les salio al encuentro el Colla en ordenanza de guerra, provocandole a la batalla. Embistieronse los dos cuerpos con igual animo, y peleose de ambas partes con mucho coraje y porfia. Los del Inca, sintiendo flaqueza en sus contrarios, por la poca experiencia que tenian de la guerra, comenzaron a cantar vitoria. El Colla, perdido de animo, viendo muerta la mayor parte de los suyos, se retiro con los que pudo y reparo en Pucara. Asolo el Inca el pueblo de Ayavire, haciendo degollar a cuantos se pudieron haber a las manos, y sin detenerse a descansar de la batalla, camino en busca de Colla-Capac, que asi se llamaba el rey del Collao. Peleo con el segunda vez en Pucara, y tambien lo vencio. Murieron muchisimos collas en ambas batallas; los que escaparon se pusieron en huida y despues volvieron rendidos y se pusieron en manos del Inca. El cacique de la nacion de los Lupacas, que residia en Chucuito y no era menos poderoso que el Colla, tomo mas sano consejo, porque recibio de paz al Inca y puso en sus manos su estado; al cual hizo mucha honra el Inca, y para mostrarle mas favor, se detuvo algunos dias en Chucuito."

Cobo 1964 [1653]: Chapter 32

"Los dos caminos reales de Sierra y Llanos que habemos dicho pasaban por las poblaciones mayores del reino, que eran cabezas de provincias, como Cajamarca, Jauja, Vilcas y otros lugares de la Sierra, y de los Llanos Tumbez, Chimo, Pachacama, Cincha y otros pueblos grandes, estacionados dichos pueblos por el camino de la Sierra a veinte y a treinta leguas unos de otros, en partes mas y en partes menos, y por el camino de los Llanos en cada valle principal el suyo, habia en ellos aposentos reales, tambos y depositos bastecidos con grande abundancia de todas las cosas que en los tales lugares se podian haber, para poderse aposentar el Inca cuando pasase por alli y ser servido con no menos regalo, majestad y aparato que lo era en su corte, y se diese todo lo necesario a los soldados de presidio y a los ejercitos cuando pasaban por ellos. Sin estos pueblos grandes y otros muchos pequenos que caian en estos caminos reales o no muy desviados dellos, habia tambos y depositos bien provistos en cada jornada de cuatro y seis leguas, aunque fuese despoblado y desierto. Eran estos tambos lo mismo que nuestras ventas y mesones, solo que se servian muy de otro modo, porque no los poseia ningun particular, edificandolos la comunidad del pueblo y provincia, y tenia obligacion de preservarlos enteros, limpios y proveidos de sirvientes. En ellos se alojaban los ejercitos, gobernadores y demas ministros reales, y de los depositos que en ellos habia del Inca se les daba de comer y de todo lo demas que habian menester; y los gobernadores que residian en las cabezas de provincias tenian especial cuidado de mandar a los pueblos tuviesen muy buen recaudo en ellos."

APPENDIX C: MOCHE VALLEY PREHISTORIC CANAL AND CULTIVATION ESTIMATES BY PHASE

GENERAL CONVENTIONS

Canals were identified by phase through using a combination of three different "methods" listed here in the order of importance. Though the literature has its limits, the vast majority of the info here was taken from several publications done in association with the host of archaeological projects going on in the Moche Valley during the 1970s and 1980s (Moseley and Deeds 1982; Ortloff et al. 1985; Kus 1972; Pozorski, T. 1987). Billman's later re-analyses of some of these data are also invaluable to use as a starting point and only required moderate modifications and improvements (Billman 2002:377-385). Specifically, his digitized survey data proved incredibly useful for understanding what parts of the valley would have been occupied and thus what canals were likely in use. My nomenclature for many of the ancient canals is drawn directly from the fantastic figure provided by Ortloff et al. in their overview of the canal systems in the Lower Moche Valley (Ortloff et al. 1985:379). The rest are based on those recorded by the ONERN survey and described in Chapter 3 (ONERN 1973). It is important to note that these estimates are informed by the settlement patterns described in Chapters 6-9 in this dissertation but <u>are not</u> tied to the upper and lower ranges of cultivable land estimated in Chapters 6-9 for the survey area. These were meant to be broader estimates of the valley as a whole and thus stick to the datasets provided by ONERN and the others described above.

The first method was given the highest priority and was based directly on excavated or surveyed information that specifically focused on canals or relevant archaeological data therein. These data could range from the results of well-recorded excavations of specific canals or field systems to simple observations of a lack of silt found in excavated contexts below certain canals. The second method was a simple visual perusal for ancient canals to see whether they were nearby either (1) ancient settlements or (2) ancient ceremonial centers. This could give good evidence for the use of such canals, or older corollaries, since such occupations would have likely required canal water for construction or sustenance. In this case, ancient canals that were located below the occupations in question were favored where possible because people generally tended to settle

above irrigated lands rather than within them. Generally, I tried to "end" the hypothetical canal at the occupation in question in order to obtain a bare minimum of how long such a canal would be and how much land it may have fed. The third, and final method, used modern canals where ancient canals were lacking. Many, if not most, of the modern canals in the Lower Valley had clear ancient corollaries and thus helped this method seem a bit less cavalier than one may think. The incomplete record of ancient canals in the Middle and Upper Valley meant that modern canals were often the best evidence available and probably give at least a good approximation of where ancient canals may have been. It is extremely important to emphasize that the "second" and "third" methods were used for the vast majority of those canals identified from the Guañape Phase all the way to the Moche Phase. Only the Chimú Phase had very clear data on canal construction that has been researched intensively.

Calculating field areas added a further challenge to an already difficult and guess-ridden task. For all examples lacking data on field locations, the possible cultivable area was calculated simply by drawing the shortest possible distance between the hypothetical canal ending and the river itself. This was the quickest and easiest way to get an area. Constraints of time and temperament prevented me from building a more elaborate way to estimate the possible area of ancient fields in the region. Where relevant, several other areas were subtracted from this estimate: areas cited as likely having sunken gardens/fields, the "modern" limits of Trujillo during the projects in the 1970s and 1980s, and the handful of hills on the valley floor that would have been above canal lines. Though crude, the resulting estimation is meant as a sort of educated guess at how much area could have been cultivated during every phase. The estimate ranges for canal lengths and cultivable area that were derived from these maps can be seen in Table C.1 below and area organized by phase. The logic for each phase is outlined in each of the subsections and their associated Figures are included above this rationale (Figure C.1; Figure C.2; Figure C.3; Figure C.4; Figure C.5; Figure C.6).

Table C.1 Moche Valley Canal and Cultivable Land Estimates by Phase

Moche Valley Canal and Cultivation Expansions/Contractions by Phase			
Phase	**Canals***	**Total Canal Length****	**Estimated Arable Land(ha)****
Late Preceramic			
(2500-1600 BCE)	Sunken Fields (Moche)	NA	501 - NA
	Sunken Fields (Chan Chan)	NA	1754 NA
	Sunken Fields (Huanchaco)	NA	53 NA
	Total		0 - 2308
Guañape Phase			
(1600-500 BCE)	N1 (Mochica)	9.5	1114 - NA
	N2 (Vinchansao)	8.0	423 - NA
	N3 (Moro)	2.9	111 - NA
	Lower S3 (Huatape)	3.0	95 - NA
	Upper S3 (Huatape)	3.8	161 - NA
	Serrano	3.4	116 - NA
	Santa Rosa	6.6	323 - NA
	Jesus Maria I	3.6	86 - NA
	Jesus Maria II	6.1	272 - NA
	Pedregal	3.6	192 - NA
	Chile Alto	1.7	53 - NA
	Sunken Fields (Moche)	NA	501 - NA
	Sunken Fields (Chan Chan)	NA	1754 - NA
	Sunken Fields (Huanchaco)	NA	53 - NA
	Total	46.9	2585 - 5254
Salinar Phase			
(500 - 1 BCE)	N1 (Mochica)	9.5	1114 - NA
	N2 (Vinchansao)	8.0	423 - NA
	N3 (Moro)	3.6	190 - NA
	S2 (Cerro Arena)	13.4	1414 - NA
	Lower S3 (Huatape)	3.0	79 - NA
	Serrano	3.4	116 - NA
	Quirihuac II	6.8	303 - NA
	Santa Rosa	6.6	323 - NA
	Jesus Maria I	3.6	86 - NA
	Jesus Maria II	6.1	261 - NA
	Katuay	5.2	193 - NA
	Cumbray	2.3	188 - NA
	Cholocar	2.0	48 - NA
	La Banda	2.1	23 - NA
	Pedregal	3.6	192 - NA
	Chile Alto	1.7	53 - NA
	Shiran	4.2	126 - NA

	Sunken Fields (Huanchaco)	NA	53	-	NA
	Sunken Fields (Moche)	NA	501	-	NA
	Sunken Fields (Chan Chan)	NA	1754	-	NA
	Total	66.2	3752	-	7440
Gallinazo Phase					
(1 - 400 CE)	Pukio	6.7	1287	-	NA
	S1 (General de Moche)	7.0	1026	-	NA
	N1 (Mochica)	12.1	1978	-	NA
	N2 (Vinchansao)	8.0	423	-	NA
	N3 (Moro)	3.6	190	-	NA
	S2 (Cerro Arena)	13.4	1414	-	NA
	Serrano	3.4	116	-	NA
	Quirihuac II - S3 (Huatape) Hybrid	NA	625	-	NA
	Santa Rosa	6.6	323	-	NA
	Jesus Maria I	3.6	86	-	NA
	Jesus Maria II	6.1	261	-	NA
	Katuay	5.2	193	-	NA
	Cumbray	2.3	188	-	NA
	Cholocar	2.0	48	-	NA
	La Banda	2.1	23	-	NA
	Masapur-Cajamarca	1.9	137	-	NA
	Pedregal	3.6	192	-	NA
	Chile Alto	1.7	53	-	NA
	Mochal	3.3	175	-	NA
	Shiran	4.2	126	-	NA
	Poroto Principal	2.2	97	-	NA
	Misirihuanca	3.1	104	-	NA
	Sunken Fields (Huanchaco)	NA	53	-	NA
	Sunken Fields (Moche)	NA	501	-	NA
	Sunken Fields (Chan Chan)	NA	1754	-	NA
	Total	38.5	3068	-	11373
Moche Phase					
(400 - 900 CE)	Pukio	6.7	1287	-	NA
	S1 (General de Moche)	7.0	1026	-	NA
	N1 (Mochica)	24.3	5820	-	NA
	N2 (Vinchansao)	26.8	2620	-	NA
	N3 (Moro)	26.2	1997	-	NA
	S2 (Cerro Arena)	17.1	1414	-	NA
	Serrano	3.4	116	-	NA
	Quirihuac II - S3 (Huatape) Hybrid	NA	625	-	NA
	Santa Rosa	6.6	323	-	NA
	Jesus Maria I	3.6	86	-	NA
	Jesus Maria II	6.1	261	-	NA

	Katuay	5.2	193	-	NA
	Cumbray	2.3	188	-	NA
	Cholocar	2.0	48	-	NA
	La Banda	2.1	23	-	NA
	Masapur-Cajamarca	1.9	137	-	NA
	Pedregal	3.6	192	-	NA
	Chile Alto	1.7	53	-	NA
	Mochal	3.3	175	-	NA
	Poroto Principal	2.2	97	-	NA
	Misirihuanca	3.1	104	-	NA
	Sunken Fields (Huanchaco)	NA	53	-	NA
	Sunken Fields (Chan Chan)	NA	1754	-	NA
	Sunken Fields (Moche)	NA	501	-	NA
	Total	150.4	15895	-	19093
Chimú Phase					
(900 - 1450s CE)	Pukio	6.7	1287	-	NA
	S1 (General de Moche)	7.0	1026	-	NA
	N1 (Mochica)	24.3	4792	-	NA
	N2 (Vinchansao)	40.4	5379	-	NA
	N3 (Moro)	26.2	1787	-	NA
	S2 (Cerro Arena)	8.0	609	-	NA
	Serrano	3.4	116	-	NA
	Quirihuac II - S3 (Huatape) Hybrid	NA	447	-	NA
	Santa Rosa	6.6	323	-	NA
	Jesus Maria I	3.6	86	-	NA
	Jesus Maria II	6.1	261	-	NA
	Katuay	5.2	193	-	NA
	Cumbray	2.3	188	-	NA
	Cholocar	2.0	48	-	NA
	La Banda	2.1	23	-	NA
	Masapur-Cajamarca	1.9	137	-	NA
	Pedregal	3.6	192	-	NA
	Chile Alto	1.7	53	-	NA
	Mochal	3.3	175	-	NA
	Poroto Principal	2.2	97	-	NA
	Misirihuanca	3.1	104	-	NA
	Shiran	4.2	126	-	NA
	Concon	2.4	69	-	NA
	Sunken Fields (Huanchaco)	NA	53	-	NA
	Sunken Fields (Chan Chan)	NA	1754	-	NA
	Sunken Fields (Moche)	NA	501	-	NA
	Total	166.2	19826	-	19826
Chimú-Inka Phase					

(1450s - 1530s CE)	Pukio	6.7	1287	-	NA
	S1 (General de Moche)	7.0	1026	-	NA
	N1 (Mochica)	24.3	4792	-	NA
	N2 (Vinchansao)	13.6	1447	-	NA
	N3 (Moro)	12.7	720	-	NA
	S2 (Cerro Arena)	8.0	609	-	NA
	Serrano	3.4	116	-	NA
	Quirihuac II - S3 (Huatape) Hybrid	NA	447	-	NA
	Santa Rosa	6.6	323	-	NA
	Jesus Maria I	3.6	86	-	NA
	Jesus Maria II	6.1	261	-	NA
	Katuay	5.2	193	-	NA
	Cumbray	2.3	188	-	NA
	Cholocar	2.0	48	-	NA
	La Banda	2.1	23	-	NA
	Masapur-Cajamarca	1.9	137	-	NA
	Pedregal	3.6	192	-	NA
	Chile Alto	1.7	53	-	NA
	Mochal	3.3	175	-	NA
	Poroto Principal	2.2	97	-	NA
	Misirihuanca	3.1	104	-	NA
	Shiran	4.2	126	-	NA
	Concon	2.4	69	-	NA
	Sunken Fields (Huanchaco)	NA	53	-	NA
	Sunken Fields (Chan Chan)	NA	1754	-	NA
	Sunken Fields (Moche)	NA	501	-	NA
	Total	74.7	11681	-	14827

***those greyed out are listed as "possible" only**

****minimum length of canals (greyed out canals omitted) and only counts the longer iteration of the canal without offshoots**

*****low range based on total area of non-greyed-out arable lands, upper ranged based on total area of all**

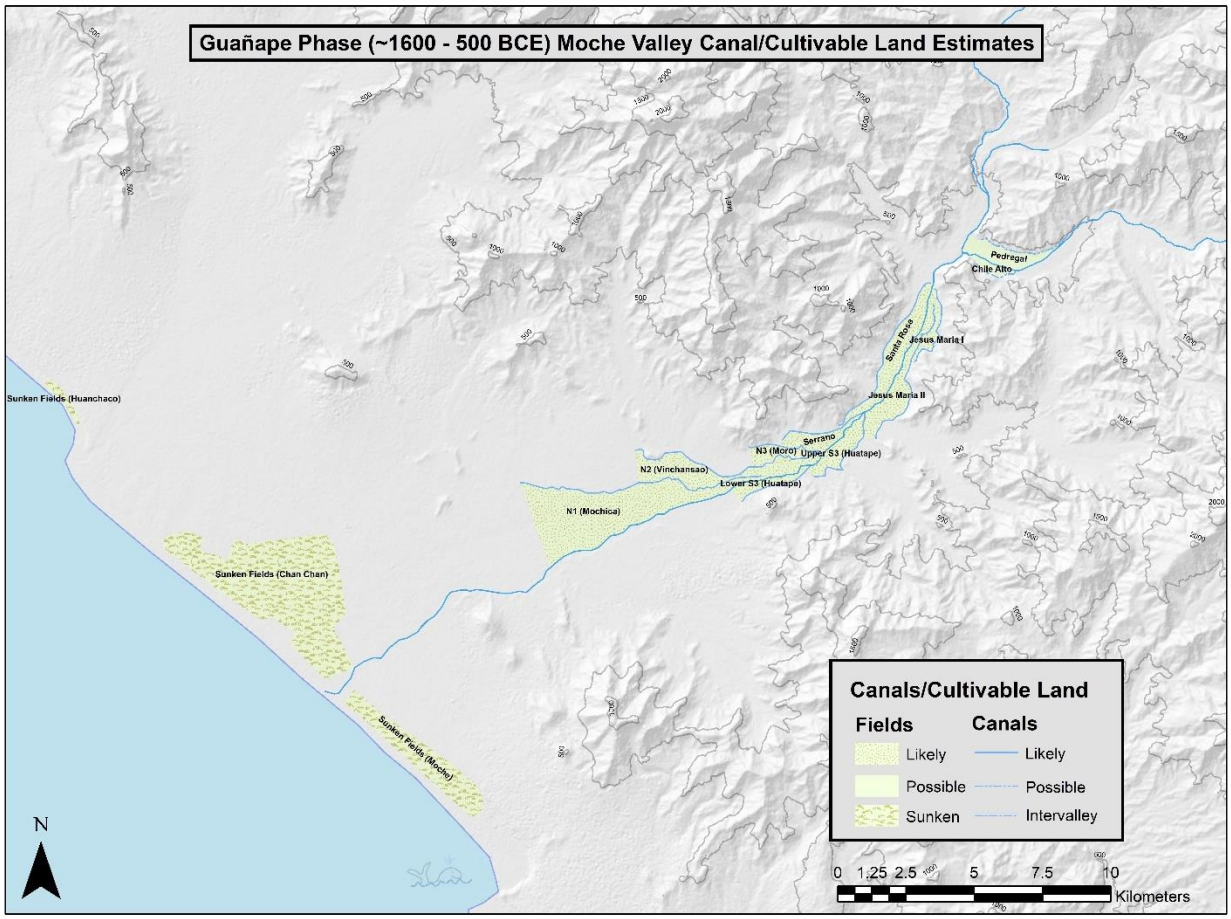


Figure C.1 Guañape Phase Moche Valley Canal/Cultivable Land Estimates

THE GUAÑAPE PHASE (~1600 – 500 BCE)

These canals were by far the most suspect and tenuous in their identification (Figure C.1). Beginning in the Lower Valley, the lower section of the S3 Huatape Canal was clearly a later construction but more-or-less seemed to align with where Huaca Huatape was located (Ortloff et al. 1985:379). The beginning of the upper section of the S3 canal aligns quite well with the general area around Huaca de los Chinos and was also assumed to likely be in use for this phase. Part of the upper section of the S3 canal ran along the top of Huaca Huatape and, for this reason, this canal was "cut" at where it came close to intersecting with the lower S3 for this phase. On the northern end of the Lower Valley, the N1 (Mochica) canal was estimated as running to Cana Huaca. The N2 (Vinchansao) canal was estimated as running to the end of Caballo Muerto although it almost surely would have been bigger to support such a massive center. The N3 (Moro) canal was almost definitely not in use above Caballo Muerto as most of the constructions at the site were cited as

being built upon “gravel alluvium” that lacked the fine silts characteristic of irrigated lands (Moseley and Deeds 1982:35). However, the scatter of Guañape Phase mounds near the base of the N3 led me to extend it just east of Caballo Muerto for the purposes of this dissertation. In the Middle and Upper Valley, the only possible canals analogies were modern ones. The Jesus Maria I and II canals seem highly likely given the amount of construction around Huaca Menocucho and further downriver. The Quirihuac I canal also seems likely but the Quirihuac II would have run above Huaca los Chinos and thus does not seem particularly likely. The Santa Rosa canal also seems to have likely been in use and would have fed the fields below Puente Serrano. The elusive “Serrano” canal was only mentioned briefly by Moseley and Deeds but mapped as essentially being between the N3 and Santa Rosa (Moseley 1982:7). This canal would have probably been in use (Moseley and Deeds 1982:35).

In the Upper Valley, the Pedregal and Chile Alto canals could have had ancient corollaries since both were located just below Guañape Phase ceremonial constructions. Elsewhere in the *chaupiyungas* there just does not seem to be enough evidence for intense occupations or large ceremonial architecture that could be correlated with canals. In fact, any of the occupations past the confluence could have easily been dependent on the riverine forests that likely populated the area during that time period. Thus, I marked the Pedregal and Chile Alto canals as being “possible” because they technically were not necessary given the small amounts of people that would have been living in the area. Finally, I marked all of the sunken fields as being “possibly” in use, just as they were during the Late Preceramic. The main reason for the inclusion of the Huanchaco and Chan Chan sunken fields was that Gramalote would have possibly been taking advantage of sunken fields in that general area. These parts of the landscape have been shown to be in use in the Chicama Valley to the north and thus it does not seem out of the question that communities like Gramalote would have been taking advantage of them in the Moche Valley. Even so, they stay as “possible” until later phases when the landscape becomes more densely settled.

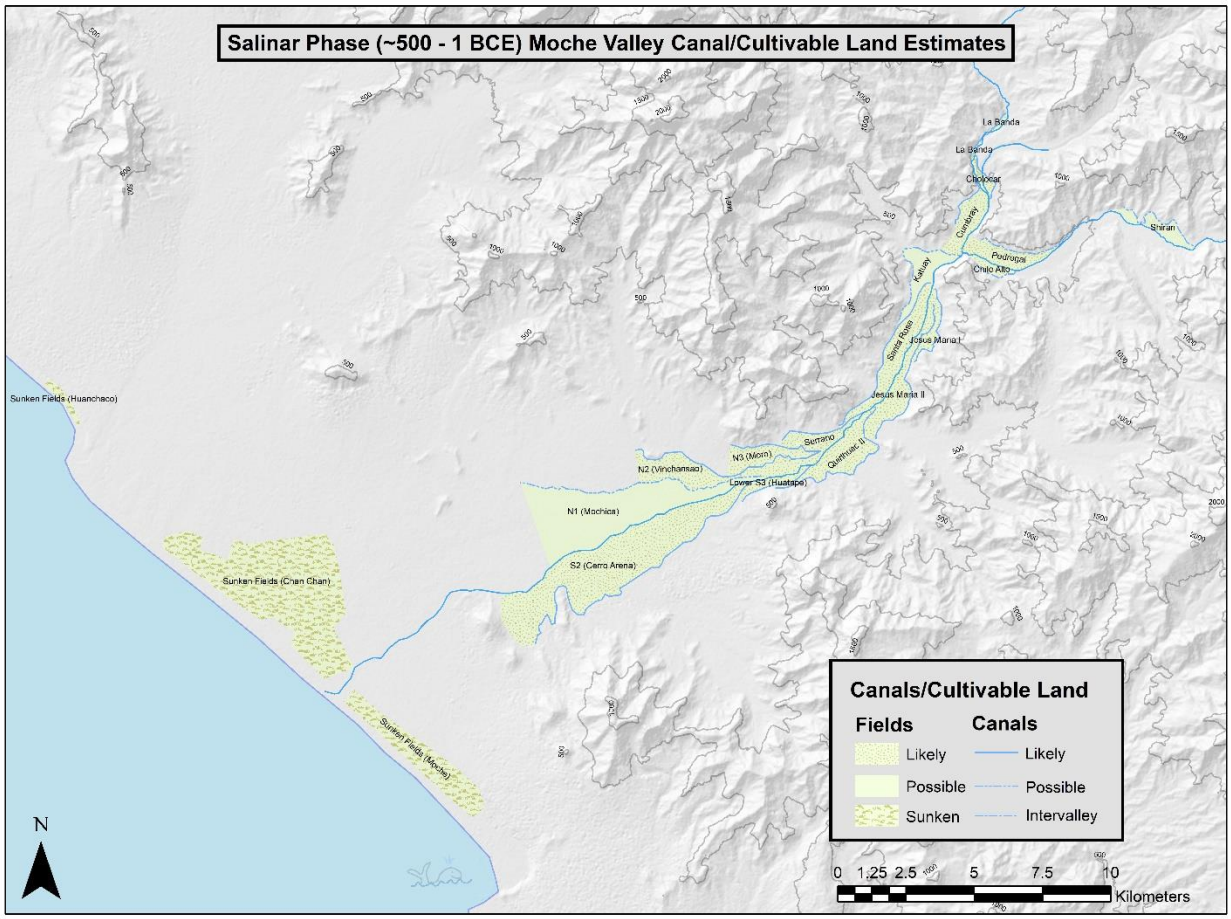


Figure C.2 Salinar Phase Moche Valley Canal/Cultivable Land Estimates

THE SALINAR PHASE (~500 – 1 BCE)

The Salinar Phase canal estimates are only moderately clearer than the Guañape Phase ones and this is solely because the view of settlement patterns is a bit clearer (Figure C.2). The biggest change in the Lower Valley is that the lower S3 was probably overshadowed by the new upper S2 canal that ran to Cerro Arena. I drew this canal as stopping around Cerro Arena just because the upper parts of the canal likely were built in subsequent phases. Given the lack of settlement around or near the N1 canal, its old extents were left as "possible" during this phase because the older canals would have likely remained but it is unclear if they were used. Both the N2 and the N3 remained relatively the same as there was still settlement at Cerro la Virgen de Galindo and elsewhere. I replaced the upper S3 with Quirihuac II because Huaca la Carbonera was slightly higher than Huaca de los Chinos had been. The fields and fresh water source that would have supplied the substantial occupation at Pampa la Cruz are unclear and the only nearby possibility

would be the sunken fields around Huanchaco. This being said, it seems quite likely that there may have been more sunken fields in use further south near Chan Chan given the massive size of Pampa la Cruz. Further into the Middle Valley the Jesus Maria and Santa Rosa canals likely would have seen continued use. The Katuay canal seems like it could have been used but many of the nearby communities could have easily been fed by the Santa Rosa canal and thus the Katuay canal is left as "possible". My own dissertation data presented in Chapter 7 help re-enforce this ambiguity and I would recommend it stays as a "possible" until better data is obtained.

