

Case Studies on Digital Innovation

Examples of 2SCALE agribusinesses that have digitised their operations to efficiently work with low-income farmers and consumers at scale?

Version 1.1

June 2021

Authors

Samwel Naimasia
Alhassan Issahaku
Moussa Dionou
Roald Klumpenaar
Gerwin Jansen
Auke Douma

Contact

Samwel Naimasia
Roald Klumpenaar
Alhassan Issahaku

Sharing



This publication and all associated materials are made available under Creative Commons licensing, Unless otherwise specified, you can create and share adaptations of this publication. We do request you to share alike.

2SCALE

What is this publication about?

This *Case Studies on Digital Innovation* publication aims to capture digital innovation pilots that have been implemented in 2SCALE agribusiness partnerships. The case studies run across all different areas of the value chain that can be digitised: from farmer payments, team operations, to mass marketing and low-income consumers.

The case studies are meant to inspire you for digitising your own agribusiness operations. It should provide just enough ideas to get you started. For more information about the case studies, you can reach out to the 2SCALE Digital Innovation Specialists. Also, if a suggested solution or service provider is not operational in your country, ask the 2SCALE Digital Innovation Specialists how they can help explore and facilitate replication of the idea.

We keep updating this publication as new digital innovation pilots are being implemented in 2SCALE. Would you also like to work with 2SCALE on digital innovation? Then please send us a message and we'll explore a collaboration with your company.

For more general information about different digital innovations for agribusiness operations, please download the complementary publication *Directory for Digital Innovation*.



Digital solutions are not a silver bullet

While digital solutions hold a lot of potential to replace or strengthen existing business activities, you should be aware of their limitations, particularly because of the novelty of many of these solutions.

Introducing digital solutions takes time, especially when they serve large groups of farmers. It is important that you select solutions that are optimised for all players, regardless of their age or gender. This should keep you from adding to the so called '*digital divide*'.

Other barriers for adopting digital solutions can be more specific to your market. Some solutions rely on, amongst other things, the availability of and stability of an internet connection, smartphone penetration, the uptake of mobile banking, and the digital proficiency of your intended users.

Who is this publication for?

Case studies on Digital Innovation is a publication intended for 2SCALE country teams and their partnership facilitators, as well as the business champions they work with. It aims to introduce readers to case studies of digital innovations that could help transform operations in agribusiness partnerships.

This publication holds information that makes it a worthy read to those that are completely new to digital innovations as well as to those with some experience in digitisation.

We recommend 2SCALE staff to print this document and bring it to meetings in which you wish to explore digital solutions.



Why these case studies on digital innovation?

The digitalisation of African agriculture is happening at an accelerating speed, with many new digital services becoming available every year. In 2020, around 400 companies are offering digital services for agribusinesses in 43 Sub Saharan African countries, with majority being launched in the last three years

Digital solutions provide agribusinesses opportunities for organising supply chains, contributing directly to cost savings, improved efficiency, transparency, and mass marketing, to mention just a few.

The COVID-19 crisis has urged agribusiness to digitise their activities at a much faster pace. When farmers can no longer receive face-to-face training, for example, digital alternatives such as video training bootcamps and whatsapp groups can be consulted. As many of these digital solutions prove their value in response to the crisis, it is very likely they will grow and remain important beyond the pandemic.

More about digital innovation?

[The Digitisation of African agriculture \(CTA\)](#)

[Digital Technologies in Agriculture and Rural Areas \(FAO\)](#)

Adoption rate 25%

The COVID-19 crisis has pushed nearly a quarter of agribusinesses in Africa to adopt digital solutions to sustain business.

TNS Survey June 2020

Technical support 45%

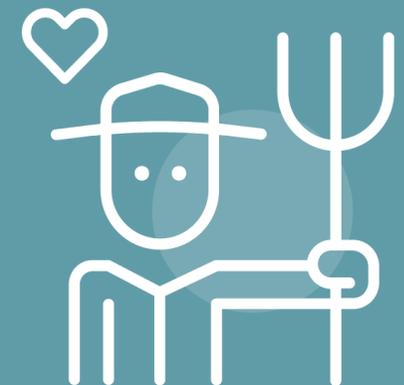
Almost half of the agribusinesses are in need of technical support to develop or adopt online platforms in response to COVID-19.

