



# AGRIFIN ACCELERATE

## Rural Connectivity Ideation Workshop

### Introduction

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AgriFin Accelerate Program

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# AFA Program Objectives



## THE GOAL

AgriFin Accelerate is a 6-year, \$25 million program working in Kenya, Tanzania and Zambia

AgriFin Accelerate will **support the expansion of digital financial services to one million farmers in Sub-Saharan Africa over six years, delivered by growing ecosystems of diverse service providers.**

## TARGET GROUP

AgriFin Accelerate's underserved **smallholder farmers** living on less than **\$2.50/day**

With outreach to 50% women & youth focus



## Approach: Innovation Focus



**FOCAL AREAS FOR  
INNOVATION**

Products & Services for SHF

Last Mile Distribution

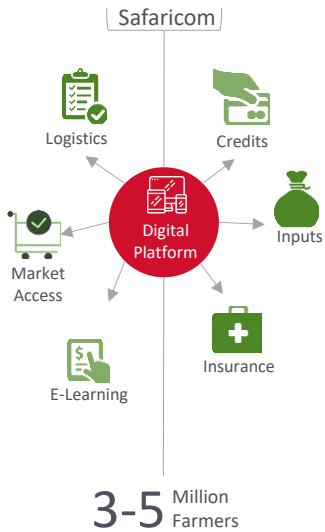
Farmer Capability Tools

Technology Start Up Acceleration

Alternative Data & Credit Scoring

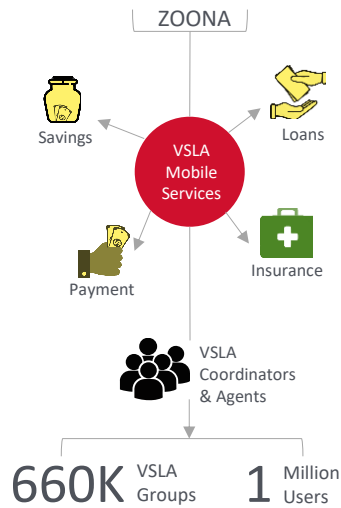
# Models to a Million

## Digital mass market platform



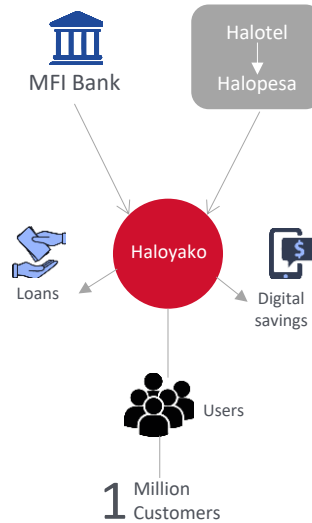
- AFAs roles include;
- Product development
  - Business model
  - Partnerships development
  - Credit scoring
  - User experience testing

## Digital VSLAs



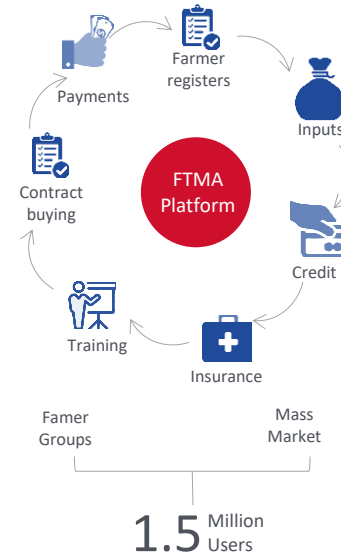
- AFAs roles include;
- HCD research
  - Benchmarking
  - Bank partnerships
  - Product development

## TELCO & MFI Bank partnership



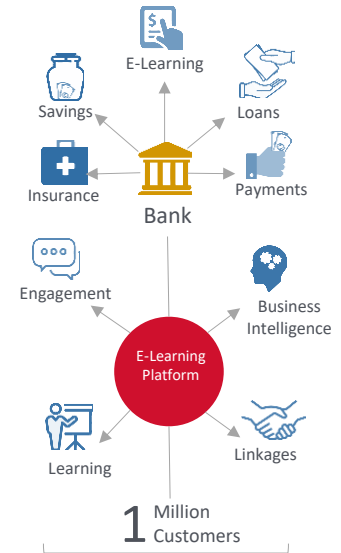
- AFAs roles include;
- User experience testing
  - Data analysis
  - Human core design prod. dev.
  - Digital client engagement

