



M-Access: Agri-management Tool

April 2019

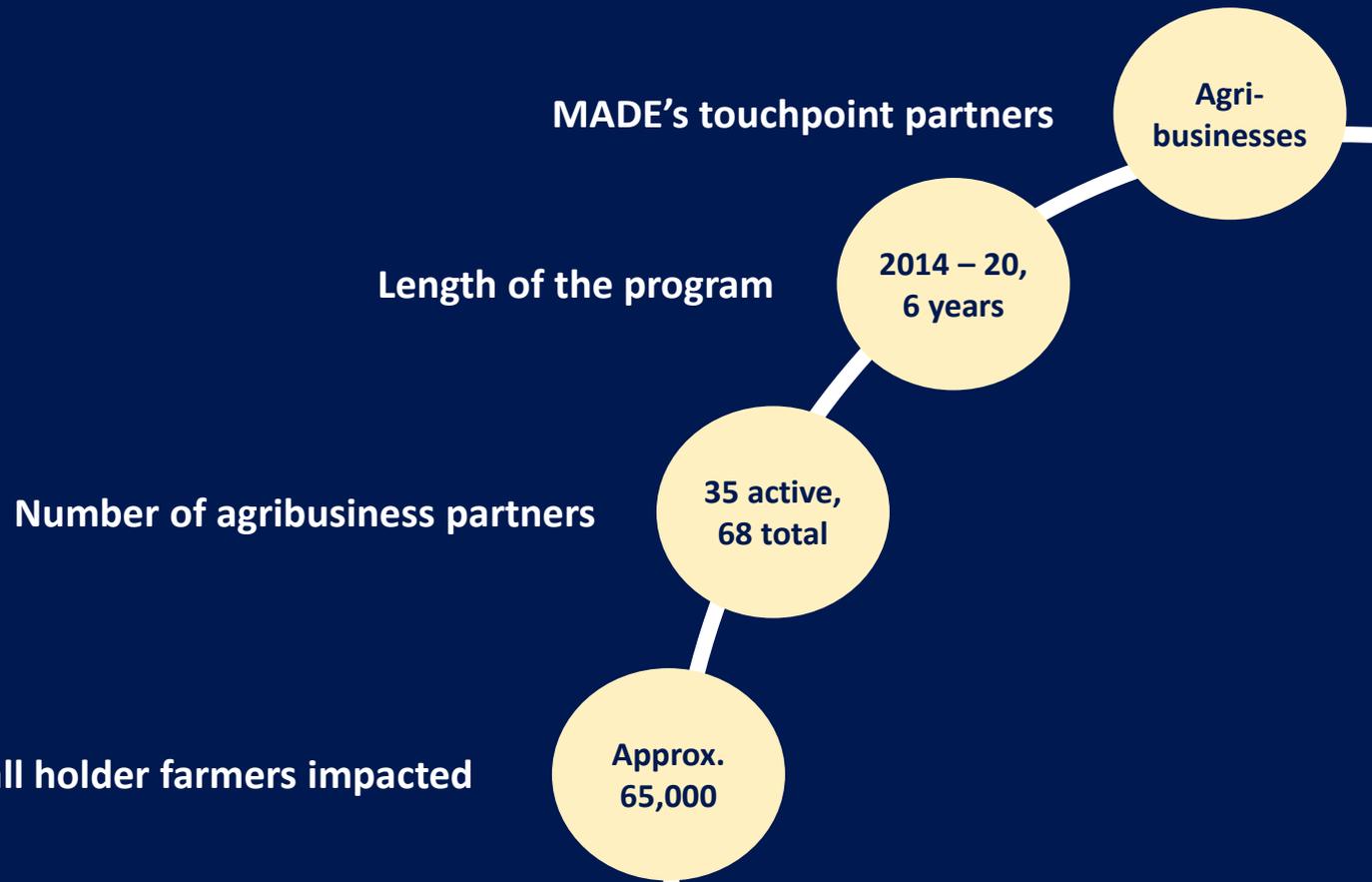
Rajiv Nair

Context

Ghana Market Development (MADE) program is a DFID-funded £13 Mn program aimed at improving the agricultural ecosystem in Northern Ghana