GAIN Survey June 2020

CASE STUDIES

Case studies of implemented pilots

Arinifu	Kenya
Cropin	Ivory Coast
Doni Doni	Mali
Farmforce	Nigeria
Ignitia	Nigeria
Kuza	Kenya
Landbot	Burkina Faso
Yup	Burkina Faso
Yelen	Burkina Faso





Problem

What problem does it solve and for whom?

To poultry farmers, the first 4 weeks of the life of a chicken determine if they will make profits or losses on their investments. This stage is known as brooding. Farmers face impossible challenges and incur high costs trying to establish appropriate conditions to ensure high chick survival rate through this delicate growth stage.

Provider

Who is the service provider? Where do they operate?

Smart brooder is manufactured by Arinifu, a tech startup based in Nairobi, Kenya. They have a cash and Pay-As-You-Go model through which poultry farmers acquire the technology to manage the brooding stage of their poultry investment.

Solution

What is the solution and why is this innovative?

Arinifu developed the Smart Brooder, an IoT backed solution that uses sensors to automatically control electric heaters to provide ample temperature and humidity conditions for chicks to thrive. It uses an SMS alert services and a backend data monitoring and analytics system to save farmers' cost and time.



Benefits

Why should you take this solution into a 2SCALE partnership?

This is a digital solution that supports chick brooding, a critical stage in commercial chicken rearing. It promises savings to poultry farmers by reducing mortality rates and feed intake (saving by up to 50kg) and increasing the growth rate in chicks (e.g 6 weeks to 5 weeks in broilers). This solution reduces losses to smallholder farmers making their enterprises sustainable, a key objective of the 2SCALE program.



Pilot

Learn from the pilot activities and objectives

The HPK 2SCALE partnership installed two Smart Brooder devices on their 1,000-chick brooding facility and monitored it for 4 months. The goal was to test the ability of the solution to reduce mortality rates, power consumption and feed intake by chicks over the brooding period. The objectives of the pilot were as follows:

1. Install smart brooder devices at HPK farm for the pilot.
2. Define a Scaling and Marketing Plan for smart brooder targeting SHFs with PAYGO payment model
3. Document end of pilot metrics of successful chick brooding with device installed. Calculation of cost of brooding with smartbrooder devices

Results

What are (intermediary) results of the pilot?





Problem

What problem does it solve and for whom?

Providing a quality farming experience to its farmers is a priority for many agribusinesses working with smallholder farmers. Various factors in the 2SCALE Millers partnership affect their ability to provide accurate advisory services and track produce from farm to aggregation locations. They sought to address these hurdles in its rice production, procurement and reporting processes to strengthen management and facilitate digitization of their farmer databases.

Provider

Who is the service provider? Where do they operate?

SmartFarm is the holistic farm management Software-As-a Service provided by CropIn Technology, a leading agri-tech company, having its corporate office in Karnataka, India. The company has digitized over 6.2 million acres of farmlands in the last 10 years, enriching the lives of over 2.2 Million farmers while working with 200+ clients in 56+ Countries.

Solution

What is the solution and why is this innovative?

SmartFarm is an end-to-end digital platform developed by CropIn that combines on-field information, remote sensing data and weather insights to help create a digitized, traceable and sustainable agricultural ecosystem. This platform will provide the Millers with the complete visibility of resources, processes and staff performance in the field enabling data-driven decision making.



Benefits

Why should you take this solution into a 2SCALE partnership?

CropIn empowers data-driven decision making and provides complete visibility of resources, processes and performance of on-field Agri operations. It enables Agribusinesses to collect data in real-time then analyze and interpret to derive actionable insights on standing crops, driving initiatives around Digitization, Compliance, Sustainability, Predictability and Traceability.