## Managed Digital Platform



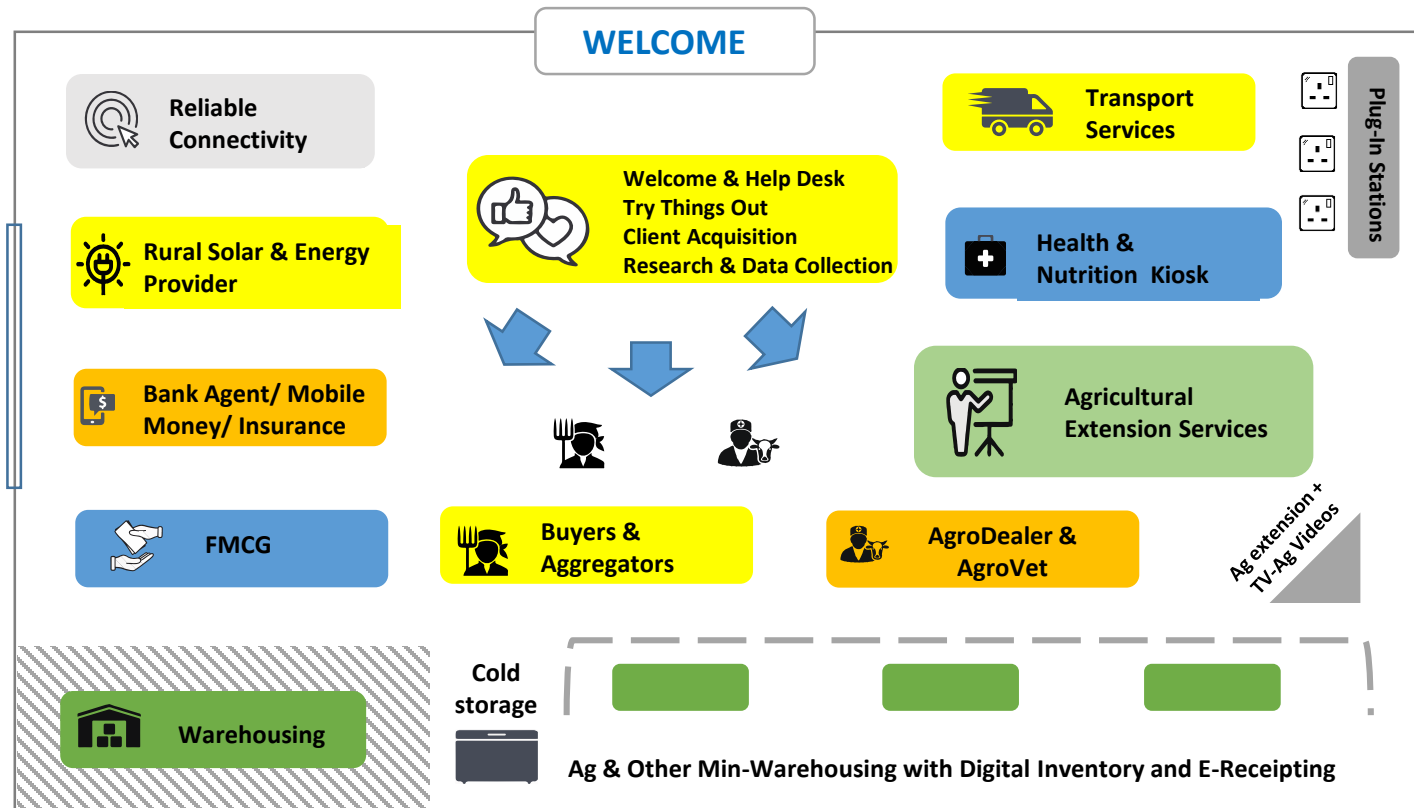
- AFAs roles include;
- Product development
  - Business model
  - Partnerships development
  - Strategy development
  - User experience testing

## Digital Learning & Engagement



- AFAs roles include;
- Technology build
  - Data analytics
  - Content development
  - Partnerships

# Connected Rural Hub Concept



# AGENDA

Time	Activity
8:30 to 9:00	Opening & Rural Connectivity Overview
9:00 to 10:00	Explore Models of Rural Connectivity Hubs + Lessons Learned
10:00 to 10:30	Coffee Break
10:30 to 12:00	Explore Use Cases for Rural Connectivity
12:00 to 12:45	Lunch
12:45 to 2:15	Ideate Around Rural Connectivity Hubs & Partnerships for Kenya
2:15 to 2:45	Coffee Break
2:45 to 3:45	Synthesize Findings
3:45 to 4:00	Next Steps and Closing