In the *chaupiyungas*, the Pedregal and Chile Alto canals were almost surely being used and a few more canals seem to have been in use than during the previous phase. Further up-valley, my own dissertation data presented in Chapter 7 suggest that the area around Mochal was possibly being used for floodplain agriculture but no larger canals were being built much further than the confluence in the Upper Moche *chaupiyunga*. This being said, the platform complexes described by Billman could suggest a "possible" Salinar Phase canal in the area around Shiran, though I find this highly unlikely. This is mainly because the Shiran canal would have required considerable investment: many of its parts are quite literally carved into cliffs. As discussed in Chapter 7, it seems more likely that the smaller densities of people in the area would have been exploiting a combination of floodplain agriculture, riverine forest resources, and *monte* pasturage. In the La Cuesta and Sinsicap Valleys, the Cumbray, Cholocar, and La Banda canals had ample amount of settlement nearby and thus were likely in use.

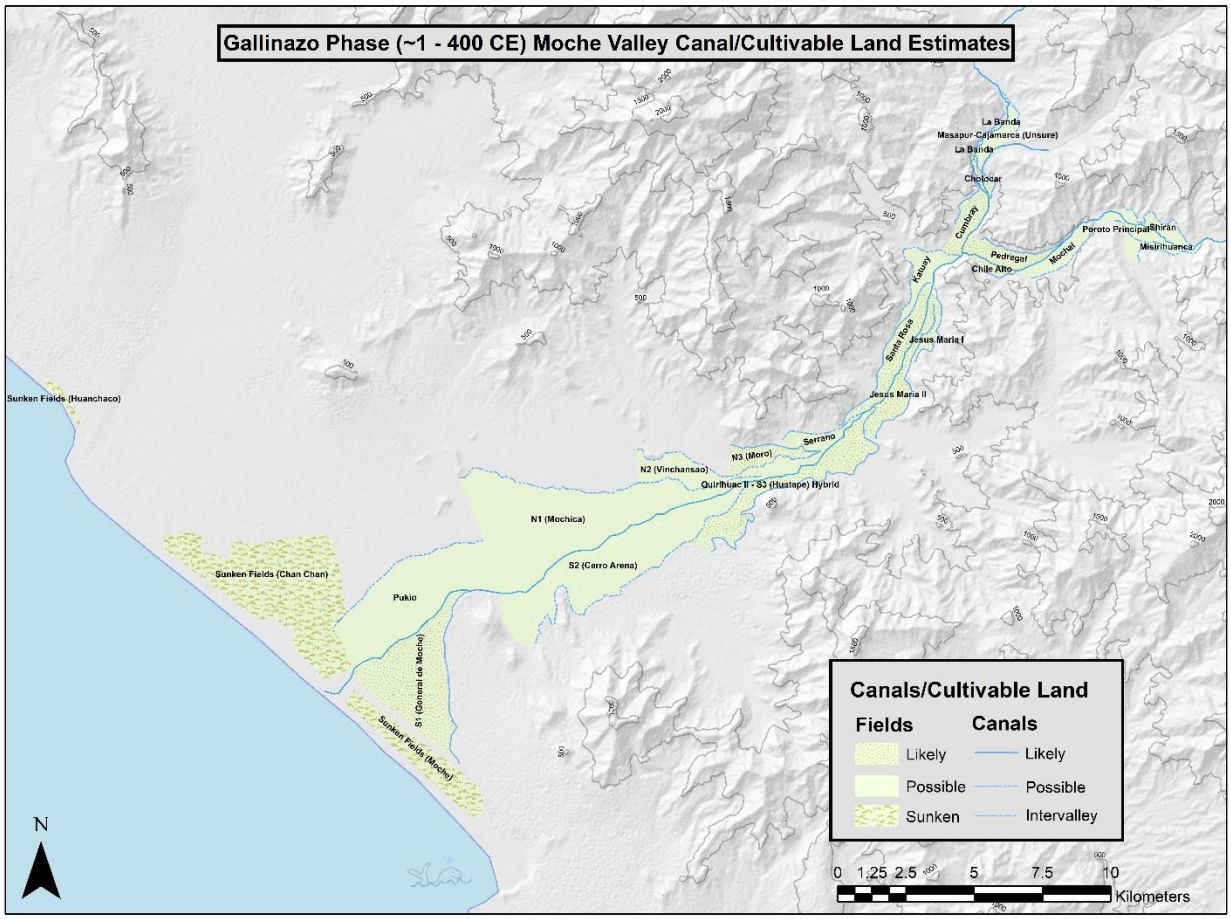


Figure C.3 Gallinazo Phase Moche Valley Canal/Cultivable Land Estimates

THE GALLINAZO PHASE (~1 – 400 CE)

The canal expansions during the Gallinazo Phase are incredibly difficult to assess given the chronological issues with the settlement patterns that are outlined in Chapter 4 and Appendix A (Figure C.3). The situation in the Lower Valley is incredibly confusing. The abandonment of Cerro Arena could have meant that the older length of the S2 was abandoned as well, but the immense occupation at Cerro Oreja would almost surely have had enough people to maintain this older canal. For this reason, I marked it as a "possible". This massive occupation at Cerro Oreja also led me to add the full extents of the upper parts of the S3 canal to the analogous Quirihuac II canal. The clear Gallinazo Phase occupation at Huaca las Estrellas likely would have also meant that the S1 (General de Moche) canals were probably open to some degree. The cluster of Gallinazo Phase burials at the distal end of these canals also could suggest they were irrigated to the fullest extents; however, it is unclear how these burials were dated. The N2 and N3 canals on

the north side of the valley seem to have likely stayed relatively similar to their previous iterations given that settlements remained nearby. This being said, the decreased occupation at Cerro la Virgen de Galindo could have perhaps meant the N2 would have been abandoned and is thus recorded as "possible" (Billman 2002:383). Meanwhile, the N1 possibly would have re-emerged and would even be extended if Cerro Pasqueda indeed had a Gallinazo Phase occupation. The Pukio canals that draw from a plentiful spring just east of Trujillo could have just as easily supplied Cerro Pasqueda with water. Since the Gallinazo Phase occupation at Cerro Pasqueda is a bit unclear, I left both of these canals as a "possible" in my final calculations. The fields and fresh water source that would have supplied the substantial occupation at Pampa la Cruz remain an enigma. The N1 would have had to extend all the way to the site to realistically supply the coastal settlement with water from the Moche River. Otherwise, the sunken fields around Huanchaco and perhaps some unrecorded fields under the bluffs of the site would have had to suffice. This needs further research and, knowing Gabriel Prieto is being very thorough in his work around Huanchaco, I have no doubt it will be looked into very soon.

All of the Middle Valley canals of the previous phase would have likely been vital in supporting the substantial populations in the region during the Gallinazo Phase. The Katuay canal almost surely would have been in use during this phase if the initial occupation at MV-135 was, in fact, during the Gallinazo Phase and not during the Moche Phase. My own dissertation data suggest this was probably not the case and that the *huaca*-colony was more likely a Moche Phase construction but this is a question better suited for excavation. The earlier La Cuesta and Sinsicap Valley canals further up-valley at Cumbray, Cholocar, and La Banda would have likely remained in use, as those areas continued to be occupied. The Masapur-Cajamarca canals is added as "possible" only because there are some limited settlements and fortifications nearby. The Upper Valley *chaupiyunga* has a bit better evidence for more dense occupations but settlement is still admittedly sparse: meaning that now the Mochal, Shiran, Poroto Principal, and Misirihuanca canals are all listed as only "possible". As can be seen in Chapter 8, my own dissertation data suggest that the Shiran canal was likely not in use and that the other three had "possible" occupations during the Moche, not Gallinazo, Phase. I would argue that the exploitation of floodplain agriculture, *monte* grazing, and any possible riverine forests were still the principal means of subsistence for the folks living in the *chaupiyunga*. Generally, the Gallinazo Phase is

difficult to assess with the data obtained through this dissertation itself so look to Chapter 8 if you want my full thoughts on the matter.

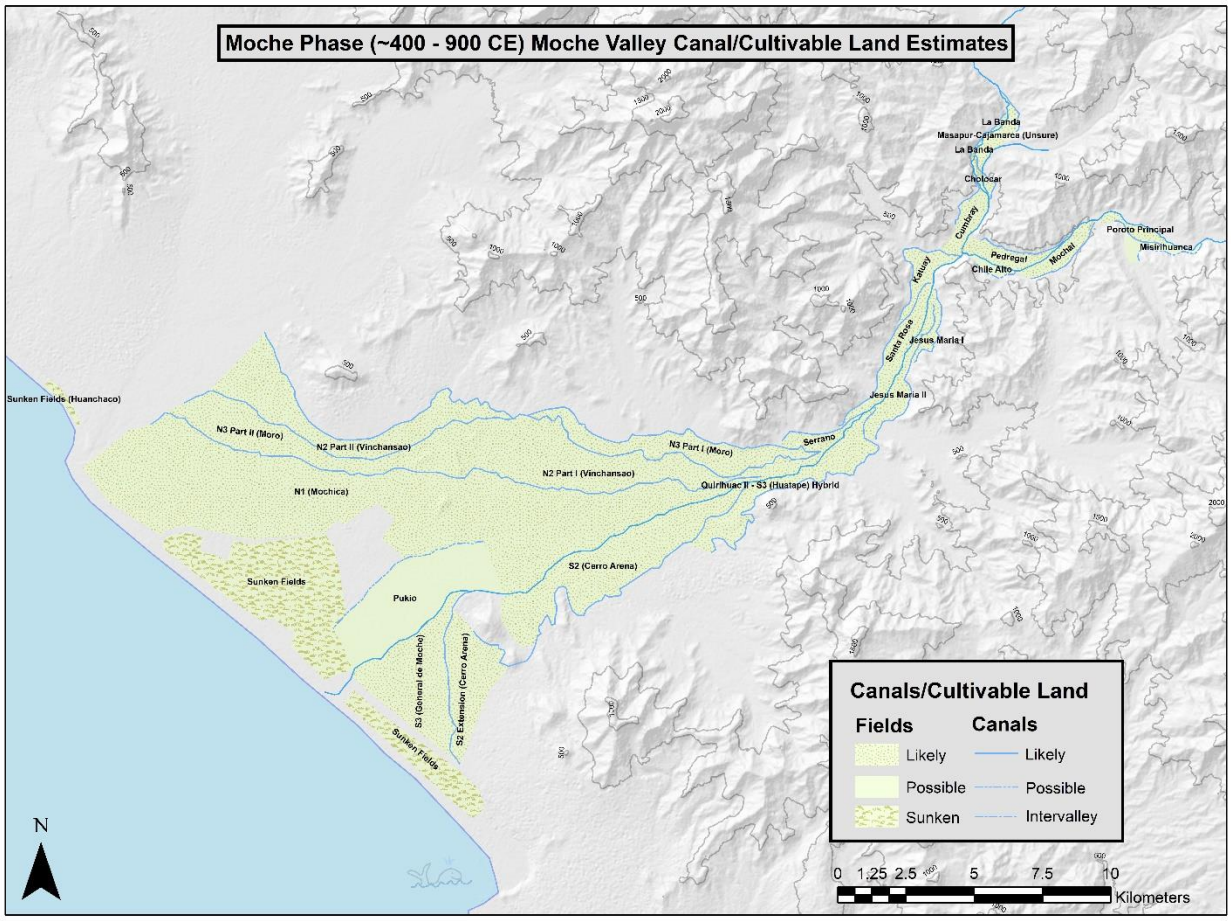


Figure C.4 Moche Phase Moche Valley Canal/Cultivable Land Estimates

MOCHE PHASE (~400 – 900 CE)

The Moche Phase saw the clearest expansion of canals that are also more-or-less archaeologically visible within actually excavated contexts (Figure C.4). This means that at least a few of the canals are dated by actual archaeological materials and not just assumptions based on positioning. The Lower Valley saw immense expansions in the north and slight losses in the south. Though the S2 canal may have been expanded to reach Huacas del Moche at this time, dune formation appears to have had a substantial effect on the southern canals later on in the Moche Phase (Moseley and Deeds 1982:37-39). These dunes would have essentially buried the aforementioned extensions of the S2 (Cerro Arena) canal in addition to the upper portion of the S3

canals that ran under Cerro Oreja. The dating for this dune formation is after the decline of Huacas del Moche but sometime before the end of the Early Chimu sub-phase (Moseley and Deeds 1982:37-39). The main three canals of the northern half of the Lower Valley all saw a burst of construction during the Moche Phase. This likely began with the N1 (Mochica) canal as it was probably renovated and extended from its previous "limits" around Cana Huaca to stretch all the way to the Pampa Esperanza just east of Pampa la Cruz and Huanchaco. This happened in several phases and several parts of the canal were re-dug higher up to allow the water to reach more fields (Moseley and Deeds 1982:42). The N3 (Moro) canal would have assumedly replaced or supplemented the N1 canal at its distal end to help bring water to at least some of the fields around the Pampa Esperanza (Ortloff et al. 1985: 79-80). Finally, the N2 (Vinchansao) canal had a slightly lower intake than the N3 but probably was extended quite far to the upper limits of the Pampa Esperanza (Ortloff et al. 1985: 80-82). This canal could have replaced the N3 and N1 canals in feeding the Pampa Esperanza but also could have just supplied upper fields while they continued to supply lower fields. Notably, Ortloff et al. argue that some of these extensions of the N2 Vinchansao canal would have been more-or-less contemporary with Moche V and thus the rise of Galindo (Ortloff et al. 1985: 92-93). Ample Moche Phase canal-*huacas*, *huaca*-towns, communities, and sherd scatters dominate the areas above and around these canal expansions and help corroborate the assumption such canals were constructed during this phase. The lower Pukio canals and even the large sunken fields around Chan Chan and below Huacas del Moche are less clear but seem to have likely been used during this phase and are thus noted as being "possible". If there is in fact a Moche Phase occupation in the lower levels of Chan Chan, this occupation would have surely been dependent on these sunken fields.

The possible canals being used in the Middle Valley and *chaupiyungas* appears to have stayed relatively the same from the Gallinazo Phase but with a few notable additions and clarifications. The Katuay canal is almost surely in use by this phase given the enormous Moche Phase occupation in the area that I outline in Chapter 9. The Mochal canal is almost surely in use: occupations can be vaguely shown in Billman's survey data and are more explicitly seen in the canal-*huaca* I identify there in Chapter 9. Further up-valley, the Poroto Principal canal is very likely still in use and upper parts of the Misirihuanca perhaps could have been in use as well. The Pedregal canal surely continues to be used by the substantial community at Cruz Blanca but the Chile Alto canal is much less clear and is thus downsized to being classified as "possible" due to

a lack of nearby settlement. In the La Cuesta and Sinsicap areas the Cumbray and La Banda surely continue to be used with the notable addition of the Masapur-Cajamarca canals as being more likely. Though not reported by Billman in his dissertation or publications, his survey notes indicate there is a Moche Phase *huaca* in that area: this further supports the likelihood that those parts of the Sinsicap Valley were being canalized during this phase. As recently as 2017, I have driven by the adobe *huaca* and it is located just north of the road between Simbal and Collambay just after you pass the cal mines.

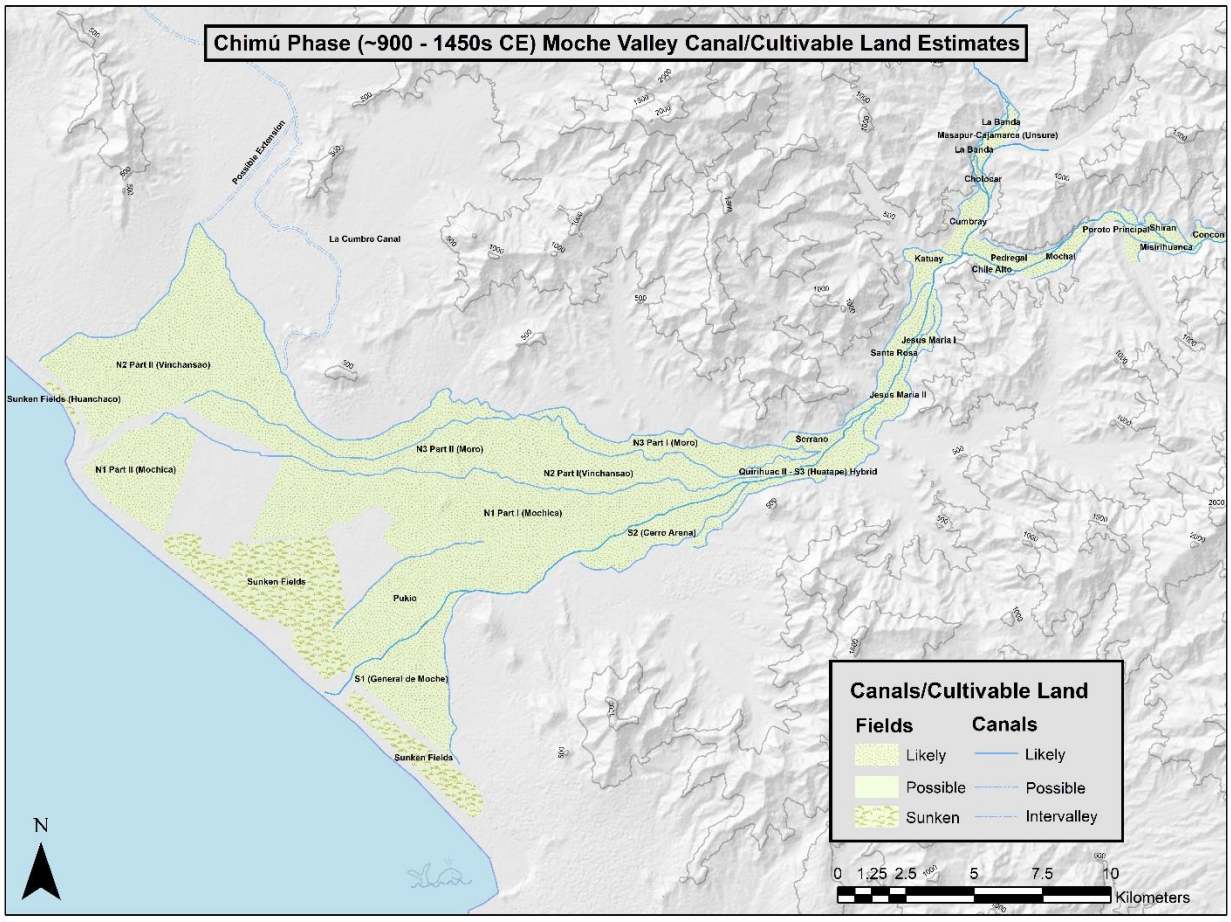


Figure C.5 Chimú Phase Moche Valley Canal/Cultivable Land Estimates

CHIMÚ PHASE (~900 – 1450s CE)

The Chimú Phase saw massive expansions in irrigation agriculture and the clear usage of sunken fields in the Lower Valley (Figure C.5). In the southern half of the Lower Valley, plenty of the canals and fields could have continued to be used despite the aforementioned dune

formations: the S1, lower stretches of the S2, and lower portion of the S3 are among those that were likely in use. On the northern side of the Lower Valley, irrigation reached its maximum extents in the history of the Moche Valley. The distal end of the N3 (Moro) canal feeding the Pampa Esperanza was re-dug and slightly expanded sometime during the Chimú Phase after a flooding event that occurred around 1100 CE (Ortloff et al. 1985: 79-80). This being said, Ortloff et al. comment that this particular expansion likely saw only moderate use and the canal "contracted back to its present position" that is several kilometers closer to the river (Ortloff et al. 1985: 80). The N2 canal saw massive expansions during the Chimu Phase that would have taken water all the way to Pampa Huanchaco, Pampa Rio Seco, and the area around Milagros (Ortloff et al. 1985: 80-82). This canal and its parts were repeatedly rebuilt and improved upon after subsequent ENSO events but eventually fell into disuse sometime after the Early Chimu sub-phase and the conquests of the 1300s (Ortloff et al. 1985:93-94). The La Cumbre canal was also built in the Early Chimu sub-phase and would have ideally helped supply Pampa Huanchaco and Pampa Rio Seco to augment the water coming from the canals fed by the Moche River. This being said, the extent to which water actually reached the Moche Valley from the La Cumbre is still debated. The sunken fields to the south and east of Chan Chan and the Pukio canal system were almost surely in use during this time and are thus are included in the estimates for this phase.

Due to the lack of published systematic surveys in the Middle Valley and *chaupiyungas*, the status of these canals and fields is relatively unclear. My own familiarity with Billman's 1990 survey data and the bits that have been published (Mullins 2019) suggest a thriving Chimú Phase occupation in the Middle Valley that would indicate that older Moche Phase canals would have continued to be used. This also seems to be the case for the aforementioned Moche Phase canals suggested in the La Cuesta and Sinsicap Valley areas. The data presented in Chapter 9 suggest that the entirety of the Upper Moche *chaupiyunga* was under cultivation: this includes the general areas of the Chile Alto, Concon, Shiran, Poroto Principal, and Misirihuanca canals. In fact, the Misirihunaca canal may have extended even further down the valley to run parallel above the Mochal canal. Until this canal is better mapped and that chronology is better understood, I simply use the modern "minimums" here.

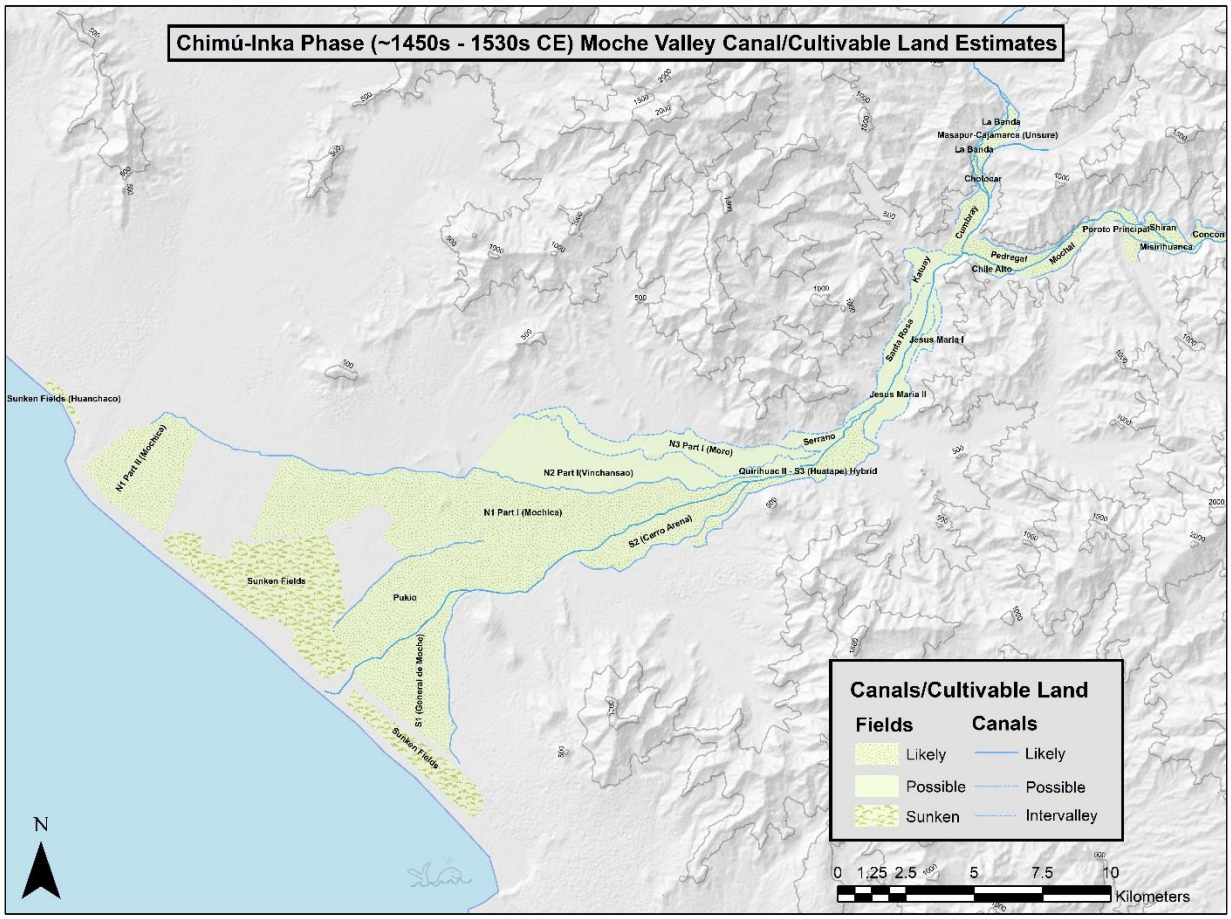


Figure C.6 Chimú-Inka Phase Moche Valley Canal/Cultivable Land Estimates

CHIMÚ-INKA PHASE (~1450s – 1530s CE)

I did not have much information on Chimú-Inka Phase canals and field systems but a few hints do allow some "possible" areas to be identified (Figure C.6). First, the area around Chan Chan shows ample, though highly variable, evidence for farming and irrigation that assumedly went on before the arrival of the Spanish. Though the lower sections of the N2 and N3 canals were probably abandoned even by the end of the Chimú Phase, the N1 is a more-or-less modern canal and was likely in use during Chimú-Inka times. The upper parts of the Moro and Vinchansao canals as well as most of the Moche canal were in use at during the arrival of the Spanish and were likely supporting affiliated communities in the Lower Valley during the Chimú-Inka Phase. The same logic was also applied to the raised fields nearby Chan Chan: even those still living at the center would have needed food to eat from somewhere. Otherwise, given the general image of continuity in the *chaupiyunga*, I went ahead and marked all of the chaupiyunga canals as being

"possible" even though this likely varied depending on where one was. Many of these fields were in varying degrees of cultivation or fallow by the time the Spanish arrived and well into the 18th century. If the area around Mochal was supporting the larger community and political center of the *chaupiyunga*, the people living there would have surely needed fields for growing food and *coca*. The fields and canal systems of the Sinsicap *chaupiyunga* were located outside of the ONERN survey and are thus left out of the present investigation but Boswell provides good discussion of the area in her dissertation and subsequent publications (Boswell 2016; 2019).