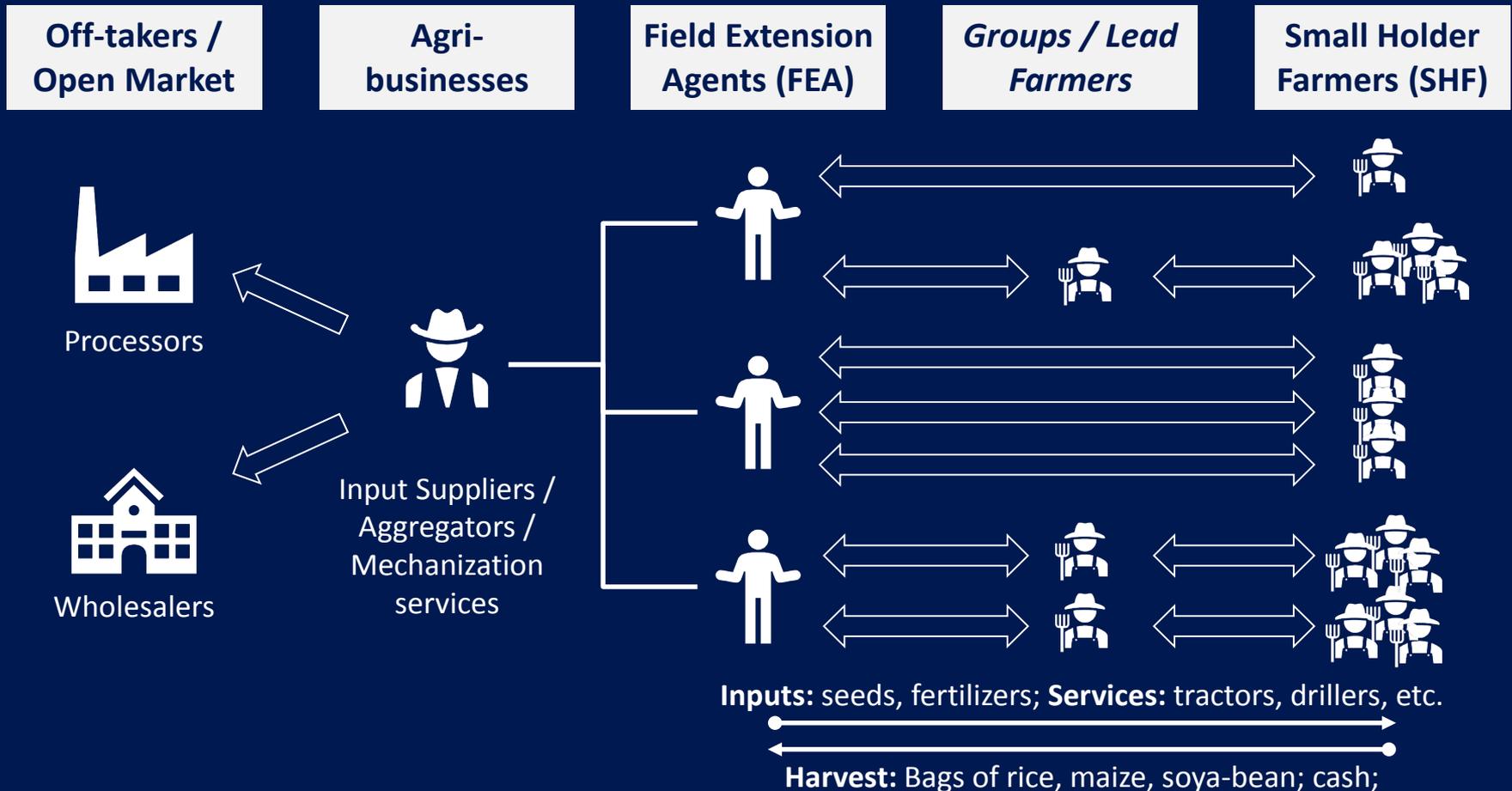


Goal: *Improving how agricultural markets function in Northern Ghana to increase growth and reduce poverty*



Context: Agricultural Value chain

MADE works in the traditional agricultural ecosystem in Northern Ghana where processes are largely paper-based (where they exist)



Key Challenges (Relevant to M-Access)

Among the various challenges that MADE's agribusiness partners (including input suppliers, service providers, aggregators) face, data is critical

Issues Faced by MADE's Agribusiness Partners



Engagement with farmers are paper based



- ❑ Disputes during harvest season
- ❑ Time consuming to aggregate information



Analytics is rudimentary



- ❑ Difficulty to analyze farmer credit worthiness
- ❑ Uncertainty of supply to deal with off-takers
- ❑ Inefficiency in providing services (e.g., tractor)
- ❑ Inability to review performance of farmers, inputs
- ❑ Difficulty in tracking agents performance



