

Community-based Participatory Research and Praxis at the Nexus of Food, Water, and Energy Justice in Puerto Rico

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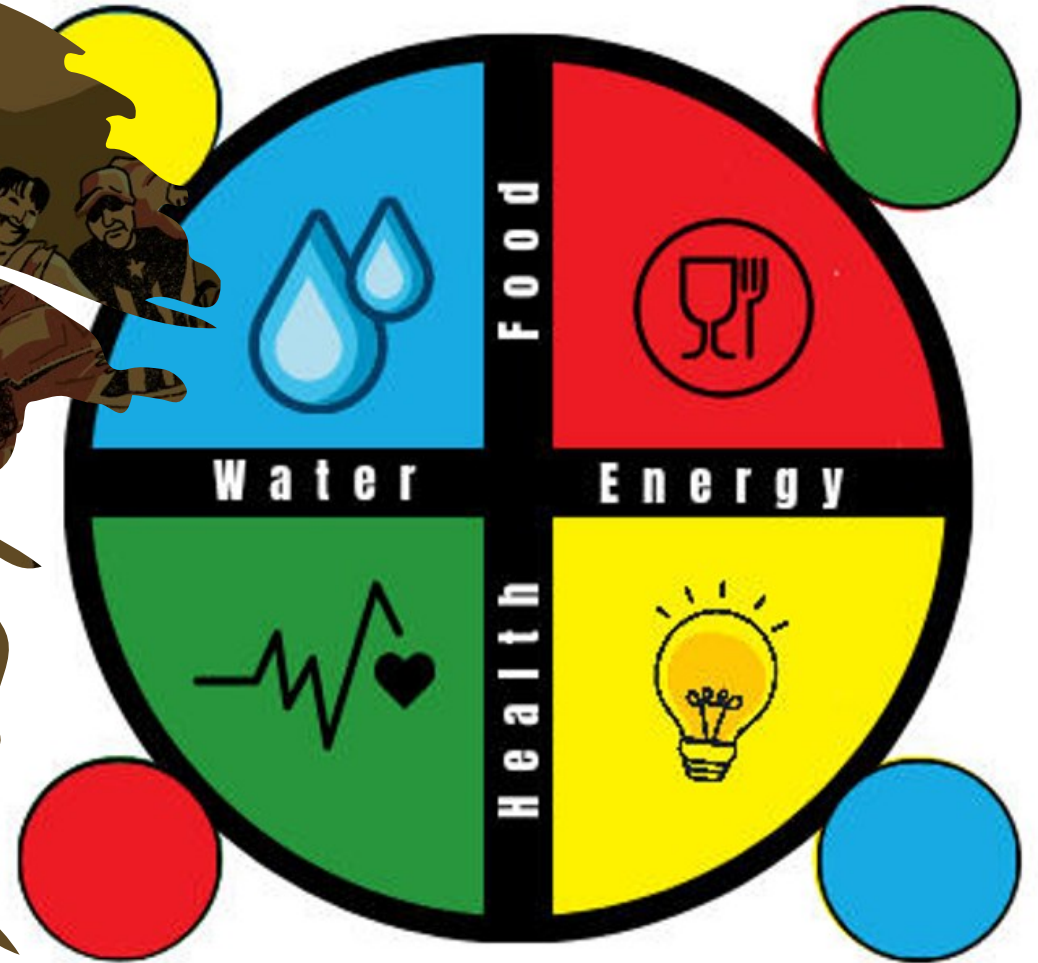
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**FOOD, ENERGY, AND WATER
SECURITY FOR COMMUNITY**

HEALTH RESILIENCE TO
COMPOUNDING DISASTERS



Introduction

- Compounding hazards motivate need for community health infrastructures
- Disasters exacerbated by socio-economic and political systems
 - The colony is a disaster
- Resilience and resistance

Study Purpose and Objectives

Engage in community-based research to identify pathways to disaster resilience

Co-develop assessment tools for community leaders and public health officials to assess local needs

Study site and background



**Corcovada, barrio
in Añasco, Puerto
Rico**



**Remote
community with
~600 residents**



**1960s, leaders
built access road
and aqueduct with
Presbyterian
Church mission
due to exclusion
from the main
water supply
network**



**Established
Comité
Communal de
Corcovada Inc.,
non-profit to
manage the
aqueduct and
other community
needs**

Two independent water systems and a free tap for communities with water insecurities.

