Connecting the Frontier:

Last-Mile Distribution
in Bidi Bidi Settlement,
Uganda

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Introduction

UNHCR, the UN Refugee Agency, estimates that by the end of 2020, Uganda will host approximately 1.73 million refugees fleeing from conflict or other crises, making it one of the largest refugee populations in the world. With one of the most advanced mobile money ecosystems in the world, Uganda provides a conducive environment for using mobile money to deliver humanitarian cash and voucher assistance (CVA) programmes. However, as of December 2018, only an estimated five to 10 per cent of CVA in Uganda was distributed via mobile money.[1]

In part, this has been due to national regulations that have made it more challenging for refugees – and other segments of Uganda's population – to access and use mobile money. For example, in March 2017, the Uganda Communications Commission (UCC) mandated mobile network operators (MNOs) to deactivate all SIM cards that had not been registered with a government-issued ID card, which affected refugees' ability to register a SIM card.[2] The introduction of a mobile money tax in mid-2018 has also had a negative impact on mobile money use among Ugandans and refugees (see Box 1), at least when it was first introduced.[3]

Almost all refugees in Uganda — 94 percent[4] — live in remote settlements, which adds a layer of complexity to using mobile money for disbursing cash assistance. The typical requirements for mobile money are exacerbated in remote locations, with challenges likely including intermittent mobile connectivity and a lack of accessible rebalancing points for agents to replenish their cash and meet their liquidity needs.

These challenges can be overcome, however, and **MNOs are designing creative strategies and operational solutions to address them effectively.** The policy environment has also recently changed in Uganda, marking a watershed moment for refugees **who can now access SIM cards, and by extension mobile money services, more easily.**[5]

For humanitarian organisations, the potential efficiencies to be gained from a functioning mobile money solution, combined with their expert understanding of refugee needs and settlements, could make strategic partnerships with MNOs an effective way to unlock benefits for both humanitarian organisations and the people they serve. **This case study explores the opportunities for mobile money-enabled CVA, some of the challenges that humanitarian organisations and MNOs have faced implementing mobile money in Uganda to date, and presents strategies both actors are exploring to overcome challenges.**

1.   Calculation based on several sources, including: Wakyiku, D.N., et al. (May 2018). Digital Financial Services Ecosystem Bidi Bidi Refugee Settlement. UNCDF and DanChurchAid and the estimated level of mobile money-enabled CVA in Uganda. See section: The use of mobile for CVA in Uganda

2.   Casswell, J. and Frydrych, J. (2017). Humanitarian Payment Digitisation: Focus on Uganda's Bidi Bidi Refugee Settlement. GSMA.
3.   Quartz Africa (February 2019). Uganda's social media tax has led to a drop in internet and mobile money users.
4.   UNHCR (2019). Uganda – Refugee statistics September 2019.
5.   UNHCR (August 2019). UNHCR welcomes Uganda Communications Commission directive to improve refugees' access to SIM cards.

The humanitarian context in Uganda

Understanding the refugee population in Uganda

Uganda has a long history of hosting refugees from neighbouring countries and currently hosts the third-largest refugee population in the world.[6] In October 2018, the United Nations High Commissioner for Refugees (UNHCR), the World Food Programme (WFP) and the Office of the Prime Minister (OPM) in Uganda biometrically registered 1,091,024 asylum seekers and refugees. **As of September 2019, there were 1,347,360 refugees and asylum seekers in Uganda: 63 per cent from South Sudan, 29 per cent from the DRC, three per cent from Burundi and five per cent from other nearby countries.**[7]

The refugee population in Uganda is young. With 60 per cent of refugees still under the age of 18,[8] adults represent approximately 495,000 of the refugee population. While over 75,000 refugees live in the capital city of Kampala, 94 per cent live in settlements.[9] These settlements are generally located in remote border regions and often have only rudimentary infrastructure. UNHCR expects the refugee population will continue to grow, with an estimated 140,000 more people arriving from the DRC and 70,000 more from South Sudan by the end of 2020, bringing the estimated refugee population to 1.73 million by the end of 2020.[10]

