



Unlocking Public and Private  
Finance for the Poor



# Deploying Booster Teams to Breach the Rural Frontier of Digital Financial Services

INNOVATIONS BRIEF



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**“Booster teams are not a silver bullet; they are a nudge. They take a lot of time and effort but can achieve difficult goals.”**

- Stephen Waiswa,  
UNCDF Value Chain and Digital Finance Expert

## EXECUTIVE SUMMARY

Through one of its digital finance programmes, the UN Capital Development Fund (UNCDF) has worked to improve the financial lives of vulnerable populations in Uganda since 2014. Seeing a population that was 75 percent rural and an agricultural sector that employed over 75 percent of Ugandans, UNCDF recognized the need for, and potential of, digitizing payments to rural Ugandans working in the agricultural sector.<sup>1</sup> The programme broadly aimed at supporting the overall economic development of the country and contributing to many of the UN Sustainable Development Goals and specifically attempted to breach a long-standing frontier of financial services: rural areas.

The resulting research and digitization projects were multipronged.<sup>2</sup> UNCDF strove to overcome a wide range of obstacles that historically limited the reach of financial services in rural areas—from the most obvious (the lack of infrastructure) to the more complex (the need to systematically balance the growth of supply and demand, since building infrastructure too quickly could result in provider losses while doing so too slowly could result in poor customer experience and decreased demand). To do so, UNCDF co-created an approach with market stakeholders that were active and/or willing to reach the last mile. UNCDF then rolled out and tested a ‘booster team’ approach in five agricultural value chains in Uganda.

<sup>1</sup> Uganda Bureau of Statistics, 2016 data. Available from <https://www.ubos.org/>

<sup>2</sup> Check out a number of the programme’s publications and blog posts that document the research efforts and lessons learned in the agricultural sector of Uganda, using the keyword ‘Uganda’ on either page: <https://www.uncdf.org/mm4p/publications#page-1> and <http://www.uncdf.org/mm4p/blog>

**A booster team is a dedicated team that supports one or several organizations to distribute their products and services to the last mile. They could be financial services, energy products, digital and financial literacy content, or any other services.** A casual observer might see a booster team, in the context of rural digital finance, as a group that deploys to rural areas in order to simultaneously register customers, sell mobile handsets, recruit agents, educate value-chain stakeholders on the benefits of a digital payment ecosystem, and train users on the operation of a mobile phone and mobile money (MM). That perception would be accurate but incomplete. The field staff just described are the most public-facing members of a booster team; however, in the experience of UNCDF, a booster team is well staffed when it also has a technical expert, an executive advocate, a technology firm, a marketing agency, a research firm and strong economic anchors. While the exact team roster varies by the organization it is 'boosting' and the problems it is solving, the idea is that the diversity and the specialized expertise of the members can relatively rapidly and effectively overcome a multitude of technical problems that typically plague financial outreach in rural areas.

Not only is the booster team itself diverse, but so are its target beneficiaries. UNCDF appreciated early on that a booster team should focus not only on the farmers scheduled to receive payments (i.e., the payees) but also on the entire community. For every farmer, there are many more people in his/her community who support and transact with the farmer. Having the booster team register farmers and 'onboard' (i.e., train) community members allowed UNCDF to (a) from a research perspective, analyse the difference between those receiving payments and training, those just receiving training, and those in the general population; and (b) from an outcome perspective, potentially achieve greater results.

# BOOSTER TEAM

## IN THE CONTEXT OF RURAL DIGITAL FINANCE



**FIELD STAFF** - A GROUP THAT DEPLOYS TO RURAL AREAS TO

 **sell mobile handsets**

 **register customers**

 **educate stakeholders**

 **recruit agents**

 **train users on mobile phones and MM**

UNCDF is encouraged by what it has seen with the booster team approach in Uganda: larger numbers of registered customers, generally higher (and, in some cases, more consistent) MM activity rates, and greater average revenue per user (ARPU). Nevertheless, the programme acknowledges that the approach is not a 'silver bullet;' it takes a significant amount of time and so far has only been shown to work under certain conditions, where the digital finance ecosystem is already well developed and in rural locations that have significant economic activity. Such an approach, one that is longer and phased, requires patient donors, committed providers and deep technical expertise on market research, agriculture, technology, distribution and MM. The approach can and should be replicated in other environments to test its robustness under different conditions, identify which conditions yield better results, hone the business model for providers, and demonstrate that all stakeholders, especially farmers, can benefit from it.

The purpose of this brief is to provide a background on the problems, players, approach and landscape before describing in detail the anatomy of a booster team, the typical evolution and phases of activity of a booster team, and the lessons UNCDF learned and guidelines it developed along the way regarding how one can work. The intention is that these insights might inform MM providers, financial institutions and other financial-industry players, as well as distribution companies in agriculture and other sectors (e.g., energy, health and education), in Uganda and beyond so that they can determine if such an approach might work for them.

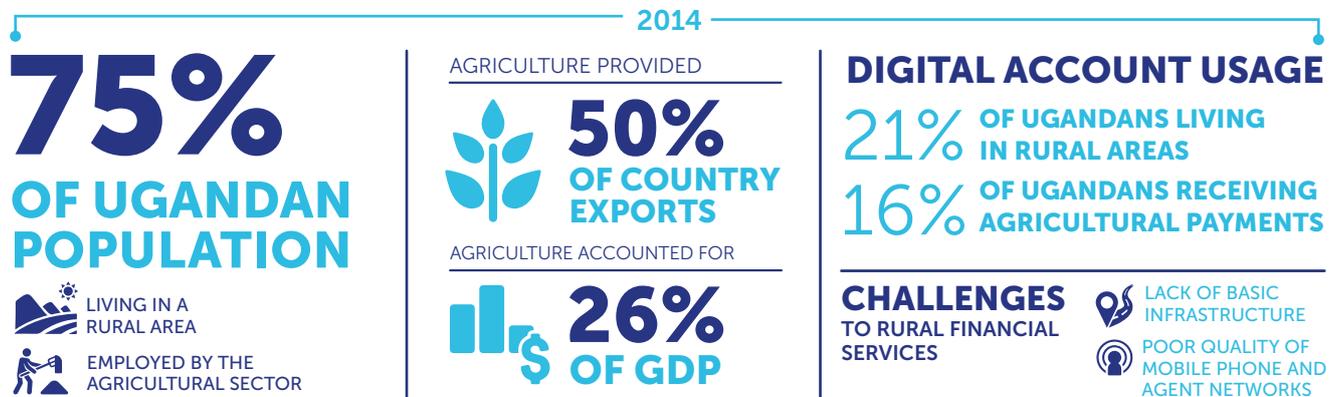


## BACKGROUND: THE PROBLEMS, THE PLAYERS AND THE APPROACH

Businesses typically aim to effectively allocate resources by focusing on quarterly targets for revenue growth and client acquisition. Yet, this mindset can blind them to opportunities that have longer-term payback periods, especially when those opportunities involve significant upfront risk. However, if external actors can lessen the risk involved and the resources required to pursue such opportunities, it is possible to enable companies to make longer-term investments in more difficult markets.