Pilot

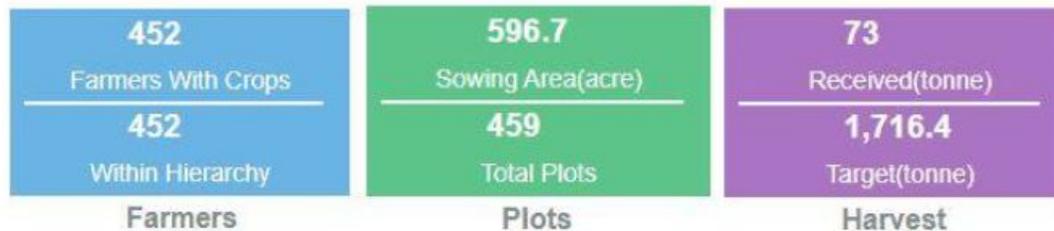
Learn from the pilot activities and objectives

To support field operations and manage the relationship with their producers, two millers in Cote d'Ivoire (Locagri & Katio Akpa) participated in a pilot project with CropIn for a period of 12 months. The project implemented CropIn's end-to-end digital platform - SmartFarm mobile application for digitally profiling 500 farmers, facilitating staff field activities, supporting farmer advisory and managing the procurement of produce.

Results

What are (intermediary) results of the pilot?

In the first 6 months of the pilot, key information on 452 smallholder farmers was captured into the CropIn's platform and periodic farm audits are performed on the rice crop using the SmartFarm mobile application. Data from the platform enabled Locagri and Katio Akpa to visualize where their farmer plots are based, to know how much land is under crop and got predictions of the rice harvest.





Problem

What problem does it solve and for whom?

Farmers are continuously facing problems such as, how to find the best seeds, how to get the right fertilizers, and how to access credit. This is what Dôni-Dôni aims to solve.

Provider

Who is the service provider? Where do they operate?

The innovation provider is Doun ka fa in collaboration with the telephone companies Orange and Moov africa, which the farmers use to make deposits at Doun ka fa. The solution is secure and the farmer automatically receives the status of his savings after each deposit. The other actors involved in the solution are a local bank, SONAF (Corn purchasing organisation related to the 2SCALE Partnership) and the 'platform manager' which is a representative of the farmers.

Solution

What is the solution and why is this innovative?

The innovative Dôni-Dôni solution (in local language: 'bit by bit') of the Doun ka fa company facilitate access for farmers to agricultural inputs. Each producer opens an account by phone at Doun ka fa, gradually saves (starting from 0,2 USD) and registers for an input kit corresponding to their planned savings (62 USD, 114 USD and 227 USD for respectively 0.25ha, 0.5ha and 1ha of land). Savings are secured in a bank account and 3 signatures can disburse the money - Doun ka fa, SONAF and the platform manager).



Benefits

Why should you take this solution into a 2SCALE partnership?

- Have your inputs on time
- Have quality inputs
- Be independent
- Proximity to the distribution network
- Advisory support service



Pilot

Learn from the pilot activities and objectives

- First of all, meetings were organised to introduce the company Doun ka fa company and its products and services to the members of the 2SCALE Corn partnership: SONAF.
- Youth and coaches were trained on how to technically register producers into the system
- Doun ka fa's "Doni-Doni" service was broadcasted through spots and short videos on social media and local radio stations to raise awareness among corn farmers.

Results

What are (intermediary) results of the pilot?

The pilot resulted in 468 producers including 29 senior women; 37 young women and 135 young men being registered and committed to purchase inputs through the "Doni-Doni" service. In addition, 12 temporary jobs (including 1 young woman and 6 young men) were created.



Problem

What problem does it solve and for whom?

Registration and maintaining contact with farmers is a big challenge for agribusinesses. It is a timely process, prone to errors and it is difficult to collect performance data about farmers over time. Required quality standards, food safety standards, quality compliance, harvest traceability and financing of farming operations are therefore made more difficult.

Provider

Who is the service provider? Where do they operate?

Farmforce app is a cloud-based platform that extends digital management to the agricultural “first mile”. It includes a mobile app which works offline in very remote areas and a web instance to have visibility of what’s happening at the ground level. Farmforce has presence in Africa, Asia, Latin America and Europe and currently the app is managing over 565,000 small scale farmers in over 40 value chains and it is available in over 15 languages. Farmforce was piloted in 2017 in Nigeria in the Cassava value chain that was supported by 2SCALE.



Solution

What is the solution and why is this innovative?

Digitizing your management system can provide for a lot more efficiency and transparency in the supply chain. [Farmforce](#) provides for a cloud-based Advanced Farming platform to digitize all farmer records, with a web and mobile application to contract smallholder farmers. It allows agri-businesses to log and store information on each farmer: volumes produced, inputs used, training received, etc. This information can also be shared with farmers.

Benefits

Why should you take this solution into a 2SCALE partnership?