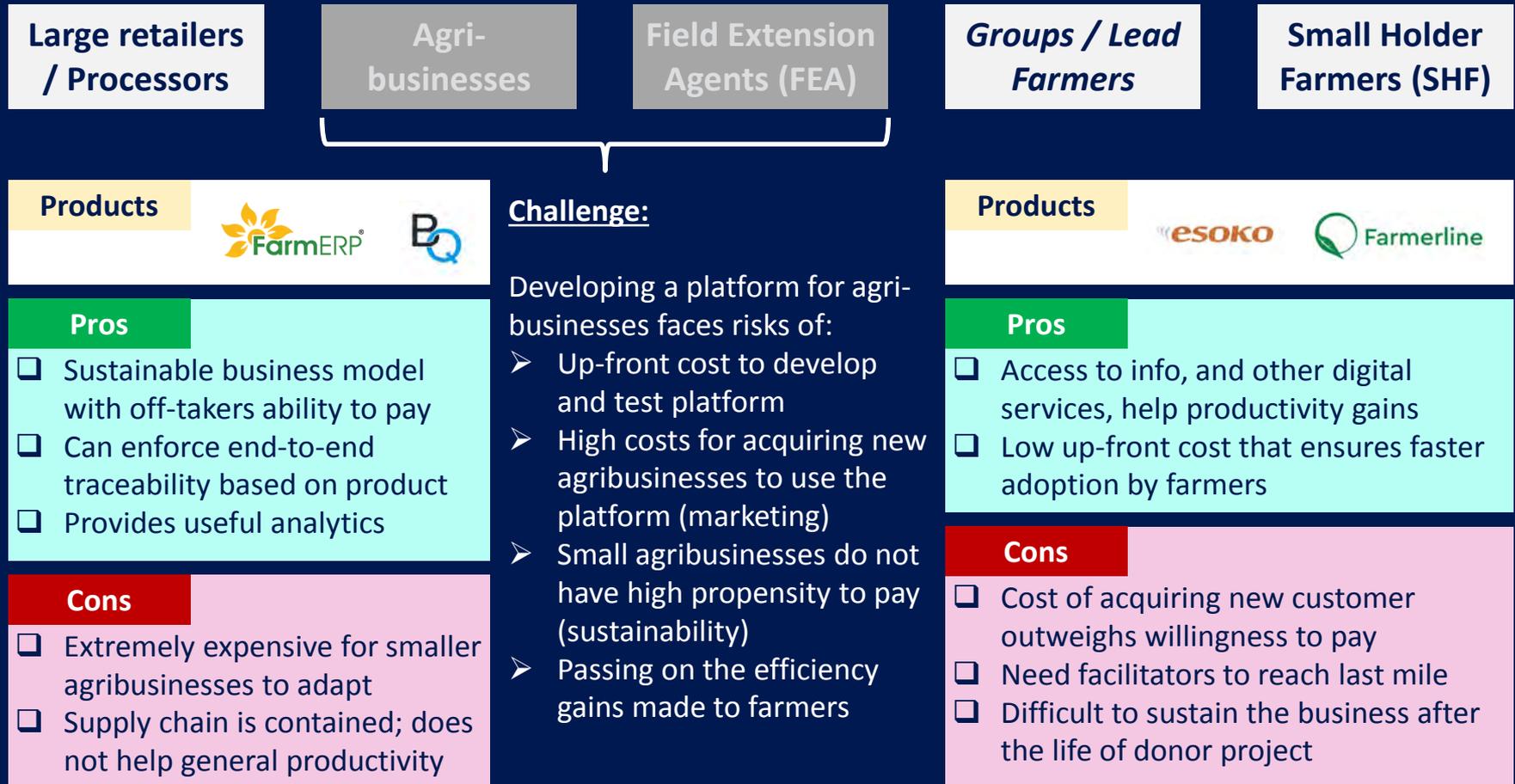
Access to finance is tricky and costly



- ❑ Agribusinesses face high interest rates (26 to 42%)
- ❑ Type of collaterals required varies by fin. institutions
- ❑ 5 to 10% cash collateral required on top
- ❑ Documentation needs are rigid (farmer network, off-taker contract, financials) which are often unmet

Context: Technology Landscape

Most of the major data management products in the agricultural value chain either cater to large retailers or to farmers; each have their pros and cons



M-Access platform: Vision and Objectives

M-Access is a data management tool for agribusinesses that aims to build productivity by improving efficiency, transparency in the value chain

Agri-
businesses



Field Extension
Agents (FEA)



Groups / Lead
Farmers



Small Holder
Farmers (SHF)



