Scaling Climate Smart Agriculture

Tech Innovation, Wins, Fails, Emergencies and Unholy Alliances

Leesa Shrader
AgriFin Programs Director

April 2020
Skoll World Forum – Virtual!
AGENDA

› Welcome & Panel Introductions
› Quick Guide to AgriFin
› Panel Discussion
› Question & Answer
› Wrap Up
INTRODUCING OUR PANELISTS

1. Dr. David Bergvinson, Chief Science Officer, aWhere

2. Sitati Kituyi, CTO, Pula Advisors

3. Samir Ibrahim, CEO SunCulture

4. Laura Crow, Senior Product Manager M-PESA, Vodafone Group

5. Gustav Praekelt, Founder Praekelt.org & Co-Founder Turn.io

6. Dr. Catherine Nakalembe, NASA Harvest Africa Program Lead
SCALING CLIMATE SMART AGRICULTURE

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Mercy Corps AgriFin Program Objectives

Mercy Corps AgriFin is a $30 million initiative working in Kenya, Tanzania, Ethiopia, Zambia and Nigeria funded by the Gates and MasterCard Foundations.

MCAF supports expansion of digitally-enabled services to 3.5 million farmers, delivered by growing ecosystems of diverse service providers.

TARGET GROUP

ADF works with underserved smallholder farmers living on less than $2.50/day.

With outreach to 40% women.
We support more than 100 partners to develop, prototype, test and scale digital services for more than 3.5 million farmers in Africa.
AgriFin Approach: Building Digital Ecosystems

We build digital ecosystems by identifying digital drivers, building partnerships and alliances, and ensuring it all works for farmers.

“Uncommon partners are the types of organizations you might not typically work with, but which can significantly help you create radical new futures.” —Kyle Nel, SU Faculty, Corporate Innovation
Driving Farmer-Centric Product Development

Driving Scale Partnerships & Innovation

Driving Farmer Adoption, Utility and Impact

Driving Ecosystem Growth

AgriFin Engagement Model

1. CONDUCT INITIAL COUNTRY LEVEL ECOSYSTEM AND FARMER NEED RESEARCH

2. SELECT CORE PLATFORM PARTNERS
   - BANKS
   - MNOS

3. BUNDLE VALUE ADDED PROVIDERS AND LINK THEM TO CORE PLATFORM PARTNERS
   - FARMER COOP NETWORK/ MFI
   - INSURER
   - BUYER
   - MINISTRY OF ARR. WITH CONTENT
   - TECH & DATA PLATFORM

4. LINK SERVICE DELIVERY TO FARMER CAPABILITY LAB

5. SHARED LEARNING MADE AVAILABLE THROUGH PUBLIC SITE AND OTHER MEDIUMS
Models to a Million Farmers

Currently, 13 partners are targeting at least a million smallholders with different approaches.

**Digital Mass Market Platform**
- Safaricom
- ZOONA
- CARE
- NMB

**Digital VSLAs**
- VSLA Mobile Services
-finca
- Haloyako
- VSLA Coordinators & Agents

- 660K VSLA Groups
- 1 Million Users

**TELCO & MFI Bank Partnership**
- Halotel
- Halopesa

**Managed Digital Contracting Platform**
- FTMA Platform

**Digital Learning & Engagement**
- E-Learning Platform

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<th>Countries</th>
<th>KY</th>
<th>TZ</th>
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<td>Current Outreach</td>
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<td>350,000</td>
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<td>Current Outreach</td>
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<th>Countries</th>
<th>KY, TZ, RW</th>
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<td>Current Outreach</td>
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<th>Countries</th>
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<tr>
<td>Current Outreach</td>
<td>300,000</td>
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KY-Kenya; ZM-Zambia; TZ - Tanzania; RW - Rwanda

Measured as of Feb 2020
DigiFarm: Award Winning Farmer Platform in Kenya

Launched in 2017, DigiFarm is Safaricom’s integrated mobile platform that works with partners to offer farmers a convenient, one-stop access to the product and services they require to run efficient farming operations. To-date, DigiFarm has the following features:

1. Order inputs
   DigiFarm allows farmers to purchase inputs through selected vendors

4. Connect with buyer
   DigiFarm connects farmers to buyers in specific value chains

2. Engage in Learning
   DigiFarm provides access to educational content for best farming practices and financial literacy

5. Soil Testing & Precision Ag
   DigiFarm tests soil to understand required inputs and suitability for value chain production

3. Input and Harvest Loans
   DigiFarm provides digital credit products based on alternative credit scoring, bundled with crop insurance

6. Aggregate produce
   DigiFarm links farmers to selected buyers, offering them a guaranteed buyer and full production support
DigiFarm Platform & Partnerships

DigiFarm draws on a wide range of capabilities from other partners. The integrated nature of the platform and use of digital data seeks to leverage each partner’s strength, reduce risk, and drive higher revenues across the partnership.