Humanitarian cash and voucher assistance (CVA) in Uganda

Cash working groups (CWGs) convene regularly across the globe, coordinating key stakeholders involved in the disbursement of humanitarian cash assistance. Founded in December 2016, the Uganda CWG is co-managed by UNHCR and WFP and represents nine member organisations that report cash and voucher distribution activities from 11 refugee settlements. **As of June 2018 (after 1.5 years of operation), the CWG reported that it had disbursed USD 16.74 million to 319,412 individuals. Eighty-one per cent of this was for food assistance, with WFP distributing 81 per cent of the total value. Only one per cent of CVA is distributed as vouchers, with the rest delivered as cash.**[11] WFP has made a conscious decision to distribute cash in Uganda because of the limitations of vouchers, including the lack of flexibility and choice for recipients who are restricted to purchasing goods at select, pre-determined locations.

WFP distributes cash through a partnership with Post Bank Uganda. Recipients usually receive $11 per person per month and are provided with pre-paid cards to access their cash. To enable recipients to make withdrawals, Post Bank transports physical cash into settlements with a point of sale (POS) device that authorises recipients to access their cash. This approach to cash disbursement does not provide the safety and security of transferring cash electronically, as large amounts of physical cash still need to be transported, often to hard-to-reach locations. **By 2020, WFP would like to scale CVA delivery to 500,000 recipients using a more effective mechanism.**[12]

WFP believes that financial inclusion is a stepping stone to achieving other developmental goals. A major disadvantage of pre-paid cards is that recipients do not have an account and may be excluded from accessing and benefiting from financial services. To address this issue, WFP, in partnership with the United Nations Capital Development Fund (UNCDF), is piloting CVA distribution via banking agents in settlements in southwest Uganda, but has yet to launch CVA via mobile money.

6. UNHCR. Global Trends: Forced Displacement 2018.
7. UNHCR (2019). Uganda – Refugee statistics September 2019. Note: others include refugees from Somalia, Rwanda, Eritrea, Ethiopia, Sudan and other countries of origin.
8. UNHCR. Uganda Refugee Response Plan: January 2019–December 2020.
9. UNHCR (2019). Uganda – Refugee statistics September 2019.
10. UNHCR (2019). Uganda Refugee Response Plan: January 2019–December 2020.
11. UNHCR and WFP (August 2018). Uganda Refugee Response Monitoring Cash Based Interventions (CBI): June 2018.
12. Interview with WFP Uganda Programme Policy Officer.

Mobile money in Uganda

Overview

The 2017 World Bank Findex survey found that 51 per cent of adults (15 years or older) in Uganda have a mobile money account. **This means Uganda has the third-highest mobile money penetration rate in the world after Kenya (73 per cent)[13] and Somalia (73 per cent).[14]** There are eight mobile money services in Uganda, which have registered 159,790 mobile money agents (713 per 100,000 adults). In contrast, there are 554 bank branches, or 2.58 per 100,000 adults, in the country.[15] Mobile money has therefore become a powerful tool for extending access to financial services.

However, events in recent years have had a significant impact on the mobile money industry. As mentioned earlier, in March 2017, the UCC began requiring MNOs to deactivate all SIM cards that had not been registered with a government-issued ID card.[16] This effectively meant that most refugees could not register a SIM card due to delays in these IDs being issued. When anyone registers for a SIM card in Uganda, both MTN and Airtel automatically register them for mobile money as well, so refugees with a SIM card can access a full suite of services through mobile connectivity.

Airtel reported that it did not begin allowing refugees to register SIM cards until mid-2018 when a number of legislative changes made this possible. The first change was that MNOs were given permission to accept the UNHCR-issued attestation form as a form of ID for SIM card registration. However, because the form is only given to the head of each household, the initial registration process included only heads of households. After some time, Airtel was able to expand SIM card registration to their dependants using the UNHCR attestation form.[17]

The process for refugees accessing SIM cards has improved again recently. In August 2019, the UCC issued a directive to MNOs that greatly improved access to SIM cards for refugees in Uganda. Refugees can now present a valid refugee registration or refugee attestation document, both issued by the Office of the Prime Minister, as identification to register for a SIM card.[18]

