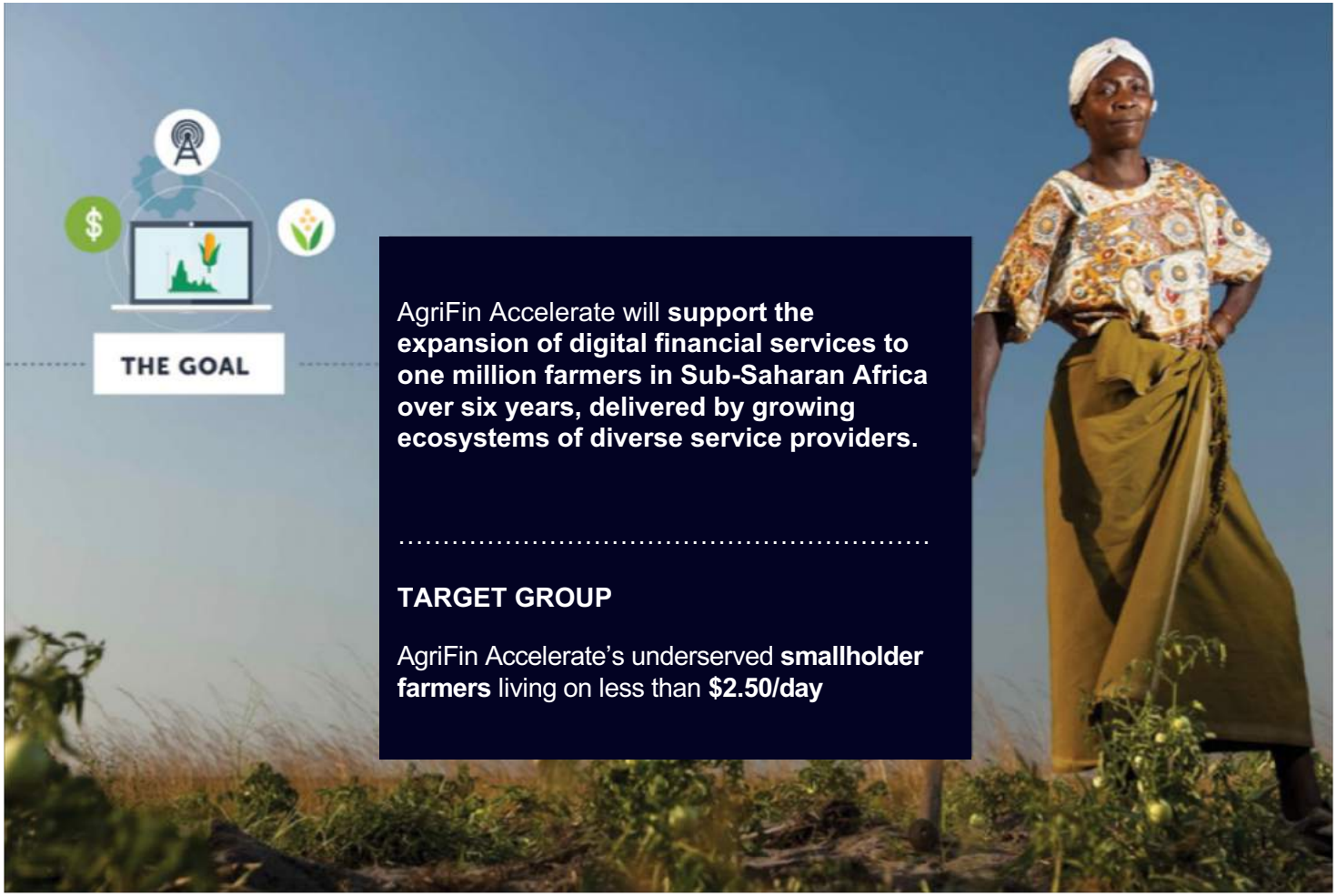
DigiFarm:
A DIGITAL PLATFORM FOR FARMERS

Case study

May 2019

AgriFin Accelerate: Introduction



AgriFin Accelerate: Program Overview

- Mercy Corps' AgriFin Accelerate Program (AFA) is a **USD 25 million, six-year** initiative supported by the Mastercard Foundation to support delivery of digitally-enabled services to more than 1 million smallholder farmers across Kenya, Tanzania and Zambia
- Our objective is to support service development and scale that **helps smallholders increase income and productivity by 50%**, working to ensure **50% outreach to women**
- AFA works as an innovation partner with **private sectors scale partners** such as banks, mobile network operators, agribusinesses and technology companies committed to serving smallholders at scale
- We help our partners develop, prototype and scale bundles of **digitally-enabled financial and non-financial services**
- We support **partnership development** between groups of market actors that can leverage each other's strengths
- The program focuses on the following **key areas of innovation**:
  - Product and Service Development for Smallholders
  - Last Mile Distribution Networks
  - Farmer Capability Tool Development and Testing
  - Technology Startup Acceleration
  - Alternative Data & Credit Scoring
- We combine AFA team expertise with strategic resources to jointly implement series of **iterative, fail-fast engagements** with partners on a cost-share basis
- We work to **share key learnings** from our engagements to expand services to farmers through growing ecosystems of providers
- Since 2015, we have completed more than **120 engagements with over 70 private sector partners**
- Over the past three years, AFA has supported Safaricom on its' journey to develop the **DigiFarm platform** for smallholders in Kenya
- This case study **highlights learning from this partnership** over more than 20 engagements over the past 3.5 years

Executive Summary (1/2)

- **Overview of *DigiFarm*:** *DigiFarm* is Safaricom's integrated mobile-based platform for digital services tailored for smallholder farmers. *DigiFarm's* platform model opens up the marketplace for farmers to access products and services from financial institutions, agri-input providers, and other value-added service firms, enabling farmers to easily source, transact, learn, grow
- **Overall impact to date:** As of May 2019, *DigiFarm* has 1,038,000 farmers registered on its platform accessing educational content, high quality inputs, digital input credit and harvest cash loans
- **Product innovation support from AgriFin Accelerate:** AFA has provided support to *DigiFarm* from concept development through product innovation and UX testing, including:

Farmer needs and ecosystem mapping	*to gain an intimate understanding the farmer through Human Centered Design, as well as assess the nature of Kenyan value chains, and understand complexities of ecosystem players and market dynamics*
Platform development & partner strategy	*to find the right partners able to deliver, develop partnership and drive mobilization, and to support partner growth*
Business modelling & go-to-market strategy	*to define the business model with risk analysis, map out financial plans and scenarios, and to lay a path forward for DigiFarm to launch its full offering*
Digital input and harvest cash loan products, bundled with insurance	*to develop a digital loan offering, funding plan, and customer service blueprint that matches farmer needs*
Impact and data analytics	*to implement a data management, monitoring, and evaluation and learning (MEL) plan and monitor user experience for further development*
Field force development	*to identify key channels for farmer education, recruiting, and onboarding through pilot partnerships with 'brand ambassadors' oriented to support active use*
Franchised agrodealer modeling	*to support the mass engagements with Kenyan agrodealers to support high quality input supply and associated credit linked to iProcure tech system*

