CO-CREATING STRATEGIES FOR POVERTY REDUCTION & ASSET-BUILDING AT SCALE

UNDERSTANDING THE FINANCIAL INCLUSION NEEDS OF SMALLHOLDER FARMERS IN TANZANIA
April 2016 - DRAFT
INSIGHTS

Understanding the financial inclusion needs of smallholder farmers in Tanzania

Context
Tanzania financial inclusion and agriculture sector
Overview of IFAD’s MIVARF project
Farmer demographics / segmentation of farmers

Insights related to farmers
Financial literacy
Access to financial services
Adoption of mobile money
Supply and demand barriers to mobile money
Gender considerations

Hypotheses to test in the field
References
Annexes
Tanzania achieved its goal to increase financial access by up to 50% of the population by 2015 - mainly through mobile money.

A National Financial Inclusion Strategy (2014-2016) also set up the Financial Education Secretariat to implement the national financial education strategy.

The National Financial Education Framework (2016-2020) sets the strategic direction for the implementation of financial education programs, funding, research and coordination.

Tanzania has one of the strongest regulatory environments for mobile money including network interoperability.

45% of Tanzanians live within 5km of a financial access point; however there are major differences based on regions.
The agriculture sector contributes to 31.5% of GDP and 67% of employment in Tanzania. (2014) – World Bank, World Development Indicators

The major food crops produced in the country are: maize, rice, sorghum, millet, wheat, pulses (mainly beans), cassava, potatoes, bananas and plantains.

91% of agriculture land in use is driven by smallholders farmers

- 44 million hectares Arable land
- 14 million hectares Smallholders
  - Smallholders average farm size is 0.2 to 2 hectares
  - The main source of income is sales of food crops
- 1.5 million hectares Commercial farming
  - There are 1,006 large scale farms in Tanzania with the average size of 1,107 hectares

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Fundación Capital
MIVARF targets rural active poor

**Who:** the main focus of the Marketing Infrastructure, Value Addition and Rural Finance Support Programme (MIVARF) is on *smallholder farmers, herders and fishers, small rural-based entrepreneurs, traders and artisans, grassroots microfinance institutions (MFIs) and primary societies/associations involved in processing and marketing.*

**Why:** the overall goal of MIVARF is to reduce rural poverty and accelerate economic growth on a sustainable basis through *enhancing incomes and food security* of the target group.

**What: Outreach Training for Farmer Groups**
Smallholder farmer groups and processing groups are provided with outreach training to enable them become competent processing groups within a particular value chain.

A total of 848 groups (691 groups of Producer EmpowerIdent and Market Linkage and 157 Value Addition specific) were involved in this activity. This was an achievement of 85% of the planned target of 1,000 groups.

**Producer Empowerment and Market Linkage (PEML)**
This sub-component covers five main areas; (i) Organisational and Technical Strengthening; (ii) Input-Out Market Linkage; (iii) Market Information; (iv) **Producer access to financial services** and (v) Warehouse Receipt System (WRS).

The PEML is being implemented in 73 LGAs in two batches whereby:
- batch I comprises of 28 LGAs/districts including 23 from Mainland Tanzania and 5 from Zanzibar and
- batch II comprises of 45 LGAs including 35 from Mainland Tanzania and 5 from Zanzibar.
24,158 members in 763 groups

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<th>SN</th>
<th>Region</th>
<th>LGA</th>
<th>Service Provider</th>
<th>Subsector</th>
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</table>

Table 4.4: Cumulative Group Mobilization by Category and Membership (added respective regions)
### Noncommercial smallholders

- **Population estimates, worldwide**
  - 300 million smallholders
  - 1.5 billion people in households

- **Gender of farmer**
  - Women are more likely to engage in subsistence farming

- **Land size estimates**
  - No land or less than one hectare
  - "Most rural households own no land, or only small plots of land... Landholdings of operated land in most countries (in the RIGA* study) are small; the vast majority have less than one hectare in size."
  - *The FAO/WB RIGA study provides a relatively consistent picture across countries.*

- **General crop mix**
  - Staple crops

- **Engagement with markets**
  - Most production consumed by the household for subsistence, and additional food is bought in the market
  - Very little, if any, engagement with any markets as a seller of food

- **Access to improved agricultural technology**
  - Very limited if at all

- **Access to financial services**
  - Limited, informal if at all

### Commercial smallholders in loose value chains

- **Population estimates, worldwide**
  - 165 million smallholders
  - 825 million people in households

- **Gender of farmer**
  - Women are less likely to cultivate cash crops

- **Land size estimates**
  - One to two hectares
  - "The vast majority of farmers in developing countries are smallholders, and an estimated 85% of them are farming less than two hectares."
  - An estimated 90% of farms in the developing world are smaller than two hectares.