UNCDF had this mindset when it recognized a market opportunity to digitize payments in agricultural value chains deep in rural Uganda. Data showed that 75 percent of the Ugandan population was living in a rural area and the same percentage was employed by the agricultural sector.<sup>3</sup> Agriculture provided 50 percent of the country's exports, though it only accounted for 26 percent of GDP, demonstrating that poverty in Uganda was, and is, mainly rural and agriculturally based.<sup>4</sup> These statistics clearly indicated to UNCDF that, to be serious about meaningful financial inclusion in Uganda, it needed to address farmers directly as well as the other players in their agricultural value chains.

Nevertheless, the context for rural digital finance was gloomy in 2014 when UNCDF launched in Uganda. Digital account usage was fairly low among rural Ugandans, at around 21 percent.<sup>5</sup> When looking specifically at those Ugandans who were receiving agricultural payments that year, only 16 percent received them digitally—mostly through a mobile phone. The vast majority received payments in cash, and the large companies that were making those payments had trouble moving the necessary cash due to poor roads and few transportation options. UNCDF observed that mobile network operators (MNOs) were offering MM services that could help alleviate the companies' burden; however, the MNOs were unconvinced of the business case for offering their services in such remote locations.



The UNCDF team kept trying. The programme hosted a conference in 2015 called 'Go Rural' that convened providers, government officials and technical experts to discuss the challenges involved with extending financial services to rural areas and the different solutions that were being tested in countries around the world. This conference, along with subsequent research commissioned by UNCDF, identified a plethora of challenges to rural financial services, from the lack of basic infrastructure (i.e., poor road networks) to the dearth or poor quality of mobile phone and agent networks, which are necessary for the offer of digital financial services.

<sup>3</sup> Uganda Bureau of Statistics, 2016 data. Available from <https://www.ubos.org/>

<sup>4</sup> Ibid.

<sup>5</sup> Asli Demirguc-Kunt and others, 'The Global Findex Database 2014: Measuring Financial Inclusion around the World,' Policy Research Working Paper, No. 7255 (Washington DC, World Bank, April 2015).



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There were plenty of false starts. Providers did have some rural customers, but they rarely conducted transactions. Most customers did not have a mobile phone and did not understand how the new services could benefit them. The few agents that providers employed were difficult to monitor, often ran out of float and sometimes overcharged customers. Many digital projects ceased after the pilots or the subsidies ended because they were unprofitable. The pilots often shifted the burden of transporting cash to rural areas from the payer to the payment service provider and agents, without much long-term benefit in terms of customer uptake. For most providers, these issues were enough to convince them that rural areas were beyond their reach. Many confessed to not having a strategy for rural deployment.

It also became clear that the struggle was not only in the number of problems but also in the fact that the problems had to be solved systematically and somewhat simultaneously in order to ensure balanced growth of supply and demand. Improving supply-side infrastructure without improving demand would mean companies would lose money, while the opposite would mean registered customers would lack access to finance. The growth of financial services in rural areas must balance these two factors for the diversity of players up and down the value chain, additionally complicating the approach.

While rural areas in Uganda are similar in that they generally lack reliable infrastructure, they differ in their levels of economic activity. Recognizing that difference, UNCDF chose to start its work in agricultural value chains with coffee because it is one of the largest and most important agricultural value chains in the country. As of 2015, coffee was the top foreign exchange earner, contributing up to 20 percent of export earnings and employing nearly 3 million Ugandans.<sup>6</sup> Applying the philosophy that it developed through research to address a multitude of issues in rural areas in tandem, UNCDF came up with a 'booster team' approach and set out to test it not only with coffee but also with tea, maize, seed oil and dairy, as well as with a refugee settlement in northern Uganda.

UNCDF soon saw that working with agricultural value chains requires time. Progress can often only be made around sowing and harvest. For crops that only have a single annual harvest, only one test can be conducted per year; adjustments that emerge from the test must then wait months for implementation. Coffee is an example: with just a single annual harvest, this value-chain project is in its third year and still faces issues that must be resolved. Consequently, several years may be needed to approach sustainability. Nonetheless, each iteration improves systems, includes more stakeholders and deepens lessons for providers that need to continue this process after any support from UNCDF ceases.

<sup>6</sup> Donald Chepkutwo, 'Coffee agro-value chain research: Untapped opportunities for digital financial services,' Briefing Note (n.p., UNCDF, May 2015).



## LANDSCAPE: DIGITAL FINANCE AND AGRICULTURE

Before the project started, the team reviewed a number of research reports about agent network development and last-mile distribution in Africa. These research pieces provided important insights for the work in Uganda.

In 2012 and 2014, Financial Sector Deepening Tanzania completed surveys of financial access points in that country.<sup>7</sup> The first survey revealed that agent outlets were mostly in urban areas, or located along the national road network, and posited that the reason for the distribution pattern was to facilitate liquidity rebalancing. While the first survey noted that population density was an imperfect indicator of agent location, the second survey found a strong positive correlation between the population density and the number of agents in an area. The second survey took place seven years after the launch of MM in the country, and it found that 80 percent of MM agents were within five kilometres or less of a bank, microfinance institution or automated teller machine. This finding cast doubt on the ability of these systems to extend much beyond existing financial infrastructure.



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<sup>7</sup> Ignacio Mas and Andrew Elliott, 'Where's the Cash? The Geography of Cash Points in Tanzania,' Focus Note, No. 2 of 2013 (Dar es Salaam, Financial Sector Deepening Trust, 11 November 2014).

