

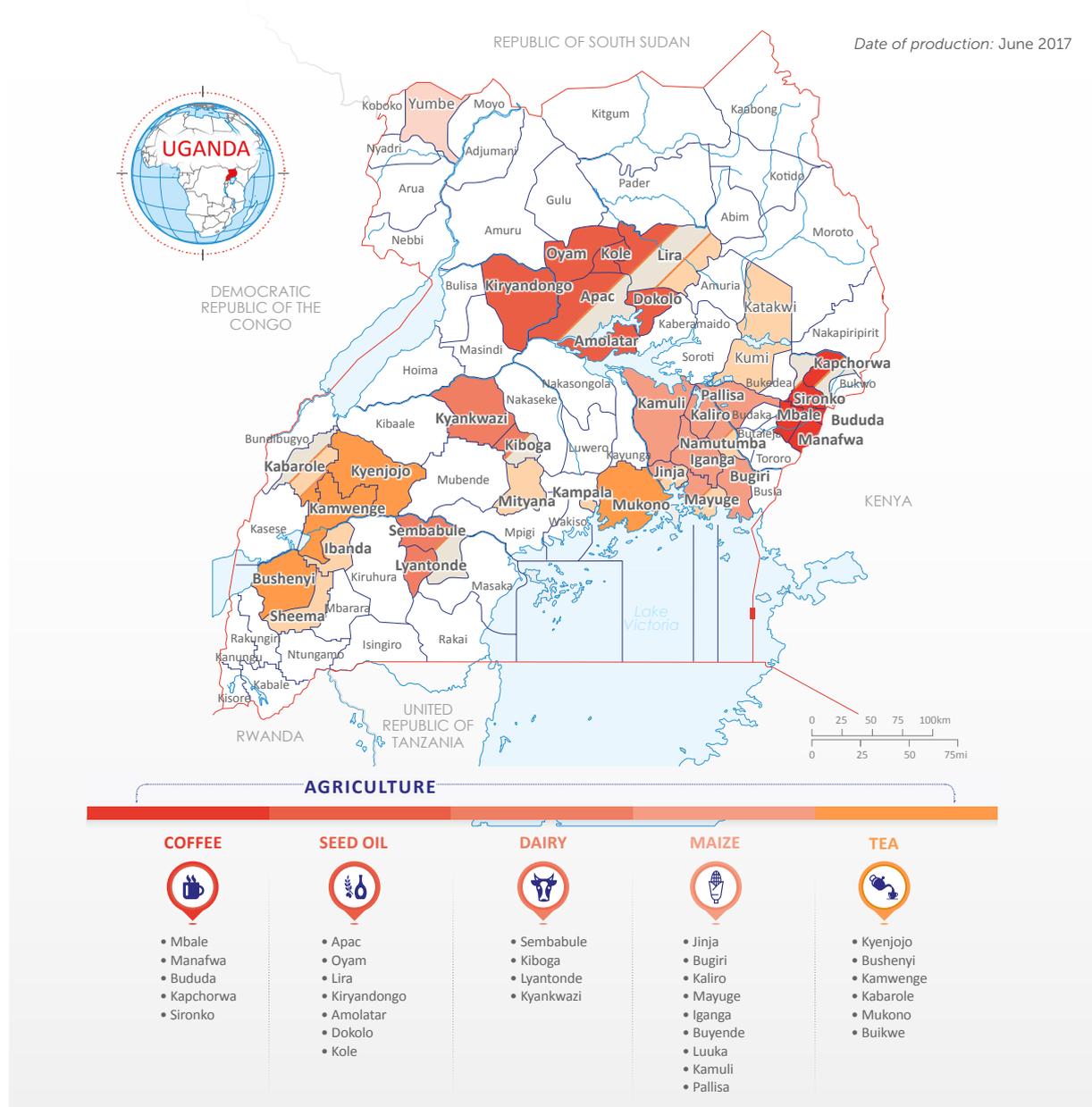
# Learning in the Field: Implementing Digital Bulk Payments in Agricultural Value Chains in Uganda



## Case Studies

Across Uganda, UNCDF designed and trialled different bulk payment solutions within the five agricultural value chains (see figure IV). Working with key stakeholders in each value chain, UNCDF identified challenges to better understand how digitization would reduce or remove those pain points, leading to greater operational efficiencies. Summaries of each of the five projects are provided below, in addition to profiles of beneficiaries.