- **General crop mix**
  - Staple crops
  - Some cash crops

- **Engagement with markets**
  - Some production consumed by the household for subsistence
  - Reliable surplus of staple crops sold through relatively informal, local markets

- **Access to improved agricultural technology**
  - Limited

- **Access to financial services**
  - Limited and informal

### Commercial smallholders in tight value chains

- **Gender of farmer**
  - Women are more likely to engage in subsistence farming

- **Land size estimates**
  - At least two hectares
  - 85% of the farmers participating in contract farming have at least two hectares of land.

- **General crop mix**
  - Cash crops
  - Relatively few staple crops

- **Engagement with markets**
  - Some production may be consumed by the household for subsistence
  - Reliable surplus of staple crops could be sold through relatively informal, local markets
  - Cash crops sold in regional or export markets through contract farming

- **Access to improved agricultural technology**
  - Good, thanks to value-chain farming bundles provided by the buyer

- **Access to financial services**
  - Informal and some formal, some of which is provided by the buyer

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*RIGA: Rural Income Generating Activities.*
Segment D (of the Financial Capability Segments of the National Financial Education Baseline Survey, 2014) comprises men only. It has a strong rural bias and represents the typical traditional (male) small-scale farmer in Tanzania. Their incomes are low, as are their levels of education; and their levels of formal financial inclusion – second lowest only to Segment E. The percentages of savers and borrowers are on par with national averages (82% and 46% respectively for adults), but Segment D has by far the highest percentage (18%) of all segments that expressed the need to learn more about borrowing. The might reflect a need for credit for agricultural purposes or for income smoothing during low season. This group also appears to be experiencing some financial stress and has the lowest score on “keeping up with necessary expenses without difficulty,” and a slightly above average score on “experiencing financial problems.” At almost 50%, Segment D has the highest radio listenership of all, followed by newspapers (14%) and village road shows/TV at just over 13%.

Segment E represents the largest segment, comprising more than a third of the adult population. This group appears to be completely marginalized. It has a rural bias of 75%, a female bias of 65.8% and has the lowest education levels (one quarter has no formal education whatsoever). Only 66% can read and write in Kiswahili. They seem to generate an income mostly from (survivalist) farming (48%) and some micro business (11%), with 24% dependent on family and friends for an income. This segment has the lowest income and 61% are financial excluded. It has the lowest levels percentage of savers and borrowers and the highest levels of financial stress. This segment’s self-identified need for financial education relates primarily to basic topics, such as how to save, followed by how to obtain life insurance, planning for old age and how to borrow. Just under 50% of the segment can be reached through radio, followed by village road shows at 11%. As many as 20% indicate that they could not be reached through any of the listed sources of information or media.

Note: We assume that the MIVARF farmers are in segments D and E.
Meet a Tanzanian farmer family

Daniel and Mariam in Tanzania rely on earnings from both agricultural and nonagricultural sources. They live in a village with rich soil and no irrigation, where households harvest potatoes (the primary cash crop) once or twice a year and harvest maize (the main consumption crop) once a year. Household members also engage in odd jobs on surrounding farms, brick making, and the sale of local beer. From time to time, they supplement these revenues with remittances received from family and friends. To date, the relative importance of these income sources have varied from week to week. In July, Daniel and Mariam relied on odd jobs, remittances, selling local beer, and selling potatoes, but in August they generated their income through a mixture of odd jobs and remittances.

The motivation behind diversifying income sources between harvests is clear. For Daniel, Mariam, and many other smallholder households, expenses cannot wait for income from the next harvest. Daniel was recently fined US$175 for allegedly renting out family land that he did not own and moreover Mariam is pregnant. Daniel knows how much he needs to pay for the fine, and to pay it he has relied on remittances from family, income from odd jobs and selling local beer, and savings... But the amount they will need to support the baby is unclear, and Daniel has been taking on as many odd jobs as a casual laborer as he can to generate extra income.

Note: We assume that the average MIVARF farmer is slightly less productive and wealthy than the Tanzanian smallholder households in the Smallholder Diaries study.
Farmers’ transactions amounts are seasonal

Smallholder households in the Tanzania sample were net sellers in loose value chains (i.e., they sold more of their agricultural output than they consumed). These households typically had one major harvest of a cash crop (e.g., rice, potatoes) each year, which would typically be sold for cash to village-level agents and/or larger aggregating buyers. A few sold direct to market as well. Overall, sales of their agricultural production were fairly lumpy (i.e., they occurred in distinct periods over the year, not continuously) and spiked during the main harvest. Households also stored crops, consuming some proportion of some of them over time, and monetizing them when they needed cash.