APPENDIX D: PRELIMINARY DIAGNOSTICS AND RIM SHERDS FROM PARFAM 2017-2018

In this appendix I present a very preliminary view at the diagnostic and rim sherds collected and analyzed over the course of the PARFAM 2017 and 2018 field seasons. A total of 16,399 total pottery sherds were collected, washed, analyzed, and photographed as part of the PARFAM 2018 season. In addition to photos of each Sample Unit that was collected, 1,564 rim sherds were drawn and many of these drawn rims were then digitized by Elvis Monzon. Here, I present a very rough sample of these data with photos of diagnostics and some of the digitized rims sorted by the ware categories to which they were assigned. The photos of decorated/diagnostic sherds have a north arrow with centimeter marks for a scale of reference while the rims have very rough measurements written out upon them. Several of these collections of photos and drawings are relevant to parts of the text in Chapters 5 through 9. At the end of this appendix, I include some "other" artifacts that are also relevant to parts of the text in Chapters 5 through 9. A more comprehensive and refined version of these data will be published as a part of the broader Moche Valley Settlement Database in the future. I must stress again that these data are preliminary and some may still need to be corrected and/or refined. This is particularly in regards to the scale of the photos and rim drawings: both need considerable tweaking. For this reason, I would encourage you contact me directly before you use this appendix as a reference for your own work.

DOMESTIC WARES

Figure D.1 Sample of Guañape Decorated/Diagnostics

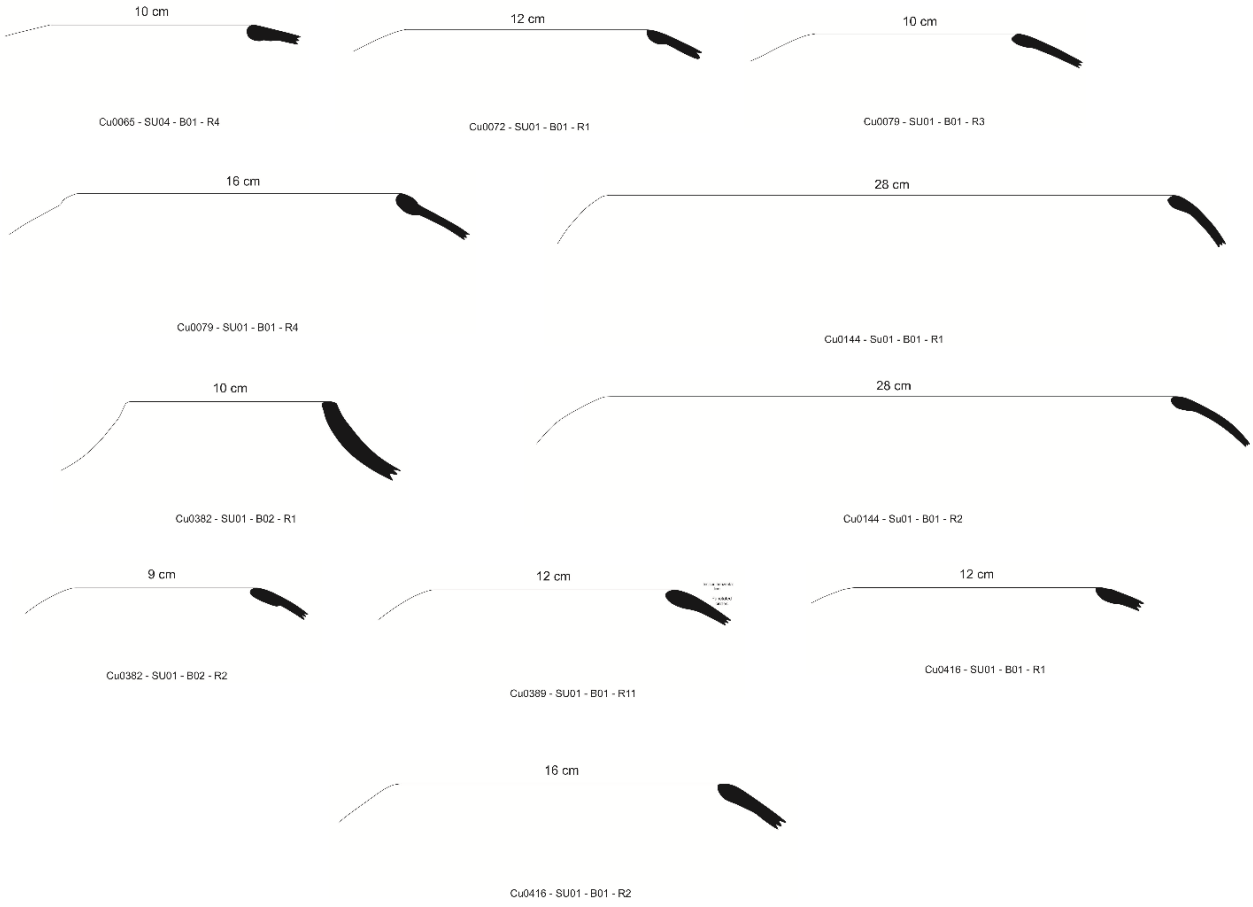


Figure D.2 Sample of Guañape Rim Drawings

Figure D.3 Sample of HPP Decorated/Diagnostics

Figure D.4 Sample of HPP Rim Drawings

Figure D.5 Sample of Castillo Decorated/Diagnostics

Figure D.6 Sample of Castillo Rim Drawings

Figure D.7 Sample of Early Highland Decorated/Diagnostics

Figure D.8 Sample of Early Highland Rim Drawings

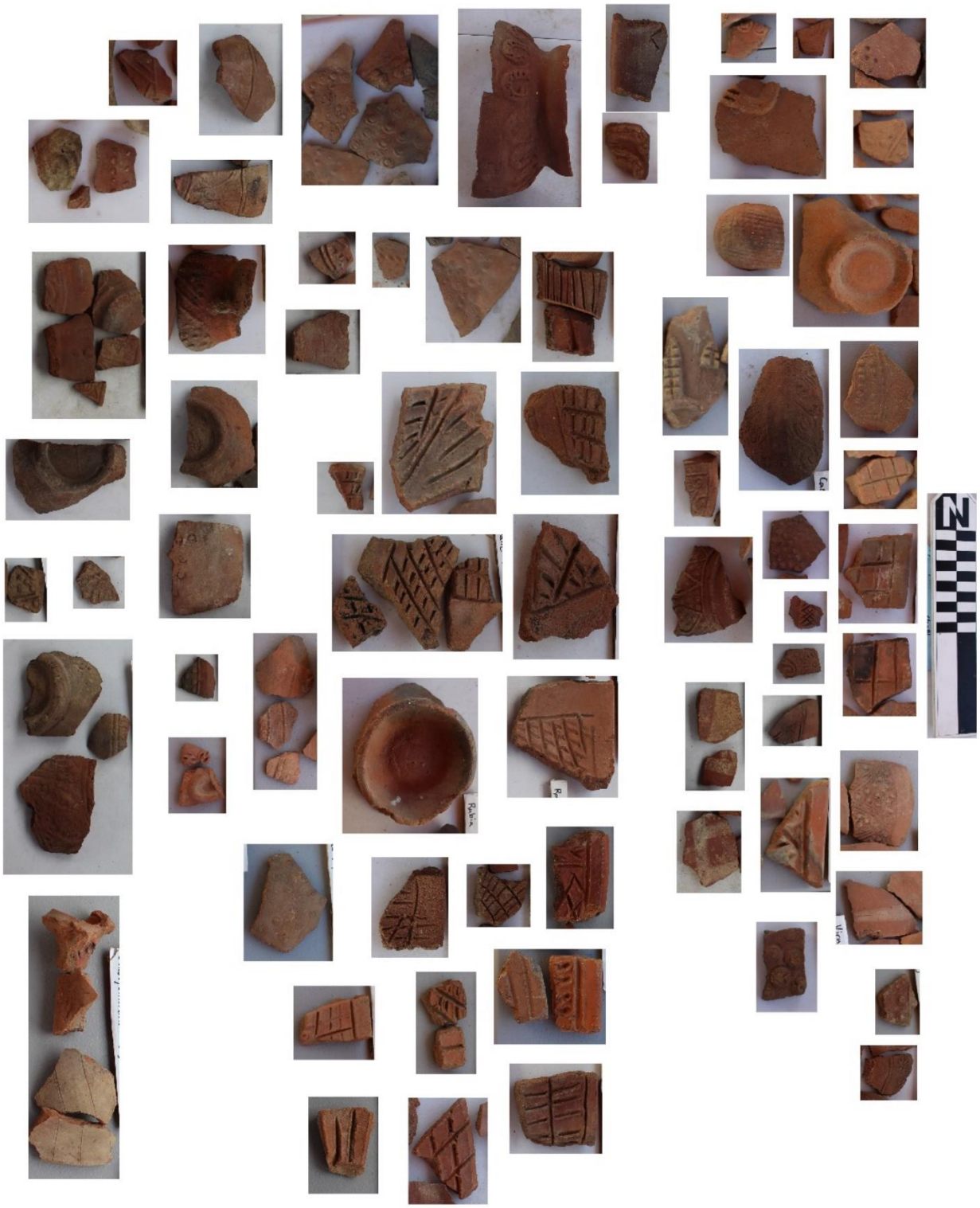


Figure D.9 Sample of Rubia Decorated/Diagnostics

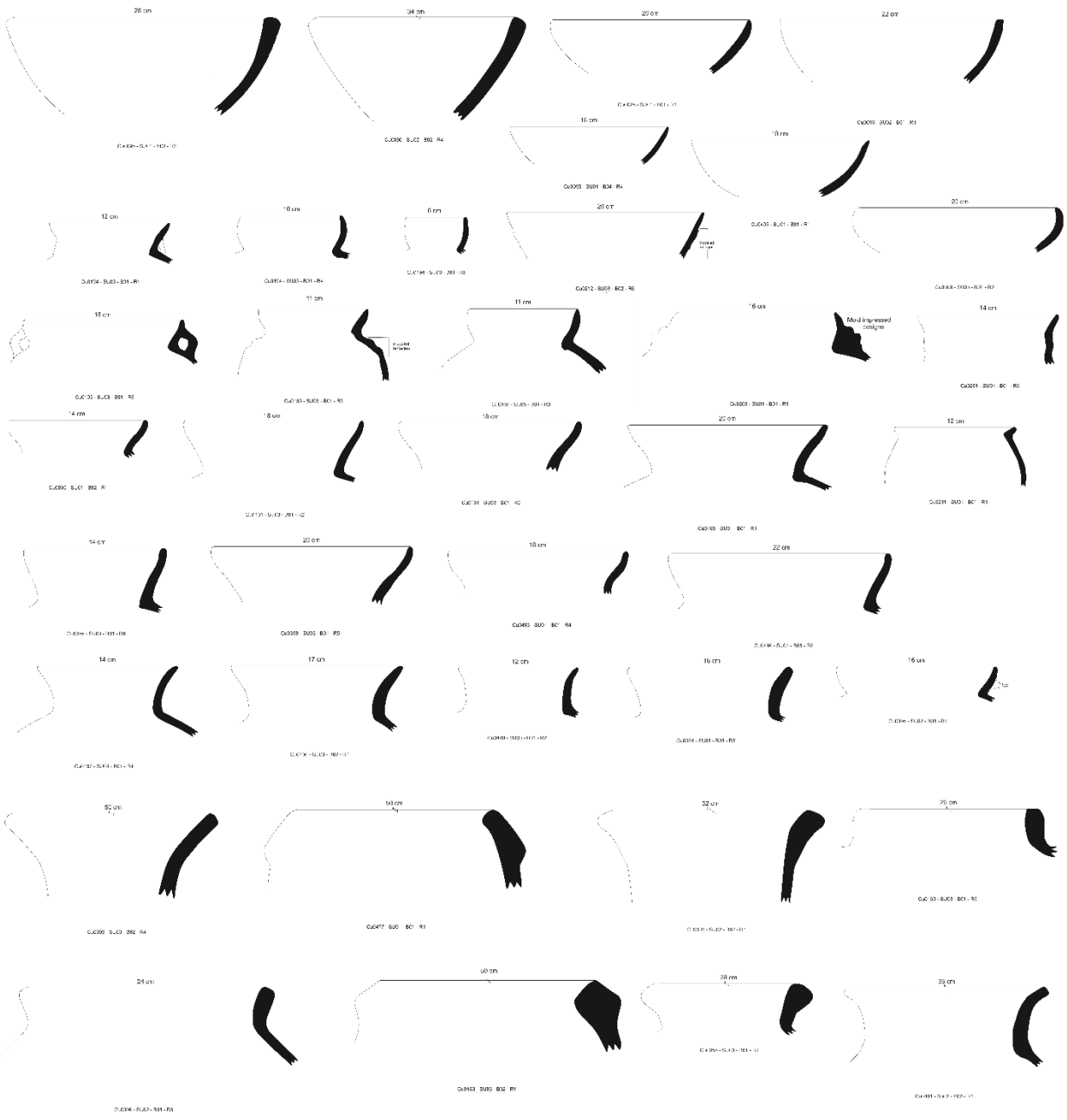


Figure D.10 Sample of Rubia Rim Drawings

Figure D.11 Sample of Tomaval-Estero Decorated/Diagnostics

Figure D.12 Sample of Tomaval-Estero Rim Drawings

Figure D.13 Sample of Late Highland Decorated/Diagnostics

Figure D.14 Sample of Late Highland Rim Drawings

CORPORATE WARES

Figure D.15 Sample of Ancón Fine Decorated/Diagnostics

Figure D.16 Sample of Ancón Fine Rim Drawings

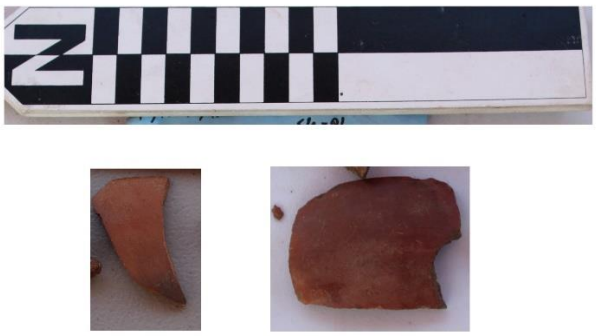


Figure D.17 Sample of Salinar Fine Decorated/Diagnostics

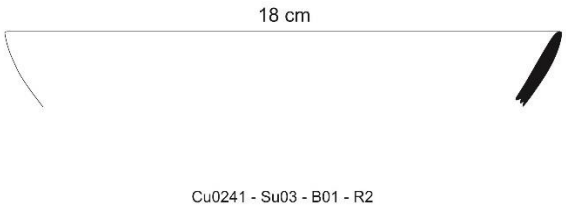


Figure D.18 Sample of Salinar Fine Rim Drawings

Figure D.19 Sample of Quinga Decorated/Diagnostics

Figure D.20 Sample of Quinga Rim Drawings

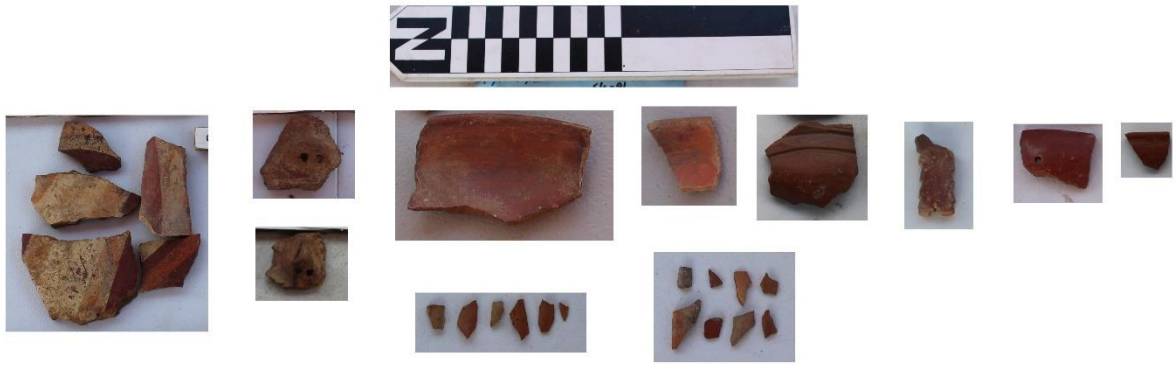


Figure D.21 Sample of Early Highland Fine Decorated/Diagnostics

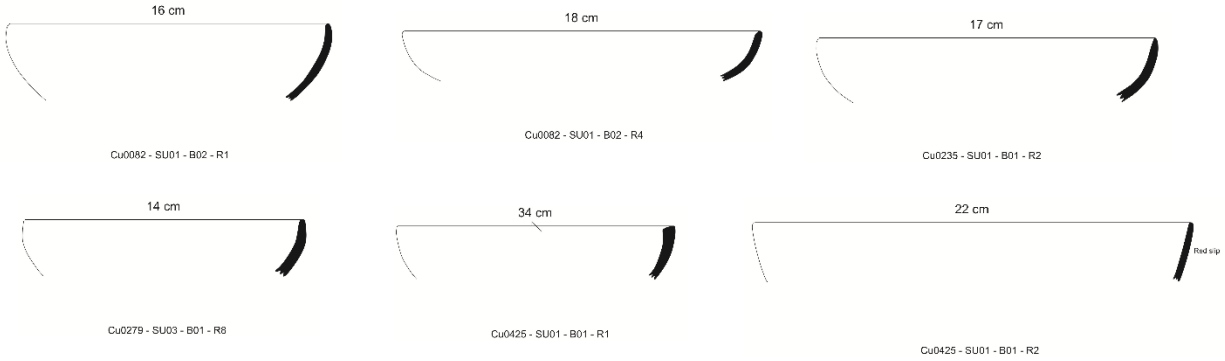


Figure D.22 Sample of Early Highland Fine Rim Drawings

Figure D.23 Sample of Moche Fine Decorated/Diagnostics

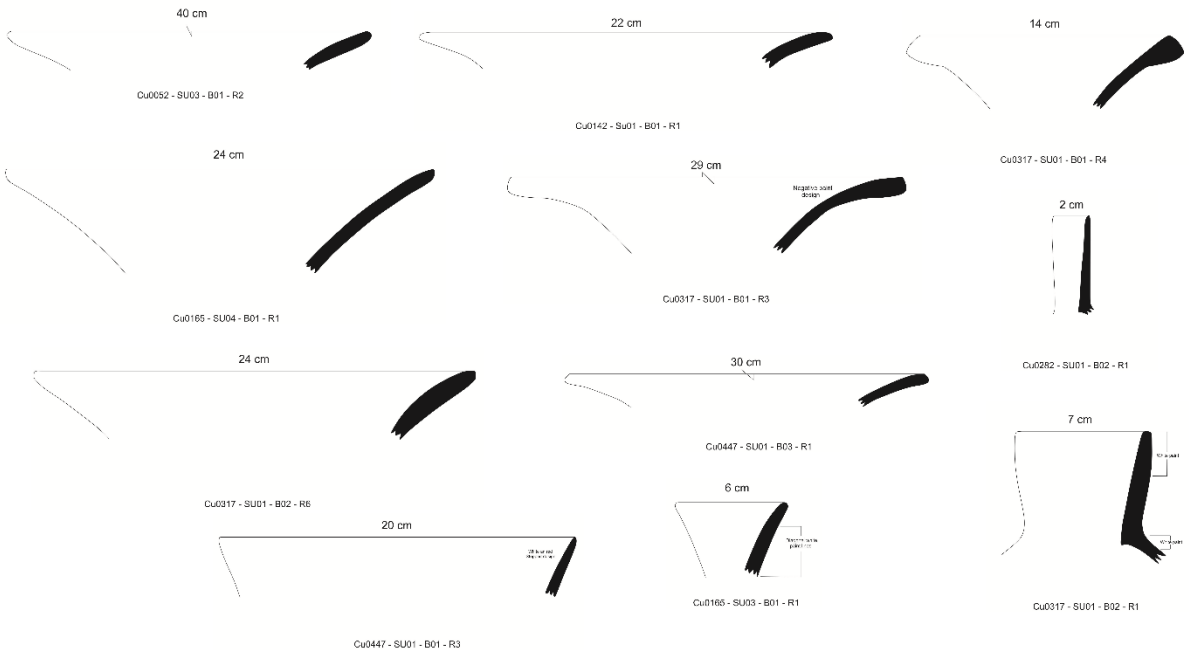


Figure D.24 Sample of Moche Fine Rim Drawings

Figure D.25 Sample of Transitional-Early Chimú Decorated/Diagnostics

Figure D.26 Sample of Middle-Late Chimú Decorated/Diagnostics

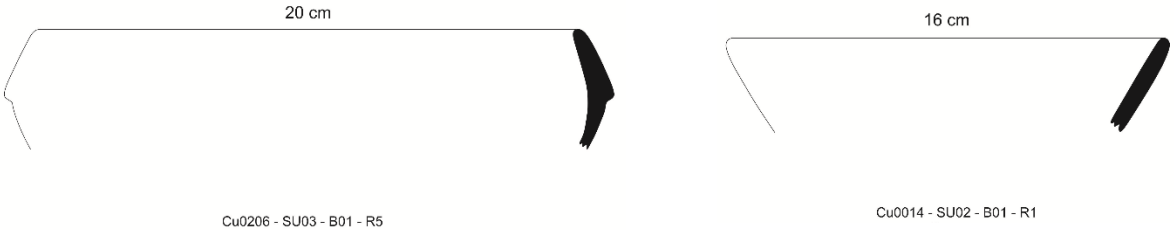


Figure D.27 Sample of Middle-Late Chimú Rim Drawings

Figure D.28 Sample of Chimú-Inka Decorated/Diagnostics

OTHER

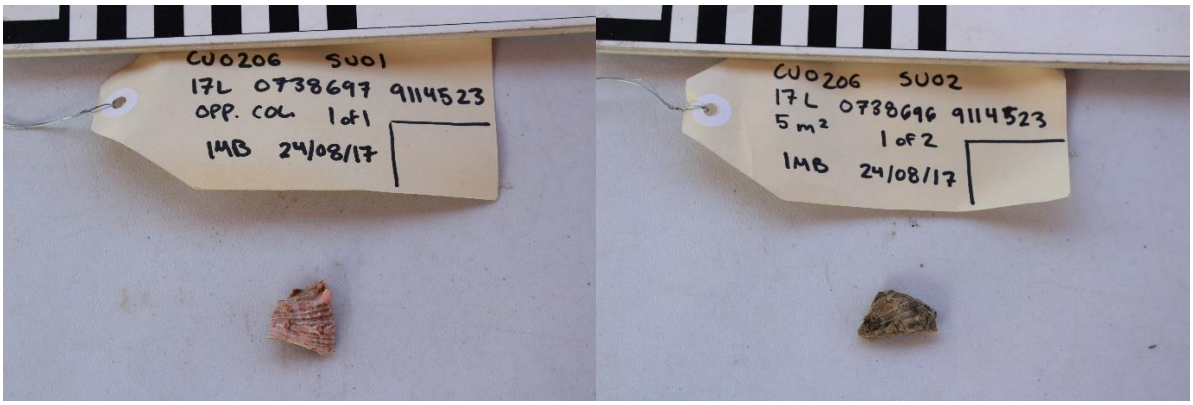


Figure D.29 *Spondylus* Recovered at Katuay Mountain Shrine

Figure D.30 A Very Tired Archaeologist, Photo of the Author by Brendon Murray

APPENDIX E: VISIBILITY ANALYSES RESULTS

This appendix presents the tabular summaries of the varied visibility analyses described in Chapter 5 and referenced throughout the text in Chapters 6 through 9. They begin with the basic inter-visibility analyses between the local communities of each respective phase and their network-wide results (Table E.1). The degree and normalized centrality values are then provided for each local community during each phase (Table E.2; Table E.3; Table E.4; Table E.5). The tables then transition to the analyses of visual weight as measured by ADI (not ADI/Century) and is organized by phase. If one wishes to convert them to ADI/Century you simply need to divide by the number of centuries in each phase in question. These tables begin with the simplest measure of the visual weight for each of the local communities within their respective phases (Table E.6; Table E.8; Table E.10; Table E.12). Then the visual weight of specific nodes of authority are explored by phase but are described in relation to all subsequent phases as well (Table E.7; Table E.9; Table E.11; Table E.13). This was done to see how visually apparent certain nodes of authority would have been in later phases to assess how visually important they may have continued to be in subsequent landscapes.

