



Unlocking Public and Private  
Finance for the Poor



## DIGITAL COMMUNITY ENTREPRENEURS

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# Going the Extra Mile to Close the Digital Gap in Rural Uganda

January 2021

# Acknowledgements

The Digital Community Entrepreneur (DCE) model was developed by UNCDF and piloted by partners MobiPay AgroSys Limited and Yo! Uganda Limited, with the generous support of the government of Norway from November 2018 to December 2019. This publication highlights the impact that the Digital Community Entrepreneur model has had in facilitating last mile distribution of digital financial products and services as well as improving the livelihoods of women and youth, who are driving this innovation.

It also elaborates on how the model operates and enumerates challenges and opportunities for scaling up such a model. Following the success of the pilot, UNCDF in partnership with MobiPay AgroSys Limited and Ensibuuko is implementing this model in selected districts in Northern Uganda and Kiryandongo district as part of the - 'Leaving No One Behind in the Digital Era' - strategy funded by the government of Sweden. UNCDF appreciates the contribution of the staff at MobiPay AgroSys Limited, Yo! Uganda as well as UNCDF colleagues in Uganda who participated in writing and reviewing this publication.

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## Developing a Distribution Model by and for the Last Mile

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How can we ensure cost effective and sustainable last mile distribution and long-term adoption of digital financial services through the private sector beyond development partner support? What lessons can we learn from the experience of companies that have pursued this goal?

Despite emergent growth in the use of digital financial services in Uganda, from 16 percent of the adult population using digital financial services in 2017 to 44 percent in 2018, rural communities in Uganda remain unserved or underserved. This is even more evident among economically vulnerable populations like women, youth, smallholder farmers and refugees.

To bridge the digital finance divide, UNCDF in Uganda has been driving digital financial inclusion with a focus on agriculture value chains since 2015. UNCDF works with private sector players to drive digital financial products and services in the hard-to-reach areas in Uganda, providing both technical assistance and grants to de-risk innovative projects.

Digital financial service providers, just like other private sector players are open for business and

partnerships that are built on a strong business case. The latter is not always evident or guaranteed when it comes to reaching the last mile, which explains the reluctance of partners to reach these markets.

In forging these partnerships to be able to serve the last mile, UNCDF had to create solutions that can demonstrate to the financial services providers (FSPs): (1) that there is a potential market to tap into, (2) that this market can be profitable if served appropriately. In 2015, UNCDF conceived and worked with partners to implement the “booster team model”. These booster teams were deployed as a last mile field force that complements the sales and marketing efforts of FSPs, to recruit and educate customers about digital financial services, while also serving as a distribution team for mobile handsets, sim cards, and solar products for phone charging. Our previous publication, [‘Deploying Booster Teams to Breach the Rural Frontier of Digital Financial Services’](#) details the booster team model. This model was implemented by UNCDF and partners between 2015 and 2018.

## From Booster Teams to Digital Community Entrepreneurs (DCE)

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While the booster team model was successful, allowing UNCDF and partners to register over 224,000 new mobile money users, and over 66,000 farmers as regular recipients of digital payments, it did not turn out to be sustainable enough. Private sector partners were not able to sustainably fund a full-time field force at the last mile, beyond the life of the partnership with UNCDF. This was a strong lesson learned which required UNCDF and partners to re-think the model.

The ‘DCE model’ was thus conceived as an enhanced version of the booster team model and piloted in March 2019 in the dairy, seed oil and maize value chains. UNCDF worked with MobiPay AgroSys

Limited in the maize and oil seed value chains to support over 56 Producer Organizations/Farmer Cooperatives in the Lango region, and the Eastern districts of Jinja and Bugiri in Uganda. In the dairy value chain, the project was implemented by Yo! Uganda Limited in the cattle corridor districts of Mbarara, Isingiro, Kiruhura, Lyantonde, Sembabule, Ibanda, Sheema and Bushenyi. From January 2020 to date, UNCDF is working with MobiPay AgroSys Limited and Ensibuuko to implement the model in selected districts in Northern Uganda and Kiryandongo district.

DCEs are selected from their communities based on their high business acumen and reputation in the

community. These particular qualities ensure they can take on the provision of digital products and services, as well as conduct financial and digital literacy training for people in their communities. This also ensures they can carry out this activity as a business and not just a wage-based service.