Executive Summary (2/2)

Digital marketplace	*to streamline fragmented agricultural markets and allow farmers the opportunity to sell their produce at a fair price, supported by soil testing, inputs & financing*
Data strategy	*to build a data capture and management plan that is agile and effective enough to sort, analyze, and leverage agri-data collected by the platform*

Key learnings

1. **Offering multiple services reduces costs and risk, drives uptake and builds customer loyalty:** From the start, *DigiFarm* intended to build a bundled service offering, layering on new services one by one
2. **A platform approach can reduce development costs and crowds in diverse capabilities:** Safaricom did not want to build out new service capabilities from scratch and instead made a "platform play" to leverage other service providers
3. **A farmer-centric / user experience approach is crucial to ensuring product-market fit:** Designing a product with the farmer value proposition front and centre ensures product is tailored to farmer needs
4. **Trusted, high-touch channels can drive customer uptake and improve stickiness**: Farmers respond best to trusted channels – in particular other farmers. Also, having reliable physical touchpoints for in-person engagement makes a difference
5. **Patient capital and a process of trial and adjustment is crucial in underserved markets**: Patient capital enables immature markets to be developed, a process that takes time and requires iteration
6. **Establishing the value of data upfront is critical to expanding financial access**: Putting data at the forefront is essential for digital finance services in agriculture
7. **Building a robust and transparent partnership structure is key for success**: - *DigiFarm's* partnership was based on a clearly mapped out set of required inputs and expected returns, which helped partners move forward
8. **Credit scoring for smallholders can benefit from diverse mobile and farm-level data:** *DigiFarm* can leverage Safaricom's extensive mobile transaction data as well as purchase / sales history with partners on the *DigiFarm* platform
9. **Loan product structure is critical given farmer income is lumpy and volatile:** Loans require longer tenors and flexible repayment structures to match crop cycles. Appropriate structuring can significantly increase repayment rates

Smallholder farmers are a key pillar of agriculture in Kenya; they face constraints around access to inputs, finance, markets, and information

Smallholder farmers (SHFs) are critical to the Kenyan economy, and other markets across the region

- In Kenya, the agriculture sector employs **over 75% of the workforce** and accounts for **30% of GDP**
- There are over **7 million SHFs** (including both commercial and subsistence farmers) in Kenya, who account for over **85% of the country's agricultural output** and **70% of marketed produce**
- The majority of Kenyan SHFs live in poverty – earning under US$ 2.50 per day
- SHFs are **critical to agricultural development in Kenya**, supplying large buyers / exporters with produce

However, they face major constraints to growth and livelihoods

Expensive and **poor quality** inputs reduce yields

A **lack of access to knowledge** resources to improve agronomy

High cost and **limited availability** of credit limit opportunities to invest to grow farms

Limited channels to market leads to low bargaining power and post-harvest losses

The challenges Kenyan SHFs face are systemic; several constraints along the chain need to be unlocked at the same time

Source: Mercy Corps AFA - Benchmark Study of Smallholder Farmers of Kenya, 2015

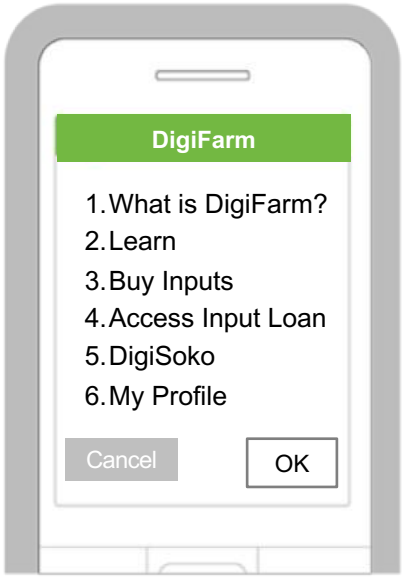
DigiFarm Case Study: Safaricom

In 2015, AFA partnered with Safaricom to support development of DigiFarm

Leading Mobile Network Operator	MPESA: Mobile Money Solution	Background
Biggest Kenyan corporation in ($293 billion turnover) **29 million** mobile subscribers **450,000** touch points for its customers **100** different products under its portfolio.	Most successful MM product in the world **25 million** customers **85,000 agent** outlets **200,000 merchants** **60% of SHF** actively use it	For two years Safaricom worked on a product concept for smallholders **Objective** to increase: • Income • Productivity • Access to finance • Access to markets

Safaricom's *DigiFarm* aims to address these constraints via a digital platform which bundles together diverse services to address needs of Kenyan farmers

Launched in 2017, ***DigiFarm* is Safaricom's integrated mobile platform of digital services for farmers. *DigiFarm,*** accessible on a basic feature phone, provides farmers with access to products and services enabling them to conveniently source, transact, learn, and grow their farms. Over time, additional services are added onto the platform to make ***DigiFarm*** a one-stop shop for Kenyan farmers, including the recent introduction of ***DigiSoko***, an open marketplace for agricultural produce



Current services

1. Order inputs

DigiFarm allows farmers to purchase inputs from 26 input providers via iProcure

2. Learn

DigiFarm provides access to educational content for best farming practices and financial literacy

3. Access Input Loan

DigiFarm provides digital credit products based on alternative credit scoring and bundled with insurance

4. Connect with buyer

DigiSoko connects farmers to buyers in specific value chains with support from field staff

5. Soil / farm testing

DigiSoko tests soil to understand required inputs and suitability for value chain production

6. My Profile

DigiFarm *gathers key farmer profile information to enable access to platform services*

DigiFarm is owned and led by Safaricom, and draws on a wide range of capabilities from several other partners

The integrated nature of the platform and its intensive use of digital data seeks to leverage each partner's strengths, reduce risk for each partner, and drive higher revenues across the partnership

		iProcure	FarmDrive	Arifu	iShamba
Core activities	• Manage platform and provide payment services, communications,	• Provide low cost inputs to farmers through input depots	• Manage loan book, including application, credit scoring, approval, and repayment	• Provide learning content for farmers on platform	• Digital and video learning content • Web-based budgeting tool • Call centre support
Revenues	• M-Pesa transaction fees • Interest income • Market access trading fees	• Fees on input sales	• Interest income and late penalties	• Content development • Fees per active learner	• Content development • Fees per active learner
Costs	• Customer acquisition • ATL/BTL marketing • Tech development / maintenance • Software licensing / hardware • Customer service	• Cost of goods sold • Warehousing/ delivery vehicles and logistics • Tech platform • Customer service • BTL marketing	• Credit scoring and loan approval • Loan management and administration • Customer service	• Tech platform • Data analytics • Customer service	• Tech platform • Data analytics • Customer service

