



THE FARMER CAPABILITY LAB:

Why a Farmer-centric approach matters
when delivering digital financial and
non-financial solutions to Smallholders

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Executive summary

- **Background:**

The Farmer Capability Lab has the aim of supporting the piloting, testing and scaling-up of capability building solutions aimed at smallholder farmers. Given AFA's core mandate of advancing farmer access to digital financial solutions, FCL has been identified as a key component in enabling farmers to access, understand and benefit the most from the use of digital financial solutions. This case study summarizes some of AFA's work in FCL thus far, and begins to map the AFA's proposed FCL learning journey from henceforth.

- **Overall impact to date:**

To date AFA has implemented over 20 FCL engagements with approximately 17 partners. These initiative range from mobile-based learning platforms to radio and television interventions. So far FCL has reached approximately 120,000 with these solutions, driving impactful change in ways that this case study will outline.

- **Key learnings:**

- I. Financial literacy training can influence financial behavior, thus accelerating uptake of digital financial services
- II. FCL promotes customer acquisition, activation, and retention; this has the potential to drive financial gains and sustainable delivery of products and services to SHF
- III. Farmers welcome capability building activities, especially around good farming practices and farm management
- IV. Connecting farmers to high value markets promotes increase in productivity and income
- V. Farmer-centric research promotes early product adoption and active use
- VI. There are both tangible and intangible returns on investing in FCL; these are to be developed more fully in a follow-on case study

- **Future plans:**

AFA plans to delve deeper into the sustainability of FCL through measuring both tangible and intangible benefits to FCL. This is both from the farmer's perspective and for service providers as well. It will involve not only testing key metrics that matter most to varied service providers, but testing tools that are most efficient for farmers and drawing out their impact.



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A person is seated on a woven chair, wearing a floral-patterned shirt and a patterned wrap. They are holding a silver mobile phone in their left hand and a printed document in their right hand. The document is titled "Main Menu" and contains a list of items with prices. The background shows a sandy ground and some wooden logs.

What is the Farmer Capability Lab?



Defining the Farmer Capability Lab

The Farmer Capability Lab is a function within AgriFin Accelerate that supports the development and roll-out of digital farmer capability tools through grants, technical assistance, research, piloting and experimentation.

- Farmer capability has been identified as a **key constraint to adoption** and usage of financial services and digital channels and also as a **risk factor** around farmer productivity and links to markets. Digital channels can present a high-potential low-cost solution to delivery of capability building.
- The key objective of the Lab is to: **test digitally-enabled information, awareness and capability-building services for smallholders**, offering service providers with the data they need around cost and benefit of offering these solutions
- There are 4 major areas that can be addressed through digital farmer capability tools:
 - ✓ **Financial literacy:** making farmers fully aware of the range of digital products available to them and how to use them for their benefit.
 - ✓ **Digital literacy:** enabling farmers to better use digital financial and solutions to drive increased profitability.
 - ✓ **Smart farming:** enabling farmers to attain higher levels of production and supply a growing commercial demand.
 - ✓ **Market linkages:** giving farmers a greater power of choice regarding where they sell their produce; establishing linkages to between farmers and better market opportunities

WHY FCL?

The primary objective of the Lab is to **provide farmers with the information, awareness and capability they need to access and maximise their use of digital financial services that in turn drive increases in productivity and income.**

Below are some of the key lessons AFA and partners have learned through the implementation of FCL:

Financial literacy training can influence financial behavior; thus driving uptake and appropriate use of DFS

FCL can serve as a tool for customer acquisition, activation and retention

Farmers are most interested in capability building around farm and business management

Farmers access to high-value markets can drive increased income and productivity

Farmer-centric research can drive product interest and uptake early on

There are both tangible and intangible benefits to investing in FCL activities



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What will FCL achieve

OBJECTIVES



Support and test provision of FCL tools information, awareness and capability they need to access and fully use digital financial services to their benefit

- Scale up FCL activities with existing providers & pilot new FCL tools through trusted delivery channels
- Partner with FSPs to develop targeted FCL tools



Support partner ability to deliver a range of FCL tools on scalable and commercial basis
Engage service providers in innovative partnerships to support financial, digital, and agronomic skills of farmers in order to meet partner objectives

- Research activities include (conducting farmer focus discussion groups, UX and UI testing within projects to inform product/channel/marketing (re)design



