An Agriculture Use Case for ID
An Overview of the Mastercard Farmer Network

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Agriculture in Sub-Saharan Africa

- **750M** smallholders farmers in Africa by 2030. (1)
- **$880B** Projected annual agricultural output in Africa if key barriers are addressed. Currently $280B / year. (2)
- **<6%** farming households using DFS beyond basic wallet & P2P e.g. that use long term savings accounts or access loans for inputs, equipment or labour. (3)
- **64%** of farming households own a mobile phone.

3. BILL AND MELINDA GATES FOUNDATION: AG + FSP PROGRAM PLAN 2014
Defining the Farmer Problem Statement

Target Customer
Smallholder farmers selling their produce either individually or via groups such as Farmer Producer Organizations or cooperatives.

Description of pain points
Farmers are desperately looking for better markets and pricing for their produce. They currently depend on several tiers of middlemen to access the market and are often cheated on pricing. Additionally, farmers do not access relevant financial services from financial institutions who see them as risky and not credit worthy.

Problem to be addressed
MFN is an agriculture marketplace platform that digitizes payments, workflows, and farmer transaction histories, bringing to bear the much needed efficiency and cost savings to the agriculture value chain.
Defining the Agribusiness Problem Statement

Target Customer

Agribusinesses, sourcing a variety of produce from farmer organizations, traders or individual farmers.

Description of pain points

At harvest time, agribusiness must **source commodities** via numerous phone calls and in-person trips, and pay smallholders and cooperatives in large volumes of cash. Furthermore they are **unsure of what produce is available** from farmers and the expected quality.

Problem to be addressed

MFN is an agriculture marketplace platform that digitizes payments, workflows, and farmer transaction histories, bringing to bear the much needed efficiency and cost savings to the agriculture value chain.
Agriculture

**Mastercard Farmer Network** (MFN) is an agriculture platform that digitizes marketplaces, payments, workflows, and farmer transaction histories. The platform seeks to drive agri-value chain efficiencies for actors such as farmers, aggregators, buyers, financial institutions and value added service providers. The platform is currently in use in East Africa and India.
3 Key Moments in the Farmer’s Journey

1. **Plan.** Choose crop(s), buy inputs (seed, fertilizer).

2. **Make.** Plant, grow, and harvest crops.

3. **Sell** harvest to the marketplace.

We reviewed the agriculture value chain from a farmer-centric perspective. The goal was to uncover pain points & unmet needs.
**Principles While Considering Agriculture Identity**

1. **Accessibility through multiple form factors.**
   - Card based model
   - Smartphone or feature phone based model

2. **Secure, Scalable, and Easy to Understand**
   - Explaining values and answering questions
   - Restful API’s to facilitate interoperability
   - Best in class security insights

3. **Ensuring Privacy**
   - Privacy by Design
Marketplace Led Approach

Hypothesis
If the platform increases incomes, then farmers are more likely to use MFN for additional use cases.

- Farmers who sell directly to buyers have higher gross profit.
- Higher incomes lead to improved farmer livelihoods.
- Weak linkages to the marketplace; especially for unstructured value chains.
- Reduced income due to middlemen.
- Declining productivity due to limited quality standards.
Onboarding

1. Buyers, aggregators and farmers Register on MFN

2. Buyers make orders

3. Broadcast order via mobile, web, or SMS

4. Suppliers respond to order

Digital Transformation

5. Supplier collects produce from farmers

Logistics

6. Buyer’s field agent collects produce & pays supplier

Payment

7. Supplier pays farmers
Scaling the Marketplace Model

Suppliers

- Farming Producer Organizations
- Traders
- Farmers

Mastercard Farmer Network

Value Exchange

Buyers

- Local Buyers
- Regional Buyers
- International Buyers

Financial Institutions

Value Added Services
Key Platform Components

Value Added Services
API capability to allow third parties to offer services (e.g. logistics, extension, mechanization).

Agri-Input Management
API capabilities to allow third party input procurement and distribution to groups of farmers/FPOs.

Financial Services
API capability to allow FSP to process payments, issue credit, insurance etc. to farmers and value chain actors.

Registration
API for third party farmer data sharing; bulk upload via web and mobile registration of farmers. Consider farmer self registration via SMS or USSD.

Communication Management
Web capability for enterprise clients to communicate to staff and farmers via SMS; Enable 2-way communication for farmers to request services via SMS.

Order & Collection management
Allow buyers to order, collect and pay FPOs and farmers. Option for API with buyers with legacy procurement systems.
Interoperability Expanded through Ecosystem Stakeholders

1. Policy Makers. Regulators have visibility.

2. Commercial. Third party service providers.


Information control layer that leverages Privacy by Design.
• **What is Farmer ID?**
  Farmer ID is a digital identity scheme that is designed to be extensible. Given the agriculture value chain, Farmer ID is functional in nature, but can expand to include foundational ID schemes as well.

• **How do we drive farmer engagement?**
  – We work primarily with agribusiness partners to register farmers.
  
  – Information session and training’s are incorporated into the service model to facilitate understanding.
  
  – Data capture is incremental and governed by the minimum data required for a given service.
Can We Solve Broader Ecosystem Inefficiencies?

Desirable

Feasible

Commercial

Farmer ID

Education

Micro Retail

Other Use Cases
Thank You

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