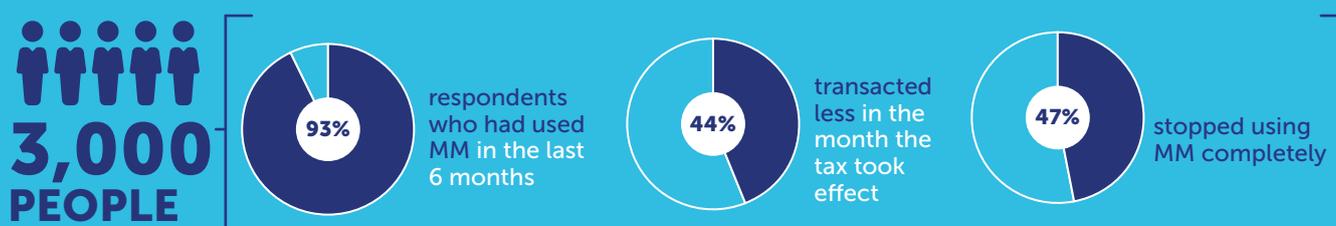
Around the same time, the Helix Institute of Digital Finance conducted nationally representative surveys of agent networks in the United Republic Tanzania (2013), Kenya (2014) and Uganda (2015).<sup>8</sup> The surveys found that, even in these leading digital finance markets, only 22 to 30 percent of the agents were rural even though 67 to 83 percent of the populations were rural. Furthermore, because Helix used the respective government definitions for 'rural,' which were very broad, it included many sizeable towns in the surveys. As a result, the percentage of agents located in truly rural areas was actually significantly lower than the Helix reports indicated.

Yet, the GSM Association documented some more encouraging findings in a 2015 paper on rural agents.<sup>9</sup> The paper noted that the telecom Tigo had 34 percent of its agents in rural areas of Chad. In addition, 10 percent of rural agents for Tigo Chad and 23 percent of rural agents for Orange Mali were in the top third of the organizations' active agents. These data demonstrated that progress could be made in rural areas when providers focused on them. To that end, the paper described strategies for achieving success in rural areas, including targeting areas of economic activity, delivering liquidity to agents and building on trusted relationships at the local level.

Meanwhile in Uganda, as noted in the previous section, digital account usage was fairly low among Ugandans living in rural areas (21 percent) and still lower among Ugandans receiving agricultural payments (16 percent).<sup>10</sup> However, that figure quickly doubled: 32 percent of Ugandans receiving agricultural payments did so digitally by 2017—mostly through MM.<sup>11</sup> It was at this point that the UNCDF value-chain projects launched, in June 2017. See the box below for a regulatory change that occurred after the conclusion of the projects in July 2018, which did not affect the data collected, analysed and shared in this brief but certainly has affected the landscape of digital finance in Uganda since.

## MOBILE MONEY TAX AND ITS EFFECT IN UGANDA

Policy and regulation are critical elements of any digital finance ecosystem: they can be key enablers or inhibitors. Case in point: the Ugandan Parliament, aiming to meet a revenue target for the 2018/2019 fiscal year, passed a 1 percent tax on all MM transactions. The impact was swift and strong. A survey of nearly 3,000 people (conducted two weeks after the tax was introduced on 1 July 2018) revealed that, of the 93 percent of respondents who had used MM in the last six months, 44 percent transacted less in July and 47 percent stopped using MM completely.\* A number of UNCDF partners reported a significant drop in transactions and a move back to cash for bulk payments. Many Ugandans protested, and sector stakeholders bent the ear of policymakers to convey the adverse impact of the tax on the sector and the economy at large. The Parliament ultimately amended the tax on 2 October 2018 to 0.5 percent on withdrawals only. Nevertheless, the effect of the tax on the public's perception, uptake and usage of digital financial services will take time to recover and return to pre-tax levels.



UNCDF carried out the data collection, research and analysis of the booster team projects before and during the roll-out of the tax. All of the data came from the period prior to the tax, thus its impact is not seen in the data. However, it certainly did affect the writing process. The team decided to continue the analysis as per the figures available during the operation of the booster team projects, which was prior to the tax.

\* Anne Whitehead, 'Uganda Social Media and Mobile Money Taxes Survey Report' (n.p., Whitehead Communications Ltd, July 2018).

Note: Please see this [UNCDF article](#) for more detail on the consequences of the tax.

<sup>8</sup> UNCDF supports the work of the Helix Institute of Digital Finance.

<sup>9</sup> Lara Gilman and others, 'Spotlight on Rural Supply: Critical Factors to Create Successful Mobile Money Agents' (London, GSM Association, October 2015).

<sup>10</sup> Demirgüç-Kunt and others, 'The Global Findex Database 2014'.

<sup>11</sup> Asli Demirgüç-Kunt and others, *The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution* (Washington DC, World Bank, 2018). doi: 10.1596/978-1-4648-1259-0. Licence: Creative Commons Attribution CC BY 3.0 IGO.



# THE ANATOMY OF A BOOSTER TEAM

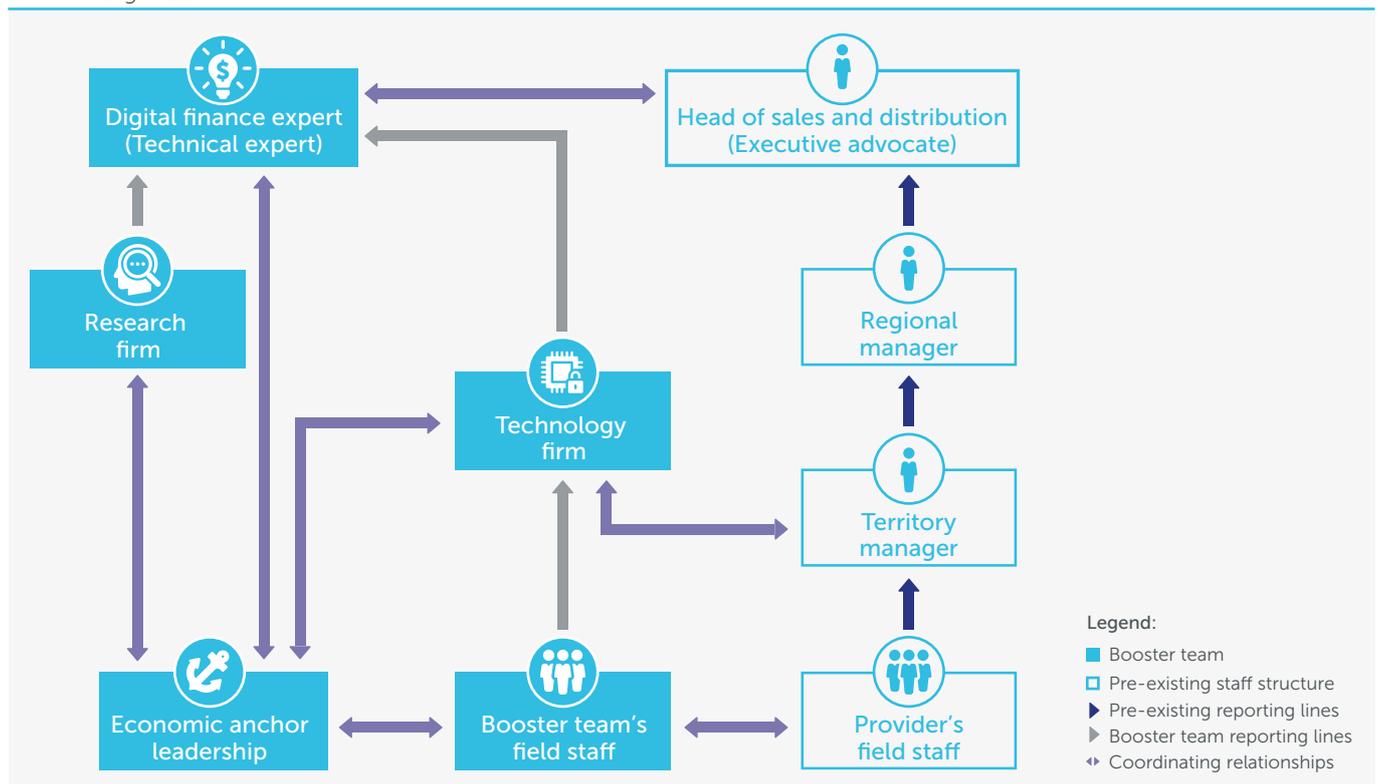
A booster team, as tested by UNCDF in Uganda, is quite large and involves a diverse set of ‘problem solvers,’ whose specialized expertise helps the team to solve the multitude of complex, technical problems involved with rural digital finance. The organizational structure of the team differs based on the problem (or problems) it is trying to solve, as well as the organization (or organizations) it is ‘boosting.’