Mobile money tax: the perceptions hampering use
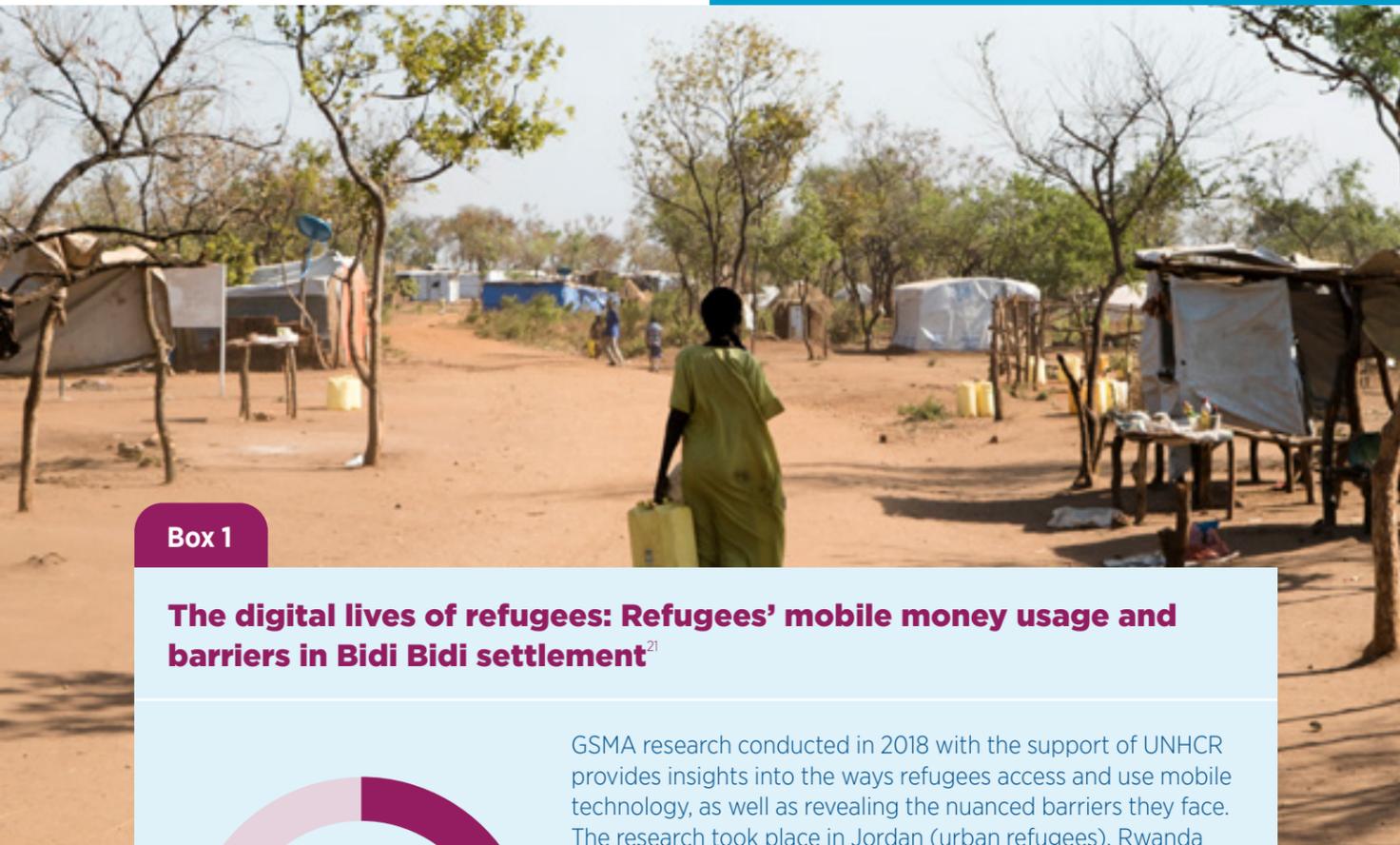
Mobile money tax in Uganda

In July 2018, a one per cent tax was applied to nearly all mobile money transactions, including depositing, sending and withdrawing cash.[19] However, there was ambiguity and confusion around which transactions were subject to the tax and how exactly the tax should be applied (e.g. the sender and receiver are both taxed), with airtime top-ups the only transaction appearing exempt from the tax. Since our primary research was conducted, the tax has been revised. As of November 2018, the tax was reduced to 0.5 per cent and now applies only to mobile money withdrawals[20] (Figure 1).