At the helm of the DCE model is a management structure – usually an agritech company, which recruits and trains the DCEs and manages them as a distribution network. The agritech company (with support from UNCDF) partners with FSPs, manufacturers/wholesalers of phones, solar products etc to source for products at favourable prices and payment plans. These products are then dispatched to the distribution network of DCEs – who then sell

the products and earn a commission on each sale. To make the sale, the DCEs have to invest time in creating awareness and educating the farmers on how to use the services on their phones. The model is built in such a way that the DCE becomes the gateway for any products and services for the last mile market.

Other services provided by the DCEs include promoting the adoption and usage of other digital innovations such as e-extension services that contribute to increased farm productivity, improve farm management practices and access to markets, and consequently increase incomes for smallholder farmers.

## Why Focus on Smallholder Farmers?

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Mobile technology has immense potential to accelerate access to digital financial services which in turn drives development in rural communities.

In Uganda, smallholder farmers use mobile phones to access high-quality inputs (seeds and tools), monitor agricultural emergencies, access financial services and make transactions.<sup>1</sup> Additionally, a farmer's ownership of a mobile phone allows them to receive, use, and share agricultural extension services including market, weather, good agronomic practices and information from extension workers.<sup>2</sup>

Mobile phones are progressively becoming a normal facet of life<sup>3</sup> and are contributing to positive impacts (although not uniform) in rural development, reducing differences in access to information, and increasing farmers' access to services and finances. However, there are still prevailing barriers that hinder long-term adoption of digital financial services in rural Uganda. A lot still needs to be done to improve digital knowledge and skills, awareness, and long-term adoption of DFS in rural communities.

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1. Martin, B. L. (2010). Mobile phones and rural livelihoods : An exploration of mobile phone diffusion , uses , and perceived impacts of uses among small- to medium-size farm holders in Kamuli District , Uganda (Iowa State University Ames, Iowa). Retrieved from [http://lib.dr.iastate.edu/cgi/viewcontent.cgi?article=2467&context=etd&sei-redir=1&referer=http://www.google.com/url?sa=t&rct=j&q=uganda diffusion mobile phones&source=web&cd=6&cad=rja&ved=0CFIQFjAF&url=http://lib.dr.iastate.edu/cgi/viewco%5Chttp://lib.dr](http://lib.dr.iastate.edu/cgi/viewcontent.cgi?article=2467&context=etd&sei-redir=1&referer=http://www.google.com/url?sa=t&rct=j&q=uganda%20diffusion%20mobile%20phones&source=web&cd=6&cad=rja&ved=0CFIQFjAF&url=http://lib.dr.iastate.edu/cgi/viewco%5Chttp://lib.dr)

2. Bukenya, G. (2015). The Mobile Phone: A Solution to Rural Agricultural Communication A Case Study of Rakai District Uganda (Vol. 18). [https://doi.org/10.1016/S0022-2828\(86\)80940-3](https://doi.org/10.1016/S0022-2828(86)80940-3).

3. FAO. (2016). USE OF MOBILE PHONES BY THE RURAL POOR Gender perspectives from selected Asian countries Food and Agriculture Organization of the United Nations (G. Sylvester, Ed.). Retrieved from [www.fao.org/publications](http://www.fao.org/publications).

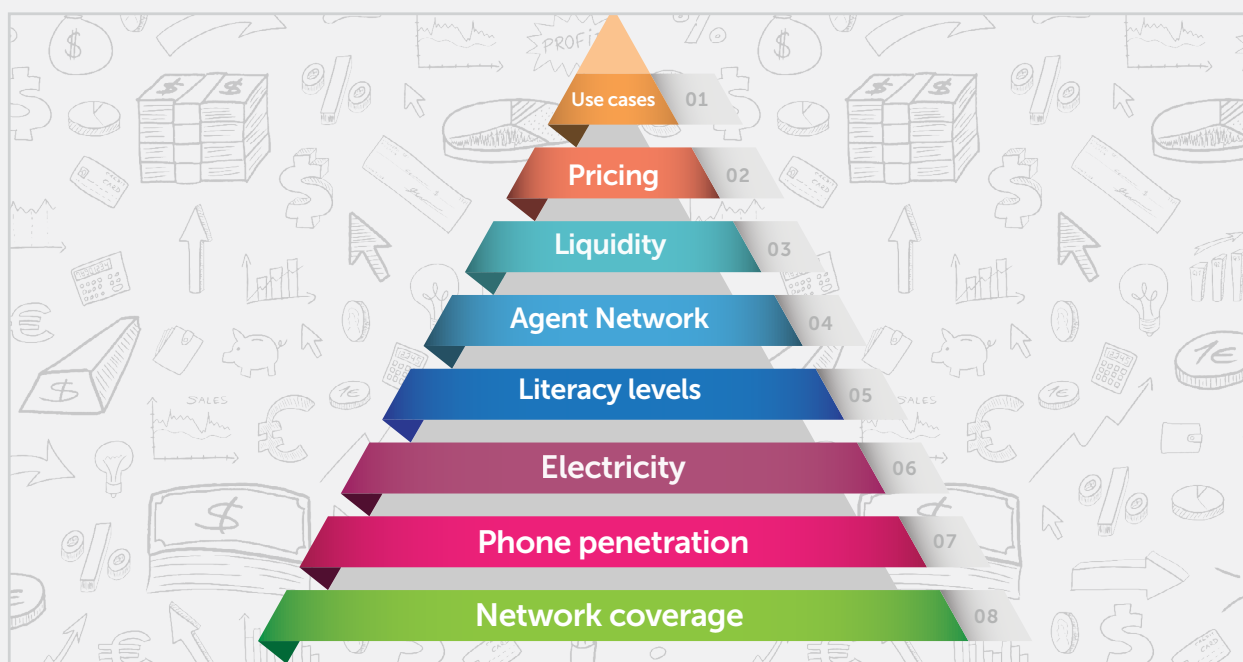
# Why the DCE Model is Central to Digitalizing Rural Uganda