M- Access Platform

Key Objectives

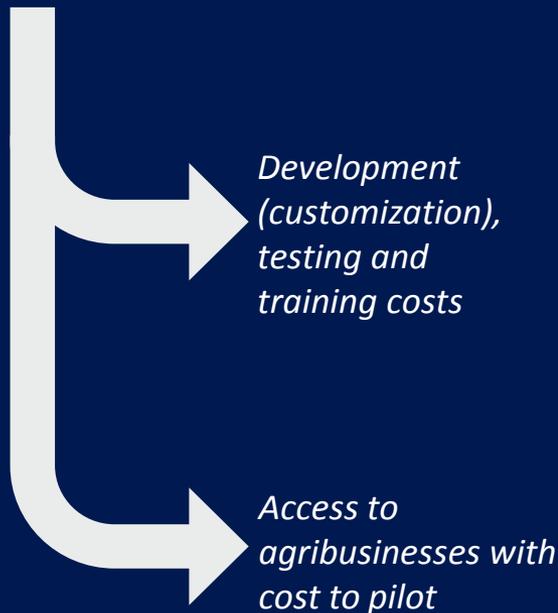
- ❑ To transition agri-business record keeping from a paper based system to a digital system through a sustainable market based model, in order to,
 - Reduce time taken by agribusinesses to aggregate information
 - Prevent disputes between agribusiness and farmers during harvest
 - Provide analytics to help agribusiness better forecast needs, provide information to farmers, estimate yields, review performance of inputs, assess credit worthiness of farmers, track and manage agents
 - Access finance by providing financial institutions with documents so as to reduce rates, collaterals and other terms of payment
 - Position the agribusinesses to off-takers in the future

M-Access: Key Stakeholders and Business Model

Via a public procurement, MADE selected Image-AD as the service provider, to use a market-based approach to sustain platform post the MADE project



