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BRIEFING NOTE No. 143

Digitalisation in humanitarian aid: OPPORTUNITIES AND CHALLENGES IN FORGOTTEN CRISES

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January 2022

In 2020, as an estimated 243.8 million people were assessed to be in need of humanitarian assistance, and countries experiencing protracted crises have doubled to 34 in the last six years. Responsible digitalisation and innovative technologies can help, as they promise to deliver quick and cost-effective relief – a reason why the EU is committed to extend the use of secure and efficient digital tools in humanitarian actions.

However, digitalisation is not the panacea for all humanitarian challenges and without proper safeguards, digital tools come with significant risks. This note analyses the role digital tools can play in addressing the challenges of forgotten crises where affected populations are receiving no or insufficient international aid and where there is no political commitment to find a solution. The note also looks at some of the tensions and risks associated with the use of such digital tools and provides recommendations for the EU and its member states.

Technology should be seen as an enabler rather than a solution, and the focus should be on finding ways to harness its strengths while also mitigating its risks. Without the right resources, capacities, policies and governance, technology cannot fulfil its potential. Digital technology's main purpose is to reach out to the beneficiaries more effectively and more rapidly. Thus, risks and benefits of using digital tools must be balanced and assessed against this primary purpose.

Introduction

Over the last 20 years, humanitarian needs have been growing at an ever-increasing rate (Pusterla and Pusterla 2021). COVID-19, on top of existing crises, has led humanitarian needs to be higher than ever in 2020, as an estimated 243.8 million people were assessed to be in need of humanitarian assistance, and countries experiencing protracted crises have doubled to 34 in the last 6 years (Development Initiatives 2021). An average humanitarian crisis now lasts for over nine years (EU Science Hub 2020). At the end of 2020, there were 82.4 million forcibly displaced people worldwide (UNHCR 2021). Providing timely and adequate humanitarian assistance to people affected by a humanitarian crisis is thus an increasingly challenging task. The gap between the resources available globally and humanitarian needs is increasing rapidly (EC 2021). This situation represents a particular risk for so-called forgotten crises, defined as severe, protracted humanitarian crisis situations where affected populations are receiving no or insufficient international aid and where there is no political commitment to solve the crisis, due in part to a lack of media interest (DG ECHO n.d.). **The EU allocates 15% of the initial annual humanitarian budget to forgotten crises** (EC 2020a; EC 2021).

Responsible digitalisation and innovative technologies are increasingly seen as an enabler in mitigating these unprecedented challenges. Digital technologies promise a means of delivering relief at scale in a quick and cost-effective manner. They show promise in different ways – for instance, in terms of connectivity, collecting and analysing data, secure transfer of digital payments to recipients or by using biometric verification of aid recipients for efficiency and security (Willitts-King et al. 2019). Ultimately, these tools can facilitate new ways of addressing the humanitarian financing gap (Capgemini Consulting 2019) and could even allow for better prevention and preparedness. The **March 2021 European Commission (EC) Communication on the EU's humanitarian action and the ensuing EU Foreign Affairs Council Conclusions** committed to further extend the use of secure and efficient digital tools in humanitarian actions and encouraged further use of innovative solutions by humanitarian organisations to increase the effectiveness and impact of their response (EC 2021; Council of the EU 2021). This takes place in the context of a **considerable political push in favour of digital development (both internally and externally) by the President of the European Commission Ursula von der Leyen**: it is indeed one of the five priorities of the 'geopolitical' European Commission and has gained considerable traction in the last few years.

Digital tools and technology-based solutions have already been partially implemented in humanitarian action and proved to provide clear benefits (Pusterla and Pusterla 2021). However, without proper safeguards they come with significant challenges and risks. While digitalisation is not the panacea for all humanitarian challenges, there is a need to better understand its potential. In this context, the **Slovenian Presidency of the Council of the European Union (EU) aimed to further explore the role innovative technologies can play in addressing humanitarian challenges, in particular, in the context of forgotten crises**. The present note is based on desk research and a limited number of interviews (with EU institutions, EU member states and researchers). It analyses the role digital tools can play in addressing the challenges of forgotten crises specifically, and some of the tensions and risks associated with their use and it ends with providing some emerging good practices and recommendations.

1. Digital tools at the service of humanitarian action

This section looks at the use of digital tools for humanitarian action through two entry points: (1) the utilisation of data and digital tools in policy-making through the example of DG ECHO's Forgotten Crisis Assessment; and (2) the use of digital tools in the delivery of assistance through the lens of displacement and with the specific example of biometrics and digital ID.