Digi Farm BY SAFARICOM · mastercard foundation · MERCY CORPS | AGRIFIN ACCELERATE · Dalberg

In December 2018, *DigiFarm* launched *DigiSoko* to provide farmers with more secure and fairer access to market to help raise farmer incomes by 50-60%[1]

DigiSoko is designed to help farmers realize:

DigiSoko

Higher farm gate prices

Greater efficiency in trade can reduce transport cost and trader margin, and more transparency can empower farmer to negotiate better; both can improve farm gate prices

Farmers lose ~60% of value between the farm gate and retail, and even more for other buyers in potato value chain

Incentives to invest more

Reliable access to markets and steady income motivates farmers to invest in productivity enhancements i.e., inputs, machinery, and additional labour

"When farmer see the money regularly, they start getting inputs and improving production"

Reductions in post-harvest loss

Secure access to markets, coupled with improved aggregation and more efficient transport, logistics, and storage could help reduce food wastage and losses for farmers

~12% of potatoes produced are lost or damaged at farm

In the Kenyan potato sector alone…

*…**DigiSoko** seeks to increase farmer margins through secure access to market..*

*…it is estimated that **each farmer would receive an extra USD 1.4K a year.** This is the equivalent of helping Kenyan smallholder potato farmers **recapture ~USD 1.1 billion per year***

Source: GIZ, "Post-harvest losses in potato value chains in Kenya," 2014. 2017. Notes: 1) Impact estimates based on previous Dalberg work, which included analysing market linkage platforms for both inputs and offtaking.

Digi Farm BY SAFARICOM · mastercard foundation · MERCY CORPS | AGRIFIN ACCELERATE · Dalberg

Although *DigiFarm* is still early in its evolution, there have already been promising indications of commercial success and social impact

Farmer financing

To date, nearly 60,000 digital input loans have been approved with nearly 90% repayment rates as of this report and increasing loan amounts up to 28,000 KSH with growing numbers of repeat borrowers building credit histories

Access to knowledge

Nearly 310k farmers have accessed DigiFarm learning content through platform learning partners including Arifu (with more than 2m interactions on the service), iCow, Mediae and product FAQ on *DigiFarm*

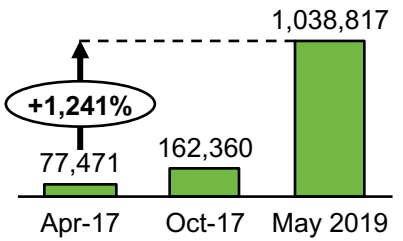
Inputs provided

More than 50k farmers have purchased inputs through the DigiFarm input platform with partner iProcure, many of whom were repeat customers. Safaricom and iProcure are now offering agrodealers across Kenya with access to inputs and DigiFarm through franchise models

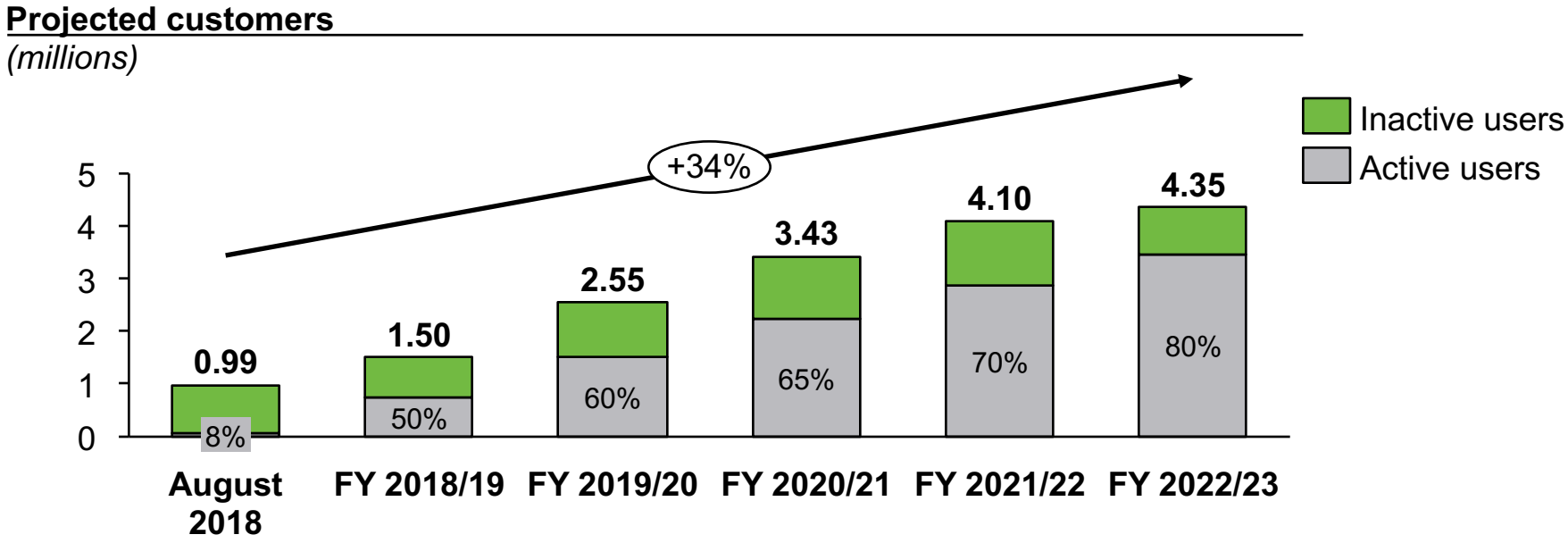
Farmers reached

Currently 1,038,817 farmers are registered, with 43% women and an activity rate of 30%. In 2018, DigiFarm rolled out the DigiFarm Village Advisor network, providing 1,500 field experts to support farmers' digital journey

Total registered farmers 2017-9



From a current reach of ~1,038,000 SHFs, *DigiFarm* is expected to reach 5m customers by 2022



