Harnessing Mobile Technologies for Sustainable Development of Smallholder Agriculture in Zimbabwe: Challenges and lessons learned.

• ICT4D From Innovation to Impact.
• What should be done? In this presentation the researcher talks about the exploration done in Zimbabwe’s Smallholder farmers. The challenges faced by Smallholder farmers are laid bare and the potential of harnessing Mobile Technologies is presented.
INTRODUCTION

- Smallholder farmers are the world’s largest group of working age poor yet much of the world’s supply will continue to depend on their effort (Bagazonzya et al. n.d.)
- In Zimbabwe around 70% of the 14.7 million people reside in the rural areas and most of these people are Smallholder farmers whose livelihood is heavily dependent on agriculture.
- The census of 2012 confirmed urban to rural migration of the population indicating that the number is actually increasing (Agency 2012).
In Zimbabwe the agricultural sector is the backbone of the economy, as a result it is the sector which underpins the country’s economic growth, food security and poverty eradication (Africa et al. 2012).

The general economic theory relies on the assumption that all market agents have access to the necessary price information to engage in optimal arbitrage (Aker & Mbiti 2010), yet in practice information is asymmetric.

However, this sector continues to be faced by severe systematic challenges within its entire value chain (Chisita & Malapela 2014; Kundishora 2007).
BACKGROUND TO THE STUDY

- Small holder Farmers face real challenges in their daily activities in Zimbabwe. These challenges include;
- Access to information on inputs and prices.
- Access to markets and price information for their produce.
- Failure to pay by the Grain Marketing Board (GMB) for maize collected from farmers for two (2) years.
- Lack of farming knowledge by some Smallholder farmers.

*Over the past three years the following headlines have been prevalent in both public and private media.*
- GMB's Failure to Pay Farmers Cripples Next Zimbabwe Farming Season.
- GMB failure to pay farmers haunts schools - The Zimbabwean.
- Bulawayo24 NEWS | GMB 'fails' to pay farmers
- GMB takes between 25 and 300 days to pay farmers.
BACKGROUND TO THE STUDY

CONTINUATION

• The failure by the Grain Marketing Board (GMB) to pay farmers on time for maize deliveries has forced many growers to switch to other cash ...

• The GMB's failure to pay farmers on time is haunting rural schools, whose operations have been hamstrung by parents' incapacity to pay fees.

• Raw deal for farmers at Mbare Musika - NewsDay Zimbabwe

• Zimbabwe: Small Scale Farmers Cry Foul - allAfrica.com
RESEARCH DESIGN

• This research followed qualitative research design.
• The research was premised on Interpretivism research philosophy.
• Interpretivism is the paradigm of choice in the contemporary world (Gray, 2014).
• This paradigm is relevant where the researcher focuses on the emic perspective (the views of the people involved in the research and their perceptions, meanings and their interpretations) (Merriam, 2002).
• Interpretivism paradigm takes five forms of approach and these are symbolic interactionism, phenomenology, realism, hermeneutics and naturalistic enquiry.
METHODOLOGY CONTINUES.

• Naturalistic enquiry tries as far as possible to keep close to the language, meanings, thoughts, activities and contexts of the people who are participants in the study and to represent them in common place ways they would understand and would be understandable by others.

• Regardless of the literacy rate prevailing in Zimbabwe, this researcher engaged the Smallholder farmers in English and Shona Languages language of their choice.
RESULTS

- Generally in most households there is at least a mobile phone.
- Mobile penetration rate 106%. Multiple gadget ownership, Dual SIM card phones.
- People use their mobile phones to call, SMS, chat and take photos.
- Most people use MMT and ECOCASH verbifies MMT in Zimbabwe.
- Around 70% of the population are in Smallholder Agriculture.
- More than 70% of those in Smallholder Agriculture are below the age of 45.
- The bulk of the population are women.
- However, from age group 0 to 54 there is male dominance across all stages......
- The formal Market has crumbled.
- Market Vendors are beginning to play an important role in the Agricultural value chain.
- 92% literacy rate.
CURRENT STATUS OF ICT APPLICATIONS IN AGRICULTURE IN ZIMBABWE

- eMkambo- electronic market place.
- Ecofarmer.
- E-hurudza.
eMkambo

• This is a mobile application system which started as a call centre based but has since been developed into a mobile app. It’s a very interesting application.