Table E.1 Inter-Visibility Analyses Overview with General Measures

Inter-Visibility Analyses Overview with General Measures					
Phase	**Node Count**	**Tie Count**	**Possible Ties**	**Cohesion (Density)**	**Centralization (Degree)**
Guañape Phase	19	152	342	0.444444444	0.2484
Salinar Phase	55	1010	2970	0.34006734	0.3966
Gallinazo/Moche Phase	64	1782	4032	0.441964286	0.3303
Chimú/Chimú-Inka Phase	77	3042	5852	0.519822283	0.3849

Table E.2 Guañape Phase Inter-Visibility Analyses by Local Community

Guañape Phase Inter-Visibility Analyses by Local Community (LC)			
LC Number	**LC Name**	**Centrality (Degree)**	**Centrality (Normal)**
15	Huaca La Divisoria (15)	12	0.667
5	Dos de Mayo (5)	11	0.611
19	Arquito Alto (19)	11	0.611
18	18	10	0.556
2	2	9	0.5

4	Dos de Mayo (4)	9	0.5
7	7	9	0.5
10	10	9	0.5
11	La Constancia (11)	9	0.5
6	6	8	0.444
8	Co. Pedregal - Cruz Blanca (8)	8	0.444
16	16	8	0.444
17	Arquito (17)	8	0.444
3	3	7	0.389
13	Huaca La Constancia (13)	7	0.389
14	14	6	0.333
1	Huaca Menocucho (1)	4	0.222
12	Loma del Shingo (12)	4	0.222
9	9	3	0.167

Table E.3 Salinar Phase Inter-Visibility Analyses by Local Community

Salinar Phase Inter-Visibility Analyses by Local Community			
LC Number	**LC Name**	**Centrality (Degree)**	**Centrality (Normal)**
5	Dos de Mayo (5)	39	0.722
6	Co. Los Chiles (6)	39	0.722
14	14	31	0.574
3	3	30	0.556
7	Dos de Mayo Oeste (7)	30	0.556
2	2	29	0.537
10	10	28	0.519
44	44	27	0.5
55	55	26	0.481
26	Co. Pedregal (26)	25	0.463
35	Co. Pedregal (35)	25	0.463
47	Mochal (47)	24	0.444
4	4	23	0.426
11	Co. Jesus Maria Este (11)	23	0.426
19	19	23	0.426
34	34	23	0.426
30	Katuay (30)	22	0.407
31	31	21	0.389
54	54	21	0.389
15	15	20	0.37
49	49	19	0.352
24	24	18	0.333
27	27	18	0.333
29	29	18	0.333
39	39	18	0.333

13	13	17	0.315
17	17	17	0.315
21	21	17	0.315
23	23	17	0.315
52	52	17	0.315
1	1	16	0.296
8	8	16	0.296
16	16	16	0.296
22	22	16	0.296
32	Katuay (32)	16	0.296
41	Cruz Blanca - Arquito (41)	16	0.296
37	37	15	0.278
43	43	15	0.278
45	45	15	0.278
46	46	15	0.278
48	48	15	0.278
51	51	15	0.278
20	20	13	0.241
36	36	13	0.241
40	40	13	0.241
42	42	13	0.241
18	18	12	0.222
50	50	12	0.222
12	12	10	0.185
28	28	8	0.148
25	25	7	0.13
9	Huaca Menocucho (9)	6	0.111
33	33	6	0.111
53	53	4	0.074
38	38	2	0.037

Table E.4 Gallinazo/Moche Phase Inter-Visibility Analyses by Local Community

Gallinazo/Moche Phase Inter-Visibility Analyses by Local Community			
LC Number	**LC Name**	**Centrality (Degree)**	**Centrality (Normal)**
3	3	48	0.762
5	Dos de Mayo (5)	48	0.762
7	Co. Los Chiles (7)	46	0.73
21	21	46	0.73
11	11	43	0.683
16	16	43	0.683
20	Huaca El Castillo (20)	42	0.667
44	44	41	0.651
2	2	40	0.635

43	43	39	0.619
1	1	38	0.603
4	4	38	0.603
9	9	38	0.603
51	Mochal (51)	38	0.603
30	30	35	0.556
41	Katuay (41)	35	0.556
64	64	35	0.556
13	13	34	0.54
57	57	34	0.54
28	Cruz Blanca Este (28)	33	0.524
54	54	33	0.524
61	61	33	0.524
62	62	33	0.524
24	24	32	0.508
27	27	32	0.508
47	47	32	0.508
18	18	31	0.492
39	Co. Pedregal (39)	31	0.492
36	Cruz Blanca (36)	30	0.476
42	42	30	0.476
59	59	30	0.476
17	Siete Vueltas Bajo (17)	29	0.46
58	58	28	0.444
25	25	27	0.429
53	53	27	0.429
56	56	27	0.429
12	12	26	0.413
48	48	26	0.413
60	60	26	0.413
33	33	25	0.397
52	Katuay Este (52)	25	0.397
34	Co. Pedregal (34)	24	0.381
22	22	23	0.365
40	40	22	0.349
14	14	21	0.333
19	Huaca Poroto (19)	21	0.333
50	50	21	0.333
55	55	21	0.333
32	32	20	0.317
37	37	20	0.317
63	63	20	0.317
49	49	18	0.286
15	15	17	0.27

35	35	17	0.27
38	38	17	0.27
46	46	16	0.254
10	Co. Jesus Maria (10)	15	0.238
23	23	13	0.206
31	31	13	0.206
29	29	12	0.19
8	8	8	0.127
6	6	7	0.111
45	45	6	0.095
26	26	3	0.048

Table E.5 Chimú/Chimú-Inka Phase Inter-Visibility Analyses by Local Community

Chimú/Chimú-Inka Phase Inter-Visibility Analyses by Local Community			
LC Number	**LC Name**	**Centrality (Degree)**	**Centrality (Normal)**
4	4	68	0.895
9	9	61	0.803
16	16	59	0.776
46	46	57	0.75
77	Co. El Brujo (77)	57	0.75
5	5	54	0.711
65	Loma del Shingo (65)	54	0.711
2	2	52	0.684
56	56	52	0.684
73	73	52	0.684
76	76	52	0.684
17	17	51	0.671
69	69	51	0.671
39	Siete Vueltas (39)	50	0.658
3	3	49	0.645
10	Co. Los Chiles (10)	49	0.645
59	Mochal (59)	49	0.645
63	Co. Katuay Alto (63)	49	0.645
67	67	49	0.645
71	71	49	0.645
75	75	49	0.645
35	35	48	0.632
50	50	48	0.632
24	24	47	0.618
60	60	47	0.618
68	68	47	0.618
20	Co. Jesus Maria Este (20)	46	0.605
61	61	46	0.605

55	Katuay Sur (55)	45	0.592
74	74	45	0.592
70	Arquito (70)	44	0.579
14	14	43	0.566
43	43	43	0.566
72	72	43	0.566
11	11	42	0.553
25	25	42	0.553
28	28	42	0.553
8	8	41	0.539
29	29	41	0.539
31	31	41	0.539
66	66	41	0.539
12	12	40	0.526
58	Katuay Este-Co. Katuay (58)	40	0.526
64	64	40	0.526
22	22	39	0.513
33	33	39	0.513
51	Cruz Blanca (51)	39	0.513
30	30	38	0.5
18	18	37	0.487
19	19	37	0.487
36	36	37	0.487
7	7	35	0.461
48	48	35	0.461
53	53	35	0.461
54	54	35	0.461
37	37	33	0.434
32	32	32	0.421
62	62	32	0.421
21	21	31	0.408
26	26	31	0.408
42	42	31	0.408
49	49	31	0.408
34	34	30	0.395
52	52	30	0.395
38	38	29	0.382
27	27	26	0.342
47	47	26	0.342
23	23	25	0.329
45	45	25	0.329
15	Co. Jesus Maria Alto (15)	22	0.289
57	57	20	0.263
40	40	17	0.224

44	44	13	0.171
6	Co. Jesus Maria Bajo (6)	11	0.145
13	13	11	0.145
1	1	8	0.105
41	41	7	0.092

Table E.6 Guañape Phase Visual Weight of Local Communities

Guañape Phase Visual Weight of Local Communities			
LC Number	**LC Name**	**Visual Weight**	**Percent Total**
10	10	3.31	47.73%
5	Dos de Mayo (5)	3.16	45.48%
2	2	3.13	45.12%
15	Huaca La Divisoria (15)	2.98	42.89%
1	Huaca Menocucho (1)	2.93	42.27%
19	Arquito Alto (19)	2.67	38.43%
16	16	2.60	37.42%
17	Arquito (17)	2.49	35.94%
18	18	2.48	35.79%
11	La Constancia (11)	2.25	32.40%
8	Co. Pedregal - Cruz Blanca (8)	2.18	31.40%
4	Dos de Mayo (4)	2.17	31.29%
7	7	2.09	30.04%
14	14	1.88	27.06%
6	6	1.63	23.52%
3	3	1.41	20.32%
12	Loma del Shingo (12)	1.15	16.54%
13	Huaca La Constancia (13)	1.00	14.35%
9	9	0.78	11.18%

Table E.7 Guañape Phase Visual Weight of Monuments by Phase

Guañape Phase Visual Weight of Monuments by Phase									
Node of Direct Authority	**Node Type**	**Guañape Phase**		**Salinar Phase**		**Gallinazo/Moche Phase**		**Chimú/Chimú-Inka Phase**	
		Visual Weight	*Percent Total*	*Visual Weight*	*Percent Total*	*Visual Weight*	*Percent Total*	*Visual Weight*	*Percent Total*
Huaca la Divisoria (MV306)	Huaca	2.92	42.07%	36.89	46.99%	266.55	48.97%	333.18	72.47%
Huaca la Constancia (MV377)	Huaca	0.68	9.84%	12.91	16.44%	164.41	30.20%	77.70	16.90%
Huaca Menocucho (MV147)	Huaca Complex	3.05	43.90%	13.16	16.76%	237.23	43.58%	84.38	18.36%
Menocucho Alto (MV164)	Terrace Complex	2.40	34.57%	8.34	10.62%	52.29	9.61%	3.41	0.74%
MV404	Terrace Complex	1.41	20.32%	21.26	27.08%	82.58	15.17%	162.99	35.46%

Table E.8 Salinar Phase Visual Weight of Local Communities

Salinar Phase Visual Weight of Local Communities			
LC Number	**LC Name**	**Visual Weight**	**Percent Total**
34	34	60.35	76.88%
30	Katuay (30)	59.41	75.68%
24	24	55.37	70.54%
23	23	54.51	69.44%
6	Co. Los Chiles (6)	48.23	61.43%
5	Dos de Mayo (5)	44.63	56.85%
35	Co. Pedregal (35)	44.20	56.30%
19	19	42.95	54.71%
21	21	39.78	50.68%
26	Co. Pedregal (26)	38.82	49.44%
3	3	38.21	48.68%
32	Katuay (32)	37.93	48.32%
13	13	37.49	47.76%
10	10	36.31	46.25%
27	27	35.99	45.84%
17	17	35.82	45.63%
31	31	35.77	45.56%
2	2	35.41	45.11%
14	14	33.94	43.23%
7	Dos de Mayo Oeste (7)	33.65	42.86%
11	Co. Jesus Maria Este (11)	33.50	42.68%
37	37	32.38	41.25%
43	43	31.45	40.06%
45	45	29.32	37.35%
15	15	29.30	37.33%
55	55	29.12	37.09%
39	39	27.73	35.33%
20	20	27.06	34.46%
22	22	26.80	34.13%
18	18	26.59	33.87%
50	50	26.14	33.29%
41	Cruz Blanca - Arquito (41)	26.09	33.24%
16	16	25.91	33.01%
9	Huaca Menocucho (9)	24.86	31.67%
4	4	22.39	28.52%
47	Mochal (47)	22.18	28.25%
8	8	19.04	24.25%
44	44	18.41	23.46%
1	1	17.90	22.81%
48	48	17.22	21.93%

28	28	16.36	20.84%
52	52	14.02	17.86%
51	51	13.94	17.75%
36	36	12.88	16.40%
42	42	12.36	15.74%
54	54	9.52	12.13%
49	49	8.82	11.23%
33	33	7.77	9.90%
29	29	5.84	7.44%
46	46	5.82	7.42%
12	12	3.33	4.24%
40	40	2.99	3.80%
25	25	0.90	1.15%
38	38	0.55	0.69%
53	53	0.19	0.24%

Table E.9 Salinar Phase Visual Weight of Monuments by Phase

Salinar Phase Visual Weight of Monuments by Phase									
Node of Direct Authority	**Node Type**	**Guañape Phase**		**Salinar Phase**		**Gallinazo/Moche Phase**		**Chimú/Chimú-Inka Phase**	
		Visual Weight	*Percent Total*	*Visual Weight*	*Percent Total*	*Visual Weight*	*Percent Total*	*Visual Weight*	*Percent Total*
Dos de Mayo	Terrace Complex	1.49	21.45%	31.54	40.18%	72.53	13.33%	148.16	32.23%
MV397	Terrace Complex	1.71	24.69%	29.65	37.77%	58.35	10.72%	128.01	27.84%
MV464	Terrace Complex	2.49	35.94%	27.52	35.06%	45.59	8.37%	164.07	35.69%
MV459	Terrace Complex	1.97	28.44%	24.10	30.69%	33.50	6.16%	163.91	35.65%
MV462	Terrace Complex	0.55	7.86%	9.52	12.13%	29.63	5.44%	149.01	32.41%

Table E.10 Gallinazo/Moche Phase Visual Weight of Local Communities

Gallinazo/Moche Phase Visual Weight of Local Communities			
LC Number	**LC Name**	**Visual Weight**	**Percent Total**
41	Katuay (41)	424.79	78.04%
8	8	399.54	73.40%
10	Co. Jesus Maria (10)	393.68	72.32%
47	47	270.63	49.72%
11	11	266.86	49.03%
44	44	266.55	48.97%
3	3	260.53	47.86%
7	Co. Los Chiles (7)	257.15	47.24%
39	Co. Pedregal (39)	254.32	46.72%
21	21	254.13	46.69%
30	30	253.58	46.59%

16	16	252.42	46.37%
34	Co. Pedregal (34)	244.68	44.95%
20	Huaca El Castillo (20)	240.50	44.18%
24	24	237.31	43.60%
25	25	235.65	43.29%
12	12	232.66	42.74%
46	46	229.03	42.08%
27	27	228.62	42.00%
37	37	214.33	39.37%
36	Cruz Blanca (36)	213.34	39.19%
35	35	209.86	38.55%
26	26	207.99	38.21%
40	40	207.04	38.04%
5	Dos de Mayo (5)	191.71	35.22%
22	22	179.47	32.97%
31	31	172.05	31.61%
29	29	170.94	31.40%
18	18	165.71	30.44%
2	2	136.80	25.13%
9	9	116.17	21.34%
4	4	102.06	18.75%
13	13	80.69	14.82%
52	Katuay Este (52)	70.41	12.93%
51	Mochal (51)	59.77	10.98%
57	57	55.12	10.13%
28	Cruz Blanca Este (28)	53.94	9.91%
43	43	53.43	9.82%
1	1	53.03	9.74%
17	Siete Vueltas Bajo (17)	49.55	9.10%
54	54	46.68	8.57%
64	64	45.59	8.37%
62	62	43.37	7.97%
32	32	41.62	7.65%
60	60	40.73	7.48%
63	63	39.16	7.19%
61	61	38.58	7.09%
56	56	35.40	6.50%
59	59	34.09	6.26%
58	58	32.29	5.93%
55	55	29.78	5.47%
38	38	26.57	4.88%
42	42	26.56	4.88%
48	48	26.35	4.84%
53	53	25.57	4.70%

50	50	21.58	3.97%
49	49	19.09	3.51%
33	33	15.07	2.77%
6	6	13.42	2.47%
14	14	13.02	2.39%
19	Huaca Poroto (19)	12.95	2.38%
15	15	10.12	1.86%
45	45	9.01	1.66%
23	23	0.00	0.00%

Table E.11 Gallinazo/Moche Phase Visual Weight of Monuments by Phase

Gallinazo/Moche Phase Visual Weight of Monuments by Phase									
Node of Direct Authority	**Node Type**	**Guañape Phase**		**Salinar Phase**		**Gallinazo/Moche Phase**		**Chimú/Chimú-Inka Phase**	
		Visual Weight	*Percent Total*	*Visual Weight*	*Percent Total*	*Visual Weight*	*Percent Total*	*Visual Weight*	*Percent Total*
Katuay (MV135)	Huaca Complex	3.20	46.12%	39.86	50.78%	324.65	59.64%	208.76	45.41%
Katuay (MV135)	Elite Compound	3.20	46.12%	39.86	50.78%	324.65	59.64%	208.76	45.41%
Huaca el Castillo (MV424)	Huaca	3.13	45.11%	30.72	39.14%	207.89	38.19%	170.95	37.19%
Cruz Blanca Este (MV391)	Elite Compound	2.27	32.70%	27.13	34.56%	52.05	9.56%	138.40	30.11%
Cruz Blanca Oeste (MV384)	Elite Compound	1.97	28.37%	23.31	29.69%	40.82	7.50%	113.89	24.77%
Huaca Poroto (MV451)	Huaca	1.16	16.69%	3.87	4.93%	12.95	2.38%	146.18	31.80%

Table E.12 Chimú/Chimú-Inka Phase Visual Weight of Local Communities

Chimú/Chimú-Inka Phase Visual Weight of Local Communities			
LC Number	**LC Name**	**Visual Weight**	**Percent Total**
4	4	358.31	77.94%
56	56	333.18	72.47%
16	16	330.89	71.98%
77	Co. El Brujo (77)	314.85	68.49%
10	Co. Los Chiles (10)	307.23	66.83%
9	9	307.00	66.78%
8	8	279.88	60.88%
2	2	279.68	60.84%
11	11	265.50	57.75%
53	53	264.06	57.44%
14	14	262.07	57.01%
63	Co. Katuay Alto (63)	258.02	56.13%
17	17	244.61	53.21%
15	Co. Jesus Maria Alto (15)	243.04	52.87%
7	7	242.13	52.67%
19	19	240.68	52.35%

42	42	240.64	52.34%
55	Katuay Sur (55)	240.26	52.26%
47	47	238.17	51.81%
25	25	237.73	51.71%
58	Katuay Este-Co. Katuay (58)	221.89	48.27%
3	3	221.51	48.18%
34	34	220.82	48.03%
18	18	220.11	47.88%
13	13	216.71	47.14%
12	12	213.72	46.49%
24	24	212.39	46.20%
46	46	209.01	45.47%
49	49	205.24	44.64%
39	Siete Vueltas (39)	204.63	44.51%
20	Co. Jesus Maria Este (20)	203.15	44.19%
37	37	198.08	43.09%
76	76	196.15	42.67%
30	30	194.13	42.23%
5	5	193.93	42.18%
45	45	192.79	41.94%
74	74	191.84	41.73%
54	54	186.36	40.54%
72	72	177.53	38.62%
70	Arquito (70)	175.95	38.27%
65	Loma del Shingo (65)	174.83	38.03%
71	71	174.54	37.97%
66	66	173.71	37.79%
59	Mochal (59)	172.97	37.62%
35	35	170.95	37.19%
69	69	170.16	37.01%
73	73	168.69	36.69%
64	64	168.41	36.63%
75	75	167.41	36.42%
67	67	164.52	35.79%
62	62	162.57	35.36%
28	28	154.54	33.62%
31	31	146.04	31.77%
43	43	145.37	31.62%
60	60	144.70	31.47%
29	29	144.49	31.43%
32	32	144.16	31.36%
33	33	143.53	31.22%
36	36	142.28	30.95%
21	21	135.92	29.57%

51	Cruz Blanca (51)	133.90	29.13%
22	22	133.51	29.04%
68	68	130.04	28.29%
48	48	128.43	27.94%
26	26	110.13	23.96%
38	38	109.82	23.89%
50	50	109.50	23.82%
52	52	107.19	23.32%
6	Co. Jesus Maria Bajo (6)	102.67	22.33%
61	61	96.64	21.02%
1	1	85.36	18.57%
44	44	82.15	17.87%
41	41	73.79	16.05%
40	40	60.91	13.25%
23	23	59.68	12.98%
27	27	58.54	12.73%
57	57	53.19	11.57%

Table E.13 Chimú/Chimú-Inka Phase Visual Weight of Monuments by Phase

Chimú/Chimú-Inka Phase Visual Weight of Monuments by Phase									
Node of Direct Authority	**Node Type**	**Guañape Phase**		**Salinar Phase**		**Gallinazo/Moche Phase**		**Chimu/Chimu-Inka Phase**	
		Visual Weight	*Percent Total*	*Visual Weight*	*Percent Total*	*Visual Weight*	*Percent Total*	*Visual Weight*	*Percent Total*
Katuay Alto	Palace Compound	2.12	30.53%	29.44	37.50%	255.40	46.92%	303.87	66.10%
Katuay (MV141)	Huaca Complex	2.01	28.91%	30.33	38.64%	48.41	8.89%	169.19	36.80%
Quebrada de Katuay	Mountain Shrine	2.93	42.20%	39.05	49.75%	78.25	14.37%	148.02	32.20%
Katuay Alto (Shrine)	Palace Compound	2.93	42.20%	39.05	49.75%	78.25	14.37%	148.02	32.20%
Cerro Poroto (MV439)	Rural Palace	2.11	30.36%	21.93	27.94%	231.77	42.58%	83.80	18.23%
Cerro Jesus Maria (Shrine)	Mountain Shrine	0.72	10.38%	7.99	10.18%	14.85	2.73%	37.00	8.05%

APPENDIX F: RADIOCARBON DATES FROM THE MOCHE VALLEY

This appendix presents a list of 204 radiocarbon dates from the Moche Valley that guide many of the interpretations made in this dissertation. This list was between 2019-2020 and thus does not include any of the (many) dates that have begun to come out of Gabriel Prieto's projects in the meantime. I recalibrated all of these dates with the most recent curve (using the SHCal20 for consistency) in order to better modernize the chronology presented in this dissertation (Hogg et al. 2020; Appendix F; Table F.1; Figure F.1). These dates were assembled here to serve as a good baseline for future scholars to draw from. Table F.1 presents all of the dates along with relevant details that can be used for future recalibrations. Figure F.1 presents the dates in chronological order along with their associated 95% confidence ranges.