By using rural-based young lead farmers with high business acumen and a support management structure to improve digital and financial literacy, the DCE model drives the uptake of DFS and the usage of other digital innovations. This in turn contributes to increased farm productivity, improved farm management efficiencies, access to energy, improved access to markets, and consequently increased incomes for the farmers.

The DCEs, who are mostly women and youth, are mainly recruited from experienced and influential producer organization or farmer associations. They are then trained in marketing and entrepreneurial skills and given digital products to sell in their communities. DCEs earn commissions from the sale of digital financial products and services.

Through knowledge-based empowerment, the DCEs are able to build local farmers' capacity to effectively share knowledge and skills with other farmers within their villages. Thanks to this approach, UNCDF and partners have been able to create a critical mass of adopters of the digital services. By the end of 2019, over 250 DCEs had been recruited with over 160,000 smallholder farmers registered and active for mobile money services; 31,000 people have received digital payments for their agricultural products through mobile money; and 2,000 new solar connections were made. DCEs work across the basics for digitalization of agricultural value chains. These prerequisites are the building blocks for a conducive and sustainable payments eco-system, illustrated through the pyramid below.

Figure 1: Building blocks for a conducive payments ecosystem



The DCE model has also gone a long way in furthering the gains made in digitalization of the agricultural value chains including buying from farmers, maintaining digital payment records, enhancing traceability, and more critically for the last mile; better saving methods, spending patterns, and digital records of both expenditure and income. The new traceability and digital records open up new opportunities for services by financial service providers such as access to credit without collateral.

*The Digital Community Entrepreneur model aims to increase the usage of mobile money, digital bulk payments, solar and e-extension services in rural areas.*

## An Effective Model for Youth and Women’s Financial Inclusion

The DCE model contributes to digital and financial inclusion of the targeted communities particularly economic empowerment and inclusiveness of women and youth. First, a strong preference is given to young people below 35 years and women when recruiting DCEs. 70 percent of the DCEs enrolled by UNCDF and partners by end of 2019 were women. The DCE model promotes additional home incomes for female DCEs, majority of whom are young mothers. It also equips them with basic financial knowledge which they in turn pass on to their community members.