# RURAL CONNECTIVITY IDEATION WORKSHOP

## Infrastructure Options

### Rural Broadband Connectivity Infrastructure Varies by Costs (Capex/Opex) | Technical Deployment | Partner

		Description	Organizations
Cost of building and operating		<ul style="list-style-type: none"> <li>• High capital construction by mobile network operators</li> <li>• Mobile phones connect to a cell tower which reaches the internet cloud and fetches data</li> </ul>	
		<ul style="list-style-type: none"> <li>• Low-cost tower solution</li> <li>• Reduces the total cost of building and running a mobile network site by up to 70%</li> <li>• Reduces RoI to less than 5 years</li> </ul>	
		<ul style="list-style-type: none"> <li>• Internet signals are sent and received by orbiting satellites</li> <li>• Lower cost compared to cables or setting up a tower in remote areas</li> <li>• More efficient than dial-up</li> </ul>	
		<ul style="list-style-type: none"> <li>• Tower rental, equipment placement</li> <li>• Point to Point microwave</li> <li>• Virtual networks</li> </ul>	
		<ul style="list-style-type: none"> <li>• Resells internet from a backhaul system, e.g. fibre cable or cell towers, to multiple users</li> <li>• Can be managed remotely through hotspot software</li> </ul>	

**NB: While the cost implication for different towers are different there exists interdependencies between some of the smaller, lower-cost infrastructure and the large infrastructure e.g. Wi-Fi hotspots depend on the cell towers**

# RURAL CONNECTIVITY IDEATION WORKSHOP

## Case Study 1

### E-choupal (India) – Off-taker-led ICT-enabled agricultural trade system, evolving into services and FMCG retail points

#### E-choupal



#### Services offered

- Web-based market information, incl. price at various procurement hubs
- Secure a floor price with a specific hub
- Training opportunities
- FMCG products for purchase, and Link to Choupal Sagar for greater services
- Order system for ag inputs

#### Site set-up

- Sanchalak's (entrepreneur) house used as kiosk
- Computer and Internet

#### Choupal Sagar



#### Services offered

- One-stop retail supermarket – agricultural inputs, FMCG, and financial product
- Additional training and healthcare services
- Service as doubled-up hub with electronic weighbridge, etc.

#### ITC Procurement Hub



#### Services offered

- Purchase produce at pre-negotiated price via e-Choupal's internet, or higher.

#### BUSINESS MODEL

Some soft finance from ITC to cover costs, while entrepreneurs (Sanchalak) also bear costs and raise revenue from e-Choupal.

#### CapEx: (borne by ITC)

~\$800 to establish an e-choupal with dial-up connectivity and ~\$2,000 if a VSAT has to be mounted

#### OpEx: (borne by Sanchalak)

Electricity and internet – ~ \$60 to ~ \$160 p.a.

Support and maintenance – ~ US\$100 p.a.

#### Revenue:

- Sanchalak earns income from commission on processed product

#### SUCCESS FACTORS

- Anchors on existing village institutions
- Tries to understand the communities' needs using ex-middlemen to conduct surveys in setting up new e-choupals
- Provides support to Sanchalak, incl. ICT and management training, and encourages them to offer other services
- Partnerships with academic institutions and NGOs to provide appropriate info
- Trades a wide varieties of produce, including soybeans, coffee and oil seeds limiting seasonality of transaction volume

Sources: World Bank, "E-choupal: ITC's Rural Networking Project"; IT for Change; "E-Choupal – An Initiative of ITC", 2008

#### OVERVIEW

**Core offering:** Information and market hub for agricultural trade, extension services, and rural retail (sales) points.