Table F.1 Radiocarbon Dates from the Moche Valley

Approximate Location	Phase	Sample ID	Material	Corrected / Uncorrected	Radio-carbon Years	Error Range	Reference	Context	SHCal 20 Min (95%)	SHCal 20 Max (95%)
Quebrada del Oso	Chimu	WSU-2184	?	Uncorrected	910	80	Pozorski and Pozorski 1982:860	between points r and s	995	1270
Quebrada del Oso	Chimu	WSU-2177	?	Uncorrected	890	80	Pozorski and Pozorski 1982:860	point s	1020	1275
Quebrada del Oso	Chimu	WSU-2178	?	Uncorrected	840	50	Pozorski and Pozorski 1982:860	point s	1045	1280
Quebrada del Oso	Chimu	WSU-2181	?	Uncorrected	830	70	Pozorski and Pozorski 1982:860	point r	1040	1285
Quebrada del Oso	Chimu	WSU-2176	?	Uncorrected	790	70	Pozorski and Pozorski 1982:860	point s	1045	1390
Quebrada del Oso	Chimu	WSU-2180	?	Uncorrected	730	70	Pozorski and Pozorski 1982:860	point s	1170	1400
Quebrada del Oso	Chimu	WSU-2182	?	Uncorrected	720	70	Pozorski and Pozorski 1982:860	point s	1175	1400
Quebrada del Oso	Chimu	WSU-2183	?	Uncorrected	690	80	Pozorski and Pozorski 1982:860	point s	1180	1425
Quebrada del Oso	Chimu	WSU-2179	?	Uncorrected	640	110	Pozorski and Pozorski 1982:860	point s	1160	1475
Huaca de la Luna	Chimu	Beta-326232	textiles	Uncorrected	920	30	Castillo 2019:265	tomb E85	1035	1210
Huaca de la Luna	Chimu	Beta-326233	textiles	Uncorrected	870	30	Castillo 2019:265	tomb E86	1045	1265
Quirihuac	Paijan	GX 2021	charcoal	?	12400	750	Ossa 1973: 145-147; Chauchat 1988: 51	?	-15100	-11050
Quirihuac	Paijan	GX 2024	charcoal	?	12795	350	Ossa 1973: 145-147; Chauchat 1988: 51	?	-14330	-12110
Quirihuac	Paijan	GX 2020	charcoal	?	8645	370	Ossa 1973: 145-147; Chauchat 1988: 51	incomplete chemical retreatment	-8740	-6700
Quirihuac	Paijan	GX 2022	charcoal	?	4740	210	Ossa 1973: 145-147; Chauchat 1988: 51	incomplete chemical retreatment	-3960	-2925
Quirihuac	Paijan	GX 2023	charcoal	?	10005	320	Ossa 1973: 145-147; Chauchat 1988: 51	incomplete chemical retreatment	-10715	-8750
Quirihuac	Paijan	GX 2493	Child burial bone apatite	?	9020	650	Ossa 1973: 145-147; Chauchat 1988: 51	?	-10495	-6650
Quirihuac	Paijan	GX 2491	Adult burial bone apatite	?	9930	820	Ossa 1973: 145-147; Chauchat 1988: 51	?	-11660	-7510
La Cumbre	Paijan	GX 2019	Mastadon bone apatite	?	10535	280	Ossa 1973: 145-147; Chauchat 1988: 51	?	-11125	-9455
La Cumbre	Paijan	GX 2492	Mastadon bone apatite	?	12360	700	Ossa 1973: 145-147; Chauchat 1988: 51	?	-14905	-11130
Huaca de los Reyes (Caballo Muerto)	Guañape	Tx-1974	cane charcoal	Uncorrected	3680	80	Billman 1996: 130; Pozorski, T. 1976:112-113; Nesbitt 2008: 266	huecos de postes que pertenecen a la fase 1 de construccion, cumbre del Monticulo F	-2340	-1780
Huaca Grande (Caballo Muerto)	Guañape	Tx-1938	charcoal	Uncorrected	3450	70	Billman 1996: 130; Pozorski, T. 1976:112-113; Nesbitt 2008: 266	capa de ceniza del Cateo 1	-1945	-1540
Huaca de los Reyes (Caballo Muerto)	Guañape	Tx-1972	cane charcoal	Uncorrected	3310	80	Billman 1996: 130; Pozorski, T. 1976:112-113; Nesbitt 2008: 266	huecos de postes que pertenecen a la fase 1 de construccion, cumbre del Monticulo F	-1870	-1420

Huaca de los Reyes (Caballo Muerto)	Guañape	Tx-1973	cane charcoal	Uncorrected	3140	60	Billman 1996: 130; Pozorski, T. 1976:112-113; Nesbitt 2008: 266	huecos de postes que pertenecen a la fase 1 de construccion, cumbre del Monticulo F	-1520	-1235
Huaca Chica (Caballo Muerto)	Guañape	Tx-1937	charcoal	Uncorrected	3040	60	Billman 1996: 130; Pozorski, T. 1976:112-113; Nesbitt 2008: 266	capa de ceniza del Cateo 1	-1440	-1115
Huaca de los Reyes (Caballo Muerto)	Guañape	Tx-2180	cane charcoal	Uncorrected	2800	60	Billman 1996: 130; Pozorski, T. 1976:112-113; Nesbitt 2008: 266	huecos de postes que pertenecen a la fase 1 de construccion, cumbre del Monticulo F	-1120	-820
Huaca Guavalito (Caballo Muerto)	Guañape	Tx-1939	cane charcoal	Uncorrected	2390	70	Billman 1996: 130; Pozorski, T. 1976:112-113; Nesbitt 2008: 266	piso sellado, fase 2 de construccion	-770	-365
Huaca Cortada (Caballo Muerto)	Guañape	AA85746 b	wood	Uncorrected	3297	45	Nesbitt 2008: 278	HC-117B; Trinchera 1, ampliacion sur, estaca de madera, capa 9/10	-1690	-1455
Huaca Cortada (Caballo Muerto)	Guañape	AA85746a	wood	Uncorrected	3330	41	Nesbitt 2008: 278	HC-117B; Trinchera 1, ampliacion sur, estaca de madera, capa 9/10	-1740	-1505
Gramalote	Guañape	Tx-1931A	tillandsia	Uncorrected	3530	130	Ziolkowski et al. 1994; Prieto 2015: 125	First stratum from Surface, Cut 2	-2270	-1515
Gramalote	Guañape	Tx-1931B	tillandsia	Uncorrected	3280	60	Ziolkowski et al. 1994; Prieto 2015: 125	First stratum from Surface, Cut 2	-1735	-1430
Gramalote	Guañape	Tx-1930A	tillandsia	Uncorrected	3050	110	Ziolkowski et al. 1994; Prieto 2015: 125	Second stratum from surface, Cut 2	-1535	-990
Gramalote	Guañape	Tx-1930B	tillandsia	Uncorrected	3540	80	Ziolkowski et al. 1994; Prieto 2015: 125	Second stratum from surface, Cut 2	-2135	-1635
Gramalote	Guañape	Tx-1929A	tillandsia	Uncorrected	3070	90	Ziolkowski et al. 1994; Prieto 2015: 125	Third Stratum from surface, Cut 2	-1510	-1050
Gramalote	Guañape	Tx-1929B	tillandsia	Uncorrected	3250	120	Ziolkowski et al. 1994; Prieto 2015: 125	Third Stratum from surface, Cut 2	-1880	-1225
Gramalote	Guañape	BETA-321936	tillandsia	Uncorrected	3030	30	Prieto 2015: 127	circular hearth on floor, west sector	-1400	-1135
Gramalote	Guañape	BETA-321937	tillandsia	Uncorrected	3140	30	Prieto 2015: 127	circular hearth on floor, west sector	-1500	-1305
Gramalote	Guañape	BETA-321939	tillandsia	Uncorrected	3070	30	Prieto 2015: 127	circular hearth on floor, east sector	-1420	-1235
Gramalote	Guañape	BETA-321938	tillandsia	Uncorrected	3180	30	Prieto 2015: 127	carbon concentration on floor, west sector	-1510	-1405
Gramalote	Guañape	BETA-321940	tillandsia	Uncorrected	3110	30	Prieto 2015: 127	circular hearth on floor, east sector	-1445	-1285
Gramalote	Guañape	BETA-321941	tillandsia	Uncorrected	3040	30	Prieto 2015: 127	circular hearth on floor, west sector	-1405	-1215
Gramalote	Guañape	BETA-321942	tillandsia	Uncorrected	3140	30	Prieto 2015: 127	circular hearth on floor, west sector	-1500	-1305
Gramalote	Guañape	BETA-321943	tillandsia	Uncorrected	3200	30	Prieto 2015: 127	circular hearth on floor, west sector	-1515	-1415
Gramalote	Guañape	BETA-321945	tillandsia	Uncorrected	3130	30	Prieto 2015: 127	circular hearth on floor, west sector	-1500	-1295
Gramalote	Guañape	BETA-321946	tillandsia	Uncorrected	3170	30	Prieto 2015: 127	pit filled with ash and carbon	-1505	-1395
Cerro Arena	Salinar	RL-804	?	Uncorrected	2090	110	Brennan 1980: 3	?	-395	200
Cerro Arena	Salinar	UOC-5246	charcoal	Uncorrected	2255	24	Millaire 2020: 8	Room S116	-395	-205
Cerro Arena	Late Preceramic	UOC-5247	charcoal	Uncorrected	3742	24	Millaire 2020: 8	Room S114	-2280	-2035
Cerro Arena	Salinar	UOC-5248	charcoal	Uncorrected	2247	24	Millaire 2020: 8	Room S172	-390	-205
Cerro Arena	Late Preceramic	UOC-5249	charcoal	Uncorrected	3672	26	Millaire 2020: 8	Room S278	-2140	-1955
Cerro Arena	Salinar	UOC-5250	charcoal	Uncorrected	2290	24	Millaire 2020: 8	Room S1	-405	-230
Cerro Arena	Salinar	UOC-5251	charcoal	Uncorrected	2256	24	Millaire 2020: 8	Room S760	-395	-205
Cerro Arena	Salinar	UOC-5252	charcoal	Uncorrected	2261	24	Millaire 2020: 8	Room S740	-395	-205
Cerro Arena	Salinar	UOC-5253	charcoal	Uncorrected	2237	24	Millaire 2020: 8	Room S627	-390	-200
Cerro Arena	Salinar	UOC-5254	charcoal	Uncorrected	2268	24	Millaire 2020: 8	Room S620	-400	-205
Cerro Arena	Salinar	UOC-5255	charcoal	Uncorrected	2284	24	Millaire 2020: 8	Room S340	-405	-210
Cerro Arena	Salinar	UOC-5256	charcoal	Uncorrected	2425	72	Millaire 2020: 8	Room S13	-770	-395
Cerro Arena	Late Preceramic	UOC-5257	charcoal	Uncorrected	3667	24	Millaire 2020: 8	Room S98	-2140	-1960
Cerro Arena	Salinar	UOC-5258	charcoal	Uncorrected	2281	24	Millaire 2020: 8	Room S28	-400	-210
Cerro Arena	Salinar	UOC-5259	charcoal	Uncorrected	2246	24	Millaire 2020: 8	Room S334	-390	-205
Cerro Arena	Salinar	UOC-5260	charcoal	Uncorrected	2276	24	Millaire 2020: 8	Room S198	-400	-205
Cerro Arena	Late Preceramic	UOC-5261	charcoal	Uncorrected	3682	24	Millaire 2020: 8	Room S266	-2195	-1975
Cerro Arena	Late Preceramic	UOC-5262	charcoal	Uncorrected	3659	24	Millaire 2020: 8	Room S264	-2140	-1945
Cerro Arena	Late Preceramic	UOC-5263	charcoal	Uncorrected	3672	24	Millaire 2020: 8	Room S274	-2140	-1960
Cerro Arena	Late Preceramic	UOC-5264	charcoal	Uncorrected	3726	30	Millaire 2020: 8	Room S283	-2270	-2030
Cerro Arena	Salinar	UOC-5265	charcoal	Uncorrected	2285	24	Millaire 2020: 8	Room S54	-405	-210
La Poza	Salinar	UCIAMS-187548	avocado	Uncorrected	2235	15	Bardolph 2017: 103	CT-36, RC-3-H	-380	-205

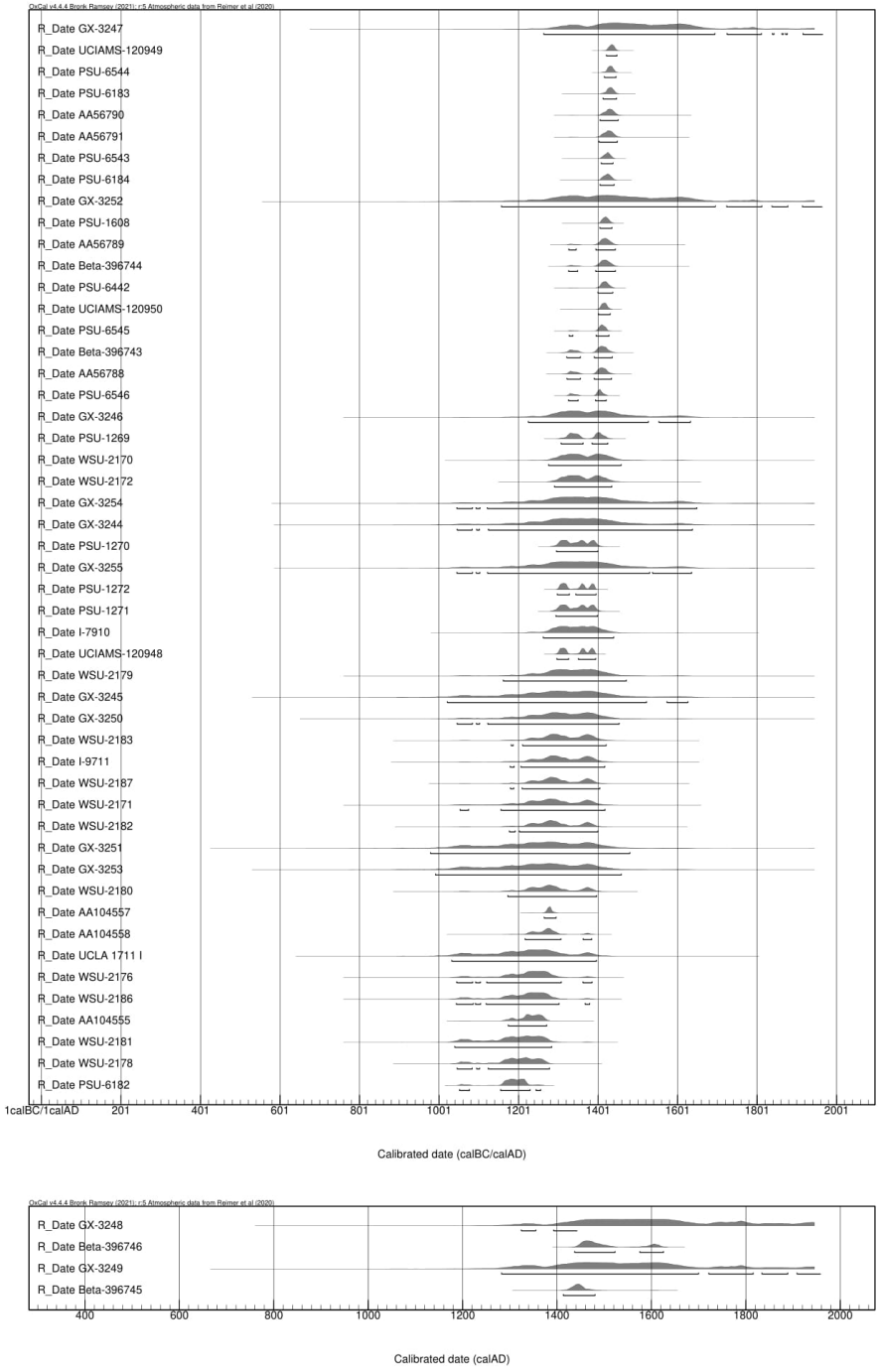
La Poza	Salinar	UCIAMS-187549	tillandsia	Uncorrected	2280	15	Bardolph 2017: 103	CT-36, RC-3-P	-400	-230
La Poza	Salinar	UCIAMS-187550	maize	Uncorrected	2185	15	Bardolph 2017: 103	CT-38 RC-6	-355	-170
MV-224	Gallinazo	UCIAMS-187551	maize	Uncorrected	1790	15	Bardolph 2017: 103	PD 2018 FS 9	225	330
MV-224	Gallinazo	UCIAMS-187552	maize	Uncorrected	1725	15	Bardolph 2017: 103	PD 2023 FS 1	250	405
MV-224	Gallinazo	UCIAMS-187553	maize	Uncorrected	1775	20	Bardolph 2017: 103	PD 2024 FS 1	230	340
MV-224	Gallinazo	UCIAMS-187554	maize	Uncorrected	1775	15	Bardolph 2017: 103	PD 2135 FS 1	235	335
MV-83	Moche	UCIAMS-187555	maize	Uncorrected	1495	15	Bardolph 2017: 103	PD 286 FS 9	545	605
MV-83	Moche	UCIAMS-187556	maize	Uncorrected	1510	15	Bardolph 2017: 103	PD 293 FS 1	545	600
MV-83	Moche	UCIAMS-187557	maize	Uncorrected	1495	15	Bardolph 2017: 103	PD 321 FS 1	545	605
Galindo	Moche	AA56782	maize	Uncorrected	1348	37	Lockard 2005: 122-123	strat cut 101, area 103, unit 1, level 11	605	775
Galindo	Moche	AA56783	maize	Uncorrected	1266	34	Lockard 2005: 122-123	strat cut 101, area 103, unit 1, level 17	660	875
Galindo	Moche	AA56784	charcoal	Uncorrected	1298	35	Lockard 2005: 122-123	Huaca de las Abejas, A301 (Platform A), SA2, U6, 4th level above base	650	800
Galindo	Moche	AA56785	charcoal	Uncorrected	1417	40	Lockard 2005: 122-123	Huaca de las Abejas, A301 (Platform A), SA2, U6, bottom level of adobes	570	670
Galindo	Moche	AA56786	charcoal	Uncorrected	1303	40	Lockard 2005: 122-123	Huaca de las Abejas, A301 (Platform A), SA3, U1, 3rd level above base	650	825
Galindo	Moche	AA56787	charcoal	Uncorrected	1261	32	Lockard 2005: 122-123	Huaca de las Abejas, A301 (Platform A), SA3, U1, bottom level of adobes	665	875
Galindo	Chimu	AA56788	charcoal	Uncorrected	542	28	Lockard 2005: 122-123	Structure 48, A307, SA3, U1, Feature 3, Chimu hearth	1320	1435
Galindo	Chimu	AA56789	maize	Uncorrected	519	28	Lockard 2005: 122-123	Structure 49, A307, SA4, U3, Feature 6, Chimu hearth	1325	1445
Galindo	Chimu	AA56790	maize	Uncorrected	490	28	Lockard 2005: 122-123	Structure 47, A307, SA2, U1-2, Feature 4, Chimu hearth	1405	1455
Galindo	Chimu	AA56791	maize	Uncorrected	496	28	Lockard 2005: 122-123	Structure 49, A307, SA4, U14, Feature 12, Chimu hearth	1400	1450
Galindo	Moche	AA56792	charcoal	Uncorrected	1325	30	Lockard 2005: 122-123	Huaca de las Lagartijas, A201 (Platform B), SA6, U1, 3rd level above base	650	775
Galindo	Moche	AA56793	charcoal	Uncorrected	1295	29	Lockard 2005: 122-123	Huaca de las Lagartijas, A201 (Platform B), SA6, U1, floor below platform	660	775
Galindo	Moche	AA61597	maize	Uncorrected	1349	41	Lockard 2005: 122-123	Structure 40, A102, SA1, U1, Feature 2, Late Moche hearth	605	775
Galindo	Moche	AA61598	maize	Uncorrected	1311	36	Lockard 2005: 122-123	Structure 39, A101, SA1, U1, Feature 1, Late Moche hearth	650	775
Galindo	Moche	AA61599	reed	Uncorrected	1317	36	Lockard 2005: 122-123	Structure 41, A203, SA3, U5, Feature 1, Late Moche hearth	650	775
Galindo	Moche	AA61600	maize	Uncorrected	1336	36	Lockard 2005: 122-123	Structure 42, A204, SA1, U4, Feature 2, Late Moche hearth	640	775
Galindo	Moche	AA61601	maize	Uncorrected	1334	36	Lockard 2005: 122-123	Structure 42, A204, SA3, Feature 3, Late Moche hearth	645	775
Cerro Leon (MV-225)	Gallinazo	BETA 294056	maize	Uncorrected	1830	30	Ringberg 2012: 121	fea. 32, level 8, strat. H, fill between floors 2 and 3	125	320
Cerro Leon (MV-225)	Gallinazo	BETA 294055	maize	Uncorrected	1890	30	Ringberg 2012: 121	fea. 32, level 5, strat. E, a layer of use-compacted floor	75	235
Cerro Leon (MV-225)	Gallinazo	BETA 294054	maize	Uncorrected	1780	30	Ringberg 2012: 121	fea. 44.01 hearth above floor 3 and below floor 2	210	365
Cerro Leon (MV-225)	Gallinazo	CAMS-74945	maize	Uncorrected	1910	40	Ringberg 2012: 121; Huckleberry and Billman 2003	room block beneath wall 1	20	230
Cerro Leon (MV-225)	Gallinazo	CAMS-74946	maize	Uncorrected	1780	50	Ringberg 2012: 121; Huckleberry and Billman 2003	room block beneath wall 1	130	410
Cerro Leon (MV-225)	Gallinazo	CAMS-74947	maize	Uncorrected	1940	30	Ringberg 2012: 121; Huckleberry and Billman 2003	room block beneath wall 1	10	205
Huaca de la Luna	Moche	Beta-96034	reed charcoal	Uncorrected	1380	70	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	between building stages A/B of platform I	545	825
Huaca de la Luna	Moche	Beta-96035	wood	Uncorrected	1470	80	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	post from roof of burial chamber, platform II	415	760
Huaca de la Luna	Moche	Gif-9530	reed charcoal	Uncorrected	1540	50	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	fill of adobes over Structure B/C, Tomb II	415	635
Huaca de la Luna	Moche	Gif-9529	wood	Uncorrected	1640	40	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	post of algarrobo from patio of reliefs, Structure A	260	545
Uhle Platform (Huacas del Moche)	Moche	Gif-11577	charcoal	Uncorrected	1495	50	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	Moche IV and V; tomb 4, Uhle platform	435	655
Uhle Platform (Huacas del Moche)	Moche	Gif-11576	charcoal	Uncorrected	1620	35	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	w/ miniature ceramic under floor of Uhle platform	380	550
Urban Zone (Huacas del Moche)	Moche	Beta-96027	charcoal	Uncorrected	1280	60	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	floor 1, hearth CA 15-3, 15 cm below surface	650	885
Urban Zone (Huacas del Moche)	Moche	Beta-124995	charcoal	Uncorrected	1290	60	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	floor 1, hearth CA 8-1, 20 cm	645	880
Urban Zone (Huacas del Moche)	Moche	Beta-108279	charcoal	Uncorrected	1330	60	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	between floors 1/2, hearth CA 12-2, 30 cm	600	875
Urban Zone (Huacas del Moche)	Moche	Beta-111544	charcoal	Uncorrected	1360	60	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	floor 1, hearth w/ adobes, CA 9-28 70cm	570	820
Urban Zone (Huacas del Moche)	Moche	Beta-111545	charcoal	Uncorrected	1360	70	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	floor 1, hearth w/ adobes, CA 9-35, 80 cm	560	870
Urban Zone (Huacas del Moche)	Moche	Beta-124996	charcoal	Uncorrected	1360	60	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	fill of floor 1, CA 25-1, 35 cm	570	820