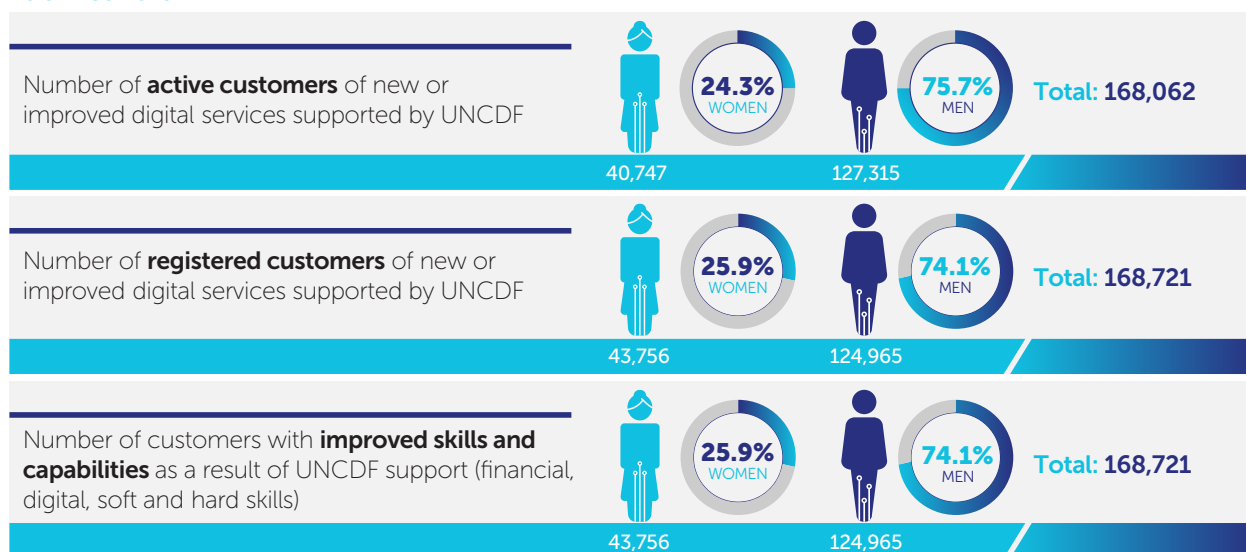
Second, DCEs help to bring digital financial services closer to women whose movements are often restricted by their spouses, childcare responsibilities, cultural beliefs,

as well as costly inefficient transport means which hinder their ability to access conventional financial services.

However, the uptake of digital financial services by women is still lower than that of their male counterparts. A key lesson we have learned is the need to be mindful of the social and cultural norms that limit women ownership of digital services and products. Specifically, some men do not allow their wives to own phones or register their sim cards in their names which leaves women with limited control over their digital payments. The new strategy of UNCDF on *“Leaving No One Behind in the Digital Era”* is focused on building Inclusive Digital Economies that address this challenge of the digital divide.

Figure 2: Update of digital services and products sold by DCEs as of Dec 2019

### Customer outcomes of new or improved digital services supported by UNCDF As of Dec 2019



## How the DCE Model Works

Our experience in driving digital solutions for farmers has revealed that increasing the adoption of new technologies is a deliberate process that must be driven by trusted members within the community.

In the implementation of this project and to drive the change in the communities, UNCDF and DFS partners established strategic partnerships with dairy cooperatives, farmer associations, local telecom distributors, solar companies, extension workers and mobile phone suppliers as well as rural-based youth groups. DCEs that are recruited are trained and provided with a “starter kit” containing SIM cards, phones, clean energy or solar units and mobile money agent lines.

The starter kit acts as a revenue basket that the DCEs use to promote digital services and products among smallholder farmers and make commission per sale. The DCEs sell affordable quality products that resonate with farmers’ needs and income to ensure farmers are able to pay for them. The DCEs increase both the access to digital financial services as well as the use of these services. In addition, they hone their entrepreneurial skills which helps them to improve their livelihoods and financial sustainability.

Figure 3: Framework for delivering DFS to Smallholder farmers through DCEs



### DCE Profile, Identification and Selection

DCEs are selected through a meticulous process that starts with a thorough briefing of the rural producer organizations or farmer organizations on the objectives of the model. During the engagement, the leaders of the producer organizations or farmer organizations themselves identify and select three or more young people and women willing to become a DCE. Potential candidates must conform to the following criteria:

- Be an active association member
- Have minimum numeracy and literacy skills to be able to use relevant training manuals and translate key concepts into respective local language
- Be able to guide others
- Be willing to support farmers and earn substantial commission
- Trustworthy, truthful, committed and available to continue to support farmers

### Training of DCEs

The selected DCEs then receive intensive entrepreneurial and marketing training from the partners and local government officials (agricultural extension, commercial and marketing officers) using the DCE training manual. The training is aimed at empowering them with the necessary skills and attitudes to promote the project objectives and most importantly, support

smallholder farmers with relevant services while being able to identify other business opportunities during and after the project period. DCEs are also trained on how to use USSD application to request or order items (phones and solar products) and make payments. Subsequently, DCEs receive refresher trainings every three months.



## DCEs Terms of Engagement and Scope of Work

The recruited DCEs are given contracts and their scope of work include:

- Profiling of farmers to enable the producer organizations or farmer associations to use the data to inform decision and strategic planning;
- Conducting digital literacy training with a focus on educating rural farmers about their mobile phones and DFS (including mobile money);
- Facilitating financial literacy training to help farmers make informed financial decisions;
- Selling affordable and high-quality solar products and teaching farmers knowledge on clean energy;
- Selling affordable digital services and products to farmers.