Note: Based on variables such as geography, crop, and use of irrigation, the harvest times will vary across Tanzania.

Question: Will commercial smallholder farmers in loose values chains (more land, more diversity in crop mix) have lumpier income than non-commercial smallholders? (Assumption, yes)
UNDERSTANDING THE FINANCIAL INCLUSION NEEDS OF SMALLHOLDER FARMERS IN TANZANIA

Farmers save at home and informally

<table>
<thead>
<tr>
<th>TABLE A4-1: Percentage of Households with Financial Tools for Savings*</th>
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</thead>
<tbody>
<tr>
<td><strong>SAVINGS INSTRUMENTS</strong></td>
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<td>Mozambique</td>
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<td>Saving in the house</td>
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<tr>
<td>Lending to friends and family</td>
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<td>Credit given</td>
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<td>ROSCA</td>
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<tr>
<td>ASCA</td>
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<td>Checking account</td>
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<tr>
<td>Using money guard</td>
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<td>Layaway</td>
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<td><strong>Tanzania</strong></td>
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<td>Saving in the house</td>
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<td>Layaway</td>
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<tr>
<td>Checking account</td>
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</table>

We note an increase in the use of ASCA and ROSCA (informal groups) for savings between noncommercial and commercial (in loose value chains).

Note: See appendix for definitions of financial instruments (savings and credit)
Farmers borrow informally and at a store

<table>
<thead>
<tr>
<th>TABLE A4-2: Percentage of Households with Financial Tools for Credit</th>
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<td>CREDIT INSTRUMENTS</td>
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<td>Credit at a store</td>
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<td>Borrowing from informal group</td>
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<td>Tafa airtime credit</td>
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We note an increase in the use of credit by borrowing from informal groups between noncommercial and commercial (in loose value chains).
Insights from the literature:
Savings account, what?
Farmers have low levels of financial literacy

Top ranked financial education needs of total adult population

- How interest rates work/calculated
- How to save more money
- How much of a loan you can afford to apply for
- Understand the services/products provided by financial service providers
- How to open an account in a bank
- Insuring/covering your life
- Understanding banks, MFIs or Saccos charges/fees
- How to manage your money effectively
- Insuring/covering your assets

Note: We assume a different ranking for the rural adult population in Tanzania.

*Similar findings in the Financial Capability Baseline Survey Findings 2013 by FSDT (not disaggregated by rural and urban)
Mobile money agents are increasing the proximity of financial services

Overall, 45% of Tanzanians live within 5km of a financial access point; however major differences based on regions

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<tr>
<td>Kigoma</td>
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<td>Z. Kusini Pemba</td>
<td>38%</td>
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<td>Z. Kaskazini Unguja</td>
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<td>Z. Kaskazini Pemba</td>
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</tr>
<tr>
<td>Z. Kusini Unguja</td>
<td>2%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
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</tr>
</tbody>
</table>

Regions are listed by population density on the Mainland and then in Zanzibar
Highest levels of access in north and east regions
% of population within 10km of a mobile money agent
67% of rural Tanzanian adults are not active formal financial account users

~33% of rural Tanzanian adults are active users of either bank or mobile money accounts.

31% are only active mobile money account users, 5% are only active bank account users and 4% are both.

*An active formal financial account user has used a bank or mobile money service in the last 90 days.
74% would use m-money but only 19% had

Data from smallholder families in Mbeya, Tanzania

<table>
<thead>
<tr>
<th>Access to mobile phones and the usage of mobile money</th>
<th>Self reported capability with money phones</th>
</tr>
</thead>
<tbody>
<tr>
<td>Had a mobile phone:</td>
<td>I cannot initiate or receive a call, or send or receive an SMS: 3%</td>
</tr>
<tr>
<td>Had a SIM card:</td>
<td>I can only receive calls: 9%</td>
</tr>
<tr>
<td>Had heard of mobile money:</td>
<td>I can only dial and initiate calls: 0%</td>
</tr>
<tr>
<td>Had used mobile money:</td>
<td>I can dial and initiate calls and receive calls: 15%</td>
</tr>
<tr>
<td>Other household members had a mobile phone:</td>
<td>I can dial and initiate calls, receive calls, and send/receive SMS: 68%</td>
</tr>
<tr>
<td>Other household members had a SIM:</td>
<td>I can dial and initiate a call, receive calls, send/receive SMS, and access the internet: 1%</td>
</tr>
<tr>
<td>Had used a phone, even a borrowed one, in the past year:</td>
<td>77%</td>
</tr>
<tr>
<td>Would use mobile money to send or receive money*:</td>
<td>74%</td>
</tr>
</tbody>
</table>