Mobile money fees and taxes can encourage users to keep money in the mobile money ecosystem rather than cashing out, which in turn strengthens the digital ecosystem. However, for low-income populations that need to cash out immediately, taxes can have the opposite effect and limit mobile money adoption, especially in environments where digital ecosystems are still nascent.

13. World Bank (2017). The Global Findex Database 2017.
14. World Bank (July 2017). Mobile Money in Somalia Ecosystem Mapping.
15. IMF (2017). Financial Access Survey (FAS).
16. Casswell, J. and Frydrych, J. (2017). Humanitarian Payment Digitisation: Focus on Uganda's Bidi Bidi Refugee Settlement. GSMA.
17. Information gathered during workshop in Bidi Bidi Settlement.
18. UNHCR (August 2019). UNHCR welcomes Uganda Communications Commission directive to improve refugees' access to SIM cards.

19. Kamulegeya, F. (2018). What 1 percent new tax on mobile money transactions means. PWC.
20. Daily Monitor (November 19, 2018). Mobile money volume to rise to Shs871b by December – report.

Mobile money use cases in Bidi Bidi settlement, Uganda[27]

P2P (domestic)	Airtime top-up	Remittance (international)	Data top-up	Informal savings	Borrow airtime	Cash and voucher assistance (CVA)
83%	63%	50%	26%	25%	19%	6%

Box 1

The digital lives of refugees: Refugees' mobile money usage and barriers in Bidi Bidi settlement[21]

44%
of refugees use mobile money
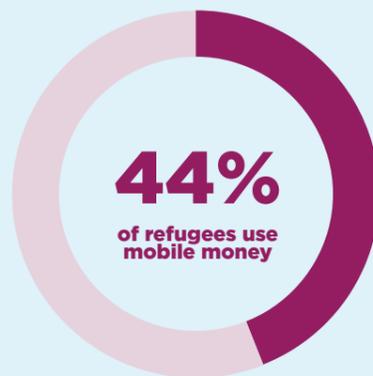
GSMA research conducted in 2018 with the support of UNHCR provides insights into the ways refugees access and use mobile technology, as well as revealing the nuanced barriers they face. The research took place in Jordan (urban refugees), Rwanda (Kiziba refugee camp) and Uganda (Bidi Bidi settlement).

In Uganda, person-to-person (P2P) transfers, airtime top-ups and international remittance are the most commonly used mobile money services by refugees in Bidi Bidi. This reflects global trends, which show airtime top-ups and P2P transactions are the two most frequent transaction types by volume.[22] International remittances are the least used type of transaction by volume and value globally,[23] which suggests the high level of usage in Bidi Bidi (50 per cent) is because many refugees there have family residing in South Sudan.

The research also revealed a disparity in mobile money use among vulnerable refugee groups, such as women, persons with disabilities and the elderly. For instance, women (including those who are not phone users) are 35 per cent less likely to use mobile money than men. However, there is also a gap of 25 per cent for mobile phone users.[24] Similarly, refugees with disabilities are 28 per cent less likely to use mobile money than refugees without disabilities and older people use mobile money (25 per cent) significantly less than younger people (49 per cent) and middle-aged people (45 per cent).[25]