## DCE Remuneration

The remuneration as defined in the project is divided in two parts:

- 1) Monthly allowance of US\$30 to support the activities of the DCEs and
- 2) Commissions earned from fulfilling their scope of work and specific targets.

On average, a well-performing DCE earns between US\$68 to US\$95 per month.

# Sustainability of the DCE Model

*Whereas the use of community leaders as change agents in rural areas is common in the development world, what's new in the DCE model developed by UNCDF in Uganda is the "sustainability" of the model.*

UNCDF detected early in the project that while young people did not need much convincing to embrace the DCE model, the commission they would earn from the sale of the proposed services like SIM cards, solar units, airtime or phones would go a long way in enhancing their incomes while at the same time ensuring the sustainability of the model.

There is clarity on how the DCE model is managed and sustained beyond the DCE project supported by UNCDF. Once the DCEs get to business, they earn commissions which they can use as capital to sustain their businesses. Through strategic partnerships with liquidity managers and service providers, the DCEs are able to receive products on concessions.

In the last 12 months of implementing the DCE model, top-performing DCEs are earning about USh 340,000 (US\$90) from the digital services offered.

## Strength of the Model

The DCE model is recognized for its cost effectiveness and ability to improve last mile distribution and long-term adoption of digital services including solar products.



Thus, the model has significantly contributed to driving many Sustainable Development Goals (SDGs) and improving financial inclusion by creating a conducive environment and breaking barriers to increase usage of digital solutions in rural areas of Uganda. Also, the model has been used to nurture the skills of women and youth in financial literacy and enterprise development. The wide use of the DCE model within producer organizations or farmer associations with well-organized structures shows its potential to reach a wider population in remote communities.

Most importantly, the model is inclusive given that it creates sustainable economic opportunities for youth and women. This enables them to support themselves

and their families, which in turn has a significant impact on the health, nutrition, and education of their children. Specifically, the model helps women to be an integral part of the agricultural and solar value chain. By empowering them as leaders and role models in their communities, the women DCEs influence decisions and inspire young girls in their communities. DCEs drive access to and usage of solar products for charging mobile phones. These products have an additional benefit of enabling access to a reliable power source for lighting that allows children in the household to study longer hours and perform better in school.



*Brenda Apio was the overall best DCE for the first quarter of 2019 for selling 54 solar units. She was recruited as a DCE at the age of 18. When Brenda dropped out of school in senior 4, because she could not afford the school fees, she lost hope in her capacity to finish her education. But Brenda*

*became very active as she was recruited as a DCE in her farmer association. She mobilised other farmers, trained them and sold solar products and phones. She currently earns between USh 300,000 to USh 350,000 (US\$80 to US\$95) per month and plans to go back to school and complete her education.*

## Opportunities for Scale

The pilot indicated that the DCE model has a lot of potential to grow and amplify innovation and impact with respect to achieving the SDGs in Uganda. There are numerous opportunities for replication, adoption and scaling up of the model. First, the model's ability to create a conducive environment for the adoption of financial services presents an opportunity for MNOs and other phone and solar distributing companies.

*The selling point of the model is the ability for DCEs to access additional services that create a strong revenue stream to make them profitable through commissions paid by the service providers.*

At the community level where there are limited extension workers, the government can adopt this model to increase access to extension services in rural communities. DCEs can be trained on best agronomic practices which they would in turn share with communities. Thus, if the DCE model is standardised, it would be easy to scale-up and replicate beyond the agricultural value chains to other sectors like education and health, hence propagating it among peer organizations and donors.

*There is no doubt that the DCE model has a lot of potential to be replicated at scale. UNCDF is currently using the model to drive access to and usage of digital solutions in rural communities in Uganda.*



**Berna Mirembe, 34**

*Berna Mirembe worked as governance champion with Buwenge Farmer Cooperative before joining MobiPay as a DCE. Berna was voted the best DCE in maize value chain in Busoga region and was chosen to attend "Breaking the Mold Summit" organized by Youth Leadership in Agriculture (YLA) in Mbale and Kampala respectively. This opportunity has greatly empowered her and elevated her status in the community as a leader and role model to young girls.*

*"For a woman, being able to ride a motorcycle to my garden and Village Savings and Loans Association meetings is a mystery to some of my peers. People ask me how I managed to achieve all this. I encourage women to believe in themselves because they are the steering wheel of their families," Berna says.*

## What We Learned

- 1) Comprehensive awareness and education:** Conducting intensive training and creating awareness is important to drive adoption and usage of digital services and also increase digital and financial literacy.
- 2) Digital literacy:** While most of the smallholder farmers have mobile phones, they need extra support to learn all the basic applications on a smartphone. There is now a lower demand for feature phones as compared to smart phones but low digital literacy levels prevents users from maximizing the use of the product. Knowledge of mobile money and its related products is relatively basic with many users.
- 3) DCE profiles:** Working together with producer organizations or farmer associations to select DCEs helps to get youth and women who are passionate, committed and able to provide high-quality services to the farmers to improve their activities and the welfare of members within the community.

