Focus Note: The Role of Digital Financial Services in Humanitarian Crises Responses[1]

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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.[4]

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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[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, Enclude 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

[5] OCHA (2017) *World Humanitarian Data and Trends 2017,* available at https://bit.ly/2PasVPR

[6] OCHA (2018) *Global Humanitarian Overview 2018,* available at https://bit.ly/2wA0tiX

[7] OCHA (2018) *Humanitarian Funding Update February 2018,* available at https://bit.ly/2NnrAVz

[8] CaLP & Accenture (2018) *The State of the World's Cash Report,* available at https://bit.ly/2ocggR5

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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[9] See Exhibit 2. The Cash Learning Partnership (2018) *CaLP Press Release: Ban Ki-moon – Give People Cash Not Goods as Best Form of Emergency Assistance,* available at https://bit.ly/2wr4o17; Beth Porter (2016) *Done Right, Digital Finance Could Transform Humanitarian Response,* available at https://bit.ly/1QbrDmX. The Cash Learning Partnership (CaLP) is a global partnership of humanitarian actors engaged in policy, practice and research within cash transfer programming. It has over 70 members who collectively deliver the vast majority of cash transfer programming in humanitarian contexts worldwide. *See* Cash Learning Partnership (2018) *About Us*, available at http://www.cashlearning.org/about-us/overview

[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

[11] GSMA (2017) *Landscape Report: Mobile Money, Humanitarian Cash Transfers and Displaced Populations,* available at https://bit.ly/2gMlJe4; Taylor, E J, Filipski, M J, Alloush, M, *et al.* (2016) *Economic Impact of Refugees*, available at http://www.pnas.org/content/113/27/7449.full

[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

[13] Harihareswara, N, Lamm, J & Meissner, L (2015) *Disaster Response in the Digital Age: Investing in Digital Finance to Accelerate Humanitarian Response,* available at https://bit.ly/2wtxZqP

[14] NGOs play different roles and operate in different ways across societies. Mostly, they deliver services to people in need, advocate for policy and run public campaigns to bring about social transformation. Lewis, D (2018) *Nongovernmental Organizations, Definition and History,* available at https://bit.ly/2BMFage

[15] Organizations that provide swift and efficient humanitarian assistance in emergency and crisis situations such as natural disasters, wars and long-term conflict. Ministry of Foreign Affairs of Denmark (2018) *Humanitarian Organizations,* available at http://um.dk/en/danida-en/partners/humanitarian-organisations/

[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/fais/Documents/FAISGuide.pdf

[17] Institutions provide financial and support services to poor, vulnerable and risky populations, mostly by providing microcredit loans. Ray, A (2017) *Microfinance Institutions Are Struggling for Survival. Here's why,* available at https://bit.ly/2HmhfGZ

[18] Payment Service 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

[19] MNOs have licenses to provide telecommunication services through mobile devices. They can be under the regulation of central banks if they provide mobile financial services. afi (2013) *Mobile Financial Services Basic Terminology,* available at https://bit.ly/2IOnJ14; Tagoe, N (2016) *Who Regulates the Mobile Money Operations by Telco's? The Need for an Effective and Robust Legislative and Regulatory Framework in Ghana,* available at https://bit.ly/2qqwG9R

Digital financial service (DFS) solutions[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.[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.[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.[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,[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.[25]

Of the many DFS solutions, mobile money has emerged a popular tool for digital cash transfers[26] for humanitarian purposes.[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.[28] Along with receiving aid,

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[20] DFS describes ecosystems for the delivery of basic financial services to the poor at greater convenience, scale and lower cost using technologies like mobile phones, electronic money models and digital payment platforms. 'Mobile money' services encompass the transfer of electronic money using mobile networks, mobile phones and agents. It is a subset of DFS. See AFI (2018) *Digital Financial Services,* available at https://bit.ly/2IuOBGW; CGAP (2018) *Digital Financial Services*, available at http://www.cgap.org/topics/digital-financial-services; ITU (2017) *Digital Financial Services Ecosystem,* available at https://www.itu.int/dms_pub/itu-t/opb/tut/T-TUT-DFS-2017-PDF-E.pdf; USAID (2013) *Mobile Money: Defined,* available at http://pdf.usaid.gov/pdf_docs/PA00JQD5.pdf