- **Upstream/policy- and decision-making**

DG ECHO's Forgotten Crisis Assessment (FCA) index results from a combination of the following factors: vulnerability index; media coverage; donor interest as

reflected in the level of public aid received and the qualitative assessment by the Commission's experts and geographical units. The assessment is supported by an algorithm and both INFORM Risk Index (a global, open-source risk assessment for humanitarian crises and disasters which identifies where the level of risk of humanitarian crises and disasters stands in countries) and IINFORM Severity Index (a tool that objectively measures and compares the severity of humanitarian crises and disasters worldwide). Media attention is measured through Europe Media Monitor, another digital tool developed by the Joint Research Centre. The algorithm is then translated into numbers and a ranking that provides the list of forgotten crises. Digital tools also allow staff to perform calculations automatically (based on surveys, expert data et cetera), thus avoiding mistakes and accelerating the process, as well as to improve the methodology (for example, simulations). The use of digital tools in this process supports the allocation of EU funding (15%) to forgotten crises.

Such quantification and digitalisation leads to comparability and objectivity and aims to use evidence and data in the best way possible (Interview October 2021). Such data can then guide further the action of the EU – and the donor community more broadly – in the design of projects through an assessment of the needs. Better data on crisis-affected people (and the resources available to these people) facilitates identification of people in need through evidence-based needs assessments and ultimately leads to better programming and fewer gaps in meeting those needs (Willitts-King and Spencer 2020; Capgemini Consulting 2019). As stated by United Nations Secretary-General António Guterres at the opening of the OCHA Centre for Humanitarian Data in 2017, **"accurate data is the lifeblood of good policy and decision-making."** (OCHA 2020a: 1). The past decade has seen great efforts towards better data-driven decision-making and the concept of **'data preparedness'** (harnessing high-quality data with technological means to better assess the risks, vulnerabilities and needs of communities, take preventative actions and ensure timely, efficient and effective response in case of humanitarian crises) (Arendt-Cassetta 2021; Capgemini Consulting 2019). Artificial intelligence, for instance, can facilitate analysis and interpretation of vast and complex humanitarian datasets to improve projections and decision-making (Arendt-Cassetta 2021). Digital tools thus enable efficient data collection as well as data analysis that can improve the entire humanitarian programme cycle (Capgemini Consulting 2019).

- **Downstream/programming and delivery of assistance**

A major issue in forgotten crises, given the multiplicity of challenges they face, concerns the identification and registration of affected people in need of assistance which is key for the delivery of aid. "During times of chaos or disaster, documents are often the last thing on affected people's minds, but the first problem they run into when they are seeking assistance" (Capgemini Consulting 2019). Globally, an estimated one billion people lack proof of identity (Desai et al. 2018). Technological innovations enable identification and registration of people who have been affected by a humanitarian crisis (Capgemini Consulting 2019).

Council conclusions on mainstreaming digital solutions and technologies in EU development policy from 2016 highlighted the fact that digital technologies can help improve civil registries and thereby contribute to the realisation of the human right to birth registration and nationality, and subsequently facilitate the enjoyment of other rights and services. They also pointed to the fact that electronic registration can facilitate delivery of humanitarian and development assistance in the context of forced displacement. The Council then encouraged the use of digital technologies in responding to disasters and the implementation of humanitarian projects, as well as in the context of migration with a view to supporting refugees and host communities (Council of the EU 2016).

The common denominator of most forgotten crises is displacement. Yet, oftentimes refugees do not have identity papers. Digital identification documents (ID) and biometrics are useful digital tools that can help ensure secure and accurate registration and thus access to a range of services for refugees and displaced populations (Capgemini Consulting 2019). A

digital ID for every person on the planet is what tech companies and humanitarian actors have been advocating for at the ID2020 Summit at the United Nations Headquarters (UNHQ) in New York in June 2017. This digital ID is linked to fingerprints, iris scans, personal information, medical records and other personal data (Capgemini Consulting 2019).
Biometrics are biological or physiological characteristics (fingerprints, facial structure, iris or retinal patterns, DNA, voice and signature) which can be used for identification or verification. In refugee camps, digital registration tools can help register people who are in need of assistance, ensure targeting of beneficiaries, so aid is only distributed among them and fraud and abuse can be avoided. By verifying that a person is who they say they are, biometric identification ensures that aid is distributed to the people to whom it is directed (Raftree in The New Humanitarian 2019). Using biometrics (and the digital processing of identification data) is highly efficient and cost-effective (Capgemini Consulting 2019). Those digital tools can thus help humanitarian organisations have a wider reach at a lower cost. They are harder to lose or forge than non-digital identification, minimising the risk of fraud and corruption. They also require fewer resources to verify, increasing processing speed and efficiency (Arendt-Cassetta 2021). By combating fraud and increasing operational efficiencies, these tools have the potential to increase accountability and credibility of programming and thus, potentially donor support (Capgemini Consulting 2019; Hayes and Marelli 2019). This is highly relevant for forgotten crises, as such tools allow humanitarian actors to be better able to meet the needs and reach more beneficiaries through increased efficiency in acute contexts in which funding is limited. Yet, it is also important to note that such crises, which have a lower profile, face logistical and operational constraints, as they usually have lower capacities, digital skills and infrastructure. In some contexts, it might thus be more appropriate to consider more basic technological approaches (Interview November 2021).