Increased traceability of farmers and field staff leads to more reliable data for your agribusiness on your supply chain. This also increases the credit worthiness of farmers, which leads them to be eligible for more and better loans.



Pilot

Learn from the pilot activities and objectives

The pilot with 2SCALE was carried out in 2017 with Psaltry, a large cassava processor in Nigeria, which supplies to Nigerian breweries, owned by Heineken. Both farmers as well as field staff were registered into the Farmforce system, in order to improve traceability of produce and report writing. Farmers and field staff can register data using the mobile phone app. Then the aggregated information is available to the agribusiness through the Farmforce web. GPS location, barcodes, printed receipts, transaction records and agent authentication are all part of the system. See this [pilot evaluation](#).

Results

What are (intermediary) results of the pilot?

Psaltry now has a real-time, digital database of all the farmers they work with and can see Google Earth maps of each field location and status of all cassava crops being grown. Previously the field staff had to know farmer locations by memory but it was difficult to share this with management in the office, now they can view the data on the web platform. Their volumes supplying the Nigerian breweries have grown because they can communicate clear supply forecasts. Due to increased transparency, local financial institutions also decided to lend more to Psaltry farmers, in particular female farmers.



Problem

What problem does it solve and for whom?

The yields of small-scale farmers in Sub-Saharan Africa are the lowest in the world. Their reliance on rainfed agriculture means climate change negatively impacts household nutrition, food security, and economic growth. Weather stations are not as useful for predicting weather in the tropics. This makes it difficult for farmers to make important farming decisions.

Provider

Who is the service provider? Where do they operate?

Ignitia is the world's first tropical weather forecasting company. By creating a proprietary weather forecasting model specifically for the tropics, their weather forecasts are over twice as accurate as any other model used across the world. Ignitia predictions are mostly initialized by remotely sensed data sets, particularly from satellites, making it easier to scale. Over 1.3 million farmers in West Africa have subscribed to Ignitia's daily 48-hour forecast service

Solution

What is the solution and why is this innovative?

Ignitia has developed a Weather Forecasting service that combines proprietary algorithms adapted to predicting convectional rains in a tropical environment. This results in forecasts that are 84% reliable allowing farmers to know when to plant, fertilize, harvest, etc. Forecast messages for a 48 hour period are sent daily to farmer subscribers through an SMS service.



Benefits

Why should you take this solution into a 2SCALE partnership?

Accuracy and reliability of information like weather is key for farmers. When a farmer can make better-informed decisions to improve their farming practices, they can improve their yields and maximize their profits thereby stabilizing the value chain. Daily forecasts and warnings send to farmers via SMS allowing them to make informed decisions on farm activities resulting in 88% of farmers reporting yield improvements.



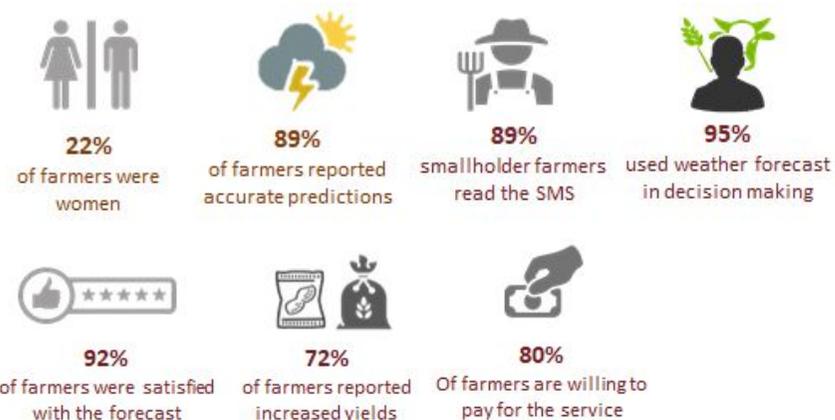
Pilot

Learn from the pilot activities and objectives

1,394 Farmers in Sorghum and Onion partnerships in Northern Nigeria were registered and subscribed to receive daily weather forecasts from Ignitia delivered through an SMS service for a period of 4 months during the 2019 rain season. The 2SCALE agribusinesses got a chance to observe monthly weather trends through a customized dashboard. At the end of the pilot, a survey was conducted among farmers to collect farmers insights and perceptions. In 2020-2021, 2SCALE is replicating Ignitia with two more pilots in Mali (Rice partnership) and Ghana (Sorghum partnership).

