The Pitt MAC: Transforming communities by advanced skills development in under-resourced communities by utilizing the Pitt MAC model in urban Nigeria, rural India, and Western Pennsylvania

Motivation
• Following the successful model of the Manufacturing Assistance Center in Harmarville, and Homewood (Pittsburgh), and now Titusville, we seek to understand how to adapt that model (using a focus on frugal innovation/engineering) to an urban environment in Nigeria and a rural environment in India. Doing so further connects the University’s commitment to enhancing local/global connections and furthering Pitt’s commitment to internationalization.

Project Description
• Work with partners in Titusville, Tuver-India, and Nigeria to utilize the MAC model as a template for similar global projects
• Conduct comparative multidisciplinary research into frugal engineering/innovation
• Studying ‘social’ workforce development in diverse international settings.

Context
• Frugal engineering/innovation is a nascent field and additional research on how best to expand and adapt skills training to resource-limited environments is imperative.
• A multidisciplinary approach using Engineering, Social Work, Education, Economics, and Business, within a UCIS framework creates a holistic structure for this work.

Potential Impact
• Increase the rigor and sophistication of scholarly work examining frugal engineering/innovation and skills training.
• Improve the programs themselves which will lead to economic development and higher wages.
• Become a global model for skills training and social mobility.

Project Deliverables
• Assist centers in Nigeria and India to establish MACs
• Conduct skills assessments
• Identify low risk disciplines for training
• Establish training programs and a manufacturing “incubator”
• Build research data collection models.
• Publish comparative disciplinary and multidisciplinary research
• Apply learning to the Pitt MAC model.
• Apply learning to coursework in frugal engineering/innovation (Swanson, Katz)
• Leverage current work to secure extramural funding from foundations and federal sources for further scaling of the project.
• Success will be demonstrated through team expansion to include local partners in India, Nigeria, and Titusville, publishing of research in relevant fora, and securing of significant extramural funding.

References and/or Acknowledgements
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