[21] BTCA (2016) *Saving Money, Saving Lives: A Case Study on the Benefits of Digitizing Payments to Ebola Response Workers in Sierra Leone*, available at https://bit.ly/1THw58s; WFP (2015) *In Kenya, WFP Introduces Electronic Cash Transfers for Refugees in Kakuma Camps*, available at https://bit.ly/1nxQuEh; UNHCR (2018) *The Common Cash Facility,* available at http://www.unhcr.org/596331dd7.pdf

[22] Rajkotia, R (2016) *Marshaling Digital Cash for Humanitarian Challenges: Uniting Private, Public and Nonprofit,* available at https://bit.ly/2odcZkz

[23] Data in this focus note is compiled up to October 10 2018.

[24] Whisson, I & May, M (2016) *Expecting the Unexpected: Why Digital Financial Services can be a post disaster lifeline,* available at https://bit.ly/1VNEFab; Breaking Banks (2015) *Fintech Aid to Refugees,* available at https://breakingbanks.com/episode/fintech-aid-to-refugees/; MacBride, E (2016) *The Deceptively Simple Economic Case for Giving Refugees Cash, Not Stuff,* available at https://bit.ly/2iKEgLi

[25] Bailey, S & Harvey, P (2015) *Cash Transfer Programming and the Humanitarian System,* available at https://www.odi.org/publications/9455-cash-transfer-programming-and-humanitarian-system; International Rescue Committee (2016) *Summary and Recommendations: Making Electronic Payments Work for Humanitarian Response // Untapped Humanitarian Demand: A Business Case for Expanding Digital Financial Services*, available at https://bit.ly/2MCWbCh

[26] A transfer of money or currency made from one party to a recipient through a digital channel, such as mobile money, electronic platform, electronic bank transfer, or other. GSMA (2017) *Landscape Report: Mobile money, Humanitarian Cash Transfers and Displaced Populations,* available at https://bit.ly/2Nk6kQj

[27] GSMA (2017) *The Importance of Mobile for Refugees: A Landscape of New Services and Approaches,* available at https://bit.ly/2kHP8bx

[28] GSMA (2017) *Humanitarian Payment Digitisation: Focus on Uganda's Bidi Bidi Refugee Settlement,* available at https://bit.ly/2qT4BHC

those affected by crisis also use mobile money to receive remittances, safeguard savings, receive insurance, social protection and obtain credit where available.[29]

Challenges[30] with regards to DFS delivery however have resulted in mostly fragmented, closed-loop[31] and custom-built solutions for humanitarian crises even in locations with existing DFS systems.[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.[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.[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.[35] As this refugee population increases, humanitarian aid agencies[36] and MNOs are collaborating[37] to provide humanitarian cash transfers,[38] where funds are moved from an aid agency's bank account to the MNO's account.[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.[40] Once funds have been received, the beneficiaries are able to cash-out from mobile money agents[41] or spend the funds at a merchant.[42]

Common Cash Facility Platform in Jordan

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[29] Riecke, J (2017) *Refugees and Mobile Money: Services and Initiatives that Support Those in Crisis*, available at https://bit.ly/2AXSPzT

[30] See Section III.

[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

[32] Bemo, V, Aberra, D & Zimmerman, J (2017) *Unlocking the Power of Digital Financial Services for Humanitarian Response*, available at https://bit.ly/2ofqdwU

[33] *The Role of DFS in Humanitarian Crises Responses* roundtable at Columbia University, January 17 2018, available at https://bit.ly/2LwdgYN

[34] *ibid*

[35] Hattem, J (2017) *Turning the World's Largest Refugee Camp Into a 'Big City',* available at https://bit.ly/2fMhwGA

[36] As of August 2017, International Rescue Committee (IRC), Save the Children, Mercy Corps, DanChurchAid, World Food Programme, Norwegian Refugee Council.