### Agricultural value chains in Uganda



*Disclaimer:* The designations employed and the presentation of material on this map do not imply the expression of any opinion whatsoever on the part of the Secretariat of the United Nations or UNCDF concerning the legal status of any country, territory, city or area or its authorities, or concerning the delimitation of its frontiers or boundaries.

## CASE STUDY

### Digitizing the coffee value chain with Kyagalanyi and Yo Uganda

✓ Primary reason value chain was chosen for pilot digitization: Country's largest export crop and many people involved							
 <b>GROWING SEASONS</b>	 <b>VALUE CHAIN STAKEHOLDERS</b>	 <b>AREAS</b>	 <b>ESTIMATED PEOPLE INVOLVED</b>				
One growing season per year	<ul style="list-style-type: none"> <li>Farmers</li> <li>Traders</li> <li>Cooperatives</li> </ul>	Mount Elgon, Lake Victoria, Rwenzori Mountains and West Nile	2.8 million				
Pilot area	Pilot period	Registered customers by booster teams	Active agents	Payment cycles made digitally	Farmers paid digitally	Increase in ARPU for payees enrolled by booster teams	Increase in coffee sales
Mount Elgon	2015–2018	27,794	105	6 seasons (continuous payments during season)	3,614	+175%	+30%

Note: Data provided above is from September 2017 to September 2018.  
 Acronym: ARPU, average revenue per user

### Partners



To digitize the coffee value chain, its first such project in Uganda, UNCDF partnered with KCL in 2015, a coffee company working with 4,500 farmers in the Mount Elgon area of eastern Uganda. KCL was forward-thinking about digital solutions for collecting farmer information and gaining business efficiencies, especially around payments and cash management. Yet, the basic requirements for digital payments were insufficient due to low GSM connectivity, low phone penetration among farmers, low digital literacy, a lack of MM agents and behavioural inertia. Furthermore, just one growing season per year meant that the project required long-term investment by the partners involved.

In Kapchorwa District, the MNO MTN could not financially justify deploying a mobile BTS (UNCDF, 2016). However, with support from the Bill & Melinda Gates Foundation, UNCDF worked with MTN to de-risk the investment, providing a guaranteed fund of US\$100,000 if MTN incurred any losses from the mobile BTS. Yo Uganda, a payment aggregator working with MTN to develop the bulk payment app for the project, deployed a booster team to distribute SIM cards and affordable phones, recruit MM agents and educate farmers.<sup>1</sup> A pay-as-you-go solar kit developed with Fenix was also tested, but this use case was introduced too soon, as farmers struggled to make payments outside the coffee season.

Three years on, all KCL staff and transporters have moved to MM payments. As of September 2018, 3,614 farmers had voluntarily received payments digitally. In the first six months of the project, KCL observed a 30 percent increase in coffee purchases due to supply-chain efficiencies: with farmers having **quicker and more transparent information on prices**, delivery time to the collection points was faster. Additionally, the average revenue per user (ARPU) for MTN from farmers receiving payments and customers onboarded by the booster teams was much higher than the ARPU for the district population; farmers generated an ARPU 175 percent higher than MM users in the same district.

As a result of the project, 100,000+ people are now connected due to the permanent installation of the network tower; the digital product MoKash was designed, tested and launched in this value chain, together with MTN; Yo Uganda received extra business from other players in the coffee, seed oil and dairy value chains; and, the value of providing even basic voice services to people living in remote areas was showcased.

<sup>1</sup> A booster team is a group of people who enter rural communities to improve service delivery at the last mile through agent recruitment, increasing device penetration and providing customer education and support.