Donor



Service Provider

Hosting, maintenance and support for the data tool

Annual subscription fee*

Agri-businesses

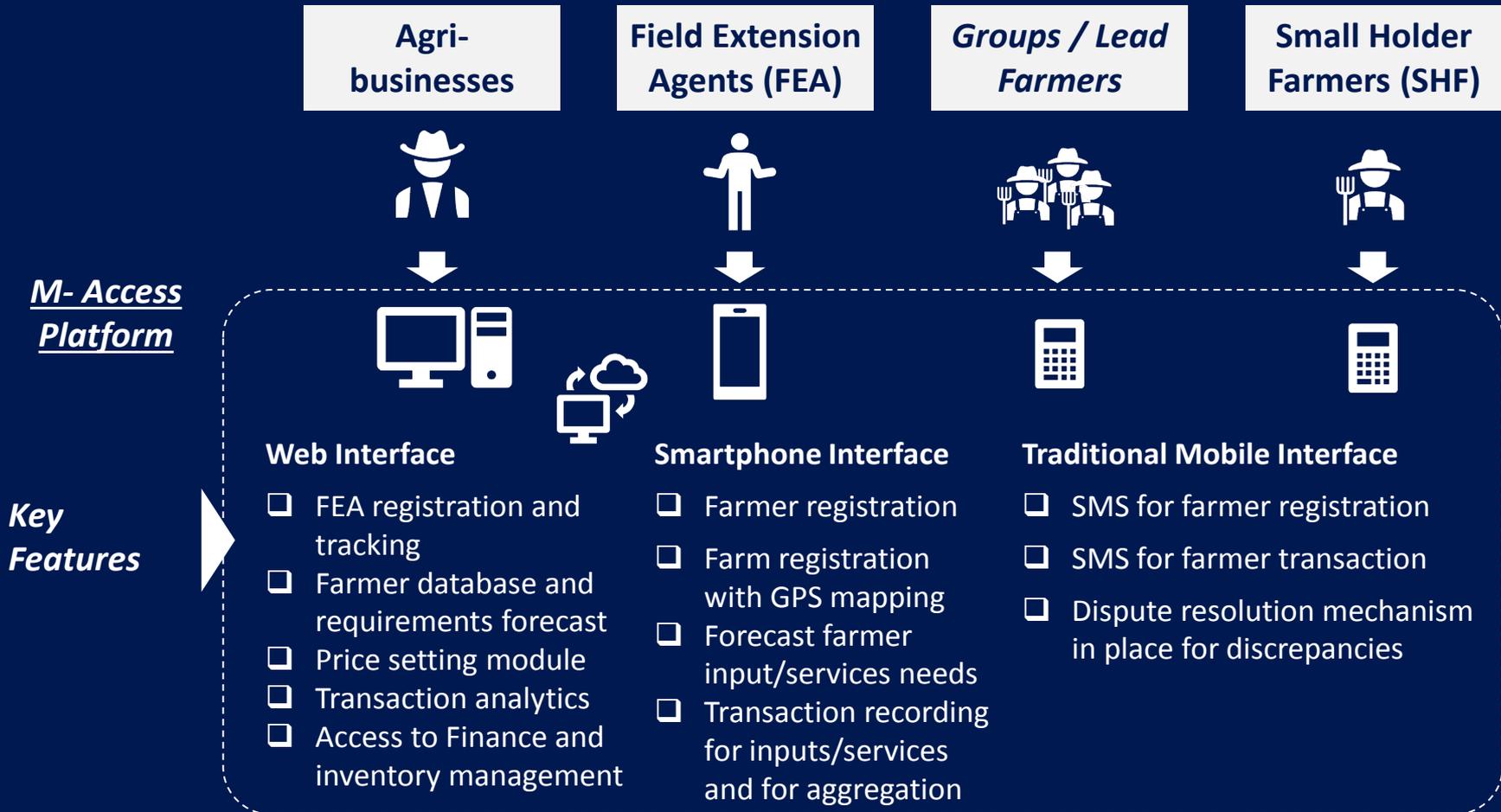
Interface for pre-approval**

Annual subscription fee

Financial Institutions

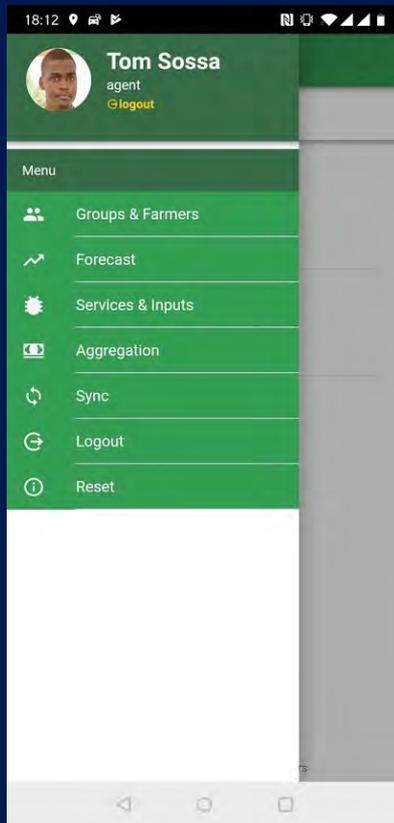
M-Access platform: Key Features

M-Access helps agents to record transactions easily, businesses to manage their value chain, and farmers to protect their interests through SMS records



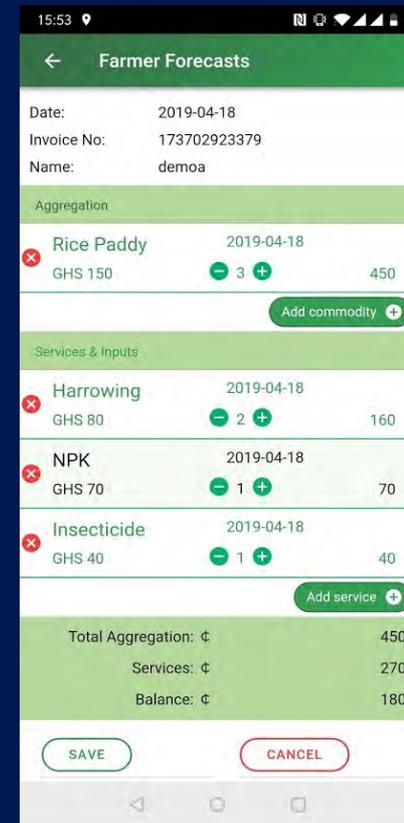
M-Access platform: Interfaces

M-Access's mobile platform has been designed using “design thinking” principles, based on the various personas that the tool will serve



The tool requires internet for the first log-in but does not require internet for collecting information at farms.