• The owners of the system visit the market place and talk to farmers who bring their produce to the market. If a farmer expresses interest, s/he submits details about their farming activities, place where they come from.
ECOFARMER

• Benefits of Ecofarmer
• When fully registered and paid daily subscription the farmer will get:
• Daily weather data from a weather station linked to your field.
• Farming and market tips
• Free daily rainfall advice
• Free weekly best farming prices
• Free weekly crop data
• Free monthly market pricing requests
• Crop information
• Credit rating
• Free adverts and marketing links
• Financial linkages
• It requires **8 cents** per day for **125 days**, you are guaranteed of a harvest or at least $100 for every 10kg Seed Co seed pack you plant. Regardless of the weather conditions, EcoFarmer ensures that the small scale farmer has food on the table until the next season.
• This product appears interesting but is failing to
CHALLENGES FACED BY THESE APPLICATIONS

• eMkambo- Capacity to roll out. The developer is only engaging farmers who are coming to product markets to sell their products.
• Ecofarmer- One Mobile network dependent. Only Econet subscribers can use the platform
• E-Hurudza- Manufactured in the lab without groundwork. The developers only developed the system to address the problems they were facing.
ICT4D and the poor

• In his Book, *ICT4D and the Bottom Billion* Paul Collier argued about the misplaced priorities in ICT4D projects and complained about the widening development gap between countries.

• Dr Tim Unwin The UNESCO Chairperson in ICT4D acknowledged that *more* need to be done to ensure accessibility and increased use of ICTs to transform lives.

• A *good number* of application developments happening in the world seem to be ill informed because they fail to address the local realities.

• The applications are too detached from realities on the ground.
ICT4D From Innovation to Impact: Recommendations.

After conducting literature review and exploring the Smallholder Farmers in Zimbabwe for three years this researcher recommends the following for any ICT4D project to be done; R.I.T.E.R.I.

- **Research.**
- **Innovate.**
- **Test**
- **Evaluate.**
- **Rollout.**
- => **Impact.**
Research

- Development organisations should partner with research institutions (Universities) and local community gatekeepers (Traditional leaders).
- There is need for government involvement throughout the process (Ministries of Agriculture, Lands and rural development).
- Involve all key stakeholders in the area of concern (Agritex, Veterinary, Farmers Union, Mobile network operator, Seed Companies, Fertiliser companies, Agriprocessors).
- There is need for the emancipation of the researcher
INNOVATE

• Be user-centric.
• Design the artefact to address the issue at stake using user specifications.
• On the issue of design there is need for contests where developers can contest equally on a system development project or collaborate.
TEST

• Carry out a pilot test of the application system to see the actual working in the real life situation.

• This for the application system to be exposed to the working environment and therefore can be observed in the natural setting.
EVALUATE.

• Evaluate the problems encountered, lessons learnt and take any corrective measures to address the problems identified as well as strengthen the application to make it better.
ROLLOUT.

• After successful evaluation of the application, roll out the programme.
• Government should be highly involved in the rollout process.
• All Stakeholders should be involved.
• Events such as field day where Smallholder farmers gather to celebrate the farmer with the best yields in a given season can be used to launch the application.
CONCLUSION

• This writer believes mobile phones can be harnessed to address this challenge in Zimbabwe.

• The writer believes the conditions in Zimbabwe favours the successful harnessing and deployment of Mobile technologies if policy makers are committed to the cause.
Thanks to Catholic Relief Services for sponsoring my coming to this conference.
CONTACTS

• Email: musungwinis5@gmail.com

• Websites:
  https://www.researchgate.net/profile/Samuel_Musungwini
  https://www.linkedin.com/in/samuel-musungwini

• Skype: musungwini2012