## CASE STUDY

### Digitizing the tea value chain with McLeod Russel

✓ Primary reason value chain was chosen for pilot digitization: Comparison of voluntary and obligatory digital payments						
 GROWING SEASONS	 VALUE CHAIN STAKEHOLDERS	 AREAS	 ESTIMATED PEOPLE INVOLVED			
None: year-round production	<ul style="list-style-type: none"> <li>Tea workers</li> <li>Out-growers</li> <li>Traders/Transporters</li> <li>Unions</li> <li>Processors</li> </ul>	Districts of Bushenyi, Kabarole, Kanungu and Kyenjojo of western Uganda and districts of Jinja and Mukono of eastern Uganda	140,000			
Pilot area	Tea estates in pilot	Pilot period	Registered customers	Active agents	Payment cycles made digitally	Farmers paid digitally
Western Uganda	2	2016–2018	939	25	27	789

### Partners



To digitize the tea value chain, UNCDF partnered with McLeod Russel, a tea grower and processor employing more than 8,200 farmers across six estates near the Rwenzori Mountains of western Uganda. For McLeod Russel, cash management was a huge issue that involved flying cash twice a month from Kampala to its tea estates for salary payments. To address this challenge, the company agreed to trial bulk payment solutions at some of its tea estates. UNCDF analysis revealed that the cost to McLeod Russel of making digital payments was approximately 10.4 percent less than the cost of flying money from Kampala to the estates.

In 2016, UNCDF presented the business opportunity for digitizing tea value chain payments to three payment service providers. To foster competition, the MNOs Airtel and MTN, along with the payment aggregator Pegasus Technologies, were each selected to pilot a solution at one estate. Following the pilots, Airtel and MTN continued their activities at the tea estates.

Notwithstanding various challenges in the project, around 50 percent of the farmers in the initial two estates moved from cash to digital payments between August 2017 and May 2018. Furthermore, McLeod Russel is looking beyond payments to digitize all of its agricultural processes for greater efficiency and better control. Within this project, the MNOs were willing to adjust their pricing because of competition. For example, MTN reduced its bulk payment fees by 74 percent, and Airtel reduced its bulk payment fees by 33 percent and waived cash-out fees. Additionally, Airtel specifically recruited an account manager as part of its corporate sales section for this project. Airtel and MTN provided the farmers with free SIM cards as well, which helped to boost registrations.

## CASE STUDY

Digitizing the maize value chain with AgroWays and MobiPay

✓ Primary reason value chain was chosen for pilot digitization: Both a staple and a cash crop							
 GROWING SEASONS		 VALUE CHAIN STAKEHOLDERS		 AREAS		 ESTIMATED PEOPLE INVOLVED	
Two growing seasons per year		<ul style="list-style-type: none"> <li>Farmers</li> <li>Traders</li> <li>ACEs</li> <li>VACs</li> <li>Off-takers</li> <li>Input suppliers</li> </ul>		Eastern Ugandan districts of Bugiri, Buyende, Iganga, Kaliro, Kamuli and Namutumba		200,000 maize farmers	
Pilot area	Villages and ACEs in pilot	Pilot period	Seasons covered	Registered farmers/ customers	Active agents	Payment cycles made digitally	Farmers paid digitally
Jinja and Iganga Districts	18	July 2017– Nov. 2018	2	56,500	176	6 (continuous payments during season)	27,700

### Partners



Working with one of the major staple crops in Uganda, the UNCDF project in the maize value chain kicked off in July 2017 with partners AgroWays and MobiPay. AgroWays, an off-taker, works with more than 20,000 maize smallholder farmers who supply grain. With its existing processes, AgroWays experienced a lack of transparency and accountability of funds at its ACEs and VACs, problems that were compounded by additional issues due to theft.

With a clear need to move to digital payments, UNCDF collaborated with the 'agrotech' MobiPay to customize a payment solution that targeted ACEs, VACs and maize traders. MobiPay was already active in the maize value chain and had existing structures working with farmers of eastern Uganda. In addition to the digital solution, UNCDF focused on (1) increasing the penetration of phones and SIM cards as well as the availability of MM agents and (2) improving digital literacy of the farmers.

To date, 56,500 farmers have been registered with MM and 27,700 farmers have been paid digitally for their grain. The transition from cash to digital payments is happening gradually, with farmers receiving their payments partly in cash and partly in MM.

This project helped to highlight the role that certain actors in an agricultural value chain can play to drive digitization. For instance, maize traders were identified as important influencers and drivers in the value chain. UNCDF completed additional research on traders to help identify a use case and worked with MobiPay to adapt a trader payment app.