The booster team supporting the UNCDF coffee value-chain project offers a concrete example. UNCDF set out to work with Kyagalanyi Coffee Limited, a leading coffee exporter, to digitize payments to its farmers in Eastern Uganda. The region had some of the worst connectivity of any area in which UNCDF had worked and, perhaps as a result, a relatively low rate of phone ownership. It was then a natural first step for UNCDF to bring the MNO Mobile Telephone Networks (MTN) on board to address the connectivity issue. In parallel, UNCDF worked to improve phone ownership through the offer of affordable mobile handsets and the registration of SIM cards. The technology firm Yo Uganda Limited was contracted as the payment aggregator, and UNCDF worked with and supported it by hiring the pay-as-you-go solar company Fenix International to distribute mobile handsets and the small service company Potbell 2006 Limited to conduct activations and provide liquidity management for agents. Later, UNCDF contracted the human-centred research and design firm IDEO.org to study the first-generation bulk-payment product that the technology firm developed in order to resolve early usage issues. This grouping provided the blueprint for the booster teams UNCDF launched with the four other agricultural value chains.

Figure I shows the basic structure of a booster team, and it is followed by a detailed description of each role as well as an explanation of how each role relates to the others. As a general principle, the structure of the team should mimic the vertical of the boosted organization in order to enhance it without competing with it as an external project team. For example, if a booster team is going to support the sales and distribution unit of an MNO, then the booster team’s field staff should be embedded in the reporting structure of that unit. Moreover, the structure of the team must extend from the executive-management level at the service provider all the way down to the field-staff level to ensure that important decisions can be made quickly and implemented effectively by the team.

Figure I

Generic organization chart of a booster team



## TECHNICAL EXPERT

The technical expert is the lynchpin of a booster team. The technical expert designs, implements and guides the project, commonly acting as a project manager. The technical expert is not a generalist; he/she has deep technical expertise in the problems to be solved from the perspective of the provider. Having such expertise usually means the technical expert formerly worked for the provider (e.g., if the technical expert is supporting the digitization of payments in an agricultural value chain, the provider will likely be a bank or an MNO) for several years or served in a consulting role long enough to understand the provider's internal systems and structures.

The technical expert is the convener of all the different players in the booster team; he/she formulates the relationship with the provider, identifies the economic anchors, designs the rest of the booster team, sets its targets and funds, and manages any additional technical expertise services that are required (e.g., research and technology firms). The technical expert supports the onboarding, training and capacity-building of the other members of the booster team. In sum, the technical expert supports the provider and other partners with the funds, supplies, talents and strategies needed to take advantage of difficult market opportunities.

A booster team cannot operate successfully without a strong leader in this position; however, not all organizations will be able to support one. The organization needs the brand and budget necessary to attract the level of talent required for this role, as well as several hundred thousand dollars to support booster team activities. Furthermore, the organization must have internal policies that allow the technical expert to travel frequently and procure technology firms (see explanation below) and supplies in a timely manner.

## EXECUTIVE ADVOCATE

The executive advocate is a senior decision-maker at the provider, likely the head of the department/vertical that is being 'boosted' (in the example shared just above figure 1, the executive advocate would be the head of sales and distribution). This person is effective at advocacy since he/she can mention the booster team's work in progress updates at leadership meetings. The role also helps ensure that the organization is committed to the project, takes ownership of it and thus holds itself accountable for results.

The executive advocate is essential to the elimination of bottlenecks, especially vis-à-vis the technical expert. The booster team's activities, particularly those of the technical expert, can produce a potentially awkward scenario with the provider: the technical expert is essentially proposing to help boost a distribution system he/she did not design, to deliver a product he/she cannot control and to adapt many operational elements for rural areas or simply improve them to allow for rapid growth. The executive advocate's role is to coordinate with the technical expert to ensure that blockages are removed quickly.





**“It was like opening a new company. We are a tech firm. I am supposed to be writing code.”**

- Senior Manager  
from a technology firm managing a booster team

A technology firm provides customized technical solutions to the problems providers face. In the coffee value chain, for example, UNCDF sought a technology firm to join the booster team for two main reasons: first, there was more than one provider operating in the rural areas of the project (i.e., Airtel and MTN), so a payment aggregator was needed to make sure farmers could use either system to access the payment service; and, second, the partnering company Kyagalanyi Coffee needed a customized bulk-payment solution and specific reporting outputs. All of the value chains in Uganda had similar needs.

Providers may have reservations about using a technology firm for these solutions, preferring not to open their application programming interface to an external entity and desiring to keep development in-house. Furthermore, providers generally do not wish to offer solutions for connecting with their competitors. However, the reality is that both banks and telecoms usually have limited in-house resources to tailor their solutions to each business, which means certain delays in the development of technical solutions. If such hesitance arises and persists, it is likely a sign that providers do not have the right resources and flexibility for such a test-and-learn approach, and it can be a deal-breaker. Deploying digital solutions in difficult areas requires partnerships; if providers do not recognize that fact, especially for tasks where they have little or no expertise, they are likely not ready for such advanced operations.