Methods



Community-Based
Participatory Research
(CBPR) design

Working directly
with residents to
understand and
address public
health risks



CBPR aims to increase knowledge about a
given phenomenon and apply this knowledge
to interventions, policies, and social changes
that can improve the health and quality of life
of community members

Methods: Continuation

Data collection tools:

Focus group discussions during a two-day community workshop

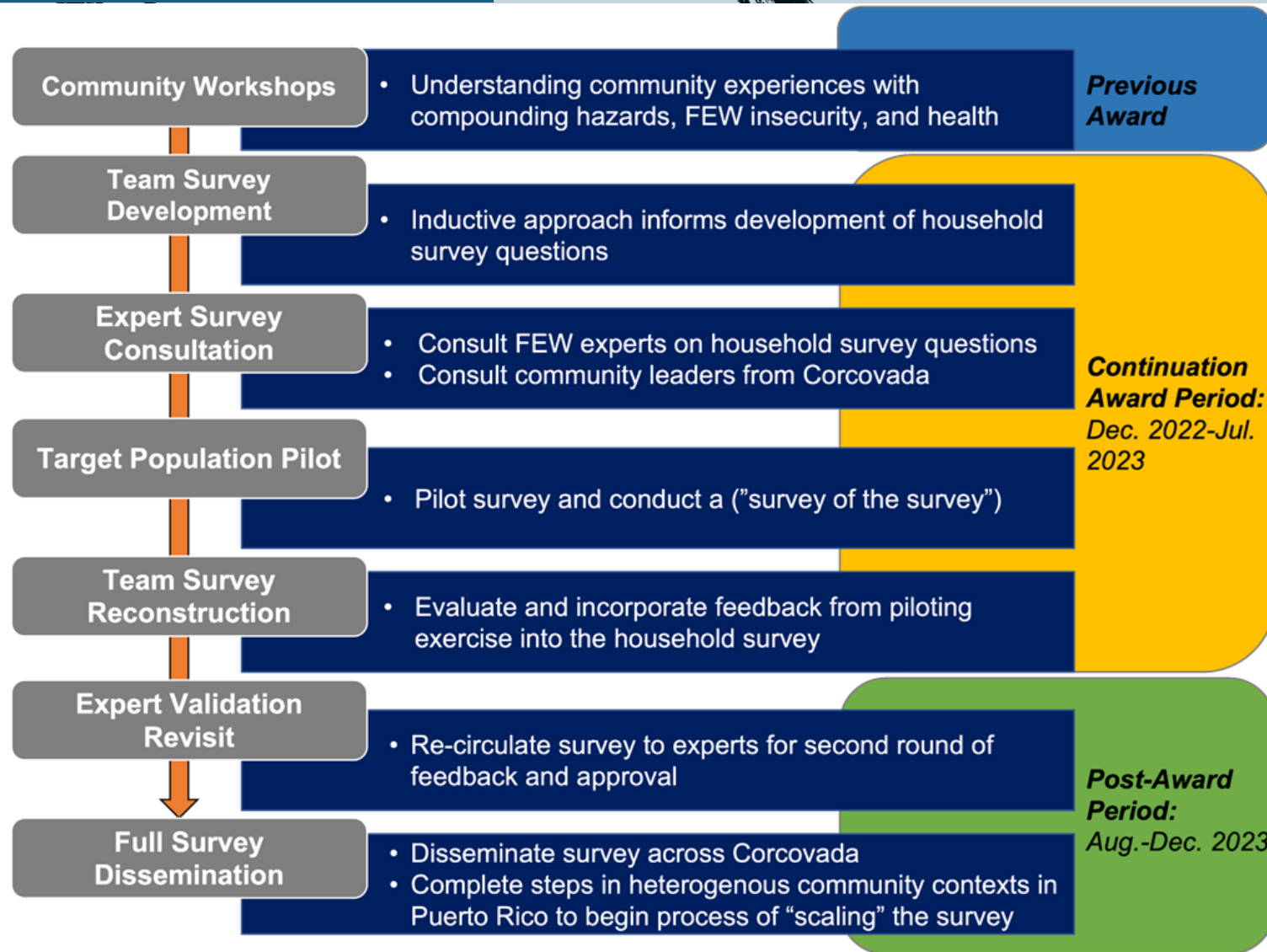
Community mapping exercises that investigate the Food, Energy, and Water (FEW) resources