Advance knowledge on farmer capability building across the ecosystem of actors serving smallholders
Frame and pursue a learning agenda to address core agrifin needs, pain points, and solutions










- Identify key learning questions to be answered through project surveys, AB testing, data analytics etc.
- Share findings through case studies, slideshares, and webinars








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FCL in practice: AFA and its partners have deployed over 20 engagements cutting across the 4 FCL objectives

PARTNER // ACTIVITY		Financial literacy	Digital literacy	Farm skills	Market linkages	TOOLS USED	PURPOSE
	SMS-based financial literacy training for Equitel customers (Arifu)	✓	✓			SMS/USDD	Drive understanding of DFS
	Market linkages for SHF; Maano & FtMA		✓		✓	In-person training Android-based app	Increased SHF income
	Tablet-based farmer onboarding for DigiFarm		✓		✓	Smart devices and field sales-force	Increased SHF productivity
	In-person extension services through input depots			✓	✓	In-person extension services	Increased SHF productivity
	TV and radio programme targeting youth farmers			✓		Television, radio, social media, web	Increased SHF productivity
	Farmer-centric research to inform product design	✓			✓	Human-centred design research	Demystifying SHF for DFS providers
	Mobile cinema-based training on mobile money	✓	✓			In-person mobile cinema	Drive understanding of DFS
	WhatsApp shareable video training for agrodealers	✓	✓			WhatsApp, Video	Increased SHF productivity
	Financial literacy and agronomy training in agrodealer shops	✓	✓	✓		Solar TVs in agrodealer shops	Increased SHF productivity

FCL in practice: AFA and its partners have deployed over 20 engagements cutting across the 4 FCL objectives

PARTNER // ACTIVITY	Financial literacy	Digital literacy	Farm skills	Market linkages	TOOLS USED	PURPOSE
Rungwe Tea; research on effectiveness of community radio to drive behaviour change	✓	✓			Community radio	Drive understanding of DFS
 SMS-based financial literacy and farm skills training (Arifu)	✓	✓	✓		SMS/USDD	Increased SHF income & productivity
 HCD research and data analytics on Halotel data	✓			✓	HCD research Data analytics	Demystifying SHF for DFS providers
 Digital application for VSLA registration and record keeping		✓		✓	Android-based app	Drive understanding of DFS
 HCD research with village savings groups			✓		HCD research	Demystifying SHF for DFS providers
 Mobile-based soil testing kits for DigiFarm		✓	✓	✓	Soil testing kits Mobile app	Increased SHF productivity
Surf; connectivity hubs for increased DFS adoption in rural areas	✓	✓			Internet	Drive understanding and usage of DFS



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A woman is seated on a woven chair outdoors. She is wearing a short-sleeved shirt with a colorful floral pattern and a patterned skirt. She is holding a silver mobile phone in her right hand and a white menu card in her left hand. The menu card has the text 'Main Menu' and some illegible text below it. The background shows a sandy ground and some wooden logs.

What lessons have we and our partners learnt so far?

FCL Mini-Cases

Financial literacy training can influence financial behavior, thus accelerating uptake of digital financial services

KEY PROJECT INSIGHTS:

- 1. Lower income customers seek the most information:** Learners earning less than \$50 per month accessed upwards of 50 messages, compared to an average of 20 messages among higher income earners. Low-income earners also engage longer and more often with financially educative content. This serves as an early indicator that FCL has the potential to drive financial behavioural change for lower-income segments, including smallholder farmers.
- 2. Small training-based incentives & gamification encourage customer engagement:** small financial and non-financial incentives upon completing a learning segment resulted in higher conversion rates among learners e.g., 15% compared to 8%. These incentives included small airtime vouchers and certification upon completion on a segment.
- 3. Learning has a direct impact on farmers ability to save and borrow:** Loan principals for non- and light-users increased by 34% while the same decreased by 25% for more active users. Super users (50+ messages) also increased savings by 54%.
- 4. Learning data /interactive logs can be used as alternative data to mitigate credit risk.** Arifu learner data is a good alternative data point for credit-worthiness. Arifu data shows that more active learners are taking out larger loans, increasing savings and repaying their loans faster. While not an exact measure, learner attitude towards financial education can inform a credit scorecard that predicts future financial behaviour patterns.