The technology firm may also serve as the direct manager of the booster team's field staff, which was the case in the UNCDF value-chain projects in Uganda. Such a role can work well because the booster team's field staff help to register customers for the solution the firm built, which means incentives are aligned. Nevertheless, having the technology firm manage the booster team's field staff can be extremely challenging if the firm lacks previous experience with sales and distribution. The firm is effectively starting another line of business in a very different industry. As such, it requires significant education and training to fully understand the challenges it will face. UNCDF had to spend significant resources in this area. With the coffee value chain, Yo Uganda was the technology firm. UNCDF supported Yo by hiring Fenix to distribute mobile handsets and Potbell to handle customers' activations and agents' liquidity management. Yo has since invested in its own sales and distribution unit. It plans to continue this work itself but only after an intensive learning period with expert support from the other two organizations.



It is worth mentioning that, while this model is working for Yo Uganda, other technology firms have been unable to execute it effectively. It is a key strategic decision for each technology firm to develop a new line of business. The technology firm must invest in onboarding new talent and in new systems. Writing code and managing large sales teams require very different skillsets, and unless the firm is extremely dedicated to having a business with two very different operational structures, it will not work. When the technology firm cannot or will not invest in this new business area, the technical expert can have the technology firm subcontract a sales and distribution firm. UNCDF is currently experimenting with a booster team approach with agricultural fintech firms, as they might be a better fit for this job.

Regardless of the specific tasks the technology firm completes, it is important that it reports directly and is responsive to the technical expert. If there is no direct reporting line, then the technical expert loses the ability to control the cadence of the work. Keeping on top of the work in the field is essential to making adjustments and keeping stakeholders motivated. Furthermore, a balance is required: if the technology firm is too large, it may not have the agility needed for this work; if it is too small, it might not have the resources or experience for something as challenging as rural sales.

Finally, it is notable that having a technology firm involved at this level has other benefits. In the case of Yo Uganda, the firm was able to create dashboards to monitor key performance indicators and develop systems for liquidity management.

## ECONOMIC ANCHORS

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In agricultural value chains, the economic anchors are the organizations that buy from the farmers, pay them and sell to a larger distributor. In the coffee value chain, for example, the economic anchor was Kyagalanyi Coffee; in the dairy value chain, the economic anchors were assorted cooperatives. Regardless of the organization or organizations, they must have a number of important elements.

The first is that they must be experiencing real problems with payments that can be solved with digital solutions. For the economic anchors just named, there were many such problems. In the dairy value chain, cooperative representatives had to travel long distances to the bank to withdraw as much as U Sh 100 million (US\$27,220) a month and take it by truck back to the cooperatives.<sup>12</sup> It was time-consuming and expensive, and at least one cooperative was robbed along the way, which contributed to the company's fears. Distributing that money to hundreds of farmers took additional time, typically about two days. Dairy cooperatives were very motivated to find a better solution.

However, economic anchors need more than the motivation to solve significant cash problems in order to make good candidates for such projects. They must also be organized. UNCDF studied other large value chains in Uganda, like groundnuts and fish, but the lack of organized aggregating actors meant the programme did not target them for the booster team approach. Furthermore, economic anchors must have staff members who can be trained to use digital bulk-payment systems. While Yo Uganda was able to train staff in computer literacy and familiarize staff with the payment system for the coffee value-chain project, such an ability to learn can be a problem in other cases.

The dairy value chain is pushing the limits of the booster team approach when it comes to the role of economic anchors since there are many small cooperatives spread over large areas that are filling the role. This situation has meant deploying agents across these large areas, working in many locations (some with limited or no GSM signal) and solving many individual problems that different cooperatives face. In this case, the booster team had to geographically target its efforts: activating one district and then moving to the next, while continuing to provide support to the last. Steady progress is being made, but there is still a long way to go.

Finally, for most of the economic anchors with which UNCDF partnered in agricultural value chains, digitizing payments to farmers was the beginning of their digital transformation. These value chain actors started with payments and rapidly realized the benefits (and challenges) to extend the use of digital solutions beyond payments alone.

<sup>12</sup> Conversion rate: US\$1 = U Sh 3673.75 (Source: <https://treasury.un.org/operationalrates/OperationalRates.php#U>, 1 February 2019).

## RESEARCH FIRM

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A research firm is an important member of the booster team, as there is a lot of information to collect and analyse in order to support the team's multipronged efforts. In all situations, information is needed at the beginning to understand how different economic anchors work and which would be good candidates for booster interventions. An analysis of the surrounding ecosystem is required in order to determine which problems need to be solved and to map the customer and agent journeys so that the products developed can fit as easily as possible into their existing processes and habits.

A research firm acts as an entry point to a value chain, assessing and creating the business case for its digitization. Using various tools, the research firm synthesizes the information gathered to design and develop a viable strategy under the granular supervision of the technical expert. During implementation, there is more learning and, in some cases, additional research required. With the coffee value chain, the first-generation bulk-payment product was not being used by all washing stations. UNCDF contracted the human-centred design firm IDEO.org to research the customer and washing station journeys. It identified a key bottleneck in the digital payment process and recommended a re-engineering of the farmer registration process to allow for quicker payments.

Lastly, a research firm may be helpful in documenting the booster team's intervention. The technical expert may be able to handle such documentation but, given the large number of problems he/she is tasked with solving and the diversity of actors he/she must coordinate, the technical expert often lacks the time to simultaneously document the effort. The technical expert can and should focus instead on ensuring that the research firm completes this very important task. Given the promising results the booster team approach is yielding, as documented in two recent publications,<sup>13</sup> more case studies of the approach are recommended.

## FIELD STAFF

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The field staff are often what people refer to as the 'booster team' but, as revealed in this section, they are just the most visible element of a vertical with many actors. They are the on-the-ground problem solvers. In the example used earlier, they compose the sales and distribution unit that operates in the areas where the agricultural value chain is located. They travel throughout those areas every day, registering customers, selling mobile handsets and SIM cards, activating MM accounts, and identifying, recruiting and activating agents.

These tasks are the same ones the provider's field staff complete. Therefore, it is imperative for the technical expert to determine how the booster team's field staff can best complement the provider's field staff so that the latter do not perceive the new team as competition. In the coffee value chain, such perceptions were mitigated by providing the booster team's field staff with transportation and sending them to areas that were so rural that the provider's field staff never went there. Additionally, in both the coffee and dairy value-chain projects, the activations completed by the booster teams counted towards the territory managers' key performance indicators, ensuring that the booster teams' efforts contributed to the indicators the providers valued most.