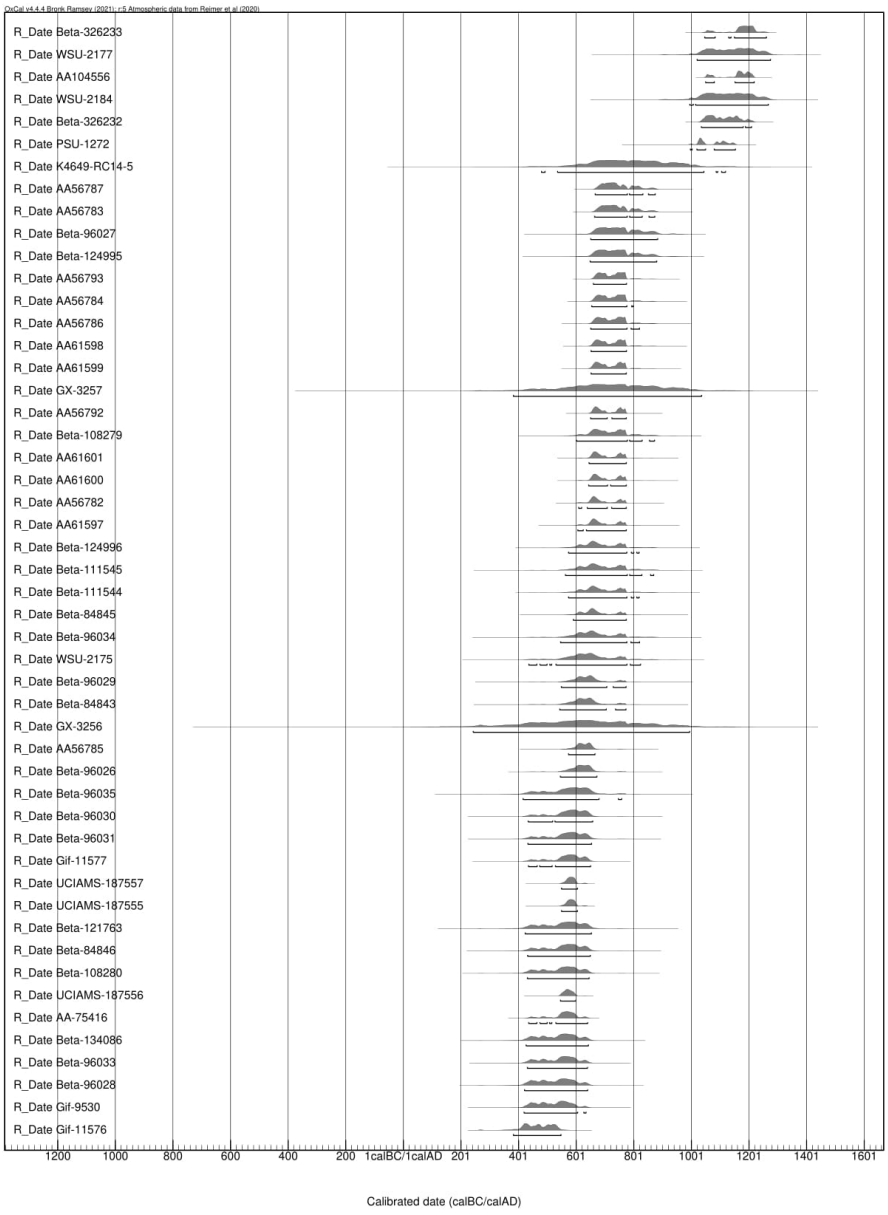
Urban Zone (Huacas del Moche)	Moche	Beta-84845	charcoal	Uncorrected	1370	50	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	floor 1, abandonment ash lens, CA 7-13, 40 cm	590	775
Urban Zone (Huacas del Moche)	Moche	Beta-96029	charcoal	Uncorrected	1400	60	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	floor 1, hearth w/o adobes, CA 9-10, 20 cm	545	775
Urban Zone (Huacas del Moche)	Moche	Beta-84843	charcoal	Uncorrected	1410	60	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	floor 1, abandonment ash, CA 7-10	540	775
Urban Zone (Huacas del Moche)	Moche	Beta-96026	charcoal	Uncorrected	1430	50	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	floor 2, post in floor CA 14-1, 60 cm	545	675
Urban Zone (Huacas del Moche)	Moche	Beta-96030	charcoal	Uncorrected	1480	60	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	inside base of chimney CA 7-14, 104 cm	430	660
Urban Zone (Huacas del Moche)	Moche	Beta-96031	charcoal	Uncorrected	1490	60	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	between floors 1/2, outside chimney CA 7-14, 140 cm	430	655
Urban Zone (Huacas del Moche)	Moche	Beta-84846	charcoal	Uncorrected	1500	60	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	floor 1, abandonment ash lens, CA 6-1, 30 cm	430	650
Urban Zone (Huacas del Moche)	Moche	Beta-108280	charcoal	Uncorrected	1510	60	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	between floors 1/2, hearth CA 12-4, 50 cm	430	650
Urban Zone (Huacas del Moche)	Moche	Beta-96033	charcoal	Uncorrected	1520	50	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	floor 3, bench CA 8 patio, 70 cm(?)	430	640
Urban Zone (Huacas del Moche)	Moche	Beta-96028	charcoal	Uncorrected	1530	60	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	floor 2, hearth CA 9-10, 40 cm	420	645
Urban Zone (Huacas del Moche)	Moche	Beta-96032	charcoal	Uncorrected	1640	60	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	floor 1, ash lens, CA 9-13, 30-40 cm	250	565
Huaca de la Luna	Moche	Beta-158975	fly pupas	Uncorrected	1810	40	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	w/ sacrifices under floor of plaza 3C, Structure C or D	125	350
Huaca de la Luna	Moche	Beta-158974	reed rope	Uncorrected	1880	40	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	tied prisoners to floor of plaza 3C, Structure C or D	30	245
Urban Zone (Huacas del Moche)	Moche	Beta-121761	charcoal	Uncorrected	1630	40	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	between floors 3a/3b, burial CA 15, 550 cm	265	550
Urban Zone (Huacas del Moche)	Moche	Beta-121762	charcoal	Uncorrected	1680	60	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	under floor 7, ash lens, CA 12-4	245	540
Urban Zone (Huacas del Moche)	Moche	Beta-121763	charcoal	Uncorrected	1500	70	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	under floor 6, under tomb CA 5-2, 200 cm	420	655
Urban Zone (Huacas del Moche)	Moche	Beta-134086	charcoal	Uncorrected	1520	60	Koons and Alex 2014; Chapdelaine 2001; Uceda et al. 2001, 2007	under floor 5, above burial CA 5-24, 310 cm	425	645
Galindo	Moche	GX-3256	charcoal	Uncorrected	1415	185	Lockard 2005: 121; Conrad 1974:740	Huaca de las Abejas, Room F, Plaza 2, hearth	240	995
Galindo	Moche	GX-3257	charcoal	Uncorrected	1325	165	Lockard 2005: 121; Conrad 1974:740	Huaca de las Abejas, Room H, Plaza 3, floor	380	1040
Quebrada del Oso	Chimu	UCLA 1711 I	charcoal	Uncorrected	780	110	Kus 1972:225-227	charcoal found by a canal, cross section thirty three	1030	1400
Cerro Huancha	Chimu	AA104555	charcoal	Uncorrected	822	30	Boswell 2016:302-304	Sector 1, Compound 3	1170	1275
Cerro Huancha	Chimu	AA104556	charcoal	Uncorrected	891	18	Boswell 2016:302-304	Sector 1, Compound 3	1050	1220
Cerro Huancha	Chimu	AA104557	charcoal	Uncorrected	731	18	Boswell 2016:302-304	Sector 1, Compound 3	1265	1295
Cerro Huancha	Chimu	AA104558	charcoal	Uncorrected	740	44	Boswell 2016:302-304	Sector 3, compound 5	1215	1385
Huanchaquito-Las Llamas	Chimu	UCIAMS-120948	Collagen	Uncorrected	630	15	Prieto et al. 2015:272	individuo E27	1295	1395
Huanchaquito-Las Llamas	Chimu	UCIAMS-120949	Collagen	Uncorrected	475	15	Prieto et al. 2015:272	individuo E29	1420	1450
Huanchaquito-Las Llamas	Chimu	UCIAMS-120950	Collagen	Uncorrected	525	15	Prieto et al. 2015:272	individuo E31	1400	1435
Huaca de los Chinos	Guañape	AA-75410	carbonized cane	Uncorrected	2634	36	Pleasants 2009:163-164	UE01, N3	-900	-770
Huaca de los Chinos	Guañape	AA-75411	carbonized wood or cane	Uncorrected	2756	36	Pleasants 2009:163-164	UE01, N4	-995	-815
Huaca de los Chinos	Guañape	AA-75412	carbonized wood or cane	Uncorrected	2753	36	Pleasants 2009:163-164	UE01, N5	-990	-815
Huaca de los Chinos	Guañape	AA-75413	carbonized wood or cane	Uncorrected	2675	36	Pleasants 2009:163-164	UE03, N3	-905	-795
Huaca de los Chinos	Guañape	AA-75414	carbonized wood or cane	Uncorrected	2682	35	Pleasants 2009:163-164	UE03, N4	-905	-795
Huaca de los Chinos	Guañape	AA-75415	carbonized twig	Uncorrected	2695	36	Pleasants 2009:163-164	UE14, N2SEH	-915	-800
Huaca de los Chinos	Guañape	AA-75416	carbonized twig	Uncorrected	1514	34	Pleasants 2009:163-164	UE14, N2SEH	435	645
Huaca de los Chinos	Guañape	AA-75417	carbonized wood or cane	Uncorrected	2592	35	Pleasants 2009:163-164	UE14, N2NWH	-825	-570
Huaca de los Chinos	Guañape	AA-75418	cane	Uncorrected	2636	42	Pleasants 2009:163-164	UE14, N2NWH	-900	-770
Huaca de los Chinos	Guañape	AA-75420	cane embedded in roof material	Uncorrected	3170	130	Pleasants 2009:163-164	UE14, N2NWH	-1750	-1055
Huaca de los Chinos	Guañape	AA-75421	carbonized twig	Uncorrected	2650	36	Pleasants 2009:163-164	UE19, N2	-900	-775
Huaca de los Chinos	Guañape	AA-75422	carbonized twig	Uncorrected	2670	34	Pleasants 2009:163-164	UE19, N2	-900	-790
Huaca de los Chinos	Guañape	AA-75423	cluster of tiny seeds	Uncorrected	2679	35	Pleasants 2009:163-164	UE22, N2	-905	-795
Huaca de los Chinos	Guañape	AA-75424	wood	Uncorrected	2693	35	Pleasants 2009:163-164	UE22, N6	-910	-800
Huaca de los Chinos	Guañape	AA-75425	carbonized wood	Uncorrected	2706	35	Pleasants 2009:163-164	UE22, N7	-920	-800
Padre Alban	Late Preceramic	Tx-1935	?	Uncorrected	3670	260	Billman 1996: 100; Pozorski, S. 1983	?	-2870	-1450
Padre Alban	Late Preceramic	Tx-1933	?	Uncorrected	3850	210	Billman 1996: 100; Pozorski, S. 1983	?	-2890	-1750

Padre Alban	Late Preceramic	Tx-1934	?	Uncorrected	3930	120	Billman 1996: 100; Pozorski, S. 1983	?	-2870	-2040
Padre Alban	Late Preceramic	Tx-1936	?	Uncorrected	5420	140	Billman 1996: 100; Pozorski, S. 1983	?	-4545	-3955
Pampa Rio Seco (Vichansao Canal)	Chimu	WSU-2171	?	Uncorrected	720	90	Pozorski, T. 1987:113	?	1050	1420
Pampa Rio Seco (Vichansao Canal)	Chimu	WSU-2170	?	Uncorrected	570	80	Pozorski, T. 1987:113	?	1275	1460
Pampa Esperanza (Vichansao Canal)	Chimu	WSU-2172	?	Uncorrected	580	60	Pozorski, T. 1987:113	?	1290	1435
Pampa Arenal (Vichansao Canal)	Chimu	WSU-2186	?	Uncorrected	800	70	Pozorski, T. 1987:113	?	1040	1380
Pampa Arenal (Vichansao Canal)	Chimu	WSU-2187	?	Uncorrected	710	70	Pozorski, T. 1987:113	?	1180	1405
Pampa Esperanza (Canal A)	Moche	WSU-2175	?	Uncorrected	1400	80	Pozorski, T. 1987:113	?	435	825
Ciudadela Uhle (Chan Chan)	Chimu	GX-3253	?	Uncorrected	730	150	Conrad 1974:741; Pozorski, T. 1987:113	?	992	1459
Ciudadela Gran Chimu (Chan Chan)	Chimu	GX-3251	?	Uncorrected	725	155	Conrad 1974:741; Pozorski, T. 1987:113	?	979	1481
Ciudadela Tschudi (Chan Chan)	Chimu	GX-3250	?	Uncorrected	680	120	Conrad 1974:741; Pozorski, T. 1987:113	?	1046	1454
Ciudadela Laberinto (Chan Chan)	Chimu	GX-3245	?	Uncorrected	670	160	Conrad 1974:741; Pozorski, T. 1987:113	?	1022	1627
Ciudadela Squier (Chan Chan)	Chimu	GX-3255	?	Uncorrected	620	155	Conrad 1974:741; Pozorski, T. 1987:113	?	1046	1636
Ciudadela Velarde (Chan Chan)	Chimu	GX-3244	?	Uncorrected	615	155	Conrad 1974:741; Pozorski, T. 1987:113	?	1046	1638
Ciudadela Uhle (Chan Chan)	Chimu	GX-3254	?	Uncorrected	595	160	Conrad 1974:741; Pozorski, T. 1987:113	?	1046	1649
Ciudadela Squier (Chan Chan)	Chimu	GX-3246	?	Uncorrected	560	120	Conrad 1974:741; Pozorski, T. 1987:113	?	1225	1633
Ciudadela Gran Chimu (Chan Chan)	Chimu	GX-3252	?	Uncorrected	510	180	Conrad 1974:741; Pozorski, T. 1987:113	?	1158	NA
Ciudadela Bandelier (Chan Chan)	Chimu	GX-3247	?	Uncorrected	450	150	Conrad 1974:741; Pozorski, T. 1987:113	?	1264	NA
Ciudadela Rivero (Chan Chan)	Chimu	GX-3249	?	Uncorrected	405	160	Conrad 1974:741; Pozorski, T. 1987:113	?	1282	NA
Ciudadela Rivero (Chan Chan)	Chimu	GX-3248	?	Uncorrected	345	155	Conrad 1974:741; Pozorski, T. 1987:113	?	1324	NA
El Milagro de San Jose	Chimu	I-9711	?	Uncorrected	695	80	Keatinge 1980: 286	?	1180	1418
El Milagro de San Jose	Chimu	I-7910	?	Uncorrected	625	80	Keatinge 1980: 286	?	1263	1440
Huanchaquito-Las Llamas	Chimu	PSU-6182	excrement	Uncorrected	865	25	Prieto et al. 2019:Table 1		1052	1256
Huanchaquito-Las Llamas	Chimu	PSU-6183	organic material	Uncorrected	485	20	Prieto et al. 2019:Table 1		1413	1447
Huanchaquito-Las Llamas	Chimu	PSU-6184	textiles	Uncorrected	505	20	Prieto et al. 2019:Table 1		1406	1441
Huanchaquito-Las Llamas	Chimu	PSU-6442	sedge rope	Uncorrected	520	20	Prieto et al. 2019:Table 1		1400	1438
Huanchaquito-Las Llamas	Chimu	Beta-396743	sedge rope	Uncorrected	540	30	Prieto et al. 2019:Table 1		1322	1437
Huanchaquito-Las Llamas	Chimu	Beta-396744	sedge rope	Uncorrected	520	30	Prieto et al. 2019:Table 1		1327	1444
Huanchaquito-Las Llamas	Chimu	Beta-396745	sedge rope	Uncorrected	450	30	Prieto et al. 2019:Table 1		1413	1480
Huanchaquito-Las Llamas	Chimu	Beta-396746	sedge rope	Uncorrected	400	30	Prieto et al. 2019:Table 1		1437	1625
Huanchaquito-Las Llamas	Chimu	PSU-6543	sedge rope	Uncorrected	505	15	Prieto et al. 2019:Table 1		1409	1438
Huanchaquito-Las Llamas	Chimu	PSU-6544	sedge rope	Uncorrected	485	15	Prieto et al. 2019:Table 1		1417	1446
Huanchaquito-Las Llamas	Chimu	PSU-6545	sedge rope	Uncorrected	540	15	Prieto et al. 2019:Table 1		1328	1428
Huanchaquito-Las Llamas	Chimu	PSU-6546	sedge rope	Uncorrected	555	15	Prieto et al. 2019:Table 1		1326	1421
Huanchaquito-Las Llamas	Chimu	PSU-1269	sedge rope	Uncorrected	565	30	Prieto et al. 2019:Table 1		1308	1425
Huanchaquito-Las Llamas	Chimu	PSU-1270	sedge rope	Uncorrected	620	30	Prieto et al. 2019:Table 1		1296	1400
Huanchaquito-Las Llamas	Chimu	PSU-1271	sedge rope	Uncorrected	625	30	Prieto et al. 2019:Table 1		1295	1399
Huanchaquito-Las Llamas	Chimu	PSU-1272	Human hair	Uncorrected	985	20	Prieto et al. 2019:Table 1		997	1154
Huanchaquito-Las Llamas	Chimu	PSU-1608	Collagen	Uncorrected	515	15	Prieto et al. 2019:Table 1		1405	1436
Huanchaquito-Las Llamas	Chimu	PSU-1272	Collagen	Uncorrected	625	15	Prieto et al. 2019:Table 1		1298	1396
Quebrada los Chinos	Salinar	CAMS-68222	corn	Uncorrected	2310	40	Billman and Huckleberry 2008:105		-470	-206
Quebrada los Chinos	Guañape	CAMS-68214	seed	Uncorrected	2620	50	Billman and Huckleberry 2008:105		-904	-569
Quebrada los Chinos	Guañape	CAMS-68215	wood	Uncorrected	3030	150	Billman and Huckleberry 2008:105		-1614	-899
Quebrada los Chinos	Guañape	CAMS-68216	charcoal	Uncorrected	2770	40	Billman and Huckleberry 2008:105		-1010	-823

Galindo	Moche	K4649-RC14-5	?	Uncorrected	1260	140	Billman 1996:294; Shimada et al. 1991	-820	20
Galindo	Moche	K4649	?	Uncorrected	2335	175	Billman 1996:294; Shimada et al. 1991	480	1119
Cerro Oreja	Salinar	Beta-152614	human bone	Uncorrected	2360	10	Lambert et al. 2012:153	-349	56
Cerro Oreja	Gallinazo	Beta-152612	human bone	Uncorrected	2040	40	Lambert et al. 2012:153	-165	69
Cerro Oreja	Gallinazo	Beta-164521	human bone	Uncorrected	2090	50	Lambert et al. 2012:153	-415	-393

Figure F.1 Radiocarbon Dates from the Moche Valley




OxCal v4.4.4 Bronk Ramsey (2021); r 5 Atmospheric data from Reimer et al (2020)
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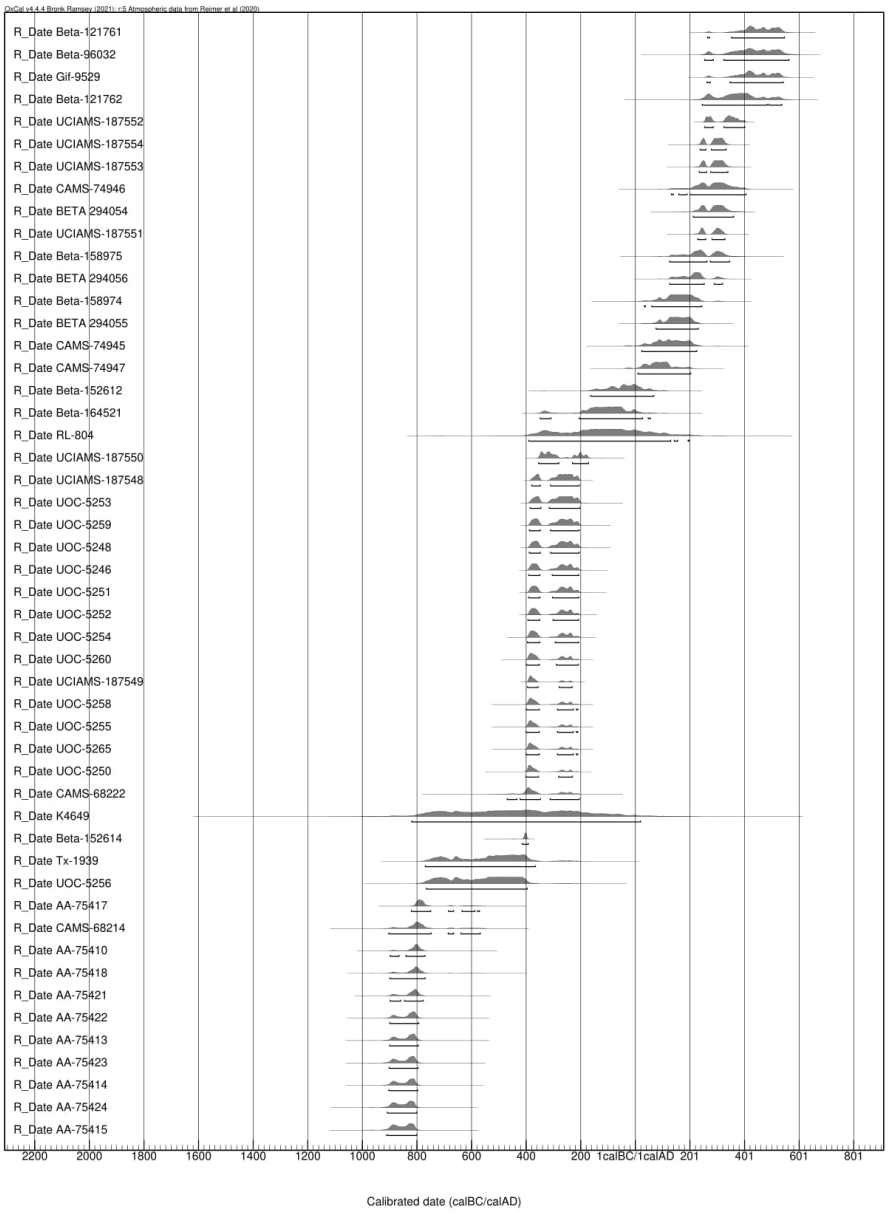
R_Date AA104556
R_Date WSU-2184
R_Date Beta-326232
R_Date PSU-1272
R_Date K4649-RC14-5
R_Date AA56787
R_Date AA56783
R_Date Beta-96027
R_Date Beta-124995
R_Date AA56793
R_Date AA56784
R_Date AA56786
R_Date AA61598
R_Date AA61599
R_Date GX-3257
R_Date AA56792
R_Date Beta-108279
R_Date AA61601
R_Date AA61600
R_Date AA56782
R_Date AA61597
R_Date Beta-124996
R_Date Beta-111545
R_Date Beta-111544
R_Date Beta-84845
R_Date Beta-96034
R_Date WSU-2175
R_Date Beta-96029
R_Date Beta-84843
R_Date GX-3256
R_Date AA56785
R_Date Beta-96026
R_Date Beta-96035
R_Date Beta-96030
R_Date Beta-96031
R_Date Gif-11577
R_Date UCIAMS-187557
R_Date UCIAMS-187555
R_Date Beta-121763
R_Date Beta-84846
R_Date Beta-108280
R_Date UCIAMS-187556
R_Date AA-75416
R_Date Beta-134086
R_Date Beta-96033
R_Date Beta-96028
R_Date Gif-9530
R_Date Gif-11576
1200
1000
800
600
400
200
1calBC/1calAD
201
401
601
801
1001
1201
1401
1601
Calibrated date (calBC/calAD)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R_Date BETA 294054
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R_Date BETA 294055
R_Date CAMS-74945
R_Date CAMS-74947
R_Date Beta-152612
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R_Date UOC-5254
R_Date UOC-5260
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R_Date UOC-5255
R_Date UOC-5265
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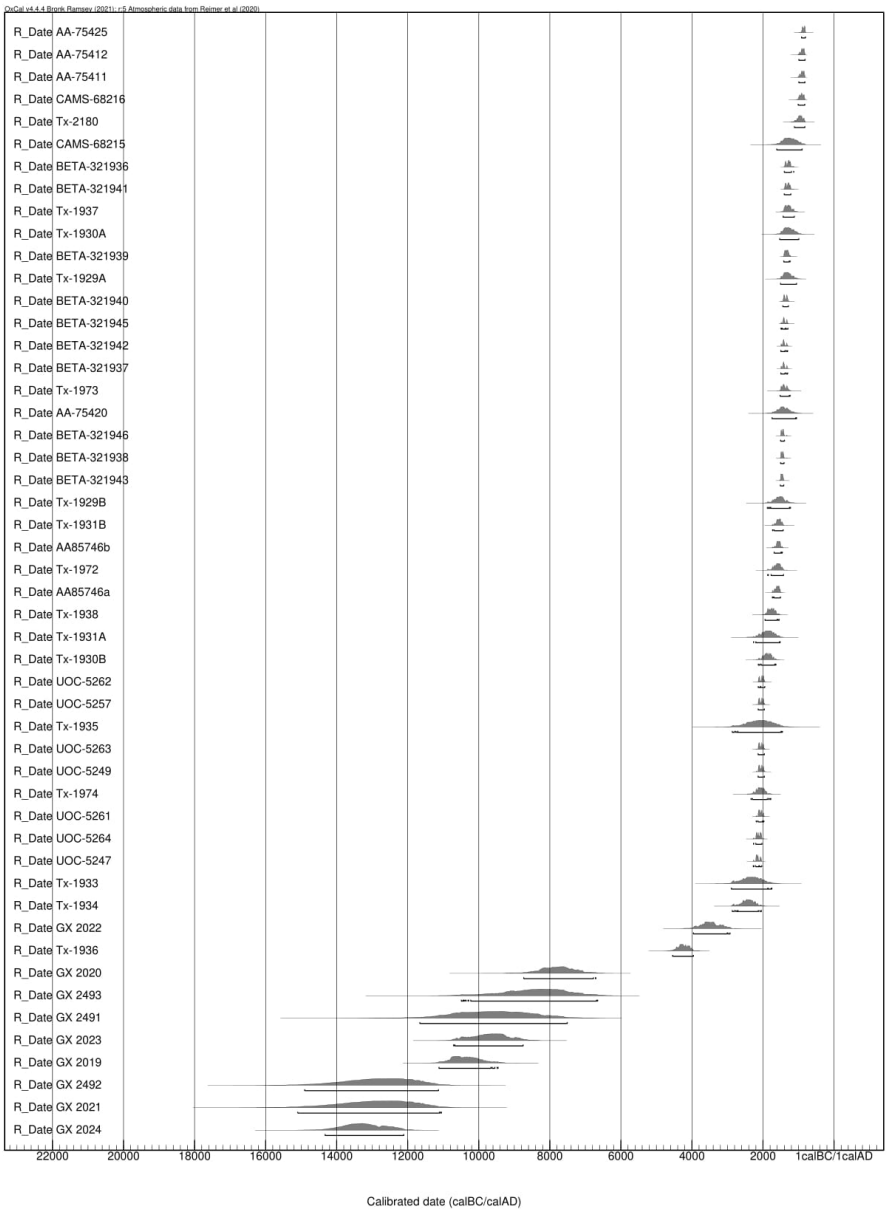
R_Date K4649
R_Date Beta-152614
R_Date Tx-1939
R_Date UOC-5256
R_Date AA-75417
R_Date CAMS-68214
R_Date AA-75410
R_Date AA-75418
R_Date AA-75421
R_Date AA-75422
R_Date AA-75413
R_Date AA-75423
R_Date AA-75414
R_Date AA-75424
R_Date AA-75415
2200
2000
1800
1600
1400
1200
1000
800
600
400
200
1calBC/1calAD
201
401
601
801
Calibrated date (calBC/calAD)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R_Date BETA-321941
R_Date Tx-1937
R_Date Tx-1930A
R_Date BETA-321939
R_Date Tx-1929A
R_Date BETA-321940
R_Date BETA-321945
R_Date BETA-321942
R_Date BETA-321937
R_Date Tx-1973
R_Date AA-75420
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R_Date BETA-321938
R_Date BETA-321943
R_Date Tx-1929B
R_Date Tx-1931B
R_Date AA85746b
R_Date Tx-1972
R_Date AA85746a
R_Date Tx-1938
R_Date Tx-1931A
R_Date Tx-1930B
R_Date UOC-5262
R_Date UOC-5257
R_Date Tx-1935
R_Date UOC-5263
R_Date UOC-5249
R_Date Tx-1974
R_Date UOC-5261
R_Date UOC-5264
R_Date UOC-5247
R_Date Tx-1933
R_Date Tx-1934
R_Date GX 2022
R_Date Tx-1936
R_Date GX 2020
R_Date GX 2493
R_Date GX 2491
R_Date GX 2023
R_Date GX 2019
R_Date GX 2492
R_Date GX 2021
R_Date GX 2024
22000
20000
18000
16000
14000
12000
10000
8000
6000
4000
2000
1calBC/1calAD
Calibrated date (calBC/calAD)

APPENDIX G: VICEROYALTY ERA CENSUS, DEMOGRAPHIC, AND LAND TENURE DATA

This appendix presents the Viceroyalty Era census, demographic, and land tenure data from the Moche Valley. These data were collected during and following my time at Dumbarton Oaks and were enabled by the library's archives, library, and collections. This being said, these data were not the focus of this dissertation and the census and demographic data of the *chaupiyungas* in particular warrants a deeper dive into local archives. Those from Trujillo likely have more information available that will benefit from a similar dive, although some documents were simply not available to me during the COVID pandemic while this section was being written. The rationale and descriptions of how these data were assembled and analyzed are provided in detail within the text of Chapter 4.