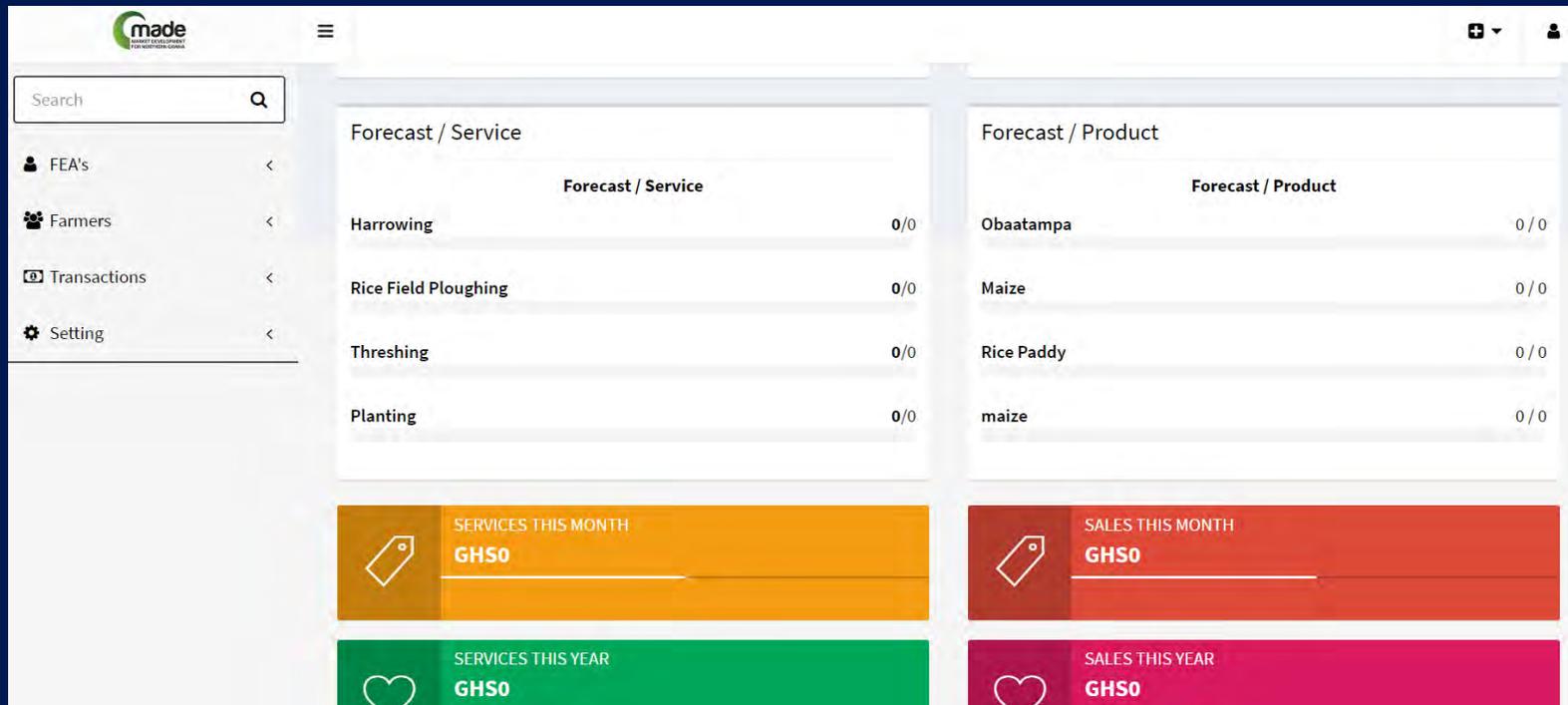
The data collected is stored locally on the mobile and syncs to the server when the device has internet connectivity



Mobile Interface Snapshot*

M-Access platform: Interfaces

Information collected from the mobile interface is then available to the agribusinesses for analytics provided through a management dashboard



Web Interface Snapshot*

Nathan's Lifecycle Approach to Digital Sustainability

Nathan's philosophy in developing market-based systems for digital solutions is ingrained in each step of the product development lifecycle

Product Development Lifecycle

Nathan's Approach to Sustainable, Market-based, Digital Solutions

Needs Assessment

- Assess stakeholder challenges and their willingness to pay for solutions
- Understand the ecosystem (and capacity) in which the stakeholders operate
- Draft high level requirements that understands the stakeholder and its ecosystem

Procurement

- Specify in TOR on the need for a post project business model and use in scoring
- In financial, request breakdown of fixed and variable costs to assess the challenges in both sustainability and scalability post the donor project
- Select competent provider inclined to use the project as their product launch-pad

Design and Development

- Identify different user personas and design UI, UX that caters to all personas
- Understand tech environment of stakeholder and design architecture that best fits
- Ensure other stakeholders in the supply chain don't act as bottleneck for the solution

Roll-out / Implementation

- Use agile principles to roll-out, to iteratively build the tool based on feedback
- Conduct a gaps assessment, and develop a change management strategy which will include identifying change agents, training, and effective communications