By 2023, DigiFarm is expected to have …

3.5 million
farmers actively using DigiFarm to build their farms

3.1 million
farmers learning to improve farming techniques

2.4 million
farmers buying inputs to boost yields and productivity

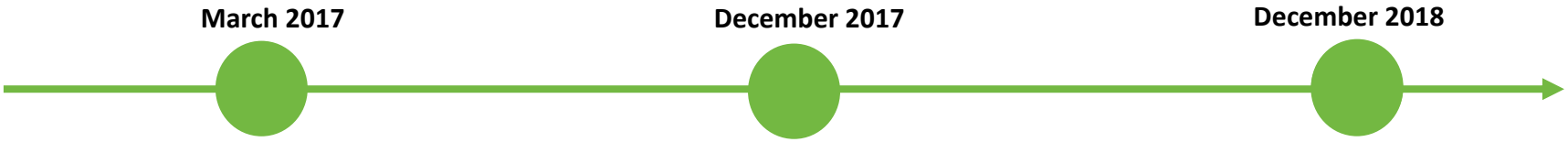
1.5 million
farmers accessing markets to sell more produce

900 thousand
farmers approved for loans to buy inputs

AgriFin Accelerate (AFA) has supported Safaricom and its partners to build *DigiFarm* from concept through to launch and expansion

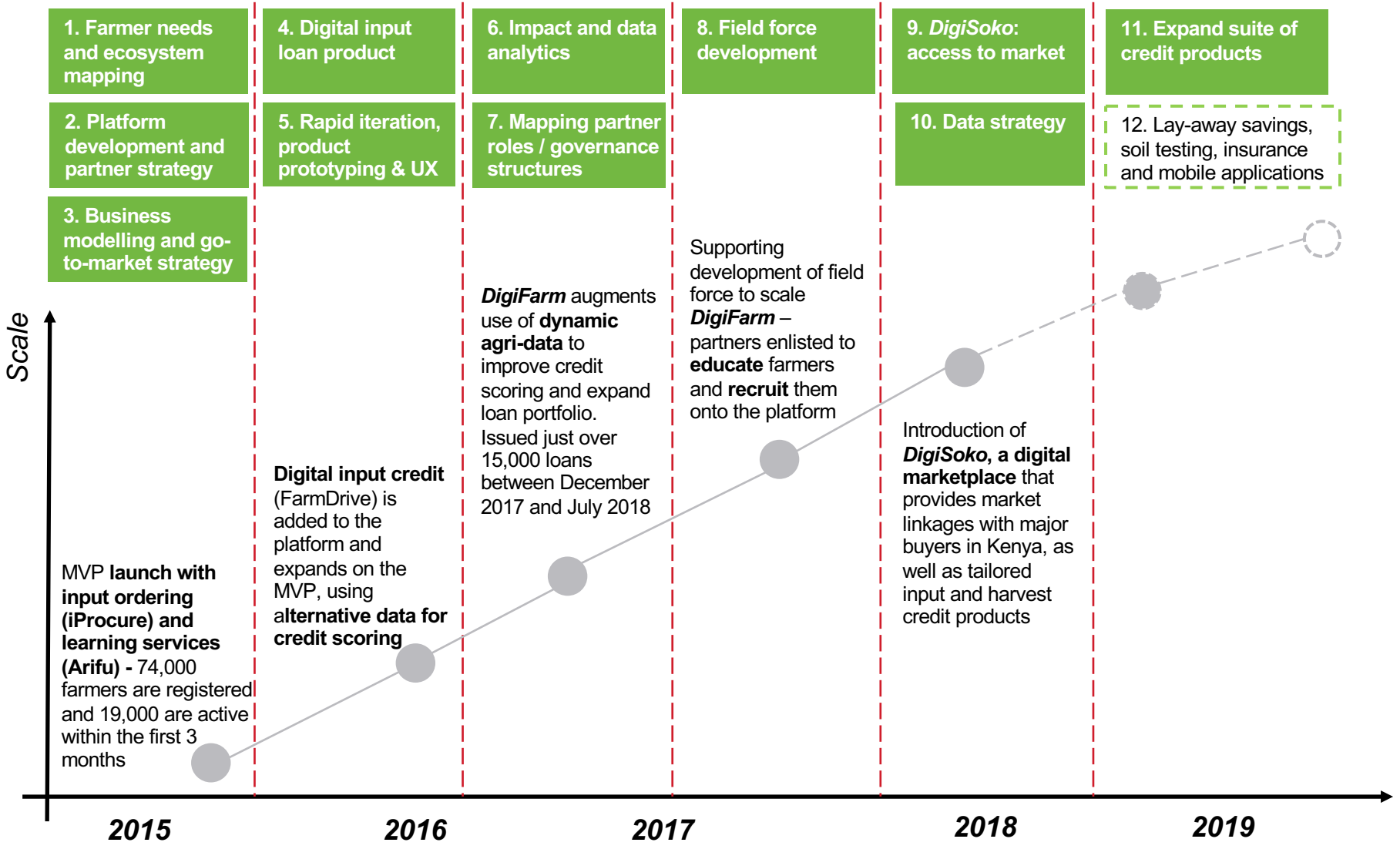
AgriFin Accelerate (AFA)'s activities are focused on serving smallholder farmers in Kenya, Tanzania, and Zambia, with a particular focus on women and youth farmers

AFA employs a private-sector led model as a **product innovation partner** with a focus on **platform development**, **bundled services**, **customer feedback loops, rapid iteration** and **prototyping.** AFA works with MNOs, financial institutions, and VAS providers to develop farmer-centric digital financial services which are bundled together with complimentary end-to-end services for farmers. These platforms and products can be scaled to drive higher productivity and income for farmers and their families. **AFA has supported DigiFarm since 2015 and has focused on providing product innovation support in a phased approach**



	DigiFarm v1.0 MVP	DigiFarm v2.0 Input Credit	DigiSoko
Products launched	• Input ordering • Learning	• Input loans	• Market access • Soil testing and aggregation
Objectives	• Assess user uptake and suitability of supporting infrastructure	• Offer farmers input credit to support their businesses and fine-tune lending model	• Provide full suite of commercially viable services that farmers need to optimise income, productivity and farm management

AFA's has provided product innovation support in a phased approach across more than 20 engagements* over the past 3 years



* This slide is not an exhaustive list of support provided by AFA to Safaricom and its partners on *DigiFarm*

1

The departure point for DigiFarm's success was to understand the value chains and ecosystems it sought to operate in, and secondly to intimately understand the attitudes and behaviours of their potential customers

Farmer needs and ecosystem mapping

Gain an intimate understanding the farmer

- Using HCD research to get deep understanding of the attitudes, believes, motivations, and social norms that drive farmer behaviour

Assess the needs and challenges in specific value chains

- Evaluate the gaps and challenges Kenyan farmers face in certain value chains, including seasonal cycles, financing needs, and routes to market

Understand the complexities of ecosystem players and market dynamics

- Map out the broader ecosystem of players in financing, input provision, aggregation, off-take, etc., as well as understanding relevant policies and development priorities

See also: Kenya Ecosystem Assessment, 2015

Digi Farm BY SAFARICOM | mastercard foundation | MERCY CORPS | AGRIFIN ACCELERATE | Dalberg

1

Farmer needs and ecosystem research has enabled *DigiFarm* to tailor its service offering to offer a compelling value proposition to its customers and partners

Objectives

- **Develop a farmer-centred evidence base to inform design of the *DigiFarm* platform** to ensure that the platform is responsive to customers needs and is attractive to partner engagement.