However, the biggest constraint to mobile money use in Bidi Bidi is the mobile money tax. Focus group participants in GSMA research in Bidi Bidi settlement reported that since the charges on mobile money were introduced, they have made transactions less regularly, although they had not abandoned the service entirely. The second barrier refugees face is the inability to cash in or cash out due to the liquidity constraints of mobile money agents. Finally, some focus group participants reported that their accounts had been locked after periods of dormancy because regular deposits had not been made into their account.[26]
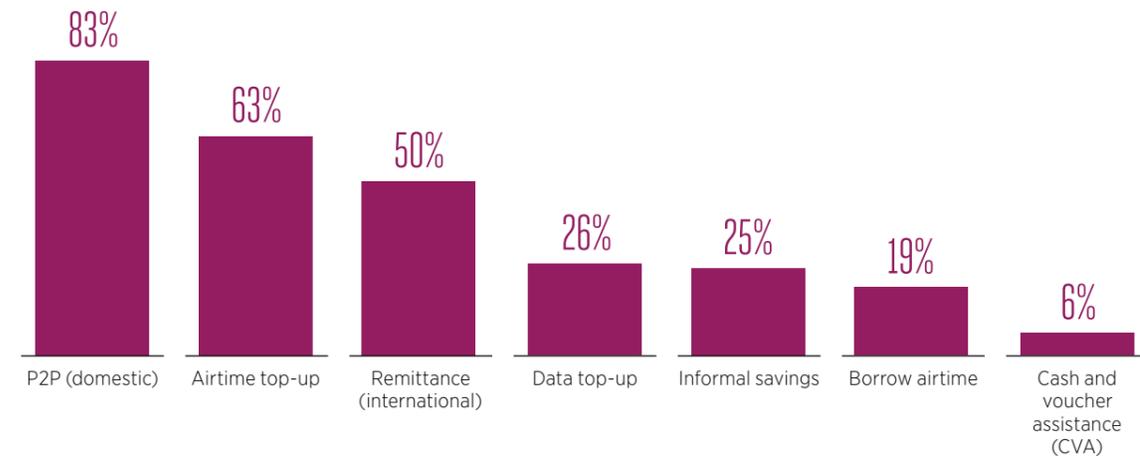
The use of mobile money for CVA in Uganda

Although there are several mature mobile money systems operating in Uganda, humanitarian organisations do not use mobile money services very often for CVA programmes. A 2017 GSMA case study[28] of CVA in Bidi Bidi identified five CVA programmes using mobile money where the number of targeted recipients ranged from 500 to 5,750, with each beneficiary receiving monthly transfers of $10 or $11 for a period of three to six months. However, the number of mobile money-enabled CVA programmes across Uganda is unknown.

While figures on the proportion of CVA delivered through mobile money are not published for Uganda, it is possible to make a general estimate. As mentioned, the CWG, led by UNHCR and WFP, coordinates the implementation of cash assistance programmes in Uganda. WFP delivers 81 per cent of CVA in Uganda[29] and does not use mobile money. The 2018 UNCDF and DanChurchAid study of refugees in Bidi Bidi settlement found that 50 per cent of refugees did not have a phone, and these findings are validated by GSMA research that found 49 per cent of refugees in Bidi Bidi own a phone and another 37 per cent borrowed one.[30] UNCDF and DanChurchAid interviews with humanitarian

organisations in Bidi Bidi found that 72 per cent were distributing CVA in cash, while 28 per cent used mobile money.[31] **This means that of the 19 per cent of CVA not distributed through WFP, 28 to 50 per cent of recipients may receive their CVA via mobile money, or five to 10 per cent of all CVA recipients in Uganda.** While the proportion of CVA distributed as mobile money is small, approximately $837,000 to $1.674 million was distributed in the year and a half between January 2017 and June 2018.[32]

Humanitarian organisations cite issues with the registration of forcibly displaced persons (FDPs) and mobile money-related taxes as major reasons for not using mobile money for CVA delivery. Also, CVA in Uganda is being distributed in remote settlement areas where it is challenging to apply the operational models that mobile money providers have created to manage their agent networks, especially for the infrequent, high-value withdrawals CVA distributions demand. **For mobile money to be an effective last-mile distribution tool for CVA in remote areas, mobile money providers and humanitarian organisation partners will need to focus on resolving the challenges that are exacerbated by extreme conditions.**

21.   GSMA (2019). The digital lives of refugees: How displaced populations use mobile phones and what gets in the way.
22.   GSMA (2019). Mobile Money Metrics dataset.
23.   Ibid.
24.   GSMA (2019). Bridging the mobile gender gap for refugees.
25.   "Young people" are those aged between 18 and 25 years; "middle-aged" refers to respondents aged between 26 and 50; and "older people" to respondents aged 51 and over.
26.   GSMA (2019). The digital lives of refugees: How displaced populations use mobile phones and what gets in the way.