2. Tensions and risks associated with the application of digital solutions

There are a number of tensions and risks to consider when applying digital tools in humanitarian environments. These have been researched extensively, and some of them apply specifically to biometrics and displacement. For the purpose of this paper, they are analysed around five clusters.

- **Promoting data protection and consent while providing identification and services**

The most prominent and sensitive issue that arises particularly with the use of biometrics and digital ID concerns data protection. The issue of data protection is rooted in 'digital agency', or the "sense of ownership and control over one's own electronic data, and the ability to independently create, access and make informed decisions about it" (Willitts-King et al. 2019). Biometrics and digital ID contain uniquely personal and sensitive data, requiring robust safeguards to ensure individuals' control over their data as well as adequate data protection, privacy and security (Arendt-Cassetta 2021). Individuals may lack full understanding of the extent and risks of data processing or alternatives to accessing aid, and data may be used beyond its original purpose, undermining informed consent (Arendt-Cassetta 2021). Informed consent is an issue insofar as vulnerable, crisis-affected people in many cases do not have any other viable alternative to receive assistance if they do not wish to be included in biometric data collection (Iyer et al. 2021; Bryant et al. 2020). Affected people are rarely included in the ownership and management of their own personal data. There tends to be a lack of knowledge and education of both affected people and humanitarian staff as to where data goes and what it is used for (Willitts-King et al. 2019). Additionally, while there is much discussion of 'giving people a digital identity' as a desirable outcome for vulnerable people, there is little recognition of the 'right to be invisible'.[1] For particularly vulnerable and marginalised populations, remaining less visible and maintaining privacy and anonymity is a viable protection strategy that could be threatened by biometric technologies (Willitts-King et al. 2019).

While the early use of biometrics by the United Nations High Commissioner for Refugees (UNHCR) was seen as both a humanitarian and policy-level success story and promoted as 'vital to the distribution of humanitarian aid' (Jacobsen 2015), the damage they can cause to vulnerable people and groups and potential protection implications for refugees have more recently been exposed. The current Afghan crisis is another case in point. Although some legislation in Afghanistan contains reference to data protection, no specific regulations provide precise and direct provisions. As a result, national and international actors have, over the last two decades, deployed 'aggressive' systems to collect personal, biometric sensitive data for the purposes of maintaining security and countering terrorism. Following the Taliban take-over of Afghan territories in August 2021, many are experiencing huge insecurity due to the potential use and treatment of such data to identify people suspected of cooperating with Western forces (Pusterla and Pusterla 2021).

- **Avoiding the misuse of digital tools when expanding their use**

'Function creep' relates to the use of digital tools and the collected data for other purposes than the ones originally designated, including non-humanitarian purposes (ICRC 2020). In recent years, the potential use of biometrics by governments for counter-terrorism agendas, law enforcement, border control and national security has increased. Humanitarian actors have access to very sensitive and valuable information, and some donors[2] are increasingly requesting programmatic data (including biometric datasets) from operational partners, thus enhancing concerns that such data-sharing increases the risk of those receiving assistance being profiled or targeted by hostile governments or armed groups, without the purpose of the data-sharing being clear (Willitts-King and Spencer 2020; ICRC 2020). Non-state actors may also seek unauthorised access to biometric data, including through cyberattacks. Such third-party access can lead to serious issues, including digital refoulement, discrimination and persecution, and compromise the principled delivery of humanitarian assistance (Arendt-Cassetta 2021). It is particularly dangerous in refugee settings, where the displaced population may have reasons for not wanting their information shared with either their host country or country of origin for fears of discrimination or forced repatriation (Willitts-King et al. 2019). For instance, UNHCR may be asked to share biometric information by host or donor governments (Willitts-King et al. 2019).[3] This has already occurred with the Rohingya refugees in Bangladesh (Holloway and Lough 2021; HRW 2021).