About the partners:

- **Equity Bank** is a leading financial services provider on the East-African market
- **Arifu** is an education technology platform that provides SMS-enabled content to smallholder farmers from trusted service providers

Project activities:

SMS-based financial literacy training programme targeting Equitel customers



FCL promotes customer acquisition, activation, and retention; this has the potential to drive financial gains and sustainable delivery of products and services to SHF

DigiFarm is Safaricom's digital platform offering targeted at smallholder farmers. The platform currently has over 240,000 active farmers, 65,000 of whom are accessing learning content through the platform's link to Arifu.

KEY PROJECT INSIGHTS:

- 1. Offering multiple services reduces risk and drives uptake:** AFA has supported Safaricom to not only offer access to inputs but allow farmers access to input credit and an sms-based learning platform. These additional services have seen the platform's active usage grow to 240,000 farmers, 27 % of whom are accessing learning on financial literacy, dairy farming, poultry farming and Safaricom's other product offerings. AFA is engaging in a follow-on study to measure return on investment in farmer capability tools through increases in Average Revenue per User. Current projections estimate approximately 3.1 million farmers accessing learning on improved farming techniques by 2023.
- 2. Pull-messaging is effective at delivering relevant content:** In the financial literacy segment, more farmers are accessing content on a general business loan than a farmer loan. Given that over 50% of the products current customer base are also market traders, this is in line with their other business interests. The provision of a customer-initiated learning platform allows customers to pull the information they feel most relevant to their needs at a time most convenient to them. As DigiFarm grows, it also allows the service provider to modify content according to it's uptake and relevance.

About the partners:

- **Safaricom** is a leading mobile network operator committed to delivering value-added services to its customer.
- **Arifu** is an education technology platform that provides SMS-enabled content to smallholder farmers from trusted service providers.

Project activities:

An sms-based learning platform embedded in a holistic digital offering for smallholder farmers.



Farmers welcome FCL, specifically around good farming practices and farm management

Don't Lose the Plot was a pilot agricultural support platform built around a weekly television program that followed the lives of select youth farmers. DLTP aimed to increase youth interest and participation in agriculture as a viable business in Kenya, Tanzania, and Uganda. A recent evaluation revealed that the show succeeded in improving farming practices amongst youth already engaged in agriculture.

KEY PROJECT INSIGHTS:

- 1. Farmer interest in improved farm profitability through budgeting:** The online budgeting tool was the most popular page on the show's website, with an average of 479 budgets being made weekly while the show aired. Viewers also showed keen interest in "value addition" to their farm products as a means of increasing farm income and productivity.
- 2. Improved agribusiness record keeping can improve production:** Viewers of the show reported improved record keeping practices that helped them track and improve their productivity.
- 3. Mobile internet devices are a good platform for reaching youth:** 62% of the show's website visits came from mobile phones, compared to only 35% from a desktop computer.
- 4. Television as a scalable platform for mass campaigns:** The show was able to reach approximately 4.1 million viewers, 1.4 million of whom engaged deeply with the content and farming practices.

About the partners:

- Mediae is an edutainment organisation focused on using digital tools for social advancement.

Project activities:

Television and radio-based show on farming as a productive business. Complemented by an online budgeting tool "*Budget Mkononi*"

Tools:

- Television
- SMS
- Booklets
- Website
- Social media



Connecting farmers to high value markets promotes increase in productivity and income

FtMA's core mandate is to unlock access to both input and output markets for smallholder farmers. In partnership with **SibeSonke**, FtMA has piloted an application that makes operations at local warehouses easier and faster.

KEY PROJECT INSIGHTS:

- 1. Transparent information flows reduce unpredictability:** The app allows buyers to better forecast farmer productivity based on input ordering and simultaneously allows farmers to better gauge demand and plant accordingly.
- 2. Reduced costs through improved logistics management:** The app has helped local aggregators improve their logistics management; with greater visibility on grain and input availability and demand. This allows for the agrodealer to offer farmers a better price as a result of better margins on operation.
- 3. Driving access to financial services:** The app has aided in creating a digital footprint of existing farmer transactions, thus building an initial transactional portfolio for financial service providers to build on.
- 4. Digital extension services improving productivity:** The application also allows for the offering of digital extension services between input suppliers and farmers through bulk push-messaging. This ensures farmers understand the proper use of their inputs and can hence attain a higher yield. FtMA has also developed an extensive curriculum on post-harvest handling to help farmers maintain high post-harvest yields.

About the partners:

- **The Farm to Market Alliance** is a public-private sector led consortium seeking to transform food value chains by building a demand-led marketplace linking smallholder farmer to buyers and other key market players such as input providers.