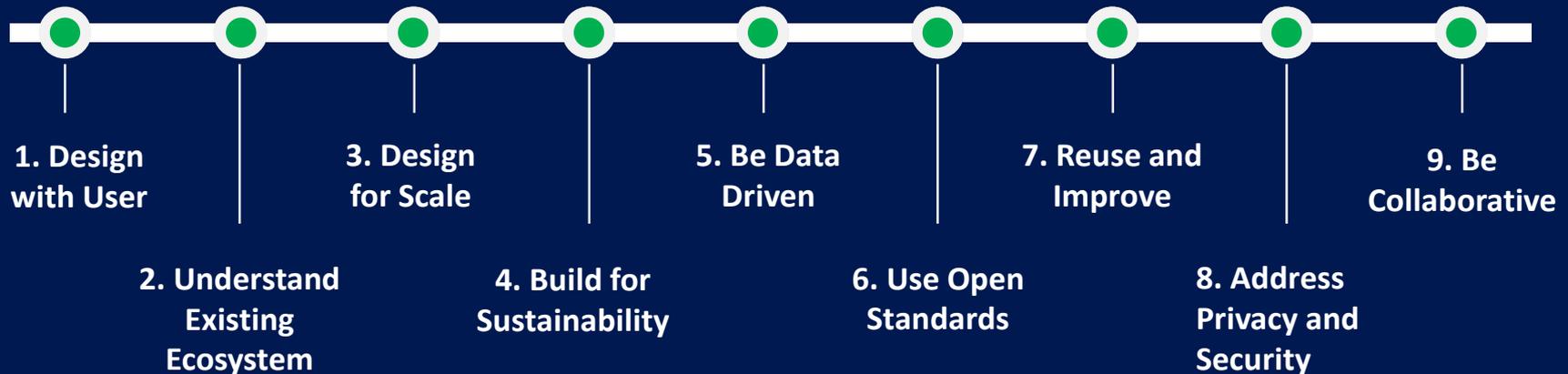
Maintenance/ Hand-over

- Continuous monitoring (especially in the early stages) and effective troubleshooting
- Support the service provider in developing and implementing Go-to-Market strategy including product positioning, pricing, communication and promotion, placement

Adherence to Principles of Digital Development

M-Access has been developed while taking into consideration the principles of digital development and delivering these as best possible

Principles of Digital Development



Financial Impact for Agribusinesses

M-Access is unique in that it focuses primarily on agribusiness needs – thus developing a value proposition which justifies the subscription fees charged

Category	Impact
Time saved for aggregate information*	<ul style="list-style-type: none">❑ Currently, it takes 5 min to aggregate farmer registration/transaction through the season. Agribusiness has 2,000 farmers on average❑ That is 10,000 min (approx. 20 days) of a person's time to record transactions into excel (which will be saved due to M-Access)
Costs saved due to dispute resolution*	<ul style="list-style-type: none">❑ Assuming about 5% of 2,000 farmers raise disputes on agreed terms and 1 bag is the disputed amount and in 50% of cases, agri-business loses❑ Loss of 50 bags/season/agribusiness is prevented due to M-Access
Efficiencies due to better management reports	<ul style="list-style-type: none">❑ Ability to track FEAs can improve their productivity and reduce fraud❑ Ability to track input performance can lead to better procurement❑ Ability to assess credit-worthiness can reduce the risk of farmer defaults❑ Ability to track inventory helps efficiency, and to reduce holding costs❑ Ability to estimate yields can help businesses develop selling strategy
Availability of credit at better repayment terms	<ul style="list-style-type: none">❑ Documentation provided helps banks provide loans at better rates, lower collaterals thus allowing agribusinesses to support more farmers
Positioning to off-takers	<ul style="list-style-type: none">❑ Transparency of the supply chain helps agribusinesses to contract with large retailers/ off-takers via out-grower schemes