Support provided

- **Human-centered design research and interviews with farmers across Kenya**
- **Assessment of farmer awareness, trust and quality perceptions** in partner brands, user experience and product preference in onboarding and use, and how to incentivize payback post-disbursement through interviews and prototype testing to observe farmer experiences
- **Identification of key contextual parameters** e.g., perceived value and potential impact of platform, ease of use and usage context, educational content needs, awareness raising and marketing

Key insights

- **Safaricom's brand is very strong among target users of *DigiFarm*** and can be influential in driving farmer uptake and usage
- **Farmers showed demand for input credit as long as on agreeable terms**, with most liking the concept of if being disbursed to input supplier directly. They also expressed preference for linking payback terms to production cycles
- **Digital literacy and understanding of loan products was relatively low.** There needs to be tailored and easy-to understand messaging around loan products

Impacts on *DigiFarm*

- *DigiFarm* was able to tailor its product offering better to meet farmers' needs and priorities
- Insights from farmers in the field validated there is demand for access to quality and affordable agri-inputs, as well as financing for them

Digi Farm BY SAFARICOM | mastercard foundation | MERCY CORPS | AGRIFIN ACCELERATE | Dalberg

2

DigiFarm's success has been anchored on Safaricom's decision to go for a partnership model – where it leverages its vast network to crowd in partners with unique capabilities, resources, and technology. This bundling approach, core to AgriFin Accelerate, was central to ensuring a strong value proposition to farmers and rolling out quickly

Platform development and partner strategy

Find the right partners able to deliver

- Scope and identify high potential partners and design pilots to test and refine partnerships

Develop partnerships and drive mobilization

- Draft the terms of engagement, and set expectations of partner roles in the project and the benefits that are to accrue now and over time

Support partner growth and manage partner relationships

- Invest in development and growth of partners to deliver on expectations and aid in their capacity to scale

iProcure FARM SUPPLY INNOVATION · FarmDrive · Arifu

Digi Farm BY SAFARICOM · mastercard foundation · MERCY CORPS | AGRIFIN ACCELERATE · Dalberg

2

With support of AFA, Safaricom adopted a platform model where they leveraged their vast network to bring in diverse value-added service providers

Objectives

- **Support Safaricom in development of its platform model and partner strategy for *DigiFarm***
- **Identify and prioritize key partners for *DigiFarm* and how they can enhance overall value proposition of platform**
- **Understand potential partner readiness to grow and contribute to the DigiFarm platform** as a part of a broader strategy for engaging the right partners to deliver on specific service offerings of the platform

Support provided

- **Partnership development** e.g., assessments of potential partners' profiles, coordination and project planning to ensure seamless customer delivery
- **Specific support to iProcure** to develop a distribution and depot model strategy to ensure it can serve growing demand for inputs on the platform
- **Specific support to FarmDrive** to improve FarmDrive's credit-scoring model, support to internal operations to effectively combine alternative data streams into a credit scorecard to be used by a partner banks
- **Specific support to Arifu** to upgrade their platform and develop new learning content in different value chains

Key insights

- **Platform plays enable multi-tiered services to be layered in quickly,** though require a lot of coordination and dedicated staff to manage partner relationships
- **Clear terms of engagement between partners should be set upfront to align on expectations** in terms of roles and responsibilities, resources and time commitments, data requirements and commercials

Impacts on *DigiFarm*

- DigiFarm launched platform in partnership with 3 early stage value-added services providers – iProcure, FarmDrive, Arifu. Additional partners continue to join the platform, including iCow, iShamba, Kenya Livestock Producers Association, AgroCares, ACRE Africa and Pula

Digi Farm BY SAFARICOM · mastercard foundation · MERCY CORPS | AGRIFIN ACCELERATE · Dalberg

3

The development of DigiFarm's business model enabled it to reduce the cost to serve and will better enable the model to scale to reach its objective of reaching 5m farmers by 2023

Business model and go-to-market strategy development

Define the business model with risks analysis

- Define how value is created and distributed, assess the requirements to deliver sustainably, and map the possible risks the project may face and how to mitigate

Map out financial plans and scenarios

- Detail the revenue and cost drivers and project the path to breakeven and beyond, conduct a scenario analysis to plan for alternative outcomes

Lay a path forward for DigiFarm to launch its full offering

- Develop a go-to-market (GTM) strategy detailing the phased approach for DigiFarm to launch its full offering

3

Business model and go-to-market strategy enabled *DigiFarm* to plan for the rollout of the phases of the product and identify pathways to sustainability

Objectives

- **Developing a comprehensive business model, set of financial projections, and go-to-market strategy for scaling of *DigiFarm***
- **Prepare financial projections for a key fundraising milestone** to budget for projected capital needs and operating expenses

Support provided

- **Financial analysis and business modelling** to understand the unit economics of loan product capital requirements and drivers of profitability/business case over the next five years
- **Sensitivity analysis** to determine highly influential factors, as well as a PESTEL analysis for risks, with options provided to mitigate
- **Modeling of design options for DigiFarm** based on these analyses considering additional value adding services

Key insights

- Rigorous business modeling, considering services offered by different partners on platform, was critical in planning for sustainability and getting buy-in from Safaricom management team
- Business modeling was also key in identifying value drivers for different partners on the platform and how value could be distributed fairly and proportionately to the cost incurred by each partner

Impacts on *DigiFarm*

- The *DigiFarm* team presented the updated model to Safaricom and its partners
- Funding for the pilot loan portfolio was secured including funds from Safaricom, AgriFin Accelerate, Financial Sector Deepening Kenya, and FarmDrive

Digi Farm BY SAFARICOM | mastercard foundation | MERCY CORPS | AGRIFIN ACCELERATE | Dalberg

4

DigiFarm partnered with FarmDrive to develop an innovative input credit offering through which farmers could receive small loans to purchase quality inputs to invest in their productivity at a larger scale. The product also employs alternative credit scoring using metrics relevant to agricultural value chains and farmer incomes. The business model was assessed for viability, value proposition to farmers, and opportunity to be a key source of rich data on farmer financial needs

Digital input loan product

Enhance *DigiFarm's* usefulness to farmers by offering them a credit facility

- Evaluate feasibility of adding a loan capability to the platform via partnering with FarmDrive as a next step in increasing farmer productivity and commercialization