Project activities:

Development and pilot of a mobile app for farmer onboarding, input ordering and crop aggregation.





Farmer-centric research promotes early product adoption and active use

About the partners:

- **Halotel** is a leading mobile network operator in Tanzania
- **FINCA** is an international microfinance organisation sometimes referred to the “World Bank for the Poor”

Project activities:

Human-centred design research and data analytics to drive active use and a better customer experience

While the core focus of FCL is farmers, the Lab also has the aim of driving service provider understanding of the SHF segment of the market. An example of this is AFA’s support to Halotel and FINCA in the piloting and roll-out of a savings product targeting bottom-of-the-pyramid customers. This support has ranged from User Experience research to improve on product acceptability and uptake, to data analytics to drive active customer use.

KEY PROJECT INSIGHTS:

1. **Community-level influencers are key to adoption:** Customers are generally skeptical of adopting new products. Leveraging existing community-level representatives for customer education and awareness raising is beneficial to product uptake.
2. **Agent network strength crucial to success:** Consistent positive agent perception and capacity across the brand is key to earning a farmer’s trust. Additionally, Agent commission structures tied to usage and not just sign-ups will encourage an active customer base.
3. **Targeted marketing:** There is benefit in targeting under-represented user groups such as farmers by age group, gender and region.
4. **Timely communications matter:** Communications with farmers, whether push-sms or cold-calls, should be tied within their identified routine.



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Farmer-centric research promotes early product adoption and active use

At the AFA-led Reverse Hackathon, 14 farmers from across Kenya tested 12 platforms aimed at smallholder farmers. It was the first time that many service providers were witnessing direct interactions between their product and the targeted end-user.

KEY PROJECT INSIGHTS:

- 1. No one size fits all:** while all products under evaluation appealed to all farmers, no one product appealed to the entire group. There is hence need for a segmented approach.
- 2. Clearly state value proposition at first encounter:** SHF can often have mixed first impressions of a product if the value proposition isn't clearly articulated.
- 3. Incentivise behaviour change:** Products that require behaviour change for maximum usage need to factor in incentives in order to drive behaviour change.
- 4. Digital solutions still require a physical touch point;** often a reference point that is trusted by SHFs in the community
- 5. Customer-focus ensures credibility:** Relevance and personalisation go a long way in establishing credibility with the SHF.
- 6. SHF are concerned about data privacy and protection:** Customer data protection is therefore paramount in ensuring the right kind of data is collected for product use. SHFs have reservations about giving out information when the use and protection is not made clear.

Project description:

The Reverse Hackathon is collaborative design process that brings smallholder farmers and service providers together; allowing the former to evaluate existing solutions and find additional opportunities for development and refinement. AFA ran a reverse hackathon which gave service providers a direct interaction with a segment of their target market; getting firsthand feedback from an ultimate user.

A woman is seated on a woven chair outdoors. She is wearing a short-sleeved shirt with a colorful floral pattern and a patterned skirt. She is holding a mobile phone in her right hand and a document titled 'Main Menu' in her left hand. The document appears to be a menu or a list of items. The background shows a sandy ground and some wooden logs.

How do we measure the return on investment for FCL?

While we realise the return on investment for FCL varies depending on the partner in question, below we propose key performance indicators to track ROI of FCL activities

01 FINANCIAL RETURNS

1. Increased customer acquisition
2. Increased customer retention
3. Increase in ARPU
4. Reduction in dormant accounts
5. Reduction in cost of customer acquisition
6. Reduction in default rates

02 SOCIAL IMPACT

1. Increase in financial literacy rates
2. Increase in financial inclusion rates
3. Increased farmer productivity through adoption of better farming practices.
4. Overall change in financial and farming behaviour

03 INDIRECT BUSINESS BENEFITS

1. Increased community awareness about product/service.
2. Improved brand recognition and loyalty amongst customer base.
3. Improved returns from better client base from improved farmer income and productivity.

Proposed indicators to measure ROI

In the next phase of this project, AFA will be conducting research to develop proof points for the ROI on FCL. Planned activities include:

- Economic modeling forecasting ROI for current core FCL projects to gauge financial returns.
- Data analytics/behavioral economics: correlation between learning and uptake of financial products as well as loan performance to both direct and indirect business returns.
- Case study on the farmer-level impact of past engagements to gauge social impact.