**Target users:** Farmers

**Led by:** ITC Limited (an Indian Conglomerate)

**Launched in:** 2000

#### Reach:

- 6,000+ hubs, 4 mil. farmers in total (as of 2011)
- Each e-Choupal serves ~600 farmers in 5km radius

#### Infrastructure:

- Phone line or VSAT connection, powered by solar
- Installed at Sanchalak's house

#### Key partners:

N/A





KULTHANA VILLAGE  
Chittaudgarh District  
Rajasthan



Source: [Borgen Magazine](#)

# RURAL CONNECTIVITY IDEATION WORKSHOP

## Case Study 2

### VANU (Rwanda) – Low-energy, solar-power cellular network



#### Services offered

- Low energy cellular network that can be used across mobile service providers

#### Site set-up

Low power technical innovation (50W-90W of power) transmitting 2GSM carriers

#### Mobile Service Provider



#### Services offered

- Regular voice and data connectivity as well as mobile money

#### Rural Population



#### Uses

- Payment for alternative energy (Use cases are still in their early days and are projected to expand)

#### BUSINESS MODEL

VANU provides coverage as a business – they don't have any subscribers but work with carriers to extend their networks to the rural areas

#### CapEx:

~\$27,000/site initial set up

#### OpEx:

~\$8,400/year

#### Revenue:

- ARPU - \$1/ month paid by the users
- It is market driven and therefore sustainable w/o subsidies
- There is a 70:30 revenue share between VANU and the MNOs

Sources: Interviews with organization's management; The NewTimes, "How US firm plans to extend wireless connectivity across rural Rwanda", 2016; The New Times, "MTN, Vanu deal to increase connectivity in rural areas – officials", 2018; Forbes, "How Vanu Can Make Rural Cell phone Networks Profitable On \$1 A Month And Connect Rural Africa", 2017

#### SUCCESS FACTORS

- Reduce the power usage of their sites which results reduction in power needed for these networks i.e. they can use solar
- Works as a wholesale mobile network; they don't have subscribers each carrier use the network and pays VANU when their subscribers use it
- Government support in adopting a solution relevant to the Rwandan market

#### OVERVIEW

**Core offering:** Provides voice and data connectivity, as well as mobile money in areas which previously had limited to no coverage.

**Target users:** Rural population

**Founded by:** Vanu Bose

**Launched in:** 2016 (in Rwanda)

#### Reach:

- 31 cell sites as reaching 100,000 people
- Plan to reach 1 million people in Rwanda once agreements with MNOs have been firmed up

#### Infrastructure:

- A mini-server contained in a water proof case, powered by solar
- Masts cover the road and 2km on each side of it

#### Key partners:

MTN  
Airtel  
BRCK  
Facebook



MERCY  
CORPS

AGRIFIN  
ACCELERATE





# RURAL CONNECTIVITY IDEATION WORKSHOP

## Case Study 3

### Rural TaoBao (China) – Rural e-Commerce Platform

#### Buyers and sellers



- List products on the platform for free directly or with the help of service centre agent
- Browse listings and buy directly or contact agent to make orders and deliveries

#### TaoBao Service Centre



#### Services offered

- Post agricultural products online on behalf of farmer
- Help farmers source items online e.g. agricultural appliances,
- Sell and deliver product (at times it is outsourced)

#### Ant Financial & Alibaba



#### Services offered

- Alibaba finances the setup of TaoBao centres and trains the entrepreneurs
- Ant provides complementary services for rural inhabitants and entrepreneurs i.e. loans, insurance and training

#### BUSINESS MODEL

Rural service centre agent charges farmer commission for selling products to buyers, and either directly deliver or work with small delivery companies to get goods to urban buyers

#### CapEx:

Alibaba establishes the service centers (plans to invest \$1.6 billion in 100,000 service centres by 2019) ~\$16,000 per centre

#### OpEx:

Incurred by the store owner

#### Revenue:

- Commissions for facilitating e-commerce
- Advertisements

#### SUCCESS FACTORS

- Holistic provision of services required by the rural population e.g. connectivity, some training, and financial service products (payments, loans and insurance through Ant Financial)
- Government support to provide easier access to computers, tax credits, store space etc.

Sources: China Daily, "Rural Taobao brings e-commerce to the countryside", 2017; Business for eTrade Development, "Rural TaoBao: Alibaba's Core Rural Ecommerce Business Development Initiative", 2017; China Daily, "Rural Taobao yields benefits for farmers by analyzing big data", 2018; Dalberg Analysis

#### OVERVIEW

**Core offering:** Facilitates C2C, and recently B2B transactions between SHFs in rural China and consumers in urban centres.