Evaluate the business case for adding an input credit offering

- Perform portfolio and risk analyses to determine the financial viability and sustainability of issuing small loans for farmers through the platform

Use data from the loan facility to further understand the farmer and their needs

- Loan amounts, tenors, and repayment rates provide rich data points to use for functions such as alternative credit scoring and forecast demand for input suppliers

Digi Farm BY SAFARICOM | mastercard foundation | MERCY CORPS | AGRIFIN ACCELERATE | Dalberg

4

Partnering with FarmDrive enabled *DigiFarm* to strengthen its value proposition to farmers by providing them access to digital input loans

Objectives

- **Develop, test, and launch a mobile-based input loan product** that could be seamlessly integrated into the platform and reflect farmer needs and financial patterns

Support provided

- **Product innovation:** based on insights from human-centred design, immersive research, and desk research that inform how product messaging should be communicated and marketed to farmers, and how product features should be tailored to meet farmer needs
- **Loan portfolio analytics:** to understand the capital needs of the portfolio and drivers of portfolio, and to inform risk management strategy and financial planning going forward

Key insights

- **Tailoring loan term to farmer needs is critical:** *DigiFarm* started off with 30-day loan but this was not sufficient for many borrowers given longer crop cycles. Products must consider the capital needs and cashflows of target farmers
- **Messaging is key from end-to-end;** upfront, clear and concise messaging on the loan product terms is required. This then needs to be followed up by frequent messages that are appropriately sequenced and worded to ensure farmers are effectively reminded of when loans are due
- **Digital input credit performance still depends highly on physical infrastructure** to deliver the actual inputs

Impacts on *DigiFarm*

- *DigiFarm* designed, built, and launched a loan product with **FarmDrive** including **application, credit scoring, approval**, and **repayment** with 30-day, 60-day, 90-day and 120-day repayment term offerings for farmers to choose from.
- Within the first four months, ~20,000 farmers were approved for loans and ~8,000 loans were redeemed

Digi Farm BY SAFARICOM | mastercard foundation | MERCY CORPS | AGRIFIN ACCELERATE | Dalberg

5

Using a model of rapid iteration and product prototyping, Safaricom and its partners were able to design and develop a platform that was farmer-focused, user-friendly, agile and responsive

Rapid iteration, product prototyping, and UX design

Ensure a fit for purpose product is delivered

- Product design linking farmer preferences to the development of an initial minimum viable product that aimed to provide access to knowledge and inputs

Ensure farmers are reached and onboarded efficiently

- Mapping the customer and product journey to identify bottlenecks and delivery risks

Drive for continue development of new products and refining the CVP

- Additional product builds to include additional functionality over time, including access to credit for inputs, and ongoing development on access to market

Digi Farm BY SAFARICOM | mastercard foundation | MERCY CORPS AGRIFIN ACCELERATE | Dalberg

5

Product design and development of the DigiFarm offering used an iterative approach to roll out and further develop a minimum viable product (MVP)

Objectives

- **Refine the MVP solution** to create a seamless user experience across partners and leverage existing processes and technologies to reduce time to launch, including Safaricom's *Masoko* platform
- **Pre-launch**: define design principles – (marketing & communications, data collection standards, UX across the user journey for various user types), validation of initial product specs, initial user journey mapping
- **Post-launch**: explore use-cases for credit product across value chains and regions, define specs (size, payback, pricing etc.) for various use cases

Support provided

- **Prototyping, co-development and iteration on user journeys** for product feature, design and loan parameter recommendations
- **Surfacing of insights** on push SMS's, layaway model, discounted inputs, M-Pesa payments, price volatility, group purchasing, repayment flexibility, educational components, and a productivity tool to keep farm records
- **Recommendations on the ideal structures** and focus areas for linking the two platforms