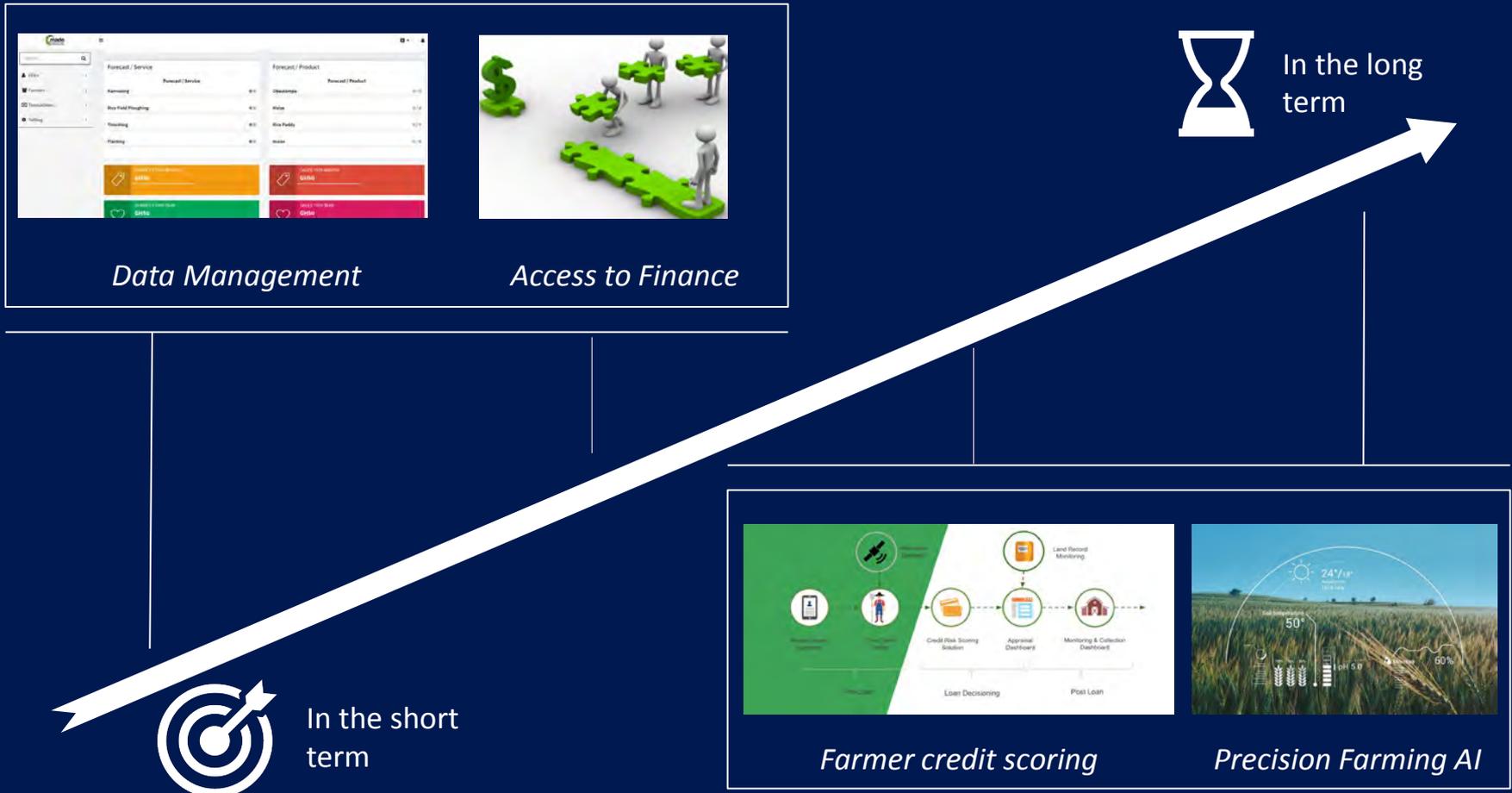
Social Impact for Northern Ghana

M-Access also helps develop the agricultural ecosystem to improve productivity, processes and access to finance and markets

Category	Impact
Building Ecosystem	<ul style="list-style-type: none">❑ M-Access helps agribusiness build their capacity, from a process point of view, to organize their services and improve their productivity❑ Such a improvement will lead to growth in productivity of agribusinesses and the farmers – thus improving GDP/capita and related outcomes
Farmers	<ul style="list-style-type: none">❑ By providing farmers with electronic record of every transaction, farmers are empowered to raise disputes as they arise❑ Farmers can also benefit from the analytics that agribusinesses generate that will be passed on to the farmer
Finance to cultivate	<ul style="list-style-type: none">❑ Farmers in Northern Ghana often only cultivate in 10% of their cultivable land due to lack of access to finance or markets❑ M-Access has the potential to deliver on both counts

Future

M-Access has the potential to transform the agricultural value chain in the long-run by providing the foundation for credit scoring and precision farming



Team and Questions

Rajiv and Kwame lead this project. We look forward to any questions



Rajiv Nair

Advisor to the MADE Program
Technology and Innovation Lead,
Nathan Associates London

Strategy and Economic Consultant with
10+ years of experience in consulting,
design thinking and development

Contact: rnair@nathaninc.com



Kwame Adom

CEO, Image-AD
System Architect (Mobile and Web) and
Team Leader

Seasoned IT developer with 10+ years of
experience in developing agri-software for
both public and private sector clients

Contact: kwame@imagead.net