The size of the booster team's field-staff component varies by its task. Essentially, it is an issue of time and money. The technical expert must calculate the goals (e.g., the number of agents or the number of accounts activated) and estimate how much can be done per booster team member per day, based on the experience of the provider's field staff. In turn, the technical expert determines if he/she wants to employ a larger staff to do the job more quickly or a smaller staff to execute it over a longer period.

<sup>13</sup> Better Than Cash Alliance, 'Improving Company Profitability Through Digital Payments' (n.p., 2018); Janet Shulist and others, 'Learning in the Field: Implementing Digital Bulk Payments in Agricultural Value Chains in Uganda' (n.p., 2018).



## THE EVOLUTION OF A BOOSTER TEAM



**“Rural agents are actually the easy part. The hard part is finding the value proposition for the farmers.”**

- Stephen Waiswa,  
UNCDF Value Chain and Digital Finance Expert

The UNCDF booster teams evolved organically and not exactly in a linear fashion (as will be described in more detail later in this section), but it can be helpful to conceptualize the focus areas and activities of a booster team as generally occurring in three phases:



### PHASE: MARKET IDENTIFICATION AND PREPARATION

- **Objective:** Locate an area with an economic anchor and prepare it for digital ecosystem growth.
- **Key success factors:** Make sure that all players are involved in research and that high-level buy-in from the provider is obtained; identify a viable economic anchor; and, systematically eliminate all barriers to growth.



### PHASE: MARKET STORM

- **Objective:** Convince the provider that the area has enough demand to invest in it.
- **Key success factors:** Design the booster team so that it complements the structure of the provider; activate the community members, not just the economic anchors (referred to as 'radiation'); and, spend the necessary time (i.e., approximately 20–30 minutes per person) with rural actors to ensure that agents understand their role and that customers grasp the benefits of a digital ecosystem (e.g., activities ranging from live demonstrations of the services on mobile phones to promotional offers during market days help to attract new users and to stimulate adoption and usage).



### PHASE: ITERATION FOR SUSTAINABILITY

- **Objective:** Ensure the provider and other partners are profitably able to continue to reach difficult demographics with appropriate financial products.
- **Key success factors:** Analyse usage data to identify additional gaps; develop products for the hardest-to-reach demographics; and, pull back funding and support so that players and providers continue independently.

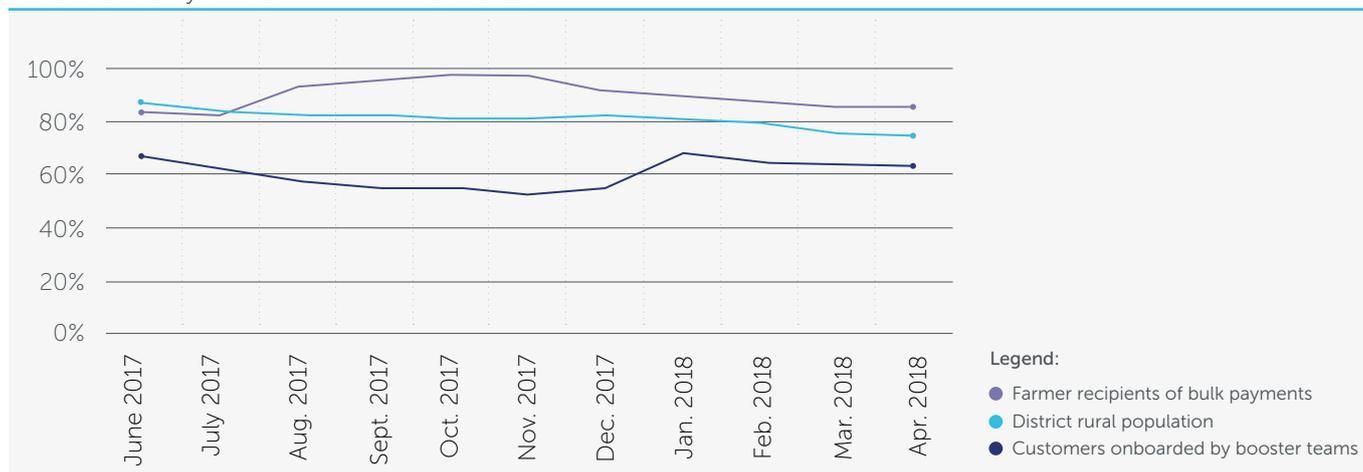
Again, these phases should be more of a concept than a step-by-step guide. Ideally, a booster team should shift its focus in each phase. Yet, the reality of operating such large, complicated projects is that the phases blend to some extent, which represents yet another reason to have a highly capable technical expert to manage the process and an executive advocate to keep the systems moving forward.

A booster team requires a long-term strategy for its activities, yet the objective of the strategy can—and often does—evolve over time. Turning to the specific examples of the UNCDF projects, the programme initially hoped that it could just partner with a technology firm in order to develop a bulk-payment solution and that digital money in rural areas would organically develop a payment infrastructure around it. However, the initial research showed that plan to be impossible. In areas that had economic anchors but no GSM signal, or farmers with no mobile handsets, bulk payments were impossible until those factors had been addressed. In the dairy value chain, another factor was the need for more agents. One of the MNOs, for instance, took three to four months to process a new agent application, a time frame that inevitably led to an agent shortfall. Until those impediments to growth were solved, bulk payments could not be made. Identifying these constraints to growth and then convincing players to address them are difficult and time-consuming tasks, yet necessary and worth the pay-off. The coffee value-chain project illustrates the point. Eastern Uganda, the area of operation for the economic anchor Kyagalanyi Coffee, had extremely poor connectivity and a low rate of phone ownership. The MNO, MTN, was at first unconvinced of the business case for building a new base station to improve service in the region. To overcome the reticence of MTN, UNCDF offered the company a guarantee if it were unable to obtain a return on its investment after six months. MTN ultimately built the new base station. To its surprise, the station garnered much higher activity rates than projected, and the guarantee was never needed.