Results

What are (intermediary) results of the pilot?





Problem

What problem does it solve and for whom?

Batian Nuts, a 2SCALE partnership in Kenya, works with smallholder farmers in remote areas to promote production of high quality, aflatoxin free groundnuts. To accomplish this, Batian lacks the tools to efficiently collect and store farmer data, provide sustainable extension services, track produce procurement, and manage quality (especially aflatoxin contamination).

Provider

Who is the service provider? Where do they operate?

Kuza is an award-winning social technology enterprise which has its offices in Kenya. Kuza engages youth as last-mile rural agents to improve the productivity, resilience, and income of farmers. By 2019, Kuza had scaled exponentially to impact 5.54 million people across Africa & Asia

Solution

What is the solution and why is this innovative?

Kuza identifies, incubates and set up rural youth as Agri-entrepreneurs to offer bundled services to smallholder farmers locally. Youth gets a portable digital kit with built in digital marketplace to offer extension services, field activity planning & monitoring to unlock input financing, linkage to markets etc., The 2SCALE Partnership Batian Nuts has adopted the Kuza Agripreneur model and the portable digital kit to provide last-mile digital extension services and manage value-chain transactions.



Benefits

Why should you take this solution into a 2SCALE partnership?

This digital solution promises significant increase in productivity and income of the smallholders, while addressing the challenge of rural youth unemployment. It leverages on last-mile rural agents to utilize cutting edge technology to deliver accurate advice to farmers in remote areas where connectivity and access to the grid is poor. A key benefit of the solution is digitisation of farmer profiles to unlock opportunities for other important services like financial services, input credit and weather forecasts.



Pilot

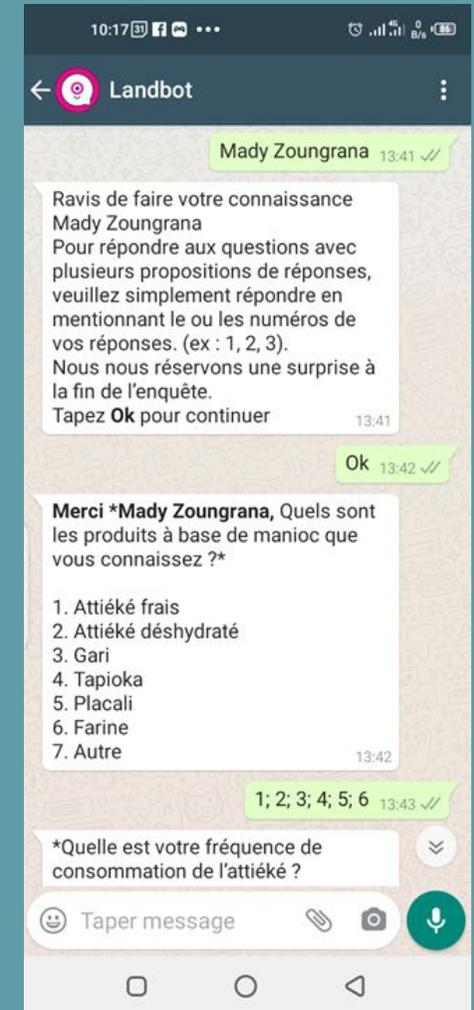
Learn from the pilot activities and objectives

To pilot the innovation, Kuza in partnership with Batian Nuts, a groundnuts partnership in Kenya, recruited 10 youth Agripreneurs in Meru and Tharaka Nithi counties to participate in a 12 month long pilot covering two seasons. The pilot is testing the effectiveness of the digital extension kit in providing village level extension services to 1,000 farmers and in creating access for smallholder farmers to quality inputs like seeds, fertilizer, financial services and other farm related services such as threshing and aggregation. The pilot seeks to interest young people to participate in agricultural value chains for income generation.

Results

What are (intermediary) results of the pilot?

During the first 6 months of the pilot, 10 young people were trained on entrepreneurial skills and equipped with digital kits to enable them provide farmers with agricultural advice on selected crops like groundnuts. Digital profiles were developed for more than 1,900 smallholder farmers and are being supported to take up groundnuts farming for income generation.



Problem

What problem does it solve and for whom?