*Selected "Mobile money" as one response when asked "What would you likely use to send or receive money?" (multiple answers allowed)
The process for adoption of m-money account

**Awareness**
The buyer becomes aware of the product

**Interest**
The buyer seeks information and is receptive to learning about the product

**Evaluation**
The buyer considers the product’s benefits and decides whether to try the product

**Trial**
The buyer examines, tests, or tries the product to determine if it meets her needs

**Adoption**
The buyer purchases the product and can be expected to use it again whenever the need for this general type of product arises

Tanzanians hear about financial information mainly from radio (41%), but major differences across market segments – high frequency, but limited depth of information*

Most Tanzanians (52%) rarely or never seek advice on financial matters, but when they do, they ask family and friends (71%)*

Mobile money agents have an essential role in supporting mobile money users with most of their transactional and informational needs. However, agents can also be a cause of frustration, especially when they are rude, absent or experience a shortage of e-float or cash to help with a transaction.

Six in 10 mobile money users identified mobile money agents as key to successful transactions. Agents are also the point of contact when customers need help.**

*Financial Capability Baseline Survey Findings 2013, FSDT
**FII Quicksights report Tracker Survey Wave 1, InterMedia, July 2014

Note: this data is at the national level. We assume rural users have similar characteristics.
Some farmers are using m-money to save

23% of Tanzanian adults save using mobile money; it is by far the most popular savings instrument; yet most who use mobile money for savings (86%) are unclear on interest earnings*

Note: we assume fewer adults in rural areas save using mobile money. We assume a similarly large percent of rural uses do not know the interest rate.

Note: Anecdotally, mobile companies are not allowed to advertise ‘interest’ on savings because they are not regulated like banks.

38% used mobile services to receive money (of adults in Tanzania surveyed for the 2013 FinScope, not available by rural/urban), 33% used mobile money to send funds
26% used mobile services to save or store money
10% used mobile money to pay bills and execute business transactions.

The most frequently reported barrier to banking among the total unbanked adult population was insufficient money to justify use of a bank account, at about 30 percent (2013 FinScope survey)

However, we also know given farmers’ financial routines, most of their daily transactions are clustered around either their homes or workplaces, and therefore can be easily conducted in cash.

Question: Why aren’t more farmers using mobile money to save?

*When people who save using mobile money were asked, “Do you know what interest rate you earn on your savings from this savings tool?” only 14% replied, “Yes”.
Supply side challenges for mobile money

1. Limited coverage and unstable network

2. Poor agent performance and liquidity management for agents

3. High service fees (*myth?*)

While 6 in 10 active mobile money users experienced network problems in the 2013-2014 InterMedia survey, mobile money transactions conducted through agents still tended to be quicker and more effective (if slightly more costly) than conducting transactions at a “brick and mortar” bank.

An important consideration when looking at mobile banking is that owning (or having access to) a mobile phone is just one-third of the story. Two other components are required: (1) agents, i.e., a cash-in and cash-out place, be it individuals (MNO agents), retail stores, or small, local shops; and (2) a digital transactions platform that enables and executes the digital transfers initiated (or received) by the mobile device, and connects them to an authorized bank or nonbank value storage.

*Question: What do farmers do when they experience a network problem? How many times do they try before they give up? What do they do when agents run out of e-float?*
Demand side challenges for mobile money

Low financial literacy and low awareness of services/products other than money transfers.

Customers do not understand the service-fee structure, which leads them to suspect agent fraud.

High transaction fees are a key concern, driving lapsed users to reduce the number of transactions to save on fees.

Fear of transactional errors is an example of the negative effect poor digital literacy has on the uptake and use of mobile money. Some lapsed users are unsure of what to do if they send money to a wrong mobile phone number, so they avoid making transactions altogether, except in emergencies.

Mobile money account registration is now compulsory for direct usage of mobile money services. This is an irritant for occasional/infrequent users (who can drop out and become lapsed users), and a barrier to uptake for nonusers.

Question: When do mobile money services offer a meaningful value proposition for farmers?
Gender barriers to m-money adoption

The research found that some of the cultural barriers to mobile adoption seen in other markets were less pronounced in Tanzania.