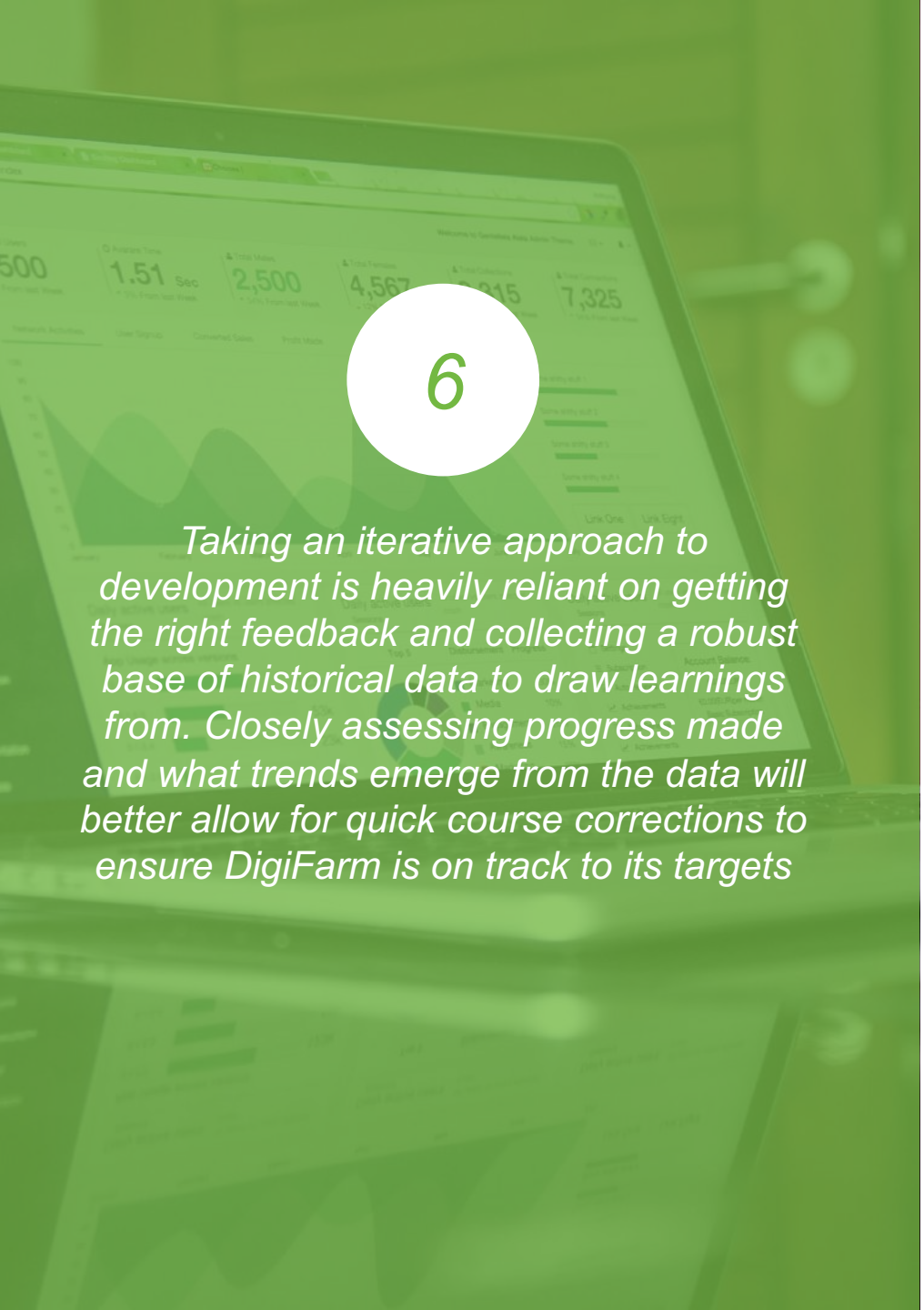
Key insights

- Continuous focus on customer-centric approach was critical in building MVP and continuously improving product and user experience
- Engaging all *DigiFarm* partners in reviewing UX feedback has been critical for implementing improvements

Impacts on DigiFarm

- Identified, conceptualized, designed and planned a portfolio of innovative services for DigiFarm, allowing the platform to deliver a tailored offering
- Insights regarding the product's ease of use, content preferences and overall value were translated through multiple ideation workshops into recommended MVP features set and a detailed design proposal

Digi Farm BY SAFARICOM | mastercard foundation | MERCY CORPS | AGRIFIN ACCELERATE | Dalberg



6

Taking an iterative approach to development is heavily reliant on getting the right feedback and collecting a robust base of historical data to draw learnings from. Closely assessing progress made and what trends emerge from the data will better allow for quick course corrections to ensure DigiFarm is on track to its targets

Impact and data analytics

Implement a monitoring, evaluation and learning (MEL) plan

- Develop and implement a detailed MEL plan, setting the key metrics and KPIs that will be tracked to determine success of the rollout and of ongoing operations

Monitor the user experience for further development

- Monitor the farmer and alliance member interactions with the platform, tracking the usage, user satisfaction, and bottlenecks for input into subsequent refinements

Collect a wide range of data and leverage it using a suitable data analysis strategy

- Collect various data points of dynamic agri-data and enter it into a pre-established database/ Perform the relevant analyses to extract key trends and insights to forward to partners such as credit and input providers

Digi Farm BY SAFARICOM | mastercard foundation | MERCY CORPS AGRIFIN ACCELERATE | Dalberg

6

Data collection and management, M&E, and UX evaluation support set up DigiFarm's learning agenda and developed tools to track performance

Objectives

- **Set up and implement a data analytics and M&E plan** - including a product customer experience (UX) evaluation - for pilot and then continued operations in *DigiFarm*
- **Understand UX and iterate for improved solutions** – across I) accessibility and onboarding experience, II) MVP service and features usage experience, III) pilot setup, and IV) new feature opportunities
- **Communicate emergent trends** to the relevant partners

Support provided

- **Definition and assessment of key metrics and KPIs** to track the implementation and ongoing operations of *DigiFarm*, as well as set reporting processes and timelines
- **Definition of the learning agenda** that *DigiFarm* was to implement to ensure that customer and partner feedback and perspectives are incorporated into subsequent iterations of the product

Key insights

- Across MEL and UX the following headline issues were addressed, with additional recommendations provided:
  - Most farmers showed significant interest to learn but uptake and interaction with the learning content was low
  - Discount codes created positive perceptions but holds limited value for *DigiFarm*
  - Onboarding and sensitization are the biggest drivers of independent usage
  - *DigiFarm* app may hold the most value for those who are hardest to reach
  - Resolving technical issues will improve access, usage, and engagement

Impacts on *DigiFarm*

- Building in quick feedback loops, building dash board, and conducting data analysis to suggest changes in approach (like messaging and loan product)

7

To support the onboarding of farmers onto the DigiFarm platform, Top Image, an experiential and field force management firm, and Kenya Livestock Producers Association, were brought in as partners to drive the recruitment of DigiFarm farmers through trusted farmer delivery channels.

Field force development

Identify key channels to support farmer onboarding onto *DigiFarm* platform

- Leverage partnerships with key 'brand ambassadors' to help educate farmers and onboard farmers onto the *DigiFarm* platform recognizing the importance of trusted farmer channels for farmer acquisition

7

Several pilots have tested effective approached to onboarding farmers and supporting active use, including KLPA and DigiFarm Village Advisors

Objectives

- **Educate and register farmers onto *DigiFarm* platform** in four pilot counties, Bomet, Nyandarua, Nandi and Meru, through two partner organizations / 'brand ambassadors' – Top Image and Kenya Livestock Producers Association (KPLA)
- **Rollout DigiFarm Village Advisor** network of 1,500 village based officers to support and promote active use of DigiFarm products, including access to markets, insurance, loans, soil testing and other services

Support provided

- **(Top Image) Branded road show rig and recruitment/training of an activation team:** to attract potential customers that was deployed
- **(KLPA) Mobilizations, recruitment and registration & communication materials** such as posters and flyers etc. to disseminate key messages to farmers through farmer groups, church activations and county government
- **(KPLA) County trade fairs** to bring together both public and private sector service institutions to onboard farmers
- **DigiFarm Village Advisor network design, rollout and testing** to determine how ongoing field force supports active use of products.

Source: Mercy Corps, 'Updated DigiFarm Channel Review'

Key insights

- **Brand ambassadors** played a **key role in educating and registering farmers** (above targets) by being **able to respond immediately to farmer queries,** notwithstanding some cases of misinformation provided
- **KPLA targeted farmer groups at their meeting points and through local leaders resulting in effective engagements that ensured only farmers were reached;** this reduced KPLA's onboarding costs compared to those of Top Image
- **Onboarding exercises focused on acquisition and not usage is likely to lead to dormancy and low activity rates**; between August-October 2017 activity rates dipped despite an increase in farmer numbers

Impacts on *DigiFarm*

- Through Top Image's activities,[1] >83,600 farmers were registered at a cost of USD 1.20 per farmer, exceeding the original target of 60,000 farmers across Bomet, Nyandarua and Nandi regions
- Through KLPA's activities, > 75,000 farmers were registered in 2 months at a cost of 0.55 USD per farmer, exceeding the original target of 54,000 farmers in Meru

8

The addition of DigiSoko to the platform offers farmers increased market access, a digital avenue through which to streamline their revenue generation processes, reduce incidences of post-harvest wastage, and save time and money on transaction logistics

The Digital Marketplace

Employ a platform approach in order to scale easily

- Utilize a platform approach to meet all buyers' primary needs, while allowing those interested to opt in to additional modular offerings