The onset of the Covid-19 pandemic led to restriction of movement and interaction of people. This meant that activities like collecting consumer insights that rely on traveling were drastically affected. The massive increase in use of messaging applications like WhatsApp over the last few years has opened many opportunities for businesses to discovering the potential in communication and customer support.

Provider

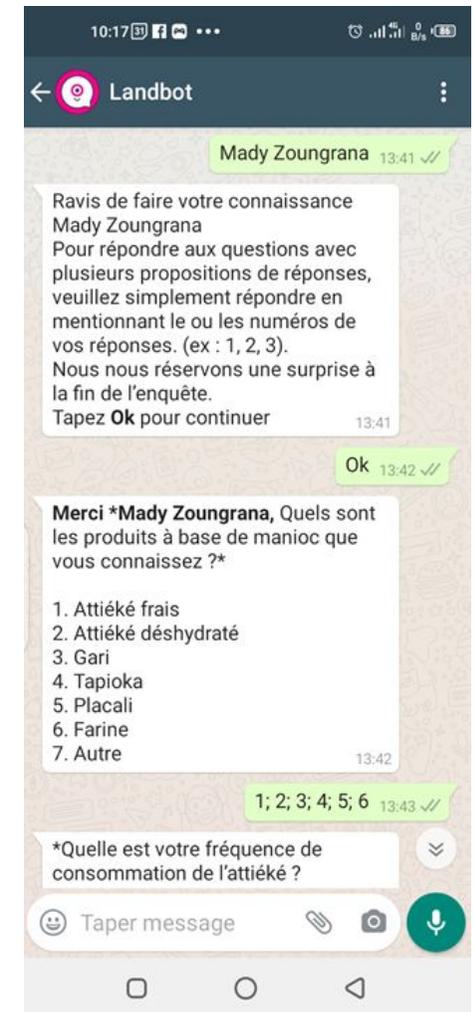
Who is the service provider? Where do they operate?

Landbot is a verified WhatsApp API solution provider working with Zendesk's Smooch. Through their web based platform, you are able to get access to multiple features and a simplified interface to create WhatsApp chatbots without coming anywhere near a single line of code. With this a business can create a catalog to showcase their products and use special features to automate, sort, and respond to customers' messages.

Solution

What is the solution and why is this innovative?

The WhatsApp chatbot by Landbot is an automated conversational software program powered by rules of artificial intelligence (AI). People communicate with the WhatsApp chatbot via the chat interface, as if they are talking to a real person through a set of automated replies that simulate a human conversation. This can help to connect with customers, highlight products, answer customer questions and perform consumer insights surveys.



Benefits

Why should you take this solution into a 2SCALE partnership?

A WhatsApp chatbot enables brands to communicate with their customers instantly, asynchronously (when it suits the customer), and in a personalized and natural conversation, without making them to leave their place of business, and so, inadvertently, revolutionizing their customer experience. Besides customer support, a Whatsapp chatbot can be used for lead generation and sales, product recommendation, customer feedback collection, product ordering, internal company communication, and so forth.



Pilot

Learn from the pilot activities and objectives

Nanalim, a 2SCALE cassava partnership in Burkina Faso, was interested to understand the consumer preferences on dried cassava products and their feel of the new product “Attieke”, which is being produced with support from 2SCALE. To pilot the innovations, low income consumers with smart mobile phones were registered into the WhatsApp platform. Each of them received a sample of dried cassava “attieke” for tasting. A survey was shortly launched through WhatsApp to collect consumer insights.

Results

What are (intermediary) results of the pilot?

Using a WhatsApp chatbot survey, insights from low income consumer were used to determine their preference for Cassava meals and products, awareness and determinants to purchase or consume. The study found that 86% of low income consumers in Burkina Faso consume Cassava at least once a month, about 59% of them knew about dehydrated Cassava and about 44% know about the Nanalim brand of Cassava.



Problem

What problem does it solve and for whom?

Farmers face difficulties in accessing agricultural inputs due to their distance from towns and stores selling inputs. In addition, at the start of the winter season, producers do not have enough saved cash to buy inputs and also have difficulty getting inputs on credit. The solution is to make it easier for producers to access inputs.

Provider

Who is the service provider? Where do they operate?