27.   GSMA (2019). The digital lives of refugees: How displaced populations use mobile phones and what gets in the way.
28.   Casswell, J. and Frydrych, J. (2017) Humanitarian Payment Digitisation: Focus on Uganda's Bidi Bidi Refugee Settlement. GSMA.
29.   UNHCR and WFP. (August 2018). Uganda Refugee Response Monitoring Cash Based Interventions (CBi): June 2018.
30.   GSMA (2019). The digital lives of refugees: How displaced populations use mobile phones and what gets in the way.
31.   Wakyiku, D.N., et al. (May 2018). Digital Financial Services Ecosystem Bidi Bidi Refugee Settlement. UNCDF and DanChurchAid.
32.   Calculated as a proportion of the $16.74 million CVA delivered by the end of June 2018 by the Ugandan CWG. See: UNHCR (December 2018). Uganda Refugee Response Monitoring Cash Based Interventions (CBi): June 2018.

Creating a foundation for mobile money in remote settlements

Mobile money systems have been designed to work well in low-infrastructure environments often found in developing countries, but there are still some basic elements these systems need to function. **Refugee settlements in Uganda are pushing mobile money systems farther than ever before.**

Mobile money requires certain foundational elements to be in place, including mobile network coverage in the area of operation, the ability for the population of concern to register for mobile money services and functioning financial infrastructure, which includes both retail outlets where transactions are made (e.g. mobile money agents) and the hardware needed to interact with them (e.g. a mobile handset). **The UNCDF and DanChurchAid survey**[33] **revealed the top three reasons humanitarian organisations give for not using mobile money for CVA distribution in Bidi Bidi:**

1. **Lack of a mobile phone (31 per cent);**

2. **Network disruptions (25 per cent); and**

3. **Identification and registration (19 per cent).**

However, there are potential solutions to these challenges. For example:

- In 2018, Mercy Corps and NetHope distributed 15,000 handsets in Bidi Bidi settlement in partnership with Airtel and MTN.[34] Although not always a feasible solution, in this instance the distribution of handsets enabled FDPs to access the benefits of not only mobile money services, but also visual learning tools.

- Network disruptions are being addressed, with UNHCR signing agreements with MTN, Airtel and Africell in Uganda to improve network coverage in Bidi Bidi.[35] UNCDF also worked with Airtel and MTN to provide operational and financial support, which accelerated the MNOs' communication and mobile money infrastructure improvements.[36]

- Registration issues with FDPs have improved markedly, and both MTN and Airtel have reported registering refugees for mobile money in Bidi Bidi. There is hope that the biometric registration of FDPs that took place in March 2018[37] will be available to use for registration and verification in the future.

Seeking last-mile solutions for distribution in Bidi Bidi settlement

Bidi Bidi hosts 272,206 refugees[38] **across 250 square kilometres.** While humanitarian efforts maintain roads, they can become impassable in the rainy season, and even in the dry season public transport is sparse and expensive. The nearest bank branch is approximately a 90-minute drive by private vehicle and travel time can increase significantly if travelling by local bus ("matatu") or other means. Despite these challenges, **MNOs and humanitarian organisations have made progress in building a foundation for refugees to use mobile money**. Both MTN and Airtel have been able to deploy agents across various locations in Bidi Bidi. These agents not only provide a human touchpoint for mobile money, but perhaps more critically serve as a cash-out point for refugees who need to withdraw cash to meet their needs.

MTN and Airtel have placed most of their agents in the largest and most established marketplaces— Zone 1 and Zone 2. The Bidi Bidi settlement is organised into five zones and each zone includes approximately 10 to 15 villages and two or three marketplaces. Neither MNO has had much success with the less established and smaller markets in Zone 4. Beyond these enclaves of economic activity, agents have not been able to function.[39]

MNOs have also faced challenges recruiting and retaining agents. Mobile money agents are required to have a business licence, a bank account and a physical address to operate.[40] Refugees would make ideal mobile money agents as they are more likely to speak at least one of the six commonly spoken dialects in the settlement, they may live near the agent location and, perhaps most importantly, working as an agent is an income-generating opportunity. Unfortunately, refugees rarely meet all three of the agent requirements listed above.

To address this challenge, MTN and Airtel facilitated the establishment of agent access points for refugees. Airtel registered kiosks in its name which enabled refugees to work as mobile money agents under the Airtel brand. In addition, both providers have identified Ugandan traders with stalls in the settlement markets and registered them as mobile money agents.

