Design with social impact for rural communities in Africa

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Introduction

Four case studies from rural *Africa*, this paper examines the significance of design in solving social problems. The first three cases are of solar energy innovations in *rural communities* in Kenya and Uganda. The innovations in these cases demonstrate how design can be used to meet pressing needs and improve the social welfare of low-income rural communities. In the fourth case study is a co-creation process in the development of a health training manual for rural Kenya.

In the context of design education and practice it is concluded that more emphasis be put in social design, co-creation, empathy and lead user research.

Design thinking – serves humanitarian efforts grounded on a broader understanding that develops multi disciplinary skills especially in human behavioural science.
Design strides

• Focus on social change (Ambole 2016).
• HCD (Paulson, 2014)
• Product design to design systems (Manzini 2014, Papanek & Fuller 1972).
1. Solar Milk Cooling System

• Lose of milk due to unreliable electricity supply – up to 60%.
• No connection to the electricity.
• No refrigeration.
• Plastic containers for transportation.
• Distance to collection point is far and they have to make 2 trips per day.
• Rejection of milk
• Increased poverty.
Solutioning

• 1 farmer – decided to do something about it.
• Undertook research
• Invested resources – estimated at 50,000 US$.
• Mobilized the farmers.
• Is optimistic that he will get back his investment as more farmers form groups.
2. CoolSystem, Uganda
Problem

• "Find a way for the milk to be cooled so that it can either enter the formal or the informal market, where it can fetch a good value for the farmers."

• Kisaalita, an engineer, saw that the farmers were losing up to half of their milk output. He started searching for a solution in order to boost farmers' profits and by extension increase food production in Uganda (Taylor, 2009).

• Remote area

• No electricity
Solutioning

• Investigated/collection beer coolers from Europe, Asia.
• Worked with farmers on the ground.
• Farmers pay for the coolers (between 600 and 800 US$) in comfortable instalments.
• Has other life saving benefits.
3. Kitonyoni Solar Mini-Grid Project

• Good DRE and Social design model.
• Solar system
• Reliable electricity to more than 50 businesses, more than 500 homes, schools, clinics.
• Community mobilization – ownership.
• Increased security – business can open longer.
• Secondary benefits includes rain water harvesting.
• High capacity for scalability.
• Healthy public.
4. Health Training Manual Development

• A multi-sectoral, easy to reference and appropriate in size and content, and developed with the available resources.

“Training Manual for Prevention, Management and Treatment of Disabilities”.
Problem

• Need for quick, convenient information.
• Emergencies.
• Easy to carry, access.
• Unhealthy public
• Unsafe deliveries
• Preventable disabilities caused by nutrition, un-timely intervention, lack of information, mismanagement (e.g., hand washing campaign)
Solutioning

• Development of reference manual – to provide timely information for prevention, treatment and management of disabilities.

• Team – clinicians (nutritionists, physiotherapists, paediatricians and public health) and designers.
Co-creation

• Collaborative design process
• Users are core to the design process - "the person who will eventually be served through the design process is given the position of "expert", and plays a large role in knowledge development, idea generation and concept development (Sanders & Stappers, 2008).
Design with social impact

• Social design
• Co-creation
• Empathetic
• Lead users
• Design thinking — serves humanitarian efforts
• Grounded on a broader design education that develops multi-disciplinary skills especially in human behavioural science.
Conclusion

• **LEARN:** multidisciplinary team members need to learn from each other and form a shared understanding of the problem

• **EMPATHISE:** after forming a shared understanding, the team needs to immerse itself into the social and cultural context of the problem

• **IMPLEMENT:** the team should then proceed and implement their co-created solutions in collaboration with the communities who will use the solution.
THANK YOU!