Facilitating Access to Finance and Markets: An e-Warehouse Pilot for Kenyan Farmers

CITI-FT Financial Education Summit 2013
Lack of essential, actionable information
Inability to tolerate shocks and manage risks
Insufficient & inconsistent income
Needs are not understood and sub-optimal services are delivered

Solution Areas

Information Services
Build two way flows of trusted, actionable information

Financial Services
Provide appropriate, innovative products to manage household cash flows and risk

Poverty Tools and Insights
Deliver services to the poor though use of client data and tools
Challenges faced by smallholder maize farmers

e-Warehouse Farmer Profile
- Farm size: 2 acres
- 84% likelihood under $2.50/day
- Primary crops: maize, beans
- Last Harvest:
  - Harvested 8 bags; sold 4
  - Stored crops in plastic bags at home
  - Sold bags 1 month after harvest at a local market
- Has never received training on post-harvest management
- No credit history
- Top 3 information needs: post-harvest handling, market information, pest management
Majority of farmers sold their crops within 1 month from harvest

How long did farmers wait to sell? Is this different across poverty levels?

- Most farmers sold their crops in the first month after harvest (53.8%)
- Among the poorest farmers, 62.9% sell within the first month, compared to 42.6% of the less poor farmers
Poorest farmers more likely sold crops to brokers at lower prices

**Does the selling price of maize differ by poverty level?**

**Does the type of buyer differ by poverty level?**

The poorest farmers tend to sell more to brokers than retailers – while the less poor sell more to retailers than brokers

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<tr>
<th></th>
<th>poorest</th>
<th>mid</th>
<th>less poor</th>
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</thead>
<tbody>
<tr>
<td>Broker</td>
<td>55%</td>
<td>53%</td>
<td>36%</td>
</tr>
<tr>
<td>Retailer</td>
<td>36%</td>
<td>40%</td>
<td>57%</td>
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<tr>
<td>Wholesaler</td>
<td>9%</td>
<td>7%</td>
<td>7%</td>
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<tr>
<td>Institutional Customer</td>
<td>0%</td>
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<tr>
<td>Processors</td>
<td>0%</td>
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<tr>
<td>Total</td>
<td>100%</td>
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Poorer farmers sell their maize at significantly lower prices.
e-Warehouse Solutions

Inadequate Crop Storage

- Build capacity of smallholder farmers in proper post-harvest storage practices

Lack of Access to Financial Services

- Allow farmers to delay sale through facilitation of access to financial services
- Enable farmers to virtually store and collectively sell at higher prices

Limited Market Access

- Leverage technology to provide market information to farmers
- Link farmer groups to buyers directly
e-Warehouse Partnerships

- Organize smallholder farmers into Commercial Villages (CVs)
- Provide training on post-harvest management
- Manage network of Village Knowledge Workers (VKW)
- Connect farmers to buyers and suppliers

Develop technology to support data collection and ‘e-warehouse’ development to facilitate access to information, financing and markets

MFI
Connect farmers to formal financial services – open savings accounts and extend advances against stored grain

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How it Works: Pre-Harvest

Two-way information flows

Agronomic Information:
- Maize
- Beans
- Cow Peas
- Pigeon Peas
- Black Beans
- Green Grams
- Post-Harvest Mgmt

Farmer Registration:

1. Name
2. Photo of the farmer
3. District
4. Division
5. Village
6. Group Name
7. Nationality
8. National ID number
9. Farm Concern International ID number
10. Farmer mobile Phone number
11. Status in household
12. Marital Status
13. Date of birth
14. Do you know your date, month and year of birth?
15. Place of birth
16. Gender
17. Highest Education level completed
18. Land size; total farm size
How it Works: Harvest Time

Harvest/Loan Survey

1. What is your Farm Concern International ID number?
2. Have you signed the GF-Farmer contract?
3. Have you received any Post Harvest training?
3b. What changes have you made after this training?
4. What crops were harvested?
5. What was the volume (90kg bags) of the harvested crop?
6. What is the moisture content reading?
7. How do you store your crops?
8. Where are the crops stored?
9. What materials are being used to store the crop?
10. Has the crop been accepted into the warehouse or verified at home?
11. How much of the grain has been accepted or verified to be okay?
12. Would you want to apply for a loan?
18. Capture the GPS of storage location

Farmer details and information on quantity and value stored in e-Warehouse

Issue advance of 50% of value of grain at prevailing market price

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How it Works: Post-Harvest

- On-farm/village-level storage
- Verification checks (mobile app & farmer groups)
- Market price SMS updates
- Buyer forums and connection to markets facilitated
How it Works: Sale Time

Sale details entered
SMS Confirmation of sale and payments
Sale Survey
MFI
Farmer loans repaid and balance transferred via mobile money

1. What is your Farm Concern International ID?
2. What is your phone number?
3. What crop has been sold?
4. What was the quantity (kg) and price of the sold crop?
5. What volume of the stored crop has remained unsold?
6. Enter the bank transaction reference number
7a. Select bank from options below
7b. Enter transaction reference number

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Where are we now?

- Mobile applications and e-warehouse developed
- VKWs recruited and trained
- Over 4,000 farmers registered in e-warehouse; baseline information collected
- Agronomic content and FCI training digitized and delivered through VKW network
- Financial product developed; savings accounts opened
- Harvest & Loan surveys being collected
- M&E dashboard in development
What’s next?

- Loan disbursements & sale
- M&E dashboard
- Data analysis and qualitative research
- Product modifications
- Financial integration: e-warehouse and MFI’s MIS
- Facilitation of input purchases
- Business modeling