Innovative solutions to liquidity management challenges

The biggest operational challenge for providers is liquidity management at agent locations. Since it is often prohibitively expensive and time consuming for an agent to go to a bank branch to rebalance — exchange digital cash for physical cash or vice versa — MTN and Airtel have experimented with alternative rebalancing options to improve agent liquidity. **For example, delivering float to agents via motorbike rather than the agent leaving their outlets to replenish their floats**. However, qualitative research by GSMA has found that agents report varying levels of satisfaction with this approach and many still travel to rebalance.

Both providers have service centres in Yumbe, which is much more accessible for agents than the relatively nearby town of Koboko. Although Yumbe is still 30 to 90 minutes away depending on transport and road conditions, **agents can conduct limited rebalancing transactions at the provider service centres**. However, agents still report running out of cash regularly. Most do not have the means to reserve large amounts of cash, and on any given day a few relatively large transactions can trigger the need to rebalance. However, they may not have the time, money or transport on that particular day to do so.

33. Wakyiku, D.N., et al. (May 2018). Digital Financial Services Ecosystem Bidi Bidi Refugee Settlement. UNCDF and DanChurchAid.
34. NetHope (September 2018). Nethope Device Challenge Gold Star Award Winners Announced.
35. Robinson, C. (October 2017). Phone technology gives refugees in Uganda a cash lifeline. UNHCR.
36. Casswell, J. and Frydrych, J. (2017). Humanitarian Payment Digitisation: Focus on Uganda's Bidi Bidi Refugee Settlement. GSMA.
37. UNHCR (October 2018). OPM-UNHCR Verification Exercise: Update, October 2018.

38. International Federation of Red Cross and Red Crescent Societies (IFRC) (2019). Emergency Plan of Action Final Report. Uganda: Population Movement.
39. Note that this assessment was conducted in November 2018 and the current situation may have changed.
40. Grossman, J. (September 2017). Study on Know Your Customer Requirements for Digital Financial Services in Uganda. UNCDF MM4P.

DanChurchAid conducted a CVA transfer programme in partnership with Airtel, for 5,750 recipients in Bidi Bidi, delivering $10 monthly payments for six months.[41] They reported that this transfer size was too large for the current liquidity management systems of agents in the settlements, so every month on the day of the distribution, DanChurchAid coordinated with the provider to bring extra agents from Yumbe into the settlement so that refugees could withdraw their cash.

These are the types of solutions that can ensure recipients receive their cash aid in a timely manner. However, they are short term. **To provide long-term, sustainable solutions, more cross-sector partnerships will be needed to enable agents in remote locations to conduct the large withdrawals CVA programmes require.** For instance, inter-agent transfers allow agents to request and receive e-float from other agents and give agents the ability to deposit or withdraw money from their personal accounts into their float accounts without involving a bank.[42] The latter already takes place informally through WhatsApp groups set up by master agents to manage their agent network. If innovative solutions like these can be monitored by providers to ensure compliance, standard operating procedures could be defined to ensure safety and security is not compromised and liquidity management is improved.

Fostering strategic partnerships for mobile money CVA

Strategic partnerships that encourage collaboration between Ugandan MNOs, some of which have the best knowledge of mobile money operations in the world, and experienced humanitarian practitioners should provide a basis for finding solutions to the challenges of last-mile distribution in Uganda.

It would be prudent to focus on educating refugees about the mobile money tax and how it works in practice since negative perceptions are hampering mobile money use, which could ultimately slow down adoption, reduce usage and limit the potential benefits of handling finances digitally.

This case study has demonstrated that partnerships between humanitarian organisations and MNOs can be effective in helping refugees receive cash assistance, and may open up other benefits associated with mobile money and mobile connectivity. These strategic partnerships can also provide innovative solutions to the very real operational challenges of CVA programmes, and provide a beacon for service delivery solutions for forcibly displaced persons living in remote locations around the world.

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41.   Casswell, J. and Frydrych, J. (2017). Humanitarian payment digitisation: Focus on Uganda's Bidi Bidi Refugee Settlement. GSMA.
42.   Wright, A.N.G. and Kiarie, N. (2017). Liquidity – Solving agents' perennial problem. Helix Institute of Digital Finance

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