Big Data for Smallholder Precision Agriculture: The Case of MUIIS Uganda

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ICT4D Programme Coordinator, CTA
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The Technical Centre for Agricultural and Rural Cooperation (CTA), The Netherlands

A joint international institution of the African, Caribbean and Pacific (ACP) Group of States and the European Union

CTA’s mission is to advance food and nutrition security, increase prosperity and encourage sound natural resources management in ACP countries

It facilitates information and knowledge sharing, supports multi-stakeholder policy dialogue and strengthens the capacity of agricultural and rural development institutions and communities

ICT4Ag International Conference, Kigali Rwanda 2013
What is MUIIS

Market-led, User-owned ICT4Ag-enabled Information Service
An initiative with the goal of ...

Reaching 350,000 maize, soya bean, and sesame farmers in Uganda within 3 years with a bundle of timely, accurate and actionable weather, agronomic and index-base drought insurance services
MUIIS was designed based on 7 Principles
Multi-Stakeholder Approach
Market-Led (Value Chain Approach)
User-Owned (Demand-Driven)
Farmer-to-Farmer Extension

weather alarm
Anchored on Groups/Coops

- Weather alarm
- Crop calendar
  - Sowing / planting period
  - Harvesting period
- Index based insurance

MU1IS Project
Multi-tier Capacity Development
Innovative Use of ICTs

Data acquisition

Communication and integration

Data processing and storage

Data analysis and modeling

Capacity building and training

Decision support services
Crop Calendar

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Data from the Ground

Farmer Profiles

Meteo Stations
This is how we do it........

aWhere Platform

Team of Agronomists

MUIIS Dashboard

MUIIS K-A

350,000 Farmers
MUIIS Bundle Products & Services

A Farmer Preview
The process the farmer goes through during registration for the Service. They supply the IoT Crop and amount paid

On the inside
The data is aggregated, visualized and can be summarized for download
THE BUSINESS CASE

Revenue Streams

- Subscription of MUIIS Service Bundle by farmer groups
- Subscription of MUIIS Service Bundle by individual farmers
- Sale of integrated data to intermediary companies
- Offer of services such as surveys through MSAs
- Financial services to farmers via aggregators

Context

3 Value Chains:
Maize, Sesame, Soya bean

2 Farmer Organisations:
Over 300 Cooperatives & CBOs
- Uganda National Farmers Federation (UNFFE): >3M
- Uganda Cooperative Alliance (UCA): >1M

Distribution Channels

Mobile Platforms
- Customised MOBIS
Supported by
MUIIS Service Agents
- Mass Media
- Social Media

Cost Structure

- Satellite data management
- Market assessments of value chains
- ICT and mobile network services
- Marketing and sales
- Training and capacity building
- Mobile profiling devices
- Project management

350,000 Smallholder Crop Farmers Reached by 2018
Agents networks for business
Where we are....

On April 2017

45,000 farmers had been profiled (digitally registered) by MUIIS services agents

SMS = weather data agricultural tips financial services market information

(*270*67#)

During first year

18,200 food producers have been reached.

56% men

44% women

8,026 women were reached.

(Target was 7,000)
And then......?

- Farmers receive timely, accurate and actionable messages
- Farmers receive training support from MSAs on how to act on these messages
- Leading to:
  - Better use of seed, fertiliser, agro chemical, etc.
  - Better management of seasonal weather, drought etc.
  - Quicker response to pests and disease outbreaks
  - Better access to input and output market, market intelligence
  - Better access to insurance to cushion climate variability
  - Reliable access to credit and loans
  - Increase productivity and livelihood
Thank you

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