Evaluations for content validity and data quality of a co-created assessment



Image: Presentation of Community Health exercise with community leaders in Workshop 1 (Feb, 2022)

Methods: Continued



Findings and
products



Enhancing Community Engagement and Resilience

Social capital supports community leaders in fostering a collective understanding and pursuit of public health objectives

Close-knit relationships within the community enhances effectiveness of community responses to disasters



Image: Presentation of results to the community. July 2023

Implications of Compounding Hazards



Compounding hazards pose risks to Food, Water, and Energy security



Compounded hazards strain physical and emotional dimensions of social capital, critical for sustaining community resilience and facilitating recovery processes in the wake of climate-related disasters



The water storage tank for the Community Water System in Corcovada, Puerto Rico. Image Credit: Research Team photo, 2020.

Importance of Community Self-Organization



Community self-organization to prepare for, responding to, and recovering from both hazards



Community-led initiatives

Solar-powered communal water aqueduct

Online mental health workshops



Effectiveness of collective action in advancing public health



Solar panels installed for the Community Water System in Corcovada, Puerto Rico. Image credit: Research Team photo, 2020.

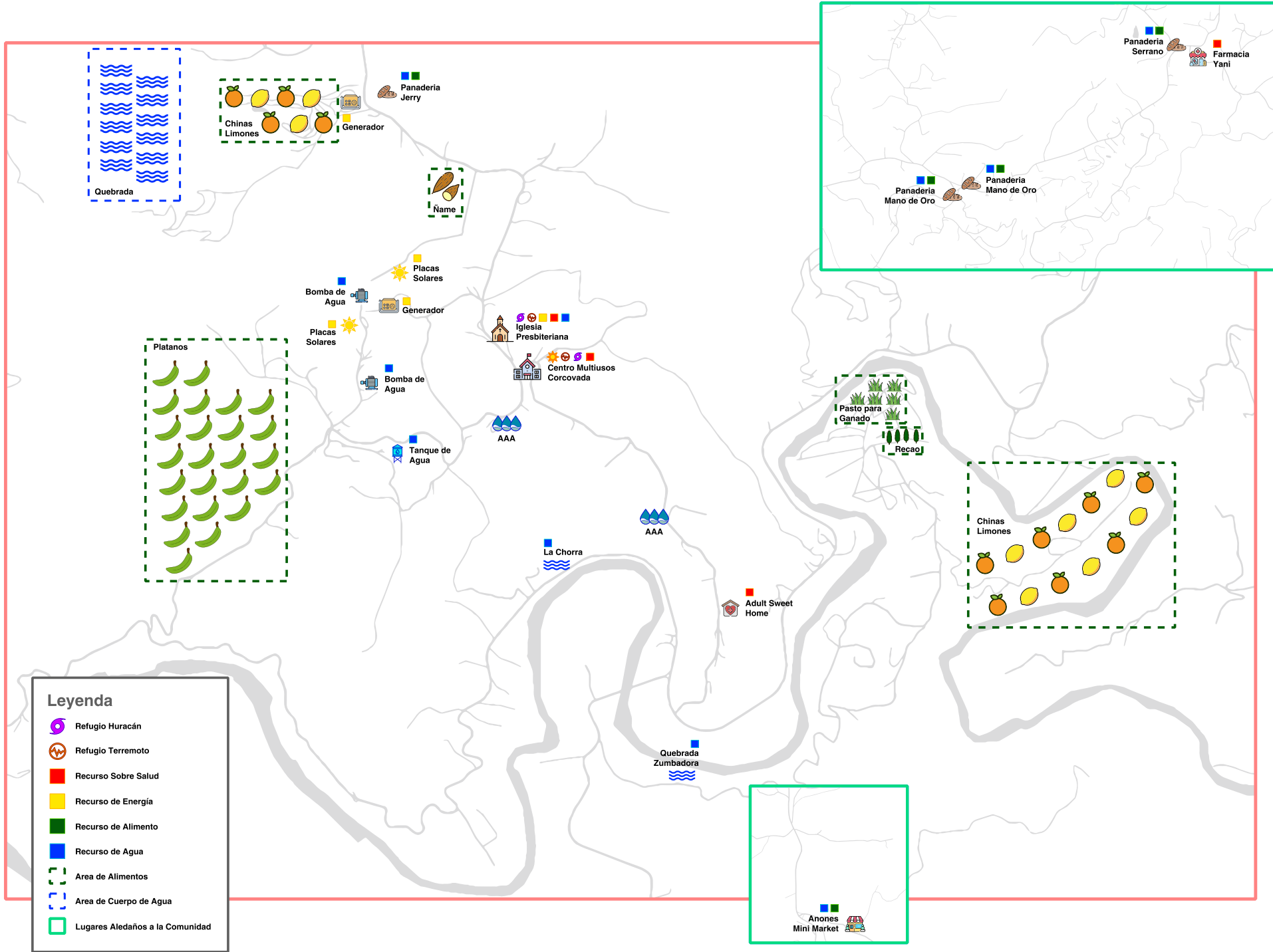
Challenges to Sustaining Community Health Resilience