Table G.1 Moche Valley Census Data from 1570 – 1620 CE

Moche Valley Census Data from 1570-1620 *Adapted from Cook and Lynch (Cook 1981:139-141; Lynch 1973: 47)*		
Town/Area	**Race/Status**	**Population Estimate**
Trujillo		3379 - 4209
	Whites*	925 - 1017
	Mestizos**	925 - 925
	Indios***	456 - 1194
	Black (+)	1073 - 1073
Chimo & Guanchaco	Indios	1660 - 1660
Moche	Indios	364 - 364
Total		4478 - 6233
Total "Indios"		2480 - 3218

***Combined with mestizos (925 people) in Cook but is own category (1017 people) in Lynch.**

****Combined with Whites (925 people) in Cook but is own category (925 people) in Lynch.**

*****Cook notes 456 people are living as "vecinos" within the city while 738 were possibly living outside in their own houses**

(+)Cook notes 81 freed slaves amongst these people

Table G.2 Moche Valley Demographic Estimates from Population Decline (1450 – 1575 CE)

Moche Valley Demographic Estimates from Population Decline (1450-1575)							
Decline Estimates taken from Cook 1981:106							
Year	**North Coast Population Decline Estimates (-2.2%/Year)**				**South Coast Population Decline Estimates (-3.8%/Year)**		
	Low Estimate	-	*High Estimate**		*Low Estimate*	-	*High Estimate**
1450	***40003***	**-**	***51907***		***314462***	**-**	***408039***
1451	39123	-	50765		302512	-	392534
1452	38262	-	49649		291017	-	377618
1453	37421	-	48556		279958	-	363268
1454	36597	-	47488		269320	-	349464
1455	35792	-	46443		259085	-	336184
1456	35005	-	45422		249240	-	323409
1457	34235	-	44422		239769	-	311120
1458	33482	-	43445		230658	-	299297
1459	32745	-	42489		221893	-	287924
1460	32025	-	41554		213461	-	276983
1461	31320	-	40640		205349	-	266457
1462	30631	-	39746		197546	-	256332
1463	29957	-	38872		190039	-	246591
1464	29298	-	38017		182818	-	237221
1465	28653	-	37180		175871	-	228207
1466	28023	-	36362		169188	-	219535
1467	27407	-	35562		162759	-	211192
1468	26804	-	34780		156574	-	203167
1469	26214	-	34015		150624	-	195447
1470	***25637***	**-**	***33266***		***144900***	**-**	***188020***
1471	25073	-	32535		139394	-	180875
1472	24522	-	31819		134097	-	174002
1473	23982	-	31119		129001	-	167390
1474	23455	-	30434		124099	-	161029
1475	22939	-	29765		119384	-	154910
1476	22434	-	29110		114847	-	149023
1477	21940	-	28469		110483	-	143360
1478	21458	-	27843		106284	-	137913
1479	20986	-	27231		102246	-	132672

1480	20524	-	26631		98360	-	127630
1481	20072	-	26046		94623	-	122780
1482	19631	-	25473		91027	-	118115
1483	19199	-	24912		87568	-	113626
1484	18777	-	24364		84240	-	109309
1485	18363	-	23828		81039	-	105155
1486	17959	-	23304		77960	-	101159
1487	17564	-	22791		74997	-	97315
1488	17178	-	22290		72147	-	93617
1489	16800	-	21799		69406	-	90060
1490	16430	-	21320		66768	-	86637
1491	16069	-	20851		64231	-	83345
1492	15715	-	20392		61790	-	80178
1493	15370	-	19943		59442	-	77131
1494	15032	-	19505		57184	-	74200
1495	14701	-	19076		55011	-	71381
1496	14377	-	18656		52920	-	68668
1497	14061	-	18245		50909	-	66059
1498	13752	-	17844		48975	-	63549
1499	13449	-	17452		47114	-	61134
1500	13153	-	17068		45323	-	58811
1501	12864	-	16692		43601	-	56576
1502	12581	-	16325		41944	-	54426
1503	12304	-	15966		40350	-	52358
1504	12034	-	15614		38817	-	50368
1505	11769	-	15271		37342	-	48454
1506	11510	-	14935		35923	-	46613
1507	11257	-	14606		34558	-	44842
1508	11009	-	14285		33245	-	43138
1509	10767	-	13971		31981	-	41498
1510	10530	-	13663		30766	-	39921
1511	10298	-	13363		29597	-	38404
1512	10072	-	13069		28472	-	36945
1513	9850	-	12781		27390	-	35541
1514	9633	-	12500		26349	-	34191
1515	9422	-	12225		25348	-	32891

1516	9214	-	11956		24385	-	31641
1517	9012	-	11693		23458	-	30439
1518	8813	-	11436		22567	-	29282
1519	8619	-	11184		21709	-	28170
1520	8430	-	10938		20884	-	27099
1521	8244	-	10698		20091	-	26069
1522	8063	-	10462		19327	-	25079
1523	7886	-	10232		18593	-	24126
1524	7712	-	10007		17886	-	23209
1525	7542	-	9787		17207	-	22327
1526	7376	-	9572		16553	-	21479
1527	7214	-	9361		15924	-	20662
1528	7055	-	9155		15319	-	19877
1529	6900	-	8954		14737	-	19122
1530	6748	-	8757		14177	-	18395
1531	6600	-	8564		13638	-	17696
1532	***6455***	***-***	***8376***		***13120***	***-***	***17024***
1533	6313	-	8191		12621	-	16377
1534	6174	-	8011		12142	-	15755
1535	6038	-	7835		11680	-	15156
1536	5905	-	7663		11236	-	14580
1537	5775	-	7494		10809	-	14026
1538	5648	-	7329		10399	-	13493
1539	5524	-	7168		10003	-	12980
1540	5402	-	7010		9623	-	12487
1541	5284	-	6856		9258	-	12013
1542	5167	-	6705		8906	-	11556
1543	5054	-	6558		8567	-	11117
1544	4943	-	6413		8242	-	10694
1545	4834	-	6272		7929	-	10288
1546	4727	-	6134		7627	-	9897
1547	4623	-	5999		7338	-	9521
1548	4522	-	5867		7059	-	9159
1549	4422	-	5738		6790	-	8811
1550	4325	-	5612		6532	-	8476
1551	4230	-	5488		6284	-	8154

1552	4137	-	5368		6045	-	7844
1553	4046	-	5250		5816	-	7546
1554	3957	-	5134		5595	-	7260
1555	3870	-	5021		5382	-	6984
1556	3785	-	4911		5178	-	6718
1557	3701	-	4803		4981	-	6463
1558	3620	-	4697		4792	-	6217
1559	3540	-	4594		4609	-	5981
1560	3462	-	4493		4434	-	5754
1561	3386	-	4394		4266	-	5535
1562	3312	-	4297		4104	-	5325
1563	3239	-	4203		3948	-	5123
1564	3168	-	4110		3798	-	4928
1565	3098	-	4020		3653	-	4741
1566	3030	-	3931		3515	-	4560
1567	2963	-	3845		3381	-	4387
1568	2898	-	3760		3253	-	4220
1569	2834	-	3678		3129	-	4060
1570	2772	-	3597		3010	-	3906
1571	2711	-	3517		2896	-	3757
1572	2651	-	3440		2786	-	3615
1573	2593	-	3364		2680	-	3477
1574	2536	-	3290		2578	-	3345
1575	***2480***	**-**	***3218***		***2480***	**-**	***3218***

***The low and high here are taken from the ranges of "Indios" reported in Table G.1**

Table G.3 Demography of the Moche Valley in the 1760s CE

Demography of the Moche Valley in the 1760s *Adapted from Feijoo de Sosa 1763:74-100*							
Settlement Name	**Distance from Trujillo**		**Demography**				
	Leagues	*Kilometers*	*White*	*Mestizo*	*Indigenous*	*African (Slave)*	*Total*
Trujillo	0	0	3050	2300	289	3650	9289
Moche	2	8			473		473
Guanchaco	2	8		43	388		431
Simbal	6	25		226	173		399
Mansiche	0	0			209		209
Guaman	0.5	2			92		92
San Nicolas	2	8				73	73
Collambay	7	30			14	26	40
Galindo	3	13				40	40
Trinidad	1	4				28	28
Menocucho	5	21				20	20
Bermejo	1	4				13	13
Santo Domingo	3	13				10	10
Barraza	1	4				10	10
Villanueva	0.5	2				8	8
Compania de Jesus	1	4				7	7
Grajal	0.25	1				7	7
Santo Domingo	0	0				6	6
Moncada	1	4				4	4
Fontao	0	0				4	4
Curas	1	4				3	3
Bethlen	1	4				3	3
Queri	1	4				3	3
Trillo	0.5	2				3	3
Aranjuez	0	0				3	3
Colmenero	2	8				3	3
Encalada	0.5	2				3	3
Carmen	0.5	2				3	3
Torres	0.5	2				3	3
Noriega	0.25	1				2	2
Gudino	0	0				2	2
Quirihuac	3	13					0
San Agustin	2.5	11					0
La Merced	2	8					0
Aldea		0					0
Santa Clara	1	4					0
Merced	1	4					0
Chivato	1	4					0

Zubiate	0	0					0
Quiros	2	8					0
Ximenez	0	0					0
Bustillo	0	0					0
Pena	0	0					0
Total			3050	2569	1638	3937	11194
Percent Total			27%	23%	15%	35%	100%

Table G.4 Landholdings in the Moche Valley in the 1760s CE

Landholdings in the Moche Valley in the 1760s							
Adapted from Feijoo de Sosa 1763:74-100							
Property		**Distance from Trujillo**		**Size**		**Owner**	
Name	*Type*	*Leagues*	*Kilometers*	*Fanegados*	*Hectares*	*Primary Owner*	*Assignation*
Collambay	Hacienda Trapiche	7	30	50	150	Monastary Santa Clara	Catholic Church
Menacucho	Hacienda Trapiche	5	21	90	270	Convent San Agustin	Catholic Church
Quirihuac	Hacienda de Pan-Llevar	3	13	50	150	Don Gregorio Mora Chimo (Cacique of Guaman)	Indigenous Noble/Community
Santo Domingo	Hacienda Trapiche	3	13	50	150	Convent Santo Domingo	Catholic Church
Galindo	Hacienda Trapiche	3	13	239	717	Don Francisco Xavier de la Torre	Spanish Authority/Family
San Agustin	Hacienda	2.5	11	205	615	Convent San Agustin	Catholic Church
La Merced	Hacienda	2	8	120	360	Convent de la Merced	Catholic Church
San Nicolas	Hacienda Trapiche	2	8	79	237	Doctor Don Gaspar Antonio Remirez y Laredo	Spanish Authority/Family
Trinidad	Hacienda Trapiche	1	4	99	297	Don Juan Roldan	Spanish Authority/Family
Aldea	Hacienda de Pan-Llevar		0	6	18	Don Martin de Aranda	Spanish Authority/Family
Barraza	Hacienda	1	4	23	69	Don Christoval Barraza	Spanish Authority/Family
Curas	Hacienda de Pan-Llevar	1	4	9	27	Don Joseph Antonio Bonazategui	Spanish Authority/Family
Santa Clara	Hacienda de Pan-Llevar	1	4	23	69	Monastary Santa Clara	Catholic Church
Bethlen	Hacienda de Pan-Llevar	1	4	23	69	Hospitalidad Bethlemitica	Spanish Authority/Family
Merced	Hacienda	1	4	13.5	41	Convent de la Merced	Catholic Church
Bermejo	Hacienda	1	4	50	150	Don Lucas Geronymo Bermejo	Spanish Authority/Family
Moncada	Hacienda de Pan-Llevar	1	4	33	99	Alferez Real Don Nicolas de Moncada Galindo	Spanish Authority/Family
Compania de Jesus	Hacienda de Pan-Llevar	1	4	40	120	Colegio de Trujillo	Spanish Authority/Family
Chivato	Hacienda de Pan-Llevar	1	4	17	51	Don Juan Antonio Pando	Spanish Authority/Family
Queri	Hacienda de Pan-Llevar	1	4	30	90	Don Joseph Queri	Spanish Authority/Family
Trillo	Hacienda de Pan-Llevar	0.5	2	23	69	Dona Cathalina Trillo	Spanish Authority/Family
Noriega	Hacienda de Pan-Llevar	0.25	1	23	69	Don Pedro Gonzalez de Noriega	Spanish Authority/Family
Aranjuez	Hacienda	0	0	35	105	Don Cayetano Bazan	Spanish Authority/Family
Zubiate	Hacienda y Molino	0	0	44	132	Pueblo of Mansiche	Indigenous Noble/Community
Fontao	Hacienda	0	0	8	24	Dona Hilaria de Turriaga	Spanish Authority/Family
Grajal	Hacienda de Pan-Llevar	0.25	1	65	195	Don Matheo Grajal	Spanish Authority/Family
Villanueva	Hacienda	0.5	2	25	75	Doctor Don Agustin de Morales y Sotomayor	Spanish Authority/Family
Gudino	Hacienda de Pan-Llevar	0	0	6	18	Don Francisco Xavier Velarde	Spanish Authority/Family
Colmenero	Hacienda	2	8	3	9	Dona Josepha Nuncibay*	Spanish Authority/Family
Quiros	Hacienda	2	8	60	180	Dona Juana Joachina Roldan	Spanish Authority/Family
Encalada	Hacienda	0.5	2	24	72	Don Lorenzo Encalada	Spanish Authority/Family
Carmen	Hacienda	0.5	2	24	72	Monastery Carmen	Catholic Church
Torres	Hacienda	0.5	2	2	6	Dona Maria Ana de Torres	Spanish Authority/Family
Santo Domingo	Hacienda	0	0	10	30	Convent Santo Domingo	Catholic Church
Ximenez	Hacienda	0	0	5	15	Thomas Yocton	Indigenous Noble/Community
Bustillo	Hacienda	0	0	4	12	Dona Maria Theresa Ramirez y Laredo	Spanish Authority/Family
Pena	Hacienda	0	0	5	15	Pueblo of Mansiche	Indigenous Noble/Community
Guaman and Moche	Assorted Chacras	0	0	206	618	Pueblos of Guaman and Moche	Indigenous Noble/Community
Mansiche and Guanchaco	Assorted Chacras	2	8	410	1230	Pueblos of Mansiche and Guanchaco	Indigenous Noble/Community
Group			**% Total**	**Fanegados**	**Hectares**		
Indigenous Noble/Community			32%	720	2160		
Spanish Authority/Family			41%	926	2778		
Catholic Church			25%	562.5	1688		
TOTAL			100%	2231.5	6695		

***Widow of Don Phelipe Coronel, her surname "Nuncibay" sounds like it could be Culle with the "-bay" suffix.**

Table G.5 Huamachuco *Chaupiyunga* Demographic Estimates from Population Decline (1450 – 1567 CE)

Huamachuco *Chaupiyunga* Population Estimates from Population Decline (1450-1567)* *Decline Estimates taken from Cook 1981:106*			
Year	**Population Decline Estimates**		
	North Sierra (-1.2%/Year)	-	*North Coast (-2.2%/Year)*
1450	***4106***	***-***	***13501***
1451	4057	-	13204
1452	4008	-	12913
1453	3960	-	12629
1454	3913	-	12351
1455	3866	-	12079
1456	3819	-	11814
1457	3773	-	11554
1458	3728	-	11300
1459	3683	-	11051
1460	3639	-	10808
1461	3596	-	10570
1462	3552	-	10338
1463	3510	-	10110
1464	3468	-	9888
1465	3426	-	9670
1466	3385	-	9457
1467	3344	-	9249
1468	3304	-	9046
1469	3265	-	8847
1470	***3225***	***-***	***8652***
1471	3187	-	8462
1472	3148	-	8276
1473	3111	-	8094
1474	3073	-	7916
1475	3036	-	7742
1476	3000	-	7571
1477	2964	-	7405
1478	2928	-	7242
1479	2893	-	7082
1480	2859	-	6927
1481	2824	-	6774
1482	2790	-	6625
1483	2757	-	6479
1484	2724	-	6337
1485	2691	-	6197
1486	2659	-	6061
1487	2627	-	5928

1488	2595	5797
1489	2564	5670
1490	2533	5545
1491	2503	5423
1492	2473	5304
1493	2443	5187
1494	2414	5073
1495	2385	4961
1496	2356	4852
1497	2328	4745
1498	2300	4641
1499	2273	4539
1500	2245	4439
1501	2218	4341
1502	2192	4246
1503	2165	4153
1504	2140	4061
1505	2114	3972
1506	2088	3884
1507	2063	3799
1508	2039	3715
1509	2014	3634
1510	1990	3554
1511	1966	3476
1512	1943	3399
1513	1919	3324
1514	1896	3251
1515	1873	3180
1516	1851	3110
1517	1829	3041
1518	1807	2974
1519	1785	2909
1520	1764	2845
1521	1743	2782
1522	1722	2721
1523	1701	2661
1524	1681	2603
1525	1660	2545
1526	1640	2489
1527	1621	2435
1528	1601	2381
1529	1582	2329
1530	1563	2278
1531	1544	2227

1532	***1526 - 2178***
1533	1508 - 2130
1534	1489 - 2084
1535	1472 - 2038
1536	1454 - 1993
1537	1436 - 1949
1538	1419 - 1906
1539	1402 - 1864
1540	1385 - 1823
1541	1369 - 1783
1542	1352 - 1744
1543	1336 - 1706
1544	1320 - 1668
1545	1304 - 1631
1546	1289 - 1595
1547	1273 - 1560
1548	1258 - 1526
1549	1243 - 1492
1550	1228 - 1460
1551	1213 - 1428
1552	1199 - 1396
1553	1184 - 1365
1554	1170 - 1335
1555	1156 - 1306
1556	1142 - 1277
1557	1128 - 1249
1558	1115 - 1222
1559	1101 - 1195
1560	1088 - 1168
1561	1075 - 1143
1562	1062 - 1118
1563	1049 - 1093
1564	1037 - 1069
1565	1024 - 1045
1566	1012 - 1022
1567	***1000 - 1000***

***Highly suspect mainly because (1) I am unsure about the count of 330 household heads (~1000 people estimate) and (2) these are populations that would theoretically be ALL of the *chaupiyungas* in Huamachuco (Moche, Virú, Chao)**

APPENDIX H: MOCHE VALLEY CULTIVABLE LAND AND WATER SHORTFALL ESTIMATES BY PHASE

This appendix is devoted to the calculations and estimates of cultivable land and possible water shortfalls by phase in the Moche Valley. The baseline data were derived from the canal and cultivable land estimates made in Appendix C, which are summarized by phase in Table H.1. These figures were then combined with the historical data on surface and subsurface water in the Moche Valley discussed in Chapter 3 and presented in ONERN (1973: 183, 194-197). Specifically, the same 76% and 15% figures were applied to the annual flow figures from ONERN for the first and second planting season with the 58.85 million cubic meters of sub-surface water being split between the two seasons (Billman 1996:41). These water estimates were then applied to the water requirements for maize obtained by ONERN: around 12,642 m^3 per hectare. It is important to note that these estimates are based on historical data and the assumption that the 40 years of the ONERN survey are more-or-less representative of certain parts of pre-history. The results of the simplest application of these estimates to all cultivable areas by phase are presented in Table H.2, Table H.3, Table H.4, Table H.5, Table H.6, and Table H.7. An additional set of calculations was necessary for distributing water first to *chaupiyunga* canals and then to *chala* canals as well as making the sub-surface water only available to *chala* fields. As with the Chapter 3 calculations, the Quirihuac area was used as the cut-off for *chaupiyunga* vs. *chala*. The results of these more sub-region-specific data are presented by phase in Table H.8, Table H.9, Table H.10, Table H.11, Table H.12, and Table H.13. For all of these tables, a red highlight is used to note the years in which only under half of the fields in any given region were able to be watered. These figures are obviously quite rough but at least allow for some coarse-grained understandings of how frequent water shortages may have been occurring at different time periods in the past. Importantly, the intervalley canal was <u>not</u> taken into account for any of these calculations.

Table H.1 Cultivable Land Minimums and Maximums by Phase and Region

Cultivable Land Minimums and Maximums by Phase and Region						
Phase	**All (ha)**		***Chala* (ha)**		***Chaupiyunga* (ha)**	
	Minimum	*Maximum*	*Minimum*	*Maximum*	*Minimum*	*Maximum*
Guañape Phase (~1600 - 500 BCE)	2585	5254	2020	4328	681	926
Salinar Phase (~500 - 1 BCE)	3752	7440	2578	5947	1174	1493
Gallinazo Phase (~1 - 400 CE)	3068	11373	1894	9367	1174	2006
Moche Phase (~400 - 900 CE)	15895	19093	14172	17213	1723	1880
Chimú Phase (~900 - 1450s CE)	19826	19826	17751	17751	2075	2075
Chimú-Inka Phase (~1450s - 1530s CE)	11681	14827	10469	12752	1212	2075

Table H.2 General Guañape Phase Cultivable Land and Water Shortfall Estimates

General Guañape Phase Cultivable Land and Water Shortfall Estimates (% of cultivable land watered per season)				
Recorded Year	***Minimum (ha)***		***Maximum (ha)***	
	First Season	*Second Season*	*First Season*	*Second Season*
1933	100%	100%	100%	100%
1948	100%	100%	100%	100%
1934	100%	100%	100%	100%
1967	100%	100%	100%	100%
1946	100%	100%	100%	100%
1962	100%	100%	100%	100%
1956	100%	100%	100%	100%
1953	100%	100%	100%	100%
1957	100%	100%	100%	100%
1935	100%	100%	100%	100%
1964	100%	100%	100%	100%
1952	100%	100%	100%	100%
1945	100%	100%	100%	100%
1944	100%	100%	100%	100%
1936	100%	100%	100%	100%

1947	100%	100%	100%	100%
1943	100%	100%	100%	100%
1932	100%	100%	100%	100%
1970	100%	100%	100%	100%
1959	100%	100%	100%	100%
1954	100%	100%	100%	100%
1955	100%	100%	100%	100%
1941	100%	100%	100%	100%
1949	100%	100%	100%	100%
1939	100%	100%	100%	96%
1969	100%	100%	100%	96%
1965	100%	100%	100%	92%
1960	100%	100%	100%	92%
1966	100%	100%	100%	90%
1940	100%	100%	100%	89%
1938	100%	100%	100%	89%
1958	100%	100%	100%	88%
1963	100%	100%	100%	87%
1961	100%	100%	100%	82%
1931	100%	100%	100%	75%
1937	100%	100%	100%	71%
1951	100%	100%	100%	68%
1942	100%	100%	100%	66%
1950	100%	100%	100%	62%
1968	100%	100%	100%	56%

Table H.3 General Salinar Phase Cultivable Land and Water Shortfall Estimates

General Salinar Phase Cultivable Land and Water Shortfall Estimates (% of cultivable land watered per season)				
Recorded Year	***Minimum (ha)***		***Maximum (ha)***	
	First Season	*Second Season*	*First Season*	*Second Season*
1933	100%	100%	100%	100%
1948	100%	100%	100%	100%
1934	100%	100%	100%	100%
1967	100%	100%	100%	100%
1946	100%	100%	100%	100%
1962	100%	100%	100%	100%
1956	100%	100%	100%	100%
1953	100%	100%	100%	100%
1957	100%	100%	100%	99%
1935	100%	100%	100%	94%
1964	100%	100%	100%	94%
1952	100%	100%	100%	93%

1945	100%	100%	100%	92%
1944	100%	100%	100%	90%
1936	100%	100%	100%	86%
1947	100%	100%	100%	83%
1943	100%	100%	100%	82%
1932	100%	100%	100%	79%
1970	100%	100%	100%	77%
1959	100%	100%	100%	76%
1954	100%	100%	100%	74%
1955	100%	100%	100%	71%
1941	100%	100%	100%	71%
1949	100%	100%	100%	71%
1939	100%	100%	100%	68%
1969	100%	100%	100%	68%
1965	100%	100%	100%	65%
1960	100%	100%	100%	65%
1966	100%	100%	100%	64%
1940	100%	100%	100%	63%
1938	100%	100%	100%	63%
1958	100%	100%	100%	62%
1963	100%	100%	100%	61%
1961	100%	100%	100%	58%
1931	100%	100%	100%	53%
1937	100%	100%	100%	50%
1951	100%	95%	100%	48%
1942	100%	93%	100%	47%
1950	100%	86%	94%	44%
1968	100%	79%	74%	40%