[37] GSMA (2017) *Humanitarian Payment Digitisation: Focus on Uganda's Bidi Bidi Refugee Settlement,* available at https://bit.ly/2qT4BHC

[38] Robinson, C (2017) *Phone Technology Gives Refugees in Uganda a Cash Lifeline*, available at https://bit.ly/2gDYGFl

[39] GSMA (2017) *Humanitarian Payment Digitisation: Focus on Uganda's Bidi Bidi Refugee Settlement,* available at https://bit.ly/2qT4BHC

[40] *ibid*

[41] A third party acting on behalf of a bank or financial service provider to facilitate transactions with customers. They perform cash-in, cash-out services and may also register new customers. The use of retail outlets as agents can help provide financial services to underserved populations at a lower cost. afi (2013) *Mobile Financial Services Basic Terminology,* available at https://bit.ly/2IOnJ14; GSMA (2010) *Mobile Money Definitions,* available at https://bit.ly/2IeH7HG

[42] GSMA (2017) *Humanitarian Payment Digitisation: Focus on Uganda's Bidi Bidi Refugee Settlement,* available at https://bit.ly/2qT4BHC

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.[43] 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.[44]

The CCF is based on a public private-partnership between UNHCR, Cairo Amman Bank (CAB) and biometrics technology company, IrisGuard.[45] 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.[46] 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,[47] the adults in a refugee family will have their iris scanned by UNHCR staff.[48] 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.[49] 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.[50] 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.[51]

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.[52]

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.[53] It is funded by a USD 3 million grant from the Bill and Melinda Gates Foundation.[54]

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[43] UNHCR presentation at *The Role of DFS in Humanitarian Crises Responses* roundtable at Columbia University, January 17 2018, available at https://bit.ly/2LwdgYN

[44] UNHCR (2018) *The Common Cash Facility,* available at http://www.unhcr.org/596331dd7.pdf; UNHCR & CaLP (2017) *Review of the Common Cash Facility Approach in Jordan,* available at https://bit.ly/2obxyh8; UNHCR presentation at *The Role of DFS in Humanitarian Crises Responses* roundtable at Columbia University, January 17 2018, available at https://bit.ly/2LwdgYN

[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.

[48] Biometric data is expected to reduce fraud and also address issues regarding lost and stolen ATM cards and pin codes. Zyck, S & Armstrong, J (2014) *Humanitarian Crises, Emergency Preparedness and Response: The Role of Business and the Private Sector,* available at https://bit.ly/2wh95eE; UNHCR (2018) *The Common Cash Facility,* available at http://www.unhcr.org/596331dd7.pdf

[49] *ibid*

[50] UNHCR (2018) *The Common Cash Facility,* available at http://www.unhcr.org/596331dd7.pdf

[51] *ibid*

[52] UNHCR presentation at *The Role of DFS in Humanitarian Crises* Responses roundtable at Columbia University, January 17 2018, available at https://bit.ly/2LwdgYN.

[53] The MM4R initiative is a component of Jordan's 2018-2020 National Financial Integration Strategy focused on empowering the underprivileged segments of the population across the Kingdom. See Jordan Times (2018) *Mobile Money Initiative Launched For Refugees, Low-income Jordanians,* available at https://bit.ly/2FfkxgO

[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.[55] Hurricanes Harvey, Irma and Maria have wreaked havoc in the Caribbean, Puerto Rico and the U.S. Virgin Islands communications systems.[56] Emergency responders require communications for effective assistance efforts and success may be dependent upon national and international coordination with government and MNOs.[57] Those in need seek to communicate with responders for assistance, to contact family, and receive remittances via mobile money[58] 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)[59] and satellite communications.[60] 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.[61] Portable solutions can however be costly over long time periods.[62] 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.[63]