- 4) **Skills building:** Building the capacity of youth and women in entrepreneurial and marketing skills is important to enable them to serve the farmers better and reach more communities with relevant services and information, including DFS, solar products, phones and raising awareness on extension information, and digital and financial literacy.
- 5) **Holistic approach:** Combining phone penetration and digital literacy is significant in reducing the digital gender divide, more specifically in terms of device ownership. It also increases access to and use of digital payments, hence, driving long-term adoption of DFS among the last mile population.
- 6) **Integration of ICT platform:** The integration of USSD and web-based application is important to ease DCEs ordering of solar products and

recording of sales irrespective of their location. It is important in providing relevant and timely data for use by AgriTechs and solar companies for informed decision-making and strategic planning.

- 7) **Revenue generation:** The implementation of the DCE model has the potential to increase the revenue of AgriTechs, producer organizations, farmer associations, and DCEs. It is equally important to build a strong business case for revenue generation for the model to be sustainable.
- 8) **Partnerships:** Partnerships with DFS providers are significant to increase the last mile population's knowledge, access and use of high-quality products and services while at the same time strengthening partnerships to reach more communities.



Denis Opiyo, 26

*Denis Opiyo is an ICT practitioner based in Oyam district. He became a DCE to share the digital knowledge that he has with his community members. As a DCE, he is able to supplement his income. "On a weekly basis, I make about US\$ 70,000 (US\$20) which is enough to keep me going as I wait for my salary at the end of the month. I am also able to avail farmers access to digital platforms like e-extension services that can help them improve their farming practices."*

## Challenges

To tap into the new opportunities that the DCE model presents, there is a need to address the emerging challenges highlighted by our partners. They include;

- **Proof of identity:** Most of the farmers especially those in more remote areas do not have the required documentation to register for a SIM card, particularly national ID, which limits their access to DFS.
- **Social norms:** Most households still share phones especially among couples. Additionally, mobile

money pins are shared which poses a risk when receiving digital payments. The sharing of mobile phones particularly among couples is influenced by social norms and household decision-making which is usually in the hands of men.

- **Mobile money tax:** Some farmers are reluctant to use mobile money due to the 0.5 percent mobile money tax levied on cash out.

## Recommendations

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- 1. Need for continuous training:** The model is intended to create community-based entrepreneurs that drive usage of digital products and services. With continuous changes in digital innovation, there is a need for continuous training in digital and financial literacy.
- 2. Avail products on consignment:** While DCEs are able to make extra income from the sale of digital services, the income they make from the sales of products coupled with their day-to-day needs does not exclusively sustain their businesses. It is recommended that partners provide products to DCEs on consignment to sustain business continuity.
- 3. Need for credit or instalment payment options:** The consumers prefer to have soft credit or instalment payment options for most products on sale. Also, to ensure products remain affordable for smallholder farmers, partners need to explore other payment options in particular for solar products and smart phones.
- 4. Universal guidelines:** There's the a need to consolidate the best practices into partners' universal guidelines and to work together to standardise the DCE model.



## What's next?

The DCE model has demonstrated a viable and sustainable solution to the challenges (on both the demand and supply sides) that hinder the long-term adoption of DFS and solar products at the last mile. While there may be some challenges associated with this model, it has numerous merits and potential that

bodes well for its scalability and wider adoption across Uganda. Therefore, there is the need to promote and maintain the model with its business case and capacity to include women and youth and contribute to the growth of an inclusive digital economy in Uganda.



## LEAVING NO ONE BEHIND IN THE DIGITAL ERA

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 Sustainable Development Goals 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 Sustainable Development Goals. UNCDF will apply a market development approach and continuously seek to address underlying market dysfunctions.

## ABOUT THE UN CAPITAL DEVELOPMENT FUND

UNCDF makes public and private finance work for the poor in the world's 46 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.

For more information, please contact:

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