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Roadmap for AFA: Upcoming FCL Focus Points

In addition to an in-depth study around quantifying ROI for different industry players, AFA plans to conduct a deeper dive on the following:



Effective tools for FCL in rural locations: Given network infrastructural challenges in rural locations, AFA is actively seeking more effective tools for conducting FCL in rural areas. Past engagements have revealed community radio as having great potential.



Farmer driven learning: AFA plans to study the differential impact of farmer-driven learning tools such as Arifu. Picking out the trends and patterns that make such tools work better for the farmer. Sms-based learning platforms have the potential to serve as indicators for farmer interests and perhaps predict behaviours related to the learning content. AFA seeks to answer the question of whether the farmers behaviour around self-initiated learning can drive access to DFS through alternative data for credit scoring.



A focused segmented approach: While farmer learning is a necessary and relevant across the board, there is a need to zero in on the tools and methodologies that appeal most to the different segments, particularly women and youth.



A blended approach to FCL: One of the main lessons that have come out of FCL is that farmers appreciate having a physical touch point for a digital solution; a rural sales-force of sorts. As such, AFA seeks to answer the question of which structures or organisations work best as physical touchpoints for a digital offering.



A woman is seated on a woven chair, wearing a vibrant floral-patterned short-sleeved shirt and a patterned skirt. She is holding a silver mobile phone in her right hand and a printed document in her left. The document has a header that reads "Main Menu" and lists several items with prices. The background shows a sandy ground and some wooden logs, suggesting an outdoor setting. The text "What are the future trends pertaining to farmer capability building?" is overlaid on the image in white, bold font.

What are the future trends pertaining to farmer capability building?

Future trends in farmer capability building are focused around:



IMPROVED FARM AND FINANCIAL MANAGEMENT:

- **Early warning systems:** Satellite imaging and blockchain technology could greatly illuminate a farmer's productivity and viability to financial service providers and other industry players. **Harvesting** is currently proving the concept for satellite imaging and its potential to drive financial inclusion for SHFs.
- **Soil testing:** SoilCares provides a mobile soil testing lab that has the potential to increase land productivity through better knowledge of the quality of their soil. AFA is currently testing this by integrating it into the DigiFarm solution, with the aim of increasing the solution's uptake.
- **Mechanisation and irrigation:** Farmer focused social enterprises such as **Vitalite**, **Rent-to-Own** and **One Acre Fund** whose business models centre around the provision of low-cost inputs make it possible for farmers to access machinery that simplifies their everyday processes.
- **Climate smart agriculture:** With the realities of climate change being felt in all three of AFA's operational countries, we're seeing climate smart agriculture gain in relevance, with farmers needing training on opting for climate smart techniques and inputs.



EXPLORING NEW DELIVERY CHANNELS:

- **Multimedia approaches:** As evidenced by the success of the Don't Lose the Plot series, a multi-media approach is best particularly for reaching youth.
- **WhatsApp for Business:** WhatsApp has developed an enterprise solution with potential for agricultural use cases, especially in establishing linkages along the value chain. **Maano**, a Virtual farmers Market solution in Zambia, is already using WhatsApp as its means of contact, training and linking up with farmer ambassadors.

Future trends in farmer capability building are focused around:



SOPHISTICATION OF FINANCIAL PRODUCTS:

- **Digitally-enabled farmer-centric insurance:** Pula, a digitally-enabled insurance provider working across sub-Saharan Africa, is experimenting with the effectiveness of a multi-platform push-messaging system in driving farmer awareness and understanding of their product. Pula is also testing incentive packages that encourage farmers to share knowledge with fellow farmers regarding the insurance product.
- **Data protection in digital credit:** Mutually-beneficial strategic partnerships have greatly simplified last mile delivery. One of the relationships that enable this is around the collection and sharing of data. While farmer-facing organisations such as the World Food Programme have a wealth of data on farmer transactions and production history, the ownership and sharing of data can be a tricky field to navigate. Questions arise such as, what is meaningful farmer consent for data sharing? The strategy around this needs to be simple and relevant for farmers yet simultaneously robust and meaningful for service providers.
- **Data tools for village savings groups:** There is growing interest in offering digital solution for savings groups across Zambia, Tanzania and Kenya. One such example is the digital record keeping solution being offered by **Chomoka**. While the application itself is for record keeping; it has the potential to then link the groups to various service providers according to the groups needs



THANK YOU!