Once the product is ready for roll-out, an exciting and new activity begins: registering customers and agents. However, if just the farmers in the value chains are registered, then really the agents only do business during the harvest seasons. With a value chain like dairy, that issue is not a big problem since cows produce milk year-round; in contrast, it is a significant issue in value chains that have infrequent or once-a-year harvests like coffee. To provide a business case for agents in such value chains, the larger community needs to be onboarded (i.e., trained) as well so that agents have an incentive to keep regular hours and remain active all year long. The coffee value chain again provides a helpful example. The Ugandan coffee season extends from July to January/February, with a peak in October/November. Activity rates observed in the coffee value-chain project reflected the crop's seasonality: activity rates among those farmers receiving digital payments (i.e., the payees) increased during the crop's peak, around October, and then declined as the season wound down in December and January (see figure II). Interestingly, onboarded community members showed an increase in activity rates during December and January, perhaps due to commercial offers and promotions that companies use during this period to take advantage of the festive season and to increase their sales revenues before the end of the quarter.

**Figure II**

Customer activity rates in the coffee value chain



The average ARPU of onboarded community members was 56 percent higher than ARPU generated by the overall rural population of the district. While figure II does reveal that the overall district population had higher activity rates than onboarded community members (for much of the year, a difference of 20 percentage points), the gap narrowed over time to less than 10 percentage points. This trend suggests that time is a key factor in stimulating demand. Moreover, the higher ARPU of onboarded community members meant that they might have transacted less but were more lucrative customers.

As a booster team's efforts start coming to fruition, many players in the value chain see results and a return on investment. Regarding results, they include the economic anchors being able to make faster and safer payments with real-time reporting, the provider experiencing increased revenue and customer growth, and the provider's field staff seeing boosted key performance indicators. Returning to the example of coffee, the overall number of active customers in the coffee districts increased from 880,000 to 1,000,000 from June 2017 (the start of the project) to April 2018 (the end of the project). UNCDF helped register over 15,000 customers, with some 300 signing up for digital payments. ARPU for MTN of payees (MM only) was 175 percent higher than in the coffee districts' population as a whole. Furthermore, as mentioned earlier, ARPU for non-payee customers who were onboarded by a booster team was 56 percent higher than the districts' overall population.



Regarding a return on investment, one important cost to consider is that of onboarding customers (both the farmers/payees and community members). The cost includes the salary of the booster team's field staff and their transportation. The expectation in the UNCDF projects was that each field staff member would onboard six customers per day, at a cost of U Sh 10,000 (US\$2.72) per customer.<sup>14</sup> The hypothesis was that ARPU would be higher for onboarded customers and therefore the investment by the MNO would prove profitable in a relatively short period. In the UNCDF projects, onboarding farmers/payees did prove to be a profitable activity in all five of the value chains, with an average amortization time of eight months (see table 1 for value-chain specifics). In the coffee value chain, it took just three and a half months to recoup the cost. The onboarding of community members was profitable in three of the value chains: coffee, maize and tea, taking between six and nine months to amortize the cost.

**Table 1**

Amortization time (months)

	Farmers	Onboarded customers
Coffee	3.68	9.20
Dairy	1.17	-20.40
Maize	10.00	9.25
Seed Oil	16.19	-31.30
Tea	9.77	6.56

<sup>14</sup> The calculation, based on six onboarded customers per day, was as follows: (U Sh30,000 for transport + U Sh30,000 for salary) / 6 customers = U Sh10,000

However, in this latter part of a booster team's evolution, progress may not be seen by all actors yet and new problems can emerge. For example, in some of the booster teams, one partner did not work out and had to be replaced. In others, the booster teams made significant efforts in the early months, but their activities waned over time and activity rates echoed the decline. In those projects that neared maturity, there was a transition as the provider's field staff were tasked with taking over onboarding efforts from the booster team's field staff, which again affected activity rates and raised the question of how long a booster team must remain engaged in order for customer demand to stabilize. In addition, there was feedback from the field that revealed education gaps: (a) difficult-to-reach segments (e.g., women) indicated a need for more training to help them better understand how saving in a digital wallet can help them define and reach personal goals; and (b) some farmers expressed a reluctance to pay MM withdrawal fees. Finally, attention still needs to be paid at this point to agent float and a robust rebalancing system.

While a digital ecosystem takes time to develop and players must remain vigilant and responsive to unanticipated changes and results, like those just described, it is clear that significant progress is being made. In the country overall, 32 percent of Ugandans received digital agricultural payments in 2017.<sup>15</sup> In the five agricultural value chains specifically, tens of thousands of farmers and community members were registered and trained (see table 2) and became active, lucrative MM users (see table 3). Looking to the future, farmers and community members in the value-chain projects have indicated an interest in and need for more MM use cases, among them school fees, savings, agricultural-input payments and remittances.

**Table 2**

Farmers and community members onboarded in the value-chain projects

	Number onboarded
 Coffee	15 000
 Dairy	15 000
 Maize	
 Seed Oil	37 000
 Tea	

**Table 3**

Average revenue per user comparisons in the value-chain projects

	Farmer payees' ARPU vs district pop.	Onboarded customers' ARPU vs district pop.
 Coffee	123%	49%
 Dairy	306%	-18%
 Maize	47%	51%
 Seed Oil	24%	-12%
 Tea	48%	71%

<sup>15</sup> Demirgüç-Kunt and others, *The Global Findex Database 2017*.



## GUIDELINES FOR BOOSTER TEAMS TO WORK

While it appears that booster teams could work across industries and with a gamut of problems, they are unlikely to function under all conditions. Booster teams need a clear focus. This focus may involve many moving parts, like the concentration of UNCDF on building digital payment ecosystems around agricultural value chains; yet, it must be clear where the booster team's activities start and stop. These teams tackle big complicated problems, but they must limit the places where, and the conditions under which, they address them.

Not all booster teams will want to attempt such ambitious work because it takes significant expertise to do so and not all organizations have the talent to really push the frontier of industry, as UNCDF is doing in rural Uganda. Nevertheless, they are not doing this work alone or in a vacuum. **In that vein, UNCDF sees the most salient factors that empowered its team in Uganda to make as much progress as it has with booster teams as the following:**

- 1 All of the activities a booster team executes are meant to be a nudge, not a push.** This guideline means focusing on problems that are just outside of a provider's reach. The provider should have most of the systems that are needed for the booster team running already. UNCDF worked with mature MM systems where providers had already figured out how to expand within urban areas. For the most part, they had efficient processes for onboarding customers and agents, and they only needed manageable tweaks to address the challenges of rural areas. The booster team builds on these systems; it is not meant to fundamentally redesign them.  
  