## CASE STUDY

Digitizing the seed oil value chain with Mukwano and Yo Uganda

✓ Primary reason value chain was chosen for pilot digitization: Stakeholders that are ready and interested in digitization						
 <b>GROWING SEASONS</b>	 <b>VALUE CHAIN STAKEHOLDERS</b>		 <b>AREAS</b>	 <b>ESTIMATED PEOPLE INVOLVED</b>		
Two growing seasons per year	<ul style="list-style-type: none"> <li>• Farmers</li> <li>• Traders</li> <li>• Off-takers</li> </ul>		Northern and Eastern Uganda	500,000		
Pilot area	Pilot period	Seasons covered	Registered customers by booster teams	Active agents	Payment cycles made digitally	Farmers paid digitally
Alebtong, Apac, Kiryandongo, Lira and Oyam Districts	July 2017– Nov. 2018	2	47,200	87	6 (continuous payments during season)	7,743

### Partners



The seed oil value chain in Uganda is dominated by smallholder farmers and employs more than 500,000 in northern and eastern Uganda. In 2017, UNCDF partnered with the commercial agriculture and oil-seed developer Mukwano and the MNO Yo Uganda to digitize the seed oil value chain.

Mukwano, through its affiliate AK Oils and Fats Ltd, works with 72,000 seed oil farmers. In addition to reducing the management burden of paying its farmers with cash, Mukwano also wanted to improve agricultural inputs and investments by farmers. Transitioning from cash to digital payments can accelerate the ability of farmers to access these services.

Earlier efforts by Mukwano to engage and negotiate with MNOs had few results due to poor product design and the inadequacy of the digital finance ecosystem. For instance, MNOs were unable to customize their DFS solutions to suit the structure of the seed oil value chain. However, with UNCDF, Mukwano is trialling a bulk payment solution in three sub-counties in northern Uganda. Yo Uganda has deployed booster teams to the area to support the development of an agent network, increase mobile phone penetration, and enhance customer awareness and digital literacy. From July 2017 to date, the booster teams have educated and registered 47,200 seed oil farmers.

## CASE STUDY

Digitizing the dairy value chain with Heifer International, SNV, Agriterra and Laboremus Uganda

✓ Primary reason value chain was chosen for pilot digitization: Year-round production and many people involved					
 <b>GROWING SEASONS</b>	 <b>VALUE CHAIN STAKEHOLDERS</b>	 <b>AREAS</b>	 <b>ESTIMATED PEOPLE INVOLVED</b>		
None: year-round production	<ul style="list-style-type: none"> <li>• Farmers</li> <li>• Transporters</li> <li>• Cooperatives</li> <li>• Processors/Off-takers</li> </ul>	'Cattle corridor' stretching from the south-western region through the central to north-eastern regions	1.7 million		
Pilot area	Pilot period	Registered farmers/customers	Active agents	Payment cycles made digitally	Farmers paid digitally
Kiboga, Mbarara and Sembabule Districts	Feb. 2017–Nov. 2018	43,100	87	Every two weeks for 18 months	3,699

### Partners



In 2017, UNCDF launched a project to digitize payments to dairy farmers in Uganda. UNCDF worked with the non-governmental organization [Heifer International](#) to better understand the dairy value chain there. The advisory firms Agriterra and SNV provided access to dairy cooperatives in the 'cattle corridor' that expressed interest in shifting from cash to digital payments for their farmer members.

Core to this project was the assistance provided to dairy cooperatives with the digitization of their existing workflows. UNCDF partnered with Laboremus, a software company, to transition milk delivery and sales records, which are currently kept in notebooks, to digital platforms. The app, Emata, registers milk deliveries by farmers, calculates the payment amounts and handles the payments. UNCDF is also illustrating the value proposition of MM to farmers through partial digital payments. Booster teams have educated people in the area on MM and registered them.

To date, around 3,700 farmers have received their first partial digital payment and booster teams have registered some 43,100 people in the area with an MM account. Beyond the large number of registrations, the education provided by the booster teams had a big impact on the MM activity level of farmers and their resulting ARPU: the MM ARPU for dairy farmers was 299 percent higher than their neighbours over the course of a year.

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