Table H.4 General Gallinazo Phase Cultivable Land and Water Shortfall Estimates

General Gallinazo Phase Cultivable Land and Water Shortfall Estimates (% of cultivable land watered per season)				
Recorded Year	***Minimum (ha)***		***Maximum (ha)***	
	First Season	*Second Season*	*First Season*	*Second Season*
1933	100%	100%	100%	97%
1948	100%	100%	100%	79%
1934	100%	100%	100%	79%
1967	100%	100%	100%	72%
1946	100%	100%	100%	70%
1962	100%	100%	100%	70%
1956	100%	100%	100%	69%
1953	100%	100%	100%	67%

1957	100%	100%	100%	65%
1935	100%	100%	100%	62%
1964	100%	100%	100%	61%
1952	100%	100%	100%	61%
1945	100%	100%	100%	60%
1944	100%	100%	100%	59%
1936	100%	100%	100%	56%
1947	100%	100%	100%	54%
1943	100%	100%	100%	53%
1932	100%	100%	100%	52%
1970	100%	100%	100%	50%
1959	100%	100%	100%	50%
1954	100%	100%	100%	49%
1955	100%	100%	100%	47%
1941	100%	100%	100%	47%
1949	100%	100%	100%	46%
1939	100%	100%	100%	45%
1969	100%	100%	100%	44%
1965	100%	100%	100%	43%
1960	100%	100%	100%	43%
1966	100%	100%	100%	42%
1940	100%	100%	100%	41%
1938	100%	100%	100%	41%
1958	100%	100%	100%	41%
1963	100%	100%	100%	40%
1961	100%	100%	100%	38%
1931	100%	100%	93%	35%
1937	100%	100%	84%	33%
1951	100%	100%	76%	31%
1942	100%	100%	72%	31%
1950	100%	100%	61%	29%
1968	100%	96%	49%	26%

Table H.5 General Moche Phase Cultivable Land and Water Shortfall Estimates

General Moche Phase Cultivable Land and Water Shortfall Estimates (% of cultivable land watered per season)				
Recorded Year	***Minimum (ha)***		***Maximum (ha)***	
	First Season	*Second Season*	*First Season*	*Second Season*
1933	100%	70%	100%	58%
1948	100%	57%	100%	47%
1934	100%	56%	100%	47%
1967	100%	51%	100%	43%

1946	100%	50%	100%	42%
1962	100%	50%	100%	42%
1956	100%	49%	100%	41%
1953	100%	48%	100%	40%
1957	100%	46%	100%	38%
1935	100%	44%	100%	37%
1964	100%	44%	100%	37%
1952	100%	44%	100%	36%
1945	100%	43%	100%	36%
1944	100%	42%	100%	35%
1936	100%	40%	100%	34%
1947	100%	39%	100%	32%
1943	100%	38%	100%	32%
1932	100%	37%	100%	31%
1970	100%	36%	100%	30%
1959	100%	35%	100%	30%
1954	100%	35%	97%	29%
1955	100%	33%	91%	28%
1941	100%	33%	91%	28%
1949	100%	33%	90%	28%
1939	100%	32%	85%	27%
1969	100%	32%	84%	26%
1965	95%	30%	79%	25%
1960	95%	30%	79%	25%
1966	91%	30%	76%	25%
1940	90%	29%	75%	25%
1938	89%	29%	74%	24%
1958	87%	29%	73%	24%
1963	85%	29%	71%	24%
1961	78%	27%	65%	23%
1931	66%	25%	55%	21%
1937	60%	24%	50%	20%
1951	55%	23%	45%	19%
1942	52%	22%	43%	18%
1950	44%	20%	36%	17%
1968	35%	19%	29%	15%

Table H.6 General Chimú Phase Cultivable Land and Water Shortfall Estimates

General Chimu Phase Cultivable Land and Water Shortfall Estimates (% of cultivable land watered per season)				
Recorded Year	***Minimum (ha)***		***Maximum (ha)***	
	First Season	*Second Season*	*First Season*	*Second Season*

1933	100%	56%	100%	56%
1948	100%	45%	100%	45%
1934	100%	45%	100%	45%
1967	100%	41%	100%	41%
1946	100%	40%	100%	40%
1962	100%	40%	100%	40%
1956	100%	39%	100%	39%
1953	100%	38%	100%	38%
1957	100%	37%	100%	37%
1935	100%	35%	100%	35%
1964	100%	35%	100%	35%
1952	100%	35%	100%	35%
1945	100%	35%	100%	35%
1944	100%	34%	100%	34%
1936	100%	32%	100%	32%
1947	100%	31%	100%	31%
1943	100%	31%	100%	31%
1932	100%	30%	100%	30%
1970	99%	29%	99%	29%
1959	96%	28%	96%	28%
1954	94%	28%	94%	28%
1955	88%	27%	88%	27%
1941	87%	27%	87%	27%
1949	87%	27%	87%	27%
1939	82%	26%	82%	26%
1969	81%	25%	81%	25%
1965	76%	24%	76%	24%
1960	76%	24%	76%	24%
1966	73%	24%	73%	24%
1940	72%	24%	72%	24%
1938	71%	23%	71%	23%
1958	70%	23%	70%	23%
1963	69%	23%	69%	23%
1961	63%	22%	63%	22%
1931	53%	20%	53%	20%
1937	48%	19%	48%	19%
1951	44%	18%	44%	18%
1942	42%	18%	42%	18%
1950	35%	16%	35%	16%
1968	28%	15%	28%	15%

Table H.7 General Chimú-Inka Phase Cultivable Land and Water Shortfall Estimates

General Chimu-Inka Phase Cultivable Land and Water Shortfall Estimates (% of cultivable land watered per season)				
Recorded Year	***Minimum (ha)***		***Maximum (ha)***	
	First Season	*Second Season*	*First Season*	*Second Season*
1933	100%	95%	100%	75%
1948	100%	77%	100%	61%
1934	100%	76%	100%	60%
1967	100%	70%	100%	55%
1946	100%	68%	100%	54%
1962	100%	68%	100%	53%
1956	100%	67%	100%	53%
1953	100%	65%	100%	51%
1957	100%	63%	100%	50%
1935	100%	60%	100%	47%
1964	100%	60%	100%	47%
1952	100%	59%	100%	47%
1945	100%	59%	100%	46%
1944	100%	57%	100%	45%
1936	100%	55%	100%	43%
1947	100%	53%	100%	42%
1943	100%	52%	100%	41%
1932	100%	51%	100%	40%
1970	100%	49%	100%	39%
1959	100%	48%	100%	38%
1954	100%	47%	100%	37%
1955	100%	45%	100%	36%
1941	100%	45%	100%	36%
1949	100%	45%	100%	36%
1939	100%	43%	100%	34%
1969	100%	43%	100%	34%
1965	100%	41%	100%	33%
1960	100%	41%	100%	33%
1966	100%	41%	98%	32%
1940	100%	40%	96%	32%
1938	100%	40%	95%	31%
1958	100%	39%	94%	31%
1963	100%	39%	92%	31%
1961	100%	37%	84%	29%
1931	90%	34%	71%	27%
1937	82%	32%	64%	25%
1951	74%	31%	59%	24%
1942	70%	30%	55%	24%

1950	60%	28%	47%	22%
1968	47%	25%	37%	20%

Table H.8 Region-Specific Guañape Phase Cultivable Land and Water Shortfall Estimates

Region-Specific Guañape Phase Cultivable Land and Water Shortfall Estimates (% cultivable land watered per season)								
Recorded Year	**Minimums**				**Maximums**			
	Chaupiyunga		***Chala***		***Chaupiyunga***		***Chala***	
	First Season	*Second Season*	*First Season*	*Second Season*	*First Season*	*Second Season*	*First Season*	*Second Season*
1933	100%	100%	100%	100%	100%	100%	100%	100%
1948	100%	100%	100%	100%	100%	100%	100%	100%
1934	100%	100%	100%	100%	100%	100%	100%	100%
1967	100%	100%	100%	100%	100%	100%	100%	100%
1946	100%	100%	100%	100%	100%	100%	100%	100%
1962	100%	100%	100%	100%	100%	100%	100%	100%
1956	100%	100%	100%	100%	100%	100%	100%	100%
1953	100%	100%	100%	100%	100%	100%	100%	100%
1957	100%	100%	100%	100%	100%	100%	100%	100%
1935	100%	100%	100%	100%	100%	100%	100%	100%
1964	100%	100%	100%	100%	100%	100%	100%	100%
1952	100%	100%	100%	100%	100%	100%	100%	100%
1945	100%	100%	100%	100%	100%	100%	100%	100%
1944	100%	100%	100%	100%	100%	100%	100%	100%
1936	100%	100%	100%	100%	100%	100%	100%	100%
1947	100%	100%	100%	100%	100%	100%	100%	100%
1943	100%	100%	100%	100%	100%	100%	100%	100%
1932	100%	100%	100%	100%	100%	100%	100%	100%
1970	100%	100%	100%	100%	100%	100%	100%	100%
1959	100%	100%	100%	100%	100%	100%	100%	100%
1954	100%	100%	100%	100%	100%	100%	100%	100%
1955	100%	100%	100%	100%	100%	100%	100%	100%
1941	100%	100%	100%	100%	100%	100%	100%	100%
1949	100%	100%	100%	100%	100%	100%	100%	100%
1939	100%	100%	100%	100%	100%	100%	100%	96%
1969	100%	100%	100%	100%	100%	100%	100%	95%
1965	100%	100%	100%	100%	100%	100%	100%	90%
1960	100%	100%	100%	100%	100%	100%	100%	90%
1966	100%	100%	100%	100%	100%	100%	100%	88%
1940	100%	100%	100%	100%	100%	100%	100%	87%
1938	100%	100%	100%	100%	100%	100%	100%	86%
1958	100%	100%	100%	100%	100%	100%	100%	85%
1963	100%	100%	100%	100%	100%	100%	100%	84%

1961	100%	100%	100%	100%	100%	100%	100%	78%
1931	100%	100%	100%	100%	100%	100%	100%	70%
1937	100%	100%	100%	100%	100%	100%	100%	65%
1951	100%	100%	100%	100%	100%	100%	100%	61%
1942	100%	100%	100%	100%	100%	100%	100%	59%
1950	100%	100%	100%	100%	100%	99%	100%	54%
1968	100%	93%	100%	100%	100%	68%	100%	54%

Table H.9 Region-Specific Salinar Phase Cultivable Land and Water Shortfall Estimates

Salinar Phase Cultivable Land and Water Shortfall Estimates (% of cultivable land watered per season)								
Recorded Year	**Minimums**				**Maximums**			
	Chaupiyunga		***Chala***		***Chaupiyunga***		***Chala***	
	First Season	*Second Season*	*First Season*	*Second Season*	*First Season*	*Second Season*	*First Season*	*Second Season*
1933	100%	100%	100%	100%	100%	100%	100%	100%
1948	100%	100%	100%	100%	100%	100%	100%	100%
1934	100%	100%	100%	100%	100%	100%	100%	100%
1967	100%	100%	100%	100%	100%	100%	100%	100%
1946	100%	100%	100%	100%	100%	100%	100%	100%
1962	100%	100%	100%	100%	100%	100%	100%	100%
1956	100%	100%	100%	100%	100%	100%	100%	100%
1953	100%	100%	100%	100%	100%	100%	100%	100%
1957	100%	100%	100%	100%	100%	100%	100%	98%
1935	100%	100%	100%	100%	100%	100%	100%	93%
1964	100%	100%	100%	100%	100%	100%	100%	92%
1952	100%	100%	100%	100%	100%	100%	100%	92%
1945	100%	100%	100%	100%	100%	100%	100%	90%
1944	100%	100%	100%	100%	100%	100%	100%	87%
1936	100%	100%	100%	100%	100%	100%	100%	83%
1947	100%	100%	100%	100%	100%	100%	100%	79%
1943	100%	100%	100%	100%	100%	100%	100%	77%
1932	100%	100%	100%	100%	100%	100%	100%	74%
1970	100%	100%	100%	100%	100%	100%	100%	71%
1959	100%	100%	100%	100%	100%	100%	100%	70%
1954	100%	100%	100%	100%	100%	100%	100%	68%
1955	100%	100%	100%	100%	100%	100%	100%	64%
1941	100%	100%	100%	100%	100%	100%	100%	64%
1949	100%	100%	100%	100%	100%	100%	100%	64%
1939	100%	100%	100%	100%	100%	100%	100%	60%
1969	100%	100%	100%	100%	100%	100%	100%	59%
1965	100%	100%	100%	100%	100%	100%	100%	56%
1960	100%	100%	100%	100%	100%	100%	100%	56%

1966	100%	100%	100%	100%	100%	100%	100%	55%
1940	100%	100%	100%	100%	100%	100%	100%	54%
1938	100%	100%	100%	100%	100%	100%	100%	53%
1958	100%	100%	100%	100%	100%	100%	100%	52%
1963	100%	100%	100%	100%	100%	100%	100%	51%
1961	100%	100%	100%	100%	100%	100%	100%	47%
1931	100%	100%	100%	100%	100%	100%	100%	41%
1937	100%	100%	100%	100%	100%	95%	100%	39%
1951	100%	100%	100%	93%	100%	84%	100%	39%
1942	100%	99%	100%	90%	100%	78%	100%	39%
1950	100%	78%	100%	90%	100%	61%	92%	39%
1968	100%	54%	100%	90%	100%	42%	68%	39%

Table H.10 Region-Specific Gallinazo Phase Cultivable Land and Water Shortfall Estimates

Gallinazo Phase Cultivable Land and Water Shortfall Estimates (% cultivable land watered per season)								
Recorded Year	**Minimums**				**Maximums**			
	Chaupiyunga		***Chala***		***Chaupiyunga***		***Chala***	
	First Season	*Second Season*	*First Season*	*Second Season*	*First Season*	*Second Season*	*First Season*	*Second Season*
1933	100%	100%	100%	100%	100%	100%	100%	97%
1948	100%	100%	100%	100%	100%	100%	100%	75%
1934	100%	100%	100%	100%	100%	100%	100%	74%
1967	100%	100%	100%	100%	100%	100%	100%	66%
1946	100%	100%	100%	100%	100%	100%	100%	64%
1962	100%	100%	100%	100%	100%	100%	100%	63%
1956	100%	100%	100%	100%	100%	100%	100%	62%
1953	100%	100%	100%	100%	100%	100%	100%	60%
1957	100%	100%	100%	100%	100%	100%	100%	57%
1935	100%	100%	100%	100%	100%	100%	100%	53%
1964	100%	100%	100%	100%	100%	100%	100%	53%
1952	100%	100%	100%	100%	100%	100%	100%	53%
1945	100%	100%	100%	100%	100%	100%	100%	52%
1944	100%	100%	100%	100%	100%	100%	100%	50%
1936	100%	100%	100%	100%	100%	100%	100%	47%
1947	100%	100%	100%	100%	100%	100%	100%	45%
1943	100%	100%	100%	100%	100%	100%	100%	43%
1932	100%	100%	100%	100%	100%	100%	100%	42%
1970	100%	100%	100%	100%	100%	100%	100%	40%
1959	100%	100%	100%	100%	100%	100%	100%	39%
1954	100%	100%	100%	100%	100%	100%	100%	38%
1955	100%	100%	100%	100%	100%	100%	100%	35%
1941	100%	100%	100%	100%	100%	100%	100%	35%

1949	100%	100%	100%	100%	100%	100%	100%	35%
1939	100%	100%	100%	100%	100%	100%	100%	33%
1969	100%	100%	100%	100%	100%	100%	100%	32%
1965	100%	100%	100%	100%	100%	100%	100%	30%
1960	100%	100%	100%	100%	100%	100%	100%	30%
1966	100%	100%	100%	100%	100%	100%	100%	29%
1940	100%	100%	100%	100%	100%	100%	100%	29%
1938	100%	100%	100%	100%	100%	100%	100%	28%
1958	100%	100%	100%	100%	100%	100%	100%	28%
1963	100%	100%	100%	100%	100%	100%	100%	27%
1961	100%	100%	100%	100%	100%	99%	100%	25%
1931	100%	100%	100%	100%	100%	81%	91%	25%
1937	100%	100%	100%	100%	100%	71%	80%	25%
1951	100%	100%	100%	100%	100%	63%	71%	25%
1942	100%	99%	100%	100%	100%	58%	66%	25%
1950	100%	78%	100%	100%	100%	46%	53%	25%
1968	100%	54%	100%	100%	100%	31%	38%	25%

Table H.11 Region-Specific Moche Phase Cultivable Land and Water Shortfall Estimates

Moche Phase Cultivable Land and Water Shortfall Estimates (% cultivable land watered per season)								
Recorded Year	**Minimums**				**Maximums**			
	Chaupiyunga		***Chala***		***Chaupiyunga***		***Chala***	
	First Season	*Second Season*	*First Season*	*Second Season*	*First Season*	*Second Season*	*First Season*	*Second Season*
1933	100%	100%	100%	66%	100%	100%	100%	53%
1948	100%	100%	100%	51%	100%	100%	100%	41%
1934	100%	100%	100%	51%	100%	100%	100%	41%
1967	100%	100%	100%	45%	100%	100%	100%	36%
1946	100%	100%	100%	44%	100%	100%	100%	35%
1962	100%	100%	100%	44%	100%	100%	100%	35%
1956	100%	100%	100%	43%	100%	100%	100%	34%
1953	100%	100%	100%	41%	100%	100%	100%	33%
1957	100%	100%	100%	40%	100%	100%	100%	32%
1935	100%	100%	100%	37%	100%	100%	100%	30%
1964	100%	100%	100%	37%	100%	100%	100%	30%
1952	100%	100%	100%	37%	100%	100%	100%	29%
1945	100%	100%	100%	36%	100%	100%	100%	29%
1944	100%	100%	100%	35%	100%	100%	100%	28%
1936	100%	100%	100%	33%	100%	100%	100%	26%
1947	100%	100%	100%	32%	100%	100%	100%	25%
1943	100%	100%	100%	31%	100%	100%	100%	24%
1932	100%	100%	100%	30%	100%	100%	100%	23%

1970	100%	100%	100%	28%	100%	100%	100%	22%
1959	100%	100%	100%	28%	100%	100%	100%	22%
1954	100%	100%	100%	27%	100%	100%	97%	21%
1955	100%	100%	100%	25%	100%	100%	90%	20%
1941	100%	100%	100%	25%	100%	100%	90%	20%
1949	100%	100%	100%	25%	100%	100%	89%	20%
1939	100%	100%	100%	24%	100%	100%	83%	19%
1969	100%	100%	100%	23%	100%	100%	82%	18%
1965	100%	100%	94%	22%	100%	100%	77%	17%
1960	100%	100%	94%	22%	100%	100%	76%	17%
1966	100%	100%	90%	21%	100%	100%	74%	17%
1940	100%	100%	88%	21%	100%	100%	72%	16%
1938	100%	100%	87%	21%	100%	100%	71%	16%
1958	100%	100%	86%	20%	100%	100%	70%	16%
1963	100%	100%	84%	20%	100%	100%	68%	16%
1961	100%	100%	75%	18%	100%	100%	61%	14%
1931	100%	94%	62%	16%	100%	86%	50%	14%
1937	100%	83%	55%	16%	100%	76%	44%	14%
1951	100%	73%	49%	16%	100%	67%	40%	14%
1942	100%	68%	46%	16%	100%	62%	37%	14%
1950	100%	53%	37%	16%	100%	49%	30%	14%
1968	100%	37%	27%	16%	100%	34%	21%	14%

Table H.12 Region-Specific Chimú Phase Cultivable Land and Water Shortfall Estimates

Chimu Phase Cultivable Land and Water Shortfall Estimates (% cultivable land watered per season)								
Recorded Year	**Minimums**				**Maximums**			
	Chaupiyunga		***Chala***		***Chaupiyunga***		***Chala***	
	First Season	*Second Season*	*First Season*	*Second Season*	*First Season*	*Second Season*	*First Season*	*Second Season*
1933	100%	100%	100%	51%	100%	100%	100%	51%
1948	100%	100%	100%	39%	100%	100%	100%	39%
1934	100%	100%	100%	39%	100%	100%	100%	39%
1967	100%	100%	100%	34%	100%	100%	100%	34%
1946	100%	100%	100%	33%	100%	100%	100%	33%
1962	100%	100%	100%	33%	100%	100%	100%	33%
1956	100%	100%	100%	32%	100%	100%	100%	32%
1953	100%	100%	100%	31%	100%	100%	100%	31%
1957	100%	100%	100%	30%	100%	100%	100%	30%
1935	100%	100%	100%	28%	100%	100%	100%	28%
1964	100%	100%	100%	28%	100%	100%	100%	28%
1952	100%	100%	100%	27%	100%	100%	100%	27%
1945	100%	100%	100%	27%	100%	100%	100%	27%

1944	100%	100%	100%	26%	100%	100%	100%	26%
1936	100%	100%	100%	24%	100%	100%	100%	24%
1947	100%	100%	100%	23%	100%	100%	100%	23%
1943	100%	100%	100%	23%	100%	100%	100%	23%
1932	100%	100%	100%	22%	100%	100%	100%	22%
1970	100%	100%	99%	21%	100%	100%	99%	21%
1959	100%	100%	96%	20%	100%	100%	96%	20%
1954	100%	100%	93%	20%	100%	100%	93%	20%
1955	100%	100%	86%	18%	100%	100%	86%	18%
1941	100%	100%	86%	18%	100%	100%	86%	18%
1949	100%	100%	86%	18%	100%	100%	86%	18%
1939	100%	100%	80%	17%	100%	100%	80%	17%
1969	100%	100%	78%	17%	100%	100%	78%	17%
1965	100%	100%	73%	16%	100%	100%	73%	16%
1960	100%	100%	73%	16%	100%	100%	73%	16%
1966	100%	100%	70%	15%	100%	100%	70%	15%
1940	100%	100%	69%	15%	100%	100%	69%	15%
1938	100%	100%	68%	15%	100%	100%	68%	15%
1958	100%	100%	66%	14%	100%	100%	66%	14%
1963	100%	100%	65%	14%	100%	100%	65%	14%
1961	100%	96%	58%	13%	100%	96%	58%	13%
1931	100%	78%	48%	13%	100%	78%	48%	13%
1937	100%	69%	42%	13%	100%	69%	42%	13%
1951	100%	60%	37%	13%	100%	60%	37%	13%
1942	100%	56%	35%	13%	100%	56%	35%	13%
1950	100%	44%	28%	13%	100%	44%	28%	13%
1968	100%	30%	19%	13%	100%	30%	19%	13%

Table H.13 Region-Specific Chimú-Inka Phase Cultivable Land and Water Shortfall Estimates

Chimu-Inka Phase Cultivable Land and Water Shortfall Estimates (% cultivable land watered per season)								
Recorded Year	**Minimums**				**Maximums**			
	Chaupiyunga		***Chala***		***Chaupiyunga***		***Chala***	
	First Season	*Second Season*	*First Season*	*Second Season*	*First Season*	*Second Season*	*First Season*	*Second Season*
1933	100%	100%	100%	94%	100%	100%	100%	71%
1948	100%	100%	100%	74%	100%	100%	100%	54%
1934	100%	100%	100%	74%	100%	100%	100%	54%
1967	100%	100%	100%	66%	100%	100%	100%	48%
1946	100%	100%	100%	65%	100%	100%	100%	46%
1962	100%	100%	100%	64%	100%	100%	100%	46%
1956	100%	100%	100%	63%	100%	100%	100%	45%
1953	100%	100%	100%	61%	100%	100%	100%	43%

1957	100%	100%	100%	59%	100%	100%	100%	41%
1935	100%	100%	100%	55%	100%	100%	100%	39%
1964	100%	100%	100%	55%	100%	100%	100%	38%
1952	100%	100%	100%	55%	100%	100%	100%	38%
1945	100%	100%	100%	54%	100%	100%	100%	38%
1944	100%	100%	100%	52%	100%	100%	100%	36%
1936	100%	100%	100%	50%	100%	100%	100%	34%
1947	100%	100%	100%	48%	100%	100%	100%	32%
1943	100%	100%	100%	46%	100%	100%	100%	31%
1932	100%	100%	100%	45%	100%	100%	100%	30%
1970	100%	100%	100%	43%	100%	100%	100%	29%
1959	100%	100%	100%	42%	100%	100%	100%	28%
1954	100%	100%	100%	41%	100%	100%	100%	27%
1955	100%	100%	100%	39%	100%	100%	100%	25%
1941	100%	100%	100%	39%	100%	100%	100%	25%
1949	100%	100%	100%	39%	100%	100%	100%	25%
1939	100%	100%	100%	37%	100%	100%	100%	23%
1969	100%	100%	100%	36%	100%	100%	100%	23%
1965	100%	100%	100%	35%	100%	100%	100%	22%
1960	100%	100%	100%	35%	100%	100%	100%	22%
1966	100%	100%	100%	34%	100%	100%	98%	21%
1940	100%	100%	100%	33%	100%	100%	96%	20%
1938	100%	100%	100%	33%	100%	100%	94%	20%
1958	100%	100%	100%	32%	100%	100%	93%	20%
1963	100%	100%	100%	32%	100%	100%	90%	19%
1961	100%	100%	100%	30%	100%	96%	81%	18%
1931	100%	100%	89%	26%	100%	78%	66%	18%
1937	100%	100%	79%	24%	100%	69%	58%	18%
1951	100%	100%	71%	23%	100%	60%	52%	18%
1942	100%	96%	67%	22%	100%	56%	48%	18%
1950	100%	75%	55%	22%	100%	44%	38%	18%
1968	100%	52%	41%	22%	100%	30%	27%	18%

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