



# ASME 2016 IMECE

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## Paper Details

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**Home** **IMECE2016-67139** (Status: Draft paper accepted , Awaiting Copyright) **Schedule:** *Technical Paper Publication*  
A Systems Design Approach To Appropriate, Smart Technology In A Youth Agriculture Initiative [Draft Paper](#) 561KB

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### Track 15 Systems, Design, and Complexity

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### Topic: 15-2 Applying a Social Context to Design

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### Session: 15-2-1

#### Abstract

A transformative research paradigm is rooted in knowledge mobilization processes involving close collaboration between researchers and the community. The research presents the development of an integrated, connected food ecosystem that, because of its fundamental design and use of appropriate, smart technology, which tends to naturally create inclusion and prosperity opportunities for many and not simply for the few. The research relies on multi-stakeholder participation to develop appropriate technologies to enhance economic activity amongst unemployed youths in Johannesburg, South Africa. A human-centered, systems engineering approach to develop a pilot project that promotes integrated, online, technologically supported food system is presented. The research is also concerned with how to measure the impact of the intervention the on food resilience as a result of urban farming. This paper presents the systems analysis of the current local food network and the proposed integrated solutions for a pilot project to establish a minimal viable project that can be tested. The research describes the planning and implementation of a pilot project as a minimal viable product to test in the market.

#### Presentation Author Biography

Nickey is cofounder of the Research and Projects Office at the University of Johannesburg which encourages an interdisciplinary, project-based approach to research and the promotion of community-driven, social entrepreneurship and innovation through technology innovation

#### Reviewer Comments

Reviewer 1:

This paper presents information of the initial phase of a pilot project to ameliorate agricultural development in South Africa. While the project is certainly interesting, and the objectives are worthwhile, some aspects of this paper do not meet standards of good systems engineering practice in my opinion, at least as currently described.

\* The figure and table captions do not follow the ASME template formatting guidelines. \* The text in Figures 1 and 5 are too small to read and should be increased in size (Figures can take up more than one column on a page as needed). \* "most social problems... are wicked" isn't this slang? \* The introduction does an ample job of outlining the significance of the problem, but it does not make the case for why or how a "human centered systems engineering approach" is necessary or different from what has been accomplished previously. \* Figure 2 caption has a typo. \* The authors should make more of an effort to propose quantitative success or impact criteria and discuss how these will be measured. \* Also beneficial, would be some understanding of the previous or current background measures for these criteria that are currently present or achieved and how much of a difference would be considered significant. \* Along these lines, there are many jargon terms in this paper like "smart logistics" and "intelligent data management" that sound good, but may not be more than marketing without any real way to define success or failure (or even agree on whether improvement has occurred). The authors should refine these sections to outline objective (and ideally quantitative) measures that could be tested against in future updates or status reports. \* "The pilot project will achieve four main objectives" seems a bit premature, given that it

has hardly started as of the date of this paper. Perhaps the authors instead mean that the project will "work towards" or "pursue".

Reviewer 2:

The paper is interesting even if in the thematic of mechanical engineering may be not too relevant. Still, there are interesting conclusions from the paper that should apply to engineering context,

Reviewer 3:

As a preliminary plan of study, the paper is fine - but the scientific purpose of the paper is not clear as apparently the work describe herein has not been completed. Very little presented in the paper stands out from the available literature that I am familiar with in this area. As a preliminary case study - I suppose that this is acceptable at this point. I would prefer to see a better scope description and preliminary results if available.

**Draft Recommendations/Comments**

*Comments*

Congratulations. Your paper has been accepted to IMECE2016 in Phoenix. Please use the comments of the reviewers to improve your paper prior to final submission. See you at the conference.

**Status**

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