For instance, women tend to have almost complete financial freedom with household expenditures, their children, their business, and income. Separate household finances also tend to be common within marriages.

Despite this, 13% of women said they did not have mobile phone because their husbands would not allow them to have one. Anecdotal evidence suggests men do not allow their wives to have a phone because they fear it would lead to adultery.

Urban participants, males in particular, can operate advanced phone features.

Rural participants, especially women, are more likely to stick to basic features/voice only; for other operations they may ask other people (friends, neighbors, relatives) to help.
1. Farmers have low levels of financial literacy, *which results in non-optimal choices in managing money.*

2. Mobile money agents are increasing the proximity of financial services, *so access is less of a constraint.*

3. 67% of rural Tanzanian adults are not active formal financial account users. *What financial services do they use instead?*

4. *However, some farmers are using m-money to save. What are the benefits of m-money for farmers?*

5. There is high awareness about m-money and farmers ask friends/family for financial advice. *How do friends/family influence desire to try or reject new financial services?*


7. Demand side challenges for mobile: low financial and digital literacy (fears with transactions and fees). *What strategies do low literacy people use, especially rural women?*
How might farmers make more optimal choices for managing their money?

Financial services for smallholder farmers should not only include credit for agriculture to invest in improved productivity, but also include savings, insurance and transfers to build resilience and smooth consumption to reflect the seasonality of incomes and diverse needs of households. Increasing the awareness and understanding of available forms of financial services could promote take-up of these services.

Digital savings and credit products could provide more compelling use cases than payments, as many households lack access to even informal financial services such as savings groups. Additionally, some smallholders may be well-served by digital payment services that facilitate transactions such as bill payments and school fee, though smallholders may prefer over-the-counter (OTC) payment methods over self-initiated mobile transactions from their own digital wallet / mobile money account.

There are three main product features that are critical to minimizing the perceived risk to smallholder families when trying digital financial services for the first time:

- flexibility,
- familiarity, and
- tangibility.
Hypotheses and future research questions

Regarding finances, members could greatly benefit from financial education.

Hypothesis A: Members have low broad-based financial education* and therefore make non-optimal financial decisions on which products/services to use.
- Verify the level of numeracy and literacy of members. What skills do they want/need in order to use other financial products/services? How do they make financial calculations and decisions?
- Do members know how to open an account? Do members know much of a loan they can apply for? Explore members’ financial capabilities.

Hypothesis B: Members have low product-specific financial education and therefore make non-optimal financial decisions.
- Which financial products/services do members use? Which ones are widely used? Which ones are judged as the most beneficial/important? Which ones do they not use and why?
- How are members saving? Why are members using formal vs informal products/services?
- What do members know about m-money savings?
- Where do members take loans? How many do they typically take simultaneously?
- How do members manage lump sums of money received for their agricultural produce?
- Why might they (not) put the sale of their harvest into an m-money account? What else are they using m-money for?
- If they are participating in the warehouse receipt scheme, why are they? If not, why not?

*See annex on definitions and forms of financial education.

Note: budgeting is harder for farmers because values of income and expenses change often.
Hypotheses and future research questions

Regarding finances, members could greatly benefit from financial education.

Hypothesis C: Members keep mental and physical “pots” of money depending on their source and use, as an informal way of budgeting.
• How effective is this? How could it be improved?
• Do households manage their money individually or collectively? Are various income streams matched against specific expenses?
• What are members’ perceptions of liquidity – for example grain reserve (saving in-kind) vs cash? Do they perceive m-money as more or less liquid (accessible, tempting) as cash? As in-kind?

Hypothesis D: Members would benefit from a group savings product to save over time and purchase inputs in bulk.
• Who do they market/sell to as a group? What transactions (inputs, sales) does the group manage? How do they receive payments (cash, bank account, mobile money)? How do they distribute revenues to the members of the group?
• Do any members have experience using m-money to make payments for inputs or receive payments for produce sales? If not, would they do that? Why or why not?
Hypotheses and future research questions

Regarding m-money, members have the technology but are not using it because they lack financial and technical knowledge.

Hypothesis E: Most members of the productive groups have mobile phones and can use them beyond making basic calls. Therefore they should try using m-money.

- Why do some members have mobile phones? Why do some member not have mobile phones? How do they weigh the cost of phone against the benefits? Have they ever tried with a borrowed phone or used someone else’s account to make mobile money transactions? What do they do when they receive a call or SMS? Do they need help?
- Which mobile money transactions are they making, if any, and for what purpose? How else do they use their phones? Radio?
- What are characteristics of members with smart phones? Particular use cases? Social media?