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

[55] Nordland, R (2015) *A Mass Migration Crisis, and It May Yet Get Worse*, available at https://nyti.ms/1Muc1m5; Rachman, G (2016) *Mass Migration into Europe Is Unstoppable*, available at https://on.ft.com/2vKb1Pk

[56] FCC (2017) *FCC Advances up to USD 76.9 Million to Restore Communications Networks in Puerto Rico and U.S. Virgin Islands Devastated by Maria*, available at https://bit.ly/2PIkM6a; FCC (2017) *In the Matter of the Connect America Fund*, available at https://apps.fcc.gov/edocs_public/attachmatch/FCC-17-129A1.pdf; GSMA (2018) *The 2017 Atlantic Hurricane Season: Mobile Industry Impact and Response in the Caribbean*, available at https://bit.ly/2PbM306

[57] Williams, R, Bissessar, S (2017) *Strengthening Cooperation Between Telecommunications Operators and National Disaster Offices in Caribbean Countries*, available at https://bit.ly/2HLRgve

[58] Beneficiaries can receive mobile money funds three different ways. Casswell, J, Frydrych, J (2017) *Humanitarian Payment Digitisation: Focus on Uganda's Bidi Bidi Refugee Settlement*, available at https://bit.ly/2qT4BHC

[59] McGrath, F (2014) *Mobile Network Restoration & Humanitarian Response the Vodafone Foundation Instant Network Programme*, available at https://bit.ly/2Jm4V9J

[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

[62] At present, building portable solutions such as macro-cells costs USD 120,000 - 140,000 costing about USD 4,000 monthly for infrastructure OPEX. Casswell, J & Frydrych, J (2017) *Humanitarian Payment Digitisation: Focus On Uganda's Bidi Bidi Refugee Settlement,* available at https://bit.ly/2qT4BHC

[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),[64] banks, and MNOs can all increase their customer base, and regulators can have better oversight data and tools.[65]

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.[66]

It is then important for humanitarian agencies and providers to think about:[67]
- 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.[68] Ecosystems participants with humanitarian digital cash transfer intentions hence need to prepare for crises,[69] 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.

Thereto, ecosystem participants have collaborated to formulate what are known as the *Barcelona Principles,*[70] 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.[71]

The *Principles on Public-Private Cooperation in Humanitarian Payments*[72] 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.[73] The technical knowledge and expertise of private sector partners can assist

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[64] Banks, other licensed financial institutions, and non-banks who supply financial products and services through digital means. A mobile money operator can be a type of DFSP. ITU (2016) *The Digital Financial Services Ecosystem,* available at https://bit.ly/2BiFoNK.

[65] UNHCR presentation at *The Role of DFS in Humanitarian Crises Responses* roundtable at Columbia University, January 17 2018, available at https://bit.ly/2LwdgYN

[66] BTCA presentation at *The Role of DFS in Humanitarian Crises Responses* roundtable at Columbia University, January 17 2018, available at https://bit.ly/2LwdgYN

[67] *ibid*

[68] *The Role of DFS in Humanitarian Crises Responses* roundtable at Columbia University, January 17 2018, available at *https://bit.ly/2LwdgYN*

[69] *ibid*

[70] BTCA, Bill and Melinda Gates Foundation, CaLP, *et al.* (2016) *Principles for Digital Payments in Humanitarian Response,* available at https://bit.ly/2ghJhac

[71] Martin, C & Zimmerman, J (2016) *Eight Principles for Digital Payments in Humanitarian Response,* available at https://nextbillion.net/eight-principles-for-digital-payments-in-humanitarian-response/

[72] WEF (2017) *Principles on Public-Private Cooperation in Humanitarian Payments*, available at https://bit.ly/2MZj16s