**Target users:** Rural population

**Led by:** Alibaba

**Launched in:** 2003

#### Reach:

- 30,000 service centres across 700 counties in 29 provincial-level regions
- Served more than 1 million farmers in 2015

#### Infrastructure:

- Installed at entrepreneurs shop
- Connectivity enabled by Alibaba in collaboration with the local government

#### Key partners:

Central and local government  
Ant Financial



Source: [Fortune](#)

# RURAL CONNECTIVITY IDEATION WORKSHOP

## Case Study 4

### NetHope (Uganda) – Demand Aggregation enabling ISPs to serve low-ARPU customers

#### Implementing Partners



#### Services offered

- Source of sustainable and profitable business for the ISP/MNO

#### NetHope



#### Services offered

- Demand Aggregator – negotiate agreements

#### Mobile Network Operator



#### Services offered

- Provide connectivity to improve the quality of programming
- Innovation within the MNO to deliver last mile connectivity access

#### BUSINESS MODEL

The communications service provider enters into a new business and partnership with an implementing partner or with governments to improve programming

#### CapEx and OpEx

- NetHope membership model negotiated w/ MNOs

#### Revenue:

- Aggregation and projections incentivize MNOs to negotiate price and expand customer base
- Two savings negotiated: (i) price per MB (+/- 50% per MB) and ; (ii) relocation savings reduced by 65%

#### SUCCESS FACTORS

- The use of non-exclusive agreements

Sources: Interviews with the organization's management

#### OVERVIEW

**Core offering:** Bundle the procurement activities of USAID Implementing Partners (IPs)

**Target users:** Refugees (Initially)

**Led by:** NetHope and USAID

**Launched in:** 2018

#### Reach:

- 10 members (1 per site) in northern Uganda with NGOs distributed across the region with 2MB per site.

#### Infrastructure:

- MNO cell towers

#### Key partners:






USAID  
USAID Implementing Partners  
MNOs



# RURAL CONNECTIVITY IDEATION WORKSHOP

## Local Learnings

### Key learnings from programs deployed in Kenya

 <b>Mawingu Networks</b>	 <b>Equity Bank Rural Connectivity</b>	 <b>Safaricom Digital Village</b>	 <b>Surf Express WiFi by Facebook</b>	 <b>Arid Land Information Network</b>
<b>Rural hotspot run by TV white space spectrum band</b>	<b>Satellite connectivity for digital financial inclusion</b>	<b>Rural Hotspot service run via MNO existing agent network</b>	<b>Hotspot service in public spaces supported by ISP backhaul</b>	<b>Community knowledge and ICT training centres</b>
<ul style="list-style-type: none"> <li>Remote management easily deployed/managed even in rural areas</li> <li>PPP model leverages TVWS to bridge middle mile where commercial solution not viable</li> <li><u>Success Factors</u>: Global companies, e.g. Microsoft, with significant scale and resources can facilitate testing new approaches to extend access</li> <li>Local integrators can deploy and maintain the software and hardware with minimal training</li> <li>Policy exemptions can be a blessing and curse, with expiration of exemptions a significant risk on deployment</li> </ul>	<ul style="list-style-type: none"> <li><u>Business Models</u>: Sustainable models require innovation that will decrease the high operating expenditures</li> <li><u>Infrastructure</u>: The minimum viable product of the technology utilised has to be proven to work through pilots before scaling programs e.g. BRCK</li> <li>With upselling opportunities, less traditional agents can be successful in program rollout</li> <li><u>Service offerings</u>: Content creation should not be static but revised based on insights gained from data requiring investment from the implementers</li> </ul>	<ul style="list-style-type: none"> <li><u>Business Model</u>: The set-up of connectivity hubs is most feasible when incorporated into existing, operating businesses</li> <li>In a joint venture set-up with communities initial capital may hinder the launch of some of the programs</li> <li><u>Service offerings</u>: The needs of the community should be taken into account when implementing connectivity hubs to ensure uptake of the product</li> </ul>	<ul style="list-style-type: none"> <li><u>Success Factors</u>: Leveraging existing backhaul infrastructure can keep buildout costs low and enable fast rollout</li> <li>Partnering with local entrepreneurs for hosting and distribution can drive local revenue and engagement</li> <li>Partnership with global companies, e.g. Facebook, provide resources to scale and build brand awareness</li> <li>Subsidies can be provided for specific users through partner pays models</li> <li>Revenue models can be deployed to minimize costs – enabling hotspots to pay for themselves</li> </ul>	<ul style="list-style-type: none"> <li><u>Service offerings</u>: Regular assessments are necessary to ensure that the information provided at various hubs are relevant to the community needs</li> <li><u>Success factors</u>: Strategic placement of hubs will determine access and thus success, particularly in dispersed/transient pastoralist communities.</li> </ul>



Thank You!