**The provider must be sufficiently motivated to solve the problem the booster team is tackling.** In Uganda, declining growth rates in urban areas motivated providers to look for other means to continue growing. Usually, providers first attempt to reach high registration rates in urban areas and next try to increase activity levels with registered clients. Generally, both of these tasks are easier than expanding to rural areas. However, once these tasks show decreasing returns, providers are likely to be more amenable to rural expansion. Moreover, when providers consider that the booster team approach, when designed and implemented well, can offer a return on investment after six to nine months, they may no longer see rural areas as the last opportunity to make a profit.
- 2 Recruiting for the experienced talent necessary for a booster team is easier within a developed ecosystem.** After several years of high-level operation, there is a pool of talented digital finance professionals in Uganda who UNCDF recruited with the partners as technical experts and other important players in the ecosystem. It would have been difficult, for instance, to solve liquidity issues in rural Uganda without an experienced firm like Potbell. Moreover, having many technology firms that were already working with MM payments was key. In less developed ecosystems, these players are hard to find.
- 3 Revenues along the value chain keep these systems running and allow providers to justify further investment in them.** All participating members of the booster team should already have viable businesses running so that they do not have to rely initially on the revenues from the value chain and can use their pre-existing revenues to invest in rural solutions as needed.
- 4 Providers organize their MM teams in different ways.** Some have a dedicated MM team, while others nest the agent network component in the sales and distribution team and put the product development team elsewhere. The latter can be a complicated structure with which to work, as the executive advocate may not have control over all of the decisions that need to be made to establish agents, register customers and develop new products. Therefore, the existing structure should be considered as the technical expert designs the booster team.



## CONCLUSION

Rural areas, where population densities are low, roads poor and economic activities scattered, have long been an almost impenetrable frontier for financial services, particularly digital financial services. Life there moves at the pace of the seasons, and change takes time. However, UNCDF has made one of the most concerted efforts in the industry to determine what it takes to breach the rural frontier and to test if technical expertise and partnership, in the form of booster teams, can do so.

UNCDF found that the booster team approach significantly increased penetration into rural areas. In all five of the value chains, ARPU of payees was greater than that of the district population. Not only that, the community members who were onboarded by the booster teams had a higher ARPU than that of the district population in three of the five value chains. UNCDF also observed generally higher (and, in some cases, more consistent) MM activity rates in the projects. The work of UNCDF in Uganda concedes the difficulty of serving rural areas but reveals that it is not only possible, it is also profitable.

By clearing the path of some of the more complex problems plaguing rural finance for private-sector companies, booster teams can reduce the risk involved and the resources required for these companies to serve the rural market. Moreover, they can inspire and support the companies to take the long view and make a long-term investment in pursuing an untapped market opportunity. Both MNOs and technology firms in the UNCDF projects plan to continue operations and activations in the value-chain areas, and Potbell is even planning to expand its liquidity delivery services to more rural agents. These developments are very positive signs of future sustainability.

To help make similar projects work in rural areas of other value chains and in other countries, UNCDF has contributed to industry knowledge on many fronts: how to design complex partnerships in the industry, how to build bulk-payment systems and how to manage agents in rural areas. The team is presently pushing the frontier of product development to provide more value to customers, particularly to women and farmers, through the development of additional use cases.

Not all organizations are designed for such technically complex projects, but all those working to extend finance to rural areas can take away lessons from the efforts of UNCDF and its partners. For maturing MM systems, there may be a unique window at this time, when growth is tapering and new product ideas for supporting growth are proving hard to scale up, that providers can use to invest in rural areas. However, quickly developing technologies could change the landscape at any time, and it seems wise to push these systems outwards right now while we have their attention.

Based on the lessons learned from the booster team projects, UNCDF continues to develop new innovative business models to reach the last mile in a sustainable way. UNCDF recently launched a new series of projects on the digital community entrepreneur (DCE) model, which is an updated version of the booster team approach. Working with private-sector partners (distributors), UNCDF introduced the DCE model to tackle the challenges of last-mile literacy and distribution.

The model is built around recruiting youth within a community who have good business acumen and are trusted by the community. The young people are recruited to become entrepreneurs selling products like phones, airtime and data top-ups as well as MM services, on which they earn commissions. To make sales, the DCEs need to create awareness in the community and improve the digital literacy of clients to drive adoption and usage of digital products and services but also make money from their business. Most DCEs run this business alongside other income-generating activities, to grow and diversify their incomes. Given that young people are more digital savvy, or at least early adopters of new technologies, this business model is proving to be quite successful.

The other business challenge tackled by the DCE model is the access to suppliers of digital products at better/concessional terms for the youth. Because of the linkages in agricultural value chains, DCEs are able to access products without necessarily paying for them upfront, so they do not need capital to start such a venture.

The DCE projects are underway, and a future publication on this topic will be released when the data and lessons learned are collected from the pilot tests.



## ABOUT THE UN CAPITAL DEVELOPMENT FUND

UNCDF makes public and private finance work for the poor in the world's 47 least developed countries. With its capital mandate and instruments, UNCDF offers 'last mile' finance models that unlock public and private resources, especially at the domestic level, to reduce poverty and support local economic development. UNCDF's financing models work through two channels: financial inclusion that expands the opportunities for individuals, households and small businesses to participate in the local economy, providing them with the tools they need to climb out of poverty and manage their financial lives; and localized investments—fiscal decentralization, innovative municipal finance and structured project finance—that drive the public and private funding that underpins local economic expansion and sustainable development.

By strengthening how finance works for poor people at the household, small enterprise and local infrastructure levels, UNCDF contributes to Sustainable Development Goal (SDG) 1 on the eradication of poverty and SDG 17 on the means of implementation. By identifying those market segments in which innovative finance models can have a transformational impact in reaching the last mile while addressing exclusion and access inequalities, UNCDF contributes to a number of different SDGs.



## ABOUT THE DIGITAL FINANCE PROGRAMME

UNCDF developed a series of programmes to ensure that the opportunities and benefits of digital finance would reach low-income people in difficult markets. UNCDF provides a mix of technical, financial and policy support to policymakers, regulators, providers, distributors and users of digital finance in order to expand access to and usage of services that contribute to achieving the SDGs. Building on lessons learned from its initial programmes in digital finance, UNCDF recently launched the 'Leaving no one behind in the digital era' strategy.

The UNCDF strategy 'Leaving no one behind in the digital era' is based on over a decade of experience in digital finance in Africa, Asia and the Pacific. UNCDF recognizes that reaching the full potential of digital financial inclusion in support of the SDGs aligns with the vision of promoting digital economies that leave no one behind. The vision of UNCDF is to empower millions of people by 2024 to use services daily that leverage innovation and technology and contribute to the SDGs. UNCDF will apply a market development approach and continuously seek to address underlying market dysfunctions.

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