Hypothesis F: Members have knowledge gaps about using mobile money. Members know how to use SMS and therefore it’s not a capability issue. Instead it is a perception issue about costs, fraud, or inability to recover m-money.

- Why are members concerned / not confident in using m-mobile? What are their fears / doubts?
- Have they tried and had a bad experience? Where are they in the adoption process?
- Who would help them with their trial? Have they used an agent? What was their experience? How would they rate the services provided by the agent?
- Do they trust agents to share important information? Do they prefer to learn from friends and family?
Hypotheses and future research questions

Regarding m-money, members have the technology but are not using it because they lack financial and technical knowledge.

Hypothesis G: Mobile money is not significantly more expensive, but members do not comparatively price their options.

• How do members calculate fees/costs of m-money transfers? Is there a knowledge gap in how to do it? Is there an information gap?
• Which transactions are worth using m-money for? School fees? Electricity bills? Government payments? Hospital expenses?
• Why do members think m-money is expensive?
• After learning about / calculating the fees, how confident are members in trying/using mobile money?
Where to test our hypotheses?

**Mbeya** region has one of the largest farming populations in Tanzania and a diversity of crops and harvest times and cycles throughout the six districts. Research on Smallholder Financial Diaries happened here.

Zanzibar has 5 regions in close proximity with vast differences in access to financial services.

Ask MIVARF
- Locations with top performing service providers?
- Locations with group member who have mobile phones, some members use mobile money?
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Definitions and forms of financial education

From the National Financial Education Framework (2016-2020)

Financial education is the broad term reflecting all activities aimed at **transferring knowledge and skills and influencing financial behavior**. Financial education can take various forms. A combination of these forms and different channels should be included in a consumer strategy, depending on the needs of the target audience and the strategic objective.

- **Awareness** of product and institutional types, rights and responsibilities, recourse options, changes in the marketplace and where to turn for advice and assistance when in financial distress.

- **Broad-based/generic financial education** focused on developing general financial management and planning skills such as budgeting, cash flow management and retirement planning. This is required on an on-going basis throughout an individual’s lifetime.

- **Discrete or product-specific financial education** does not relate to a specific branded product, but to a product category such as mobile banking, life insurance, credit reference bureau, or purchasing a property with a mortgage. It is required on an “as needed” basis throughout a person’s life and will change with a person’s life stage and an evolving financial sector.

Financial capability is defined as “the ability of an individual to act with confidence in making optimal choices in the management of her/his money matters.” Financial capability is an outcome of financial education.
How producer groups profit from mobile money

With M-Pesa the 22 members can make one purchase in bulk. The group decides to purchase 50 kg of fertilizer and 20 kg of seed for each member. Based on experience, they estimate they will need TShs 30,000 ($19) each or TShs 660,000 ($418) for the group.

In July each member starts saving 10,000 ($6.52) per month, in addition to their group savings, to get ready for the big purchase.

After 4 weeks of saving, the group has accumulated TShs 880,000 ($557.33), more than enough for the purchase. In August they buy from a reputable supplier in Arusha, making an advance payment of TShs 100,000 ($63) via M-Pesa, by simply transferring this amount to the supplier’s M-Pesa account.

Not only does the supplier agree to deliver the goods for free, but the group is pleased to find that the cost for each member is only TShs 25,000 ($16) instead of TShs 30,000 ($19). Because of their bulk purchase, and perhaps because of the ease and efficiency of the M-Pesa payment process, the group has incurred savings totaling approximately TShs 110,000 ($69).
Product development and case studies

TechnoServe trains smallholder farmers in Tanzania on how M-Pawa accounts (Vodacom’s savings and credit services) work in order to encourage the farmers to use them. M-Pawa accounts are linked to the commercial bank CBA and provide 2-5% on savings based on the balance and one simple option for a 30-day, 9% fee for the loan.

MyAgro, a mobile platform, offers a commitment savings device to farmers in Mali and Senegal. Rather than paying a lump sum to purchase seeds and fertilizer at the start of the planting season, farmers save small amounts throughout the year. Clients buy MyAgro scratch cards from local stores and make deposits into their savings accounts, just like buying credit for a mobile phone. Clients of MyAgro have increased their harvests, and raised their incomes by more than 70 percent compared to non-client farmers.

Extending the layaway model throughout the year is critical to ensuring that smallholders have the option and the incentive to save regularly. Mobile services have a strong potential to achieve this through the use of mobile-based reminders and messaging about incentives and promotions. Interactive voice response (IVR) messaging could be even more effective when dealing with Senegalese smallholders, who have low rates of literacy.