[73] WEF (2017) *Financial Service Providers, Aid Agencies Agree on Joint Principles to Respond to Humanitarian Crises*, available at https://bit.ly/2MZj16s; *ibid*

humanitarian aid agencies in developing new open-loop[74] 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] procedures[77]
- 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

[75] OCHA (2018) *Partnerships with the Private Sector,* available at https://www.unocha.org/theme/partnerships-private-sector

[76] Measures by financial institutions to identify and verify the identity of customers and the motives behind their financial activities. AFI (2016) *Digital Financial Services Basic Terminology,* available at https://bit.ly/2fipB9g

[77] See GSMA (2017) *Enabling Access to Mobile Services for the Forcibly Displaced: Policy and Regulatory Considerations for Addressing Identity-Related Challenges in Humanitarian Contexts,* available at https://bit.ly/2Pc4Jwx

[78] USAID presentation at *The Role of DFS in Humanitarian Crises Responses roundtable at Columbia University, January 17 2018,* available at *https://bit.ly/2LwdgYN.*

[79] Willis, M (2016) *The Triple Win: Using Mobile Money for Cash Transfers in Zimbabwe,* available at https://solutionscenter.nethope.org/resources/the-triple-win-using-mobile-money-for-cash-transfers-in-zimbabwe

[80] *Ibid;* and Kourgialis, J (2018) *Learning From Ebola: How Mobile Money Can Prevent Health Crises*, available at https://bit.ly/2qbFwbh

[81] *The Role of DFS in Humanitarian Crises Responses* roundtable at Columbia University, January 17 2018, available at https://bit.ly/2LwdgYN.

[82] ELAN (2016) *Mobile Money Transfers for Humanitarian Assistance & Development Programming: A Service Provider Perspective*, available at https://solutionscenter.nethope.org/assets/collaterals/MM_CTP_Research.pdf

mobile money PINs were 57% less likely to use their accounts again.[83] 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.[84] Commonly, crisis-affected populations do not have the resources to meet stringent KYC requirements[85] 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.[86]

Policy makers may not be able to make appropriate reforms or investments during times of crisis, when needs are pressing and urgent.[87] 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.[88]

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.[89] 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 inflict with data privacy mandates.[90]

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[91] through its 'Building Blocks' pilot.[92] They are using blockchain technology to better protect beneficiary data, reduce fraud and process and settle transactions faster, among other objectives.[93]

Network and Infrastructure
Insufficient and/or damaged infrastructure and connectivity in crisis affected locations can make digital payments extremely unreliable.[94] DFS may not be the best medium of aid distribution under such circumstances. Crisis may

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[83] Bailey, S (2017) *Electronic Transfers in Humanitarian Assistance and Uptake of Financial Services,* available at https://www.odi.org/sites/odi.org.uk/files/resource-documents/11424.pdf

[84] EL-Zoghbi, M, Chehade, N, McConaghy, P, *et al.* (2017) *The Role of Financial Services in Humanitarian Crises*, available at https://bit.ly/2MVv2cX

[85] GSMA (2017) *Enabling Access to Mobile Services for the Forcibly Displaced: Policy and Regulatory Considerations for Addressing Identity-Related Challenges in Humanitarian Contexts,* available at https://bit.ly/2Pc4Jwx

[86] Bemo, V, Aberra, D, Zimmerman, J, *et al.* 2017) *Enabling Digital Financial Services in Humanitarian Crises Response: Four Priorities for Improving Payments*, available at shorturl.at/fuBN3

[87] Rajkotia, R (2016) *Marshaling Digital Cash for Humanitarian Challenges: Uniting Private, Public and Nonprofit,* available at shorturl.at/CKUV5

[88] *The Role of DFS in Humanitarian Crises Responses* roundtable at Columbia University, January 17 2018, available at https://bit.ly/2LwdgYN

[89] Bemo, V, Aberra, D, Zimmerman, J, *et al.* (2017) *Enabling Digital Financial Services in Humanitarian Crises Respons: Four Priorities for Improving Payments*, available at shorturl.at/cjkDE