Enable farmers to digitally connect to markets to sell produce at better prices

- Increase efficiency in trade by reducing transport costs and increasing trader margins. The transparency digital platforms provide can empower farmers to improve farm gate price they are able to obtain

8

Expanding the platform with a digital marketplace through *DigiSoko* provides farmers with greater market access to sell their goods commercially

Objectives

- **Provide reliable access to markets and steady income for farmers through the integration of a digital market places** that streamlines fragmented agricultural markets and helps reduce transaction, transport and logistics costs and also reduces prices for buyers

Support provided

- **Product innovation, co-development and iteration on product offering** based on insights from human-centred design, immersive research and rapid prototyping to solicit famer feedback on user experiences with the product concept

Key insights

- **Business model analysis and partner mapping** is required to identify **what model for online market places is most suitable and will generate necessary partner buy-in**; contract, intermediated and full open-market models differ in their relationship between buyers and suppliers
- A **digital platform is not enough on its own** to drive increased productivity and incomes for farmers. Capacity and resources still need to be availed for quality assurance so that market access is actually beneficial for farmers
- **Farmers are not always willing to accept a lower price for security of sales**, and market conditions can entail the need to reduce the risk of side-selling especially in cases where there are not many buyers

Impacts on *DigiFarm*

- Building direct, live farmer-buyer interactions into DigiSoko, e.g., phone conversations and options to meet in person / meet-and-greet events for farmers and buyers on the DigiSoko platform
- In process of exploring partnerships with several large agricultural buyers under different contract and intermediated relationships and developing a pilot

Source: Dalberg Design, “DigiSoko Insights, considerations, and recommendation”, 2018; Dalberg analysis

DigiFarm's journey in building an innovative digital platform provides key lessons to inform future replication of digital offerings for farmers (1/3)

Offering bundled services reduces costs and risk, and drives uptake and loyalty

From the start, *DigiFarm* intended to build a bundled service offering, layering on new services one by one.

These services included learning info, discounted inputs, and direct distribution channels for future sales. Including diverse and "end to end" services helped attract more customers and expanded the pool of individuals that could potentially benefit from the DigiFarm platform. Moreover, by offering a more holistic solution the efficacy and impact of each of the individual tools is reinforced, creating a more sustainable and resilient system

A platform approach can reduce development costs and crowds in diverse capabilities

Safaricom did not want to build out new service capabilities from scratch and instead made a "platform play" to leverage other service providers.

For example, the time and costs associated with building out logistics and infrastructure for distribution of inputs were high and would have taken Safaricom away from their core business. Instead, Safaricom has developed a versatile platform which diverse service providers can plug into and reach new markets with their products and services.

A farmer-centric / user experience approach is crucial to ensuring product-market fit

Designing a product with farmer value proposition front and center ensures product is tailored to farmer needs.

This is the case across HCD, pilot launch, UX design, rapid iteration and customer feedback loops. A responsive and knowledgeable tech team that can properly analyse and respond to feedback from the field is an instrumental part of building and maintaining a farmer-centric approach.

Digi Farm BY SAFARICOM | mastercard foundation | MERCY CORPS | AGRIFIN ACCELERATE | Dalberg

DigiFarm's journey in building an innovative digital platform provides key lessons to inform future replication of digital offerings for farmers (2/3)

Trusted, high-touch channels can drive customer uptake and improve stickiness

Farmers respond best to trusted channels – in particular other farmers. Also, having reliable physical touchpoints for in-person engagement makes a difference.

Enlisting farmers of group leaders is most effective for successful marketing and registration. iProcure's network of depots enabled *DigiFarm* to take its product to more people. In-person interaction at the depots provided a forum for engagement with farmers to explain how the system worked. This allowed *DigiFarm* to establish trust and credibility in its platform with its customers

Patient capital and a process of trial and adjustment is crucial in underserved markets

Patient capital enables immature markets to be developed, a process that takes time and requires iteration.

DigiFarm used its platform to first develop buy-in and trust from farmers through its educational services and input purchases and only moved forward to lending in the second phase of the project. Thereafter different lending approaches were trailed to identify the best way to successfully lend to smallholder farmers. This process provided time to adjust the platform and identify further additions that would be needed to potentially de-risk lending in the future

Establishing the value of data upfront is critical to expanding financial access

Putting data at the forefront –is essential for digital finance services in agriculture. *DigiFarm* has the potential to be a major data platform but the intricacies of data sharing continue to be a challenge.

DigiFarm's data platform has the potential to provide lenders with new insights and information on farmer businesses, which provides an alternative credit score to use in assessing lending viability. *DigiFarm* aims to further expand the quantity and quality of data collected in order to expand loan sizes for smallholder farmers.

DigiFarm's journey in building an innovative digital platform provides key lessons to inform future replication of digital offerings for farmers (3/3)

Building a robust and transparent partnership structure is key for success

***DigiFarm's* partnership was based on a clearly mapped out set of required inputs and expected returns, which helped partners move forward in trust and with an awareness of each partner's responsibility.**

All partners had clear value propositions for the solution, and MoUs were signed to ensure roles/responsibilities were outlined and each partner could identify a separate commercial revenue stream within the solution. This transparency was critical to enable each partner to achieve individual goals while still working towards the longer-term shared goal of the platform itself

Credit scoring for smallholders can benefit from diverse mobile and farm-level data

DigiFarm can leverage Safaricom's extensive mobile transaction data as well as purchase / sales history with partners on the DigiFarm platform. Traditional banks are reluctant to leverage this data, while specialist digital lenders are filling the gap.

A digital data trail of crop input purchases and/or sales objectively verifies a farmer's track record working with a given crop. A history of purchases and sales with other actors in a given value chain indicates the ability to honor agreements. Such digital transactional data, as well as other digital data that is directly relevant to farming (i.e. satellite and weather, e-learning, etc.), can be used for digital credit scoring

Loan product structure is critical given farmer income is lumpy and volatile

Loans require longer tenors and flexible repayment structures to match crop cycles. Appropriate structuring can significantly increase repayment rates.

DigiFarm found that farmers were often falling behind on its 30 day loan product. However, actual defaults were quite low, as many farmers would pay in later months when they harvested their crops. *DigiSoko* is currently piloting a three-part loan product, with a cash loan at planting (to cover labor and other costs), as well as a later cash loan at harvest to ensure farmer have cashflow to get their produce to market

Leesa Shrader
Program Director
lshrader@mercycorps.org

Emmanuel Makau
Technology Product Manager
emakau@mercycorps.org

Andrew Karlyn
Strategic Learning Lead
akarlyn@mercycorps.org

In Collaboration with:
Dalberg Global Development Advisors