Case study: Tanzania - Linking savings groups to mobile banking, CARE/Access Africa, September 2011
Product development and case studies, cont.

**Save 4 School**: A mobile-enabled, goal-based savings account designed to help smallholder families plan ahead for their children’s school fee payments.

**Goal+**: A goal-based savings account that allows customers to save for long term goals such as cows, weddings, and education. Customers sign up and deposit via mobile tellers or third-party agents equipped with a smartphone/tablet app.

A smartphone/tablet app designed for use by agri-dealers that allows customers to input data about their farms and receive a tailored package of inputs bundled with financing (featuring remote credit approval), weather-index insurance, and customized mobile information services.

**Konti Y’ikibina** (Savings Group Account): A staged product offering that digitizes savings group transactions using a mobile platform and allows groups to access instant loans secured by group savings. As the platform builds a credit history on individual members, they eventually receive the option to apply for instant individual loans using their mobile phones.

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**Case study**: Tanzania - Linking savings groups to mobile banking, CARE/Access Africa, September 2011
Product development and case studies, cont.

A combination of an incentive coupled with no-penalty flexible withdrawals might convince more people to use mobile money accounts for savings.

When considering whether or not to try a new goal-based savings account, a customer’s decision may hinge on whether or not she can easily withdraw that money on demand. “I’m anxious about not being able to access that money in case I need it for other purposes,” explained a Rwandan cooperative group member when asked about savings accounts.

The majority of Zimbabwean smallholders who participated in the prototyping of a goal-based savings product for school fees actually preferred that their savings remained “locked,” which was a reflection of the importance that they place on their children’s education. It also pointed to a larger issue of gender in management of household finances: some female smallholders insisted that locking savings would prevent their husbands from using school fee money for other purposes.

For large and/or important payments such as school fees and electricity bills, participants have to travel far to pay providers. If they don’t have money for transport, and fail to pay these bills, services get disconnected or late fees are charged. Mobile money services are a potential solution to these problems.

*Note: while some smallholders prefer flexibility, others prefer goal-based and “locked” savings products.*
## Products offered by Tanzania telecoms

<table>
<thead>
<tr>
<th>Transfers/ Payments</th>
<th>Savings</th>
<th>Credit</th>
<th>Value added services</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Vodacom</strong></td>
<td>M-Pesa, with International transfers</td>
<td>M-PAWA, With CBA (2-5%)</td>
<td>M-PAWA, one simple option for a 30-day, 9% fee for the loan</td>
<td>Kilimo Klub – buy/sell commodities, market prices</td>
</tr>
<tr>
<td><strong>Tigo</strong></td>
<td>Tigo-Pesa</td>
<td>TigoPesa, quarterly dividends</td>
<td>Tigo Nivushe, 1, 2, and 3 week pay-back periods with variable fees based on length of tenure</td>
<td>Tigo Kilimo - information about weather, crop prices, and agronomy techniques to small-scale farmers</td>
</tr>
<tr>
<td><strong>Airtel</strong></td>
<td>Airtel Money</td>
<td>TIMIZA, initiation fee of 10% along with 0.5% interest per day</td>
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</tr>
</tbody>
</table>
**What does it cost** for a farmer to use mobile money for savings, credit, insurance and transfers/payments

<table>
<thead>
<tr>
<th></th>
<th>Receive 10,000 TZS</th>
<th>Receive 80,000 TZS</th>
<th>Send 10,000 TZS in network</th>
<th>Send 10,000 TZS and withdraw</th>
<th>Send 80,000 TZS in network</th>
<th>Send 80,000 TZS and withdraw</th>
<th>Save 80,000 TZS</th>
<th>Loan 80,000 TZS</th>
<th>Check balance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cash + transport cost (+ time cost)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Vodacom mPesa</strong></td>
<td>1,200 TZS withdraw</td>
<td>2,200 TZS withdraw</td>
<td>300 TZS</td>
<td>300 TZS + 1,200 TZS</td>
<td>600 TZS</td>
<td>600 TZS + 2,200 TZS</td>
<td>2-5% interest rate</td>
<td>9% fee (for 30 days)</td>
<td>60 TZS</td>
</tr>
<tr>
<td><strong>Tigo Pesa</strong></td>
<td>1,200 TZS withdraw</td>
<td>2,000 TZS withdraw</td>
<td>250 TZS</td>
<td>250 TZS + 1,200 TZS</td>
<td>500 TZS</td>
<td>500 TZS + 2,000 TZS</td>
<td>varies</td>
<td>varies</td>
<td>Free</td>
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<tr>
<td><strong>Bank</strong></td>
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</tbody>
</table>
How do we work?