[90] *The Role of DFS in Humanitarian Crises Responses* roundtable at Columbia University, January 17 2018, available at https://bit.ly/2LwdgYN

[91] These payments are 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*

[94] IRC (2016) *Untapped Humanitarian Demand: A Business Case for Expanding Digital Financial Services*, available at shorturl.at/eiCIP

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]

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[95] EL-Zoghbi, M, Chehade, N, McConaghy, P, *et al.* (2017) *The Role of Financial Services in Humanitarian Crises,* available at shorturl.at/GKOS0

[96] The Bill & Melinda Gates Foundation presentation at *The Role of DFS in Humanitarian Crises Responses* roundtable at Columbia University, January 17 2018, available at https://bit.ly/2LwdgYN3

[97] Bailey, S (2017) *Electronic Transfers in Humanitarian Assistance and Uptake of Financial Services,* available at https://www.odi.org/sites/odi.org.uk/files/resource-documents/11424.pdf

[98] Tirivayi, N, Matondi, P, Tomini, S, *et al.* (2016) *Humanitarian Assistance through Mobile Cash Transfers,* available at https://www.merit.unu.edu/publications/uploads/1487612134.pdf

	Benefits	Challenges
In-Kind	• Government and agencies have more control over the type of benefits to provide • Can meet demand for a good by increasing supply without potentially increasing prices in the market	• Cost of buying, storing and transporting goods can be high, and some goods may spoil or expire before distribution • Recipients may value the good less than the equivalent cash amount • Distorts consumption as the recipients may consume more of the good than they otherwise would have • Recipients may sell the goods for cash
Cash-only	• Fast and cost-efficient way to deliver • Can fulfill different household needs • Supports market recovery and contributes to the community livelihoods • Provides greater choice and freedom for the recipient	• Fraud and theft • Requires careful monitoring to ensure that the cash benefits are being utilized for the intended purposes • Requires supply of necessary goods and services in the market
DFS Digital Only	• Fast and cost-effective way to deliver benefits • Provides cash like benefits in a relatively more secure system • Relatively safer than handling cash and transporting physical goods • Increases accountability and transparency by monitoring transfers and tracing funds • May attract new customers to use formal financial services, provide access to a range of digital financial services, facilitate financial inclusion and development • Government and agencies may have control over the type of benefits when fund is transferred via a mobile voucher for a pre-determined purpose such as buying a good from a particular merchant	• Requires a reliable DFS infrastructure, including merchants that accept digital payments, steady mobile coverage and power supply • Lack of digital literacy of recipients may prevent them from setting up, accessing and continuing using DFS • Crisis-affected populations may not have personal identification documents to meet regulatory requirements to enroll in DFS • Many DFS solutions are closed-loop, one-off and fragmented, preventing integration with formal financial services • If recipients receive funds as a mobile voucher for a pre-determined purpose, there may be issues of recipients valuing the good less than the equivalent cash amount and they may also sell it for cash.
Cash & DFS	• Fast and cost-effective way to deliver benefits • Flexibility in transaction medium • Can fulfill different household needs • Increase accountability and transparency by monitoring transfers and tracing funds • May attract new customers to use formal financial services, provide access to a range of digital financial services, facilitate financial inclusion and development • May attract new customers to use formal financial services, facilitating financial inclusion and development	• Requires DFS infrastructure, including CICO points, whether it be ATMs or agents, and steady mobile coverage and power supply • Need safety measures to protect CICO points as there have been issues such as theft in agent locations • Liquidity issues when agents do not have enough cash to meet demand • Lack of digital literacy of recipients may prevent them from continuing using DFS and increase reliance on agents • Crisis-affected populations may not have personal identification documents to meet regulatory requirements to enroll in DFS • Many DFS solutions are closed-loop, one-off and fragmented, preventing integration with formal financial services

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.