<table>
<thead>
<tr>
<th>Core activities</th>
<th>Safaricom</th>
<th>iProcure</th>
<th>Arifu</th>
<th>Pula Africa</th>
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<tbody>
<tr>
<td>• Manage platform and provide payment services, communications,</td>
<td>• Provide low cost inputs to farmers through input depots</td>
<td>• Provide learning content for farmers on platform, via USSD</td>
<td>• Digital and video learning content</td>
<td>• Provide insurance to farmers</td>
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<tr>
<td>Revenues</td>
<td>• M-Pesa transaction fees</td>
<td>• Fees on input sales sales</td>
<td>• Content development • Fees per active learner</td>
<td></td>
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<tr>
<td>• Interest income</td>
<td>• Market access trading fees</td>
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<tr>
<td>Costs</td>
<td>• Customer acquisition • ATL/BTL marketing • Tech development / maintenance / maintenance • Software licensing / / hardware • Customer service</td>
<td>• Cost of goods sold • Warehousing/ delivery vehicles and logistics • Tech platform • Customer service • BTL marketing</td>
<td>• Technology platform • Data analytics • Customer service • BTL marketing</td>
<td>• Processing insurance claims • Data collection e.g., e.g., yield measurements</td>
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AgriFin Support & The Case for Climate Smart Agriculture

1. Farmer needs and ecosystem mapping
2. Platform development and partner strategy
3. Business modelling and go-to-market strategy
4. Digital input loan product
5. Rapid iteration, product prototyping & UX
6. Impact and data analytics
7. Mapping partner roles / governance structures
8. Field force development
9. DigiSoko: E-commerce and access to market
10. Data strategy
11. Expand suite of credit products
12. Develop Decision Ag and Digital Field Force

MVP launch with input ordering (iProcure) and learning services (Arifu) - 74,000 farmers are registered and 19,000 are active within the first 3 months.

Digital input credit (FarmDrive) is added to the platform and expands on the MVP, using alternative data for credit scoring.

DigFarm augments use of dynamic agri-data to improve credit scoring and expand loan portfolio. Issued just over 15,000 loans between December 2017 and July 2018.

Supporting development of field force to scale DigFarm - partners enlisted to educate farmers and recruit them onto the platform.

Introduction of DigiSoko, a digital marketplace that provides market linkages with major buyers in Kenya, as well as tailored input and harvest credit products.

Development of lay-away savings product.

Developing Climate Smart Agriculture Tools
- Crop Insurance
- Decision Agriculture
- Weather Data
- Irrigation Solutions
- Post-Harvest Loss Services

1.2 million farmers
Climate Change is a Current & Urgent Challenge for Smallholders

- Because 95% of agriculture in SSA is rainfed, SHFs are highly vulnerable to changes in weather.
- Climate change is already causing yield declines for staple crops.
- Future projections indicate an increasingly variable climate including changes in rainfall, temperature, increased pests and more frequent extreme weather.
- SHFs are struggling to gain access to information on how best to manage their farms.
- FAO estimates possible 25% decline in crop yields by 2025 linked to climate change in Africa.

Sources: IPCC, August 2019; World Bank, 2015
The Agrifin D-CSA Playbook – What is it?

A sector guide to Digital Climate Smart Agriculture or D-CSA including the case for D-CSA, key design principles, high potential opportunities, and examples of D-CSA in action.

D-CSA leverages digital tools to help smallholder farmers increase productivity and resilience in the face of climate change while contributing to mitigation where possible and appropriate.

see: www.mercycorpsagrifin.org

Sources: Jiminez, D. “Towards a digital climate smart agriculture transformation in Latin America.”
Climate Smart Agriculture in Africa

✓ CSA Interventions must always be contextual

Top 10 Technologies Ranked by “Climate-Smartness” in Africa
1. Silvopasture (integrated system of trees/forage/livestock)
2. Conservation Agriculture
3. Water management
4. Biogas
5. Integrated pest management
6. Aquasilviculture (integrated system of aquaculture and mangroves)
7. Improved Pastures
8. Green manure/Cover crops
9. Intercropping
10. Improved rice management

Sources: Sova et al., 2018. Bringing the Concept of Climate Smart Agriculture to Life: Insights from CSA Country Profiles Across Africa, Asia and Latin America
Kenya is now being hit by the worst locust outbreak in East Africa in decades, following years of drought and unusually heavy rains, providing the perfect conditions for locusts to breed. According to the IPC, 9.75 million people living in areas affected by desert locusts in Ethiopia, Kenya, and Somalia are currently or projected to be in crisis.

COVID 19 has now hit East Africa with dramatic swiftness. This health crisis can quickly turn into a food security crisis, and put at risk far more lives than the disease itself. AgriFin is working with Turn.io to leverage WhatsApp and machine learning and NASA Harvest on food security and locust interventions, as well as insurance, cash transfers and market support with other partners.
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Thank you!