This solution was developed by YUP which is a subsidiary of the Société Générale Burkina Faso Bank (SGBF). SGBF promotes financial inclusion within communities and particularly towards the agricultural world thanks to the facilities for purchasing agricultural inputs and seeds via its flexible Tagpay platform adapted to needs of the rural world. Throughout the pilot, several industry associations of input providers have joined the YUP network, being AGRODIA and COCIMA.

Solution

What is the solution and why is this innovative?

YUP is a mobile money solution which allows producers to have an account, save on their account and make agricultural input payments through a network of organized input distributors in rural areas of Burkina Faso. This solution is innovative because farmers can make digital payments and orders of inputs with the distributor.



Benefits

Why should you take this solution into a 2SCALE partnership?

- Possibility of saving directly in the producers' YUP account to purchase agricultural inputs,
- Delivery of inputs to producers by input distributors can be ordered online
- Save time on making payments by not having to travel and paying digitally



Pilot

Learn from the pilot activities and objectives

- YUP has been introduced to the business champions of 2SCALE Burkina Faso, after which a pilot agreement has been established with Nanalim.
- Pilot phase was conducted, by adapting the solution with certain new parameters to allow producers to save money on a YUP account
- Awareness and information sessions within farmer cooperatives for the adoption of the solution

Results

What are (intermediary) results of the pilot?

The pilot led to more than 1,000 producers opening YUP accounts on their phones and made payments through YUP. The 2SCALE Business Champion, Nanalim now makes and accepts digital payments to and from farmers using the YUP mobile money solution.

Yelen
Assurance
Parce que vous avez de la valeur

Réglement des sinistres en 48H

Notre couverture est nationale

L'assurance pour tous.

The advertisement features a central collage of four circular images: a woman in a red top holding a clipboard, a family of four smiling together, a woman in a blue shirt and yellow gloves, and a man in a blue shirt working in a field. The background is white with a yellow and green color scheme.

Problem

What problem does it solve and for whom?

80% of the working population in Burkina Faso is living from agriculture, and subject to climate disasters. The proportion of households affected by a climate disaster is (41.2%: Drought / irregular rains; 17.2%: Serious illnesses). Smallholder farmers are victims every other year from the effects of climate change (floods, drought, parasite attacks, etc.) and are without the possibility of being compensated for their losses.

Provider

Who is the service provider? Where do they operate?

This solution was developed by the microinsurance company YELEN. It is developed in collaboration with the company YUP (see previous case study) and other Mobile Telecom companies of to facilitate financial transactions in Burkina Faso. It is interesting for the 2SCALE agribusiness partnerships because it offers microinsurance for smallholder farmers, facilitating payment by phone.

Solution

What is the solution and why is this innovative?

YELEN offers agricultural insurance which takes into account two aspects: agricultural climate risk insurance and / or credit insurance for producers and other actors in the value chain. The solution is innovative in that an application was developed and downloadable on Android phones. Producers can insure themselves directly, pay insurance costs through YUP mobile payments, declare their claims and receive compensation through YUP.



Benefits

Why should you take this solution into a 2SCALE partnership?

YELEN offers the following benefits:

- Diversified insurance products offered to smallholder farmers
- Affordable prices of insurance for smallholder farmers and other actors in the value chain
- Simplified subscription system through their application on Android phone
- Simplified payment system through YUP mobile wallets.

Yelen Assurance
Parce que vous avez de la valeur

À PARTIR DE
54 000 FCFA/AN/PRS
COUVERTURE SANTÉ COMPLÈTE.

Contact
(+226) 54 00 45 45

Parce que vous avez de la valeur,
nous vous offrons la possibilité d'Assurer
votre famille.

Yelen Assurance SA au capital de 500 000 000 FCFA – RCCM BF N° 2018 M2371

Pilot

Learn from the pilot activities and objectives

- YELEN has been introduced to the business champions of 2SCALE Burkina Faso, after which a pilot agreement has been established with Nanalim and SIATOL.
- Pilot phase was conducted, by adapting the solution with certain new parameters to allow producers to insure their crops against climate risks through their YUP mobile money accounts
- Awareness and information sessions within farmer cooperatives for the adoption of the solution were conducted

Results

What are (intermediary) results of the pilot?

The pilot led to more than 1,000 producers insuring their crops against climate risks and making the payments through YUP. The 2SCALE Business Champion, Nanalim and SIATOL now make and accept digital payments to and from farmers using the YUP mobile money solution.