Build Partnerships

Understand Need & Demand in Target Populations

Design and/or Adapt Initiatives

Pilot

Adapt Based on Results

Implement

Scale

Adapt Based on Results

avg 12-24 months
(depending on complexity & scale of work)
Agricultural production income is money earned from the production and sale of agricultural goods, such as crops, livestock from an established agricultural business, and livestock byproducts (milk and eggs).

Casual labor income includes irregular income from short-term employment, such as work on construction sites or helping with the harvest on other people’s farms. People employed in casual labor are not making management decisions or investments, which distinguishes it from self-employment income.

Nonemployment income includes grants and other institutionally provided support from charities, hospitals, and government.

Regular/waged employment is salaried income received that has been at least tacitly agreed to be earned on a regular basis.

Rental income is usually linked to the lease of land or property.

Resources received is monetary or in-kind contributions or remittances provided to respondents through their social networks.

Self-employment income relates to sole-proprietor microbusinesses in which the owner manages an enterprise and invests money in inputs, stock, and tools; the activity may be formal or informal, and the work may be full-time, part-time, or occasional. Self-employment income does not come from agricultural production, as this would be considered agricultural production income.
Financial tools in the smallholder diaries

Accumulating Savings and Credit Associations (ASCAs): Relatively more complex informal savings groups (compared to ROSCAs, see below) that allow members to build up savings over time, lend the group fund to one another, and accumulate interest. A shareout typically occurs once a year when members divide the savings and earned interest among the group.

Agricultural middleman credit or agent credit is a loan from an input supplier, usually with the understanding that repayment will be in cash or in-kind after that crop has been harvested.

Borrowing from friends and family includes informal borrowing from their social network.

Borrowing from an informal group includes borrowing from ASCAs and other community led savings and credit groups.

Business loans are loans in which someone borrows money for a business and is individually liable for repaying the loan. Usually these loans are from banks, cooperatives, credit unions, or microfinance institutions if the borrower does not belong to a group.

Checking accounts are current accounts with a formal commercial bank.

Credit at a store is an arrangement whereby the shopkeeper lets a household member take goods now and pay later. A household member may buy a sack of flour from a shopkeeper on credit, for example, and promise to pay for it on his or her next visit to the shop.
Financial tools in the smallholder diaries

**Credit given** occurs when the respondent runs any type of small business and lets clients take items on credit and pay later.

**Hire purchase** is when an individual purchases something from a shop but does not pay the full amount upfront. The good is taken first, usually upon payment of a deposit or an installment, and then the buyer continues paying installments over time until the good is paid off.

**Joint liability loan** is when someone belongs to a group and the group has an account with a microfinance institution or bank that lends them money. The person may take a portion of that as a personal loan, but all the members of the group are guarantors. If the person stops paying, then all the group members are responsible for covering her debt.

**Layaways** are financial tools in which a person pays in installments for a good, and acquires it only once all payments are made.

**Lending to friends and family** is when members of the household or social network provide others with financial services.

**Loan from employer** is a loan from your employer (not a wage advance). The repayments may be deducted from pay slips over multiple periods or the borrower may have to repay separately.

**Money guard** is a person who holds money and keeps it safe for someone else.
Financial tools in the smallholder diaries

**Moneylender** is a private individual who lends money and charges interest. Interest rates tend to be high and repayment times tend to be strict, but people borrow from moneylenders during emergencies or when they prefer to keep the reason for the loan private from friends and family.

**Pawning** occurs when a person brings something of value (e.g., gold, phones, appliances) to a pawn shop or an individual who then gives her money for the item. If borrower repays on time, then they can have the item back. If not, they forfeit the item.

**Rotating Savings and Credit Associations (ROSCAs)** are informal savings groups in which members generally combine their savings together at regular, recurring meetings and take turns giving the entire pot to one member.

**Savings** in the house typically includes cash stored in a safe, readily accessible place. Note that strategies such as storing gold and raising livestock are not classified as savings at home, but rather household (physical) assets.

**Supplier credit** refers to informal credit given by a small business owner’s regular suppliers. The supplier may allow the business owner to pay off the loan after a week, a month, or even longer, depending on the arrangement.

**Wage advance** is when an employer pays an employee’s wages early. The amount the employee owes is either deducted from their salary, repaid in one lump sum, or over a few paychecks.