Outmigration and the disruption of intergenerational knowledge transfer

Need for strategies that maintain and strengthen community networks and social capital to bolster disaster response capabilities and resilience-building efforts



Image: Receiving feedback from community water aqueduct map.
July 2023



Development of the Toolkit



The toolkit is a significant outcome of the research.



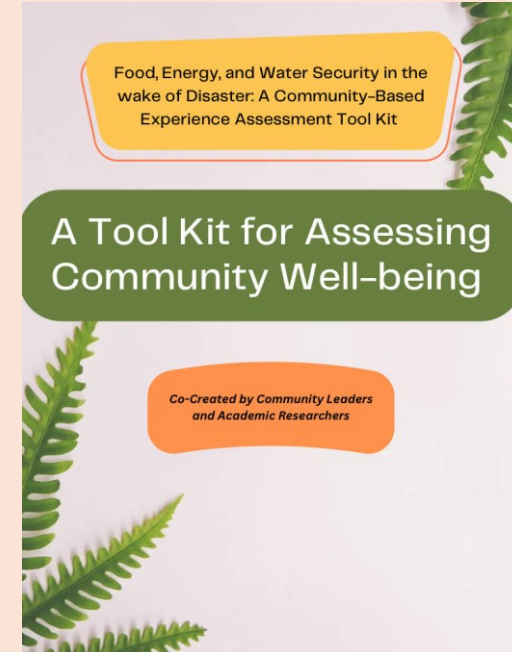
Purpose is to identify and inform efforts to address specific public health needs and challenges.



The co-development process for toolkit's design and functionality .



The toolkit can be applied in similar contexts to support disaster risk reduction, emergency management, and community capacity-building efforts.



Access toolkit here:

Insights from toolkit development



The survey integrates FEW security with health questions on special needs, environmental, mental, and emergency health, for a comprehensive community assessment.



Expert feedback refined the survey's clarity and relevance, ensuring its utility for data analysis and action-oriented outcomes.



Feedback led to survey improvements for clarity and consistency across modules, with a uniform question flow and grammar corrections, resulting in each module containing 40 streamlined questions.



Differences in feedback between academic and community experts highlighted a balance between confidentiality concerns and the practicality of question placement and content.



The test pilot revealed participant receptiveness but highlighted issues with question structure and terminology, leading to valuable feedback for improving survey clarity and inclusiveness.

Participatory Budgeting

- Project Management
- Steering Committee Compensation
- Implementation Costs
- Participatory Budget

Participatory Budgeting



The project partners with community leaders in Corcovada, who will play a crucial role in the creation and implementation of the participatory budgeting project.



They will also help in identifying and contacting other community members to participate in the participatory budgeting steering committee, facilitating community outreach, brainstorming sessions, and the voting exercise.



Projects approved by the community must address food, energy, and/or water security and emergency public health without exceeding the budget of \$5200.



The major outcome of the project is expected to be a new public infrastructure or service that will enhance public health in Corcovada.

Vision moving forward



Enacting principles of environmental justice

Focusing on community strengths for transformation

Supporting efforts to scale up

- Survey
- Budgeting
- Energy resilience

Making space for learning across communities

Informing advocacy and policy

Challenges and Opportunities

Challenges

- Exhaustion
- Intelligibility
- Budget constrains

Opportunities

- Learning across communities
- Knowledge transfer
- Prefiguring community-led recoveries and climate adaptation

Thank you

Access project website here:



Access community video here:

