Focus Note: The Role of Digital Financial Services in Humanitarian Crises Responses

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The humanitarian aid sector is increasingly using digital financial services (DFS) – also known as mobile money - to further its cash-based assistance to crisis-affected populations. Whilst delivering humanitarian aid, DFS adoption can also further financial inclusion if developed and implemented properly.

This focus note describes the state of DFS use in humanitarian crises responses, available DFS solutions, and strategies to achieve both humanitarian and financial inclusion goals and common barriers to address for successful deployment.³

While it has proven its utility in many parts of the developing world, in some crises areas where technology infrastructure is often lacking, DFS may however only provide limited utility. In these cases, cash disbursements may provide a better solution by rapidly providing for the needs of those in crises areas. A cost-benefit analysis of available response solutions is also provided.

We provide a table of benefits and challenges of different types of humanitarian assistance: In-Kind, Cash only, DFS only, and Cash and DFS.

Humanitarian crises are increasing in frequency and severity. Some 204 million people were affected by natural disasters, and 65.6 million forcibly displaced by violence and conflict in 2016.⁵ In all more than 128.8 million people are currently in need of humanitarian assistance.⁶ Large funding is required to provide assistance to crises-affected populations, with some USD 24.4 billion used by United Nations-coordinated programs alone in 2017.⁷

The nature of assistance has also shifted from conventional commodities-based (in-kind) – that is, food and clothing - approach to more cash-based strategies adopted by aid agencies.⁸ Cash-based assistance, is now considered by the UN as the preferred and default method of support for crises-affected populations, ostensibly filling multiple goals

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³ Leon Perlman, PhD, Head: Digital Financial Services Observatory, Columbia Institute for Tele-information, Columbia University, New York.
⁴ This focus note is based in part on discussions at the roundtable on The Role of DFS in Humanitarian Crises Responses held by the Columbia University Digital Financial Services Observatory on January 17 2018. Speakers included representatives from The Bill & Melinda Gates Foundation, Exclude Solutions, World Economic Forum (WEF), Data & Society Research Institute, UN High Commission for Refugees (UNHCR), International Rescue Committee (IRC), Caribbean Blockchain Association, GSM Association, Columbia University, the Better than Cash Alliance (BTCA), the United States Agency for International Development (USAID), the World Bank and Finclude. See further https://bit.ly/2LwdgYN
of distributing aid, providing beneficiaries the ability to purchase the goods and services they need most, and also supporting local economies.\(^9\)

Cash-based assistance can be both effective and efficient than in-kind assistance when designed and managed appropriately.\(^10\) In Rwanda, the benefit to the local community for every dollar of cash-based assistance distributed to refugees in that area was between USD 1.51 and USD 1.95, compared to USD 1.20 benefit for every dollar of food aid.\(^11\) Moreover, a study of International Rescue Committee programs revealed that non-food item programs cost more per dollar than cash programs.\(^12\)

Actors in the humanitarian ecosystem are also increasingly exploring the use of new technology, especially for aid disbursement, in humanitarian crises responses, even though it may not be feasible in all contexts.\(^13\) These include donors, non-governmental organizations (NGOs),\(^14\) humanitarian aid agencies,\(^15\) financial service providers (FSPs)\(^16\), banks, micro finance institutions (MFIs),\(^17\) payment service providers (PSPs),\(^18\) mobile network operators (MNOs),\(^19\) government agencies and regulators.

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10 Multiple studies show that cash-based assistance is more efficient and cost-effective than in-kind assistance in many situations, although some studies may be limited by design. Doocy, S & Tappis, H (2017) Cash-based Approaches in Humanitarian Emergencies: A Systematic Review, available at https://bit.ly/2NSyEsu


12 “Comparing cash and non-food items programs that served fewer than 1,000 households, non-food items programs cost more per dollar of value delivered than cash programs of the same scale.” IRC (2016) Cost Efficiency Analysis: Non-Food Items vs. Cash Transfers, available at https://bit.ly/2yLeSKb


16 Any person, other than a representative, who regularly furnishes financial advices, renders intermediary services or both. For example, Financial Institutions and FinTechs. FSB (2018) FAIS – Understanding the Practicalities, available at https://www.fsb.co.za/Departments/faa/Documents/FAISGuide.pdf


18 Service Payment Providers may be defined differently by different regulators. The FCA considers PSPs to be persons which are listed in a specific list that include authorized payment institution, small payment institution, and electronic money issuer, that carry out a payment service. More information on list of included persons can be found in the FCA Handbook. FCA (2018) Payment Service Provider, available at shorturl.at/derD7

Digital financial service (DFS) solutions\textsuperscript{20} - especially ‘mobile money’ incarnations using mobile phone as a payment instrument - have been used in multiple crisis contexts to provide humanitarian cash-based assistance.\textsuperscript{21} It has helped affected populations receive aid faster post-crisis but could also increase financial inclusion and resilience for the affected if developed and implemented strategically.\textsuperscript{22}

Given the increasing interest in using DFS, donors, aid agencies, consultants, industry leaders, researchers and innovators participated in The Role of DFS in Humanitarian Crises Responses roundtable event at Columbia University on January 17 2018, where they discussed DFS solutions and strategies for humanitarian crisis responses.

In this focus note, we encapsulate the discussions and insights shared at the event and compliment them with further desktop research.\textsuperscript{23}

I. DFS Solutions for Crisis-Affected Populations

Long-standing DFS solutions such as ATMs, debit cards and mobile money are being used in humanitarian contexts to provide financial services to affected populations;\textsuperscript{24} increasing security, accountability, transparency, and scalability in addition to the benefits of cash-based assistance: more choice, dignity, empowerment and market resiliency for the affected.\textsuperscript{25}

Of the many DFS solutions, mobile money has emerged a popular tool for digital cash transfers\textsuperscript{26} for humanitarian purposes.\textsuperscript{27} It may be used by aid agencies and their supporting actors to directly transfer aid to mobile money accounts, provide cash vouchers and/or provide mobile vouchers for specific products.\textsuperscript{28} Along with receiving aid,
those affected by crisis also use mobile money to receive remittances, safeguard savings, receive insurance, social protection and obtain credit where available.\textsuperscript{29}

Challenges\textsuperscript{30} with regards to DFS delivery however have resulted in mostly fragmented, closed-loop\textsuperscript{31} and custom-built solutions for humanitarian crises even in locations with existing DFS systems.\textsuperscript{32} They are hence not financially inclusive, do not integrate into or utilize existing commercial DFS systems/products, and/or are hardly scalable to other contexts.\textsuperscript{33}

Ecosystem participants have identified these issues and are making increasing efforts, through collaborations, partnerships, and knowledge-sharing to develop DFS systems that fulfill both humanitarian and financial inclusion agendas.\textsuperscript{34}

**Bidi Bidi Refugee Settlement in Uganda**
The Bidi Bidi Refugee Settlement in Uganda is the world’s largest refugee camp, providing refuge to 285,000 mostly Sudanese refugees.\textsuperscript{35} As this refugee population increases, humanitarian aid agencies\textsuperscript{36} and MNOs are collaborating\textsuperscript{37} to provide humanitarian cash transfers,\textsuperscript{38} where funds are moved from an aid agency’s bank account to the MNO’s account.\textsuperscript{39}

Depending on how each agency decides to give to each refugee beneficiary, the MNO transfers funds from its account to the mobile money account linked to the beneficiary’s SIM card.\textsuperscript{40} Once funds have been received, the beneficiaries are able to cash-out from mobile money agents\textsuperscript{41} or spend the funds at a merchant.\textsuperscript{42}

**Common Cash Facility Platform in Jordan**

\textsuperscript{30} See Section III.
\textsuperscript{31} Closed-loop system is an isolated system that limits DFS product use to one or a small number of providers. “For example, ATM cards that can only be used at bank branches of the financial service provider (FSP) that own both the cards and the ATMs, or remittance/money transfer systems which enable the origination and withdrawal of funds from endpoints within the same company.” WEF (2017) *Principles on Public-Private Cooperation in Humanitarian Payments*, available at https://bit.ly/2MZj16s
\textsuperscript{34} ibid
\textsuperscript{36} As of August 2017, International Rescue Committee (IRC), Save the Children, Mercy Corps, DanChurchAid, World Food Programme, Norwegian Refugee Council.
\textsuperscript{40} ibid
In the humanitarian sector, ecosystem participants are constantly competing against each other which has resulted in multiple parallel systems for assistance that as a whole is costly. However in Jordan, as means to streamline aid distribution, a jointly managed platform, Common Cash Facility (CCF), is being used by UN agencies such as UNHCR, NGOs and the Red Cross to coordinate delivery of cash-based assistance to vulnerable refugee population and use its larger scope to negotiate contracts with financial agencies.

The CCF is based on a public private-partnership between UNHCR, Cairo Amman Bank (CAB) and biometrics technology company, IrisGuard. It is available to all partner aid agencies, under the same terms and conditions, who do not have to pay any management fees and experience relatively low overhead costs. Refugees apply to be aid recipients by registering at UNHCR refugee centers. After a due-diligence interview by UNHCR staff to determine their qualification for the aid facility, the adults in a refugee family will have their iris scanned by UNHCR staff. The iris data is stored on UNHCR servers and is not available to the host national government.

CCF provides refugees with the possibility of quick cash withdrawal, aid agencies with lower bank fees and coordination amongst donors and partners to eliminate duplication of assistance, among many other benefits. No cards or PINs are required. Refugees will scan their iris at specific CAB ATMs or at UNHCR kiosks to access their digital wallet and view the funds that have been allocated to them by each aid agency. They can then select the aid agency account to withdraw from. The refugee can withdraw cash or transfer funds to their account from that agency’s (bank) account.

While donors and aid agencies are concerned about the proper use of funds by refugees, the positive impact of CCF on refugee populations, observed through indirect indicators such as lower numbers of child labor and higher education opportunities, suggest that cash is being used for its intended purpose.

**Jordan Mobile Money for Resilience (MM4R) Initiative**

The Central Bank of Jordan (CBJ) launched the Mobile Money for Resilience (MM4R) initiative for refugees and host communities in February 2018. It aims at using electronic money for cash assistance to strengthen the DFS industry in Jordan while supporting local economic development. It is funded by a USD 3 million grant from the Bill and Melinda Gates Foundation.

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45 ibid
46 ibid
47 This includes checking if the claimant is part of an ISIS-type militia, usually disqualifying for further processing as a refugee.
49 ibid
51 ibid
54 As of October 2018, MM4R project offices had been established at CBJ.
Mass migration of refugees across borders in the Middle East, Europe and Africa during recent crises have left the regions to cope with the transition of people in need. Hurricanes Harvey, Irma and Maria have wreaked havoc in the Caribbean, Puerto Rico and the U.S. Virgin Islands communications systems. Emergency responders require communications for effective assistance efforts and success may be dependent upon national and international coordination with government and MNOs. Those in need seek to communicate with responders for assistance, to contact family, and receive remittances via mobile money to fund necessities during time of crisis.

Solutions to restore service which can be quickly deployed within hours include Cells on Light Trucks (COLT), Cell on Wheels (COW) and satellite communications. Innovative solutions such as Google’s Project Loon’s air balloons and AT&T’s drone system called the ‘COW in the Sky’ have assisted with coverage outages in Puerto Rico and the Caribbean and could potentially provide a cost-effective solution. Portable solutions can however be costly over long time periods. To deal with mass migration of refugees who are likely to settle in remote areas for long periods of time, guarantees against loss by UN agencies or NGOs can result in MNOs being incentivized to build towers in rural and remote areas.

Exhibit 1: Innovative initiatives to overcome lack of infrastructure in crisis-affected locations

II. Strategies in Crises Responses
DFS with humanitarian and financial inclusion agendas benefit all ecosystem participants such as donors, humanitarian aid and government agencies can provide services efficiently to the affected population, digital

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60 Both systems require a power supply but can use fuel as needed. While COLTs require terrestrial access via a roadway, lightweight COWs can be carried by helicopter or short distances on foot to reach challenging areas. Satellite may be able to reach remote areas, its convenience can come at greater cost and with some services only communication with proprietary satellite phones and unable to provide communications and DFS to standard basic and feature phones.
61 See also Perlman, L & Wechsler (2018) Role of Mobile Coverage in Digital Financial Services, available at www.dfsobservatory.com
63 A guarantee was provided by UNCDF for the Bidi Bidi refugee settlement in Uganda and ultimately a temporary tower was replaced with a permanent one. Casswell, J & Frydrych, J (2017) Humanitarian Payment Digitisation: Focus On Uganda’s Bidi Bidi Refugee Settlement, available at https://bit.ly/2qT4BHC
financial service providers (DFSPs), banks, and MNOs can all increase their customer base, and regulators can have better oversight data and tools.

DFS is however not always an appropriate medium for humanitarian aid delivery as the technology – mobile coverage, mobile phones, and a steady power supply - may not be available nor are merchants always ready to process transactions using mobile phones. And even when appropriate, providers do not always follow best practices.

It is then important for humanitarian agencies and providers to think about:

- When DFS should be used
- What needs to be considered to use DFS well
- The needs of end users
- How to protect user data
- How to build on existing local systems and infrastructure
- How to build long term solutions, and
- How ecosystem participants can collaborate to provide DFS in a more effective and efficient manner.

Discussions surrounding these issues can be time consuming and may be difficult to initiate after a crisis when needs are pressing. Ecosystems participants with humanitarian digital cash transfer intentions hence need to prepare for crises, in particular by strategizing post-crisis responses before the crisis even hits such that there are more infrastructures, supporting policies, certainty in the roles and responsibilities of the private and public sector, and ease in coordination for relief, recovery and rehabilitation. This preparation is especially pertinent for areas where crises are frequent.

Therefore, ecosystem participants have collaborated to formulate what are known as the Barcelona Principles, a set of best practices for sustainable digital payment system in humanitarian responses that encourage dialogue and engagement within organizations, with stakeholders and between humanitarian and financial inclusion actors. This includes discussions on beneficiary empowerment, data privacy, financial inclusion preparedness and capacity building.

The Principles on Public-Private Cooperation in Humanitarian Payments have also been developed to encourage collaboration among public and private sectors to advance the sound use of digital payments for humanitarian and financial inclusion agendas. The technical knowledge and expertise of private sector partners can assist

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67 ibid
69 ibid
humanitarian aid agencies in developing new open-loop⁷⁴ DFS systems or using existing off-the-shelf DFS products for crisis responses.⁷⁵

Having a strategy before a crisis can better address the needs of the affected while positioning them and the economy for recovery when a crisis hits. And while there is no one-size-fits-all solution, there are ways to create an enabling environment for the use of DFS in humanitarian crisis responses.

This includes:

- Strengthening internal capacity
- Formulating standard operation procedures to outline specific roles and responsibilities of ecosystem participants
- Facilitating collaboration amongst cross-departmental working groups
- Developing operational manuals, standard registration, and know your customer (KYC)⁷⁶ procedures⁷⁷
- Building relationships with other humanitarian aid agencies and agents
- Creating business case for private sector engagement, and
- Devising financial literacy training for staff and end-users that are rapid and context specific.⁷⁸

A system developed for the long term can also be reused to meet the needs of future crises as was the case in Zimbabwe,⁷⁹ where Save the Children partnered with MNO Econet to expand mobile money infrastructure for the delivery of food aid as part of the USAID Emergency Food Security Program. This was later used in aid disbursement during the Cholera epidemic in Zimbabwe.⁸⁰

Post-crisis, the strategies need to be executed, while addressing the unique challenges of the particular crisis. Learnings from this experience can further refine and build better crisis response strategies for the future.⁸¹

### III. Barriers to DFS use in Humanitarian Crises Responses

There are often policy requirements, network infrastructure, and social barriers that hamper the delivery of inclusive DFS systems for humanitarian responses. For example, lack of digital and financial literacy and understanding of mobile money may discourage people from using mobile money.⁸² In Ethiopia, users who had difficulty with their

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⁷⁴ Open loop payment systems allow users to use their DFS products in different locations. “For example, payment system that allows a ATM card from one bank to be used at another bank’s ATMs, or a remittance/money transfer system that allows funds deposited with one participating entity to be collected at another entity.” WEF (2017) Principles on Public-Private Cooperation in Humanitarian Payments, available at https://bit.ly/2MZj16s


mobile money PINs were 57% less likely to use their accounts again. Identifying these barriers allows humanitarian aid agencies and those supporting their work to develop action agendas.

Policy and Requirements
Lack of explicit policies to support response strategies and promote resilience in times of crisis continue to complicate DFS use for humanitarian crisis responses. Commonly, crisis-affected populations do not have the resources to meet stringent KYC requirements and the lack of simplified KYC regulations for crisis situations not only prevents the use of DFS by affected populations, but also its (later) integration into the formal financial system.

Policy makers may not be able to make appropriate reforms or investments during times of crisis, when needs are pressing and urgent. It is then important for countries to discuss, modify and formulate standard policies well in advance of crisis situations to ensure quick deployment of sustainable DFS solutions.

Donors may themselves also impose barriers through strict reporting requirements for fund traceability, for example reporting on how the aid is being used by recipients. Digitized cash transfers however provide more choice to the recipients and while keeping track of their transactions may be possible, identifying where money is being spent and sharing it with other organizations may conflict with data privacy mandates.

New and innovative technologies are being explored to address policy and requirement issues. The World Food Program (WFP) for example is enhancing its reporting, supply chain management and cash transfers through its ‘Building Blocks’ pilot. They are using blockchain technology to better protect beneficiary data, reduce fraud and process and settle transactions faster, among other objectives.

Network and Infrastructure
Insufficient and/or damaged infrastructure and connectivity in crisis affected locations can make digital payments extremely unreliable. DFS may not be the best medium of aid distribution under such circumstances. Crisis may

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91 The role of digital payments is likely to reach close to USD 1.6 billion in 2018. See WFP (2018) Building Blocks, available at https://innovation.wfp.org/project/building-blocks
92 In January 2017 WFP initiated a proof of concept to confirm basic assumptions around the capabilities of blockchain in authenticating and registering transactions in Sindh province, Pakistan. WFP then built and implemented a more robust blockchain system in refugee camps in Jordan. As of October 2018, more than 100,000 people residing in camps redeem their WFP-provided assistance through the blockchain-based system. ibid
93 ibid
however present opportunities for humanitarian aid agencies to work with the private sector to invest in the development of better systems and infrastructure to support rehabilitation and sustainability beyond the crisis period.95

Moreover, humanitarian agencies and DFSPs often refrain from investing in developing strong agent networks due to regulatory, financial and resource hurdles to set up strong networks.96 Sparse agent and merchant networks, forcing users to travel long distances or wait for a long time in lines, can also negatively impact DFS use.97 Even in locations where there are agents and merchants for cash-in and cash-out (CICO) purposes, their liquidity capacity may limit their ability to serve mobile money customers, leaving them to feel insecure about mobile money products.98

## Exhibit 2: Benefits and challenges of different types of humanitarian assistance: In-Kind, Cash only, DFS only, and Cash and DFS.
IV. Recommendations

For Regulators/Authorities
- Prepare and plan to create an enabling environment for DFS use in case of a humanitarian crises.
- Engage in policy formulation and modification specifically for humanitarian crisis situations that support inclusive and sustainable DFS ecosystem.
- Initiate public-private partnerships to encourage use of commercially available technology for humanitarian cash transfers.
- Facilitate collaboration amongst ecosystem participants for knowledge sharing, building common solutions and exploring opportunities to use, expand and improve existing local systems and infrastructure.

For DFS/Technology Providers
- Invest in open-looped DFS systems and infrastructure with explicit objectives for financial inclusion that can potentially be used for humanitarian crises responses where and when appropriate.
- Devote resources to digital and financial literacy training and mobile money awareness to increase uptake of DFS solutions amongst beneficiaries.

For Crises Responders/Agencies
- Understand and keep the beneficiaries at the center of crisis response agendas.
- Provide adequate support, such as helpdesks and toll-free customer service numbers, for users to clarify their concerns, have their questions answered, and obtain assistance in navigating through the system.
- Outline minimum data required for beneficiary registration in crisis situations.
- Explore new ways of determining proper use and impact of digitized cash transfers that maintains privacy of beneficiaries.
- Create a strong business case for private sector to expand their services and provide for the affected population through strategies such as, demand aggregation and solution standardization as means to allow them to scale and reach larger populations.