- **Providing new tools without entrenching power imbalances**

Digital tools can cement existing power imbalances between the humanitarian sector and affected and vulnerable people. Experts have pointed out that the situation of the beneficiary means that there is no real "choice", and the individual is induced to accept what is proposed by a humanitarian organisation (Hayes and Marelli 2019). Fears that technology will maintain and even further the exclusion of vulnerable populations have also been raised, particularly in connection to issues around refugee data and identity and the trialling of technology on the most vulnerable populations. There are worries that agencies engaging in digital transformation are not doing enough to avoid unintentionally excluding groups who may already be left out of current approaches and further marginalising the hardest to reach (Willitts-King et al. 2019). This is particularly relevant in forgotten crises, which are already left out by the aid community. Debates around power and localisation (a Grand Bargain commitment) have gained new momentum as a result of the COVID-19 crisis and discussions around decolonisation of aid following the Black Lives Matter movement.[4]

- **Respecting humanitarian principles while collaborating with the private sector**

While the private sector has often been the engine of innovation in digital technology and engagement with it in humanitarian assistance is now more widely accepted (Capgemini Consulting 2019), there have been legitimate and longstanding concerns from the aid community about its role in its many different dimensions. These include the faith in so-called 'tech fixes' or single products to address needs in complex social contexts, concerns about (potential) differences

in objectives, principles and standards in engagement with the private sector as well as concerns that the profit motive may undermine the humanitarian space, leading to those with the most critical needs being neglected (Capgemini Consulting 2019; Willitts-King et al. 2019; Bryant et al. 2020).

- **Promoting innovation while being aware of practical issues**

There are a number of practical and technical issues related to the use of biometrics and digital ID in particular. These includes the reliability and accuracy of data and risks of technical failure;[5] the cost of biometrics; the need for technical infrastructure and skills (Capgemini Consulting 2019). **Interoperability** is another technical challenge, as organisations providing humanitarian assistance use different systems and tools. This is hugely inefficient for these organisations which repeat the same registration processes and it increases the data risks for the individuals. Interoperable systems enable people to prove their identity across service providers by selectively accessing and sharing a variety of digital credentials. Interoperable systems need to be recognised and trusted across geographic and institutional borders and require cross-sector collaboration, funding and regulatory frameworks. A lack of interoperability cannot only limit the utility of digital ID, but also widen the digital divide by excluding marginalised communities from accessing rights, benefits and services (Arendt-Cassetta 2021).

"Ultimately, biometrics and digital IDs should improve people's lives, not add complexity or burden for people affected by or responding to humanitarian crises" (Arendt-Cassetta 2021: 20). Yet, some have also cautioned against '**techno-optimism or -solutionism**' in the humanitarian sector, namely the view that technology will provide benefits and offer solutions to major problems, such as offering "a means for the cash-strapped and overwhelmed humanitarian sector to deliver relief at scale, saving money and effort to expand aid and service provision in a global context of increasing needs" (Willitts-King et al. 2019: 14). Yet, digital tools are unlikely to provide a straightforward 'fix' (Willitts-King et al. 2019: 14). This is linked to a tendency to look at technology as a solution rather than an **enabler** (Interview October 2021). As pointed out by the Overseas Development Institute (ODI), such tools are often mistakenly seen as objective or neutral. A tendency towards techno-optimism risks avoiding fundamental questions around the limits of technology, the role of the private sector and identifying when technology is and is not useful (Willitts-King et al. 2019). It is not about testing new technologies just for the sake of it or to look innovative, but rather about finding ways to harness their strengths while also mitigating their risks (Willitts-King et al. 2019). Keeping these trade-offs in mind, the next section provides some emerging good practices as well as some recommendations for the EU and its member states.

3. Ways Forward

- **Emerging good practices**

In response to many of these concerns, the humanitarian sector has begun to engage with the debates in wider global civil society around data responsibility[6] and 'doing no digital harm' (Willitts-King et al. 2019). In addition to broader legal frameworks such as the **European Union's General Data Protection Regulation (GDPR)**, there is some guidance to support organisations with data responsibility such as the United Nations (UN) Office for the Coordination of Humanitarian Affairs **(OCHA)'s Data responsibility guidelines** (OCHA 2019), **ICRC's Handbook on data protection** (ICRC 2020) (Willitts-King and Spencer 2020) as well as the **Inter-Agency Standing Committee's (IASC) operational guidance on data responsibility in humanitarian action** (IASC 2021).[7] The OCHA Centre for Humanitarian Data also published, together with key partners, a series of **guidance notes on Data Responsibility in Humanitarian Action over the course of 2019 and 2020, with funding from DG ECHO**.[8]

The Signal Code, developed by the Harvard Humanitarian Initiative, identifies five rights to information that people have during disaster[9] and aims to provide a foundation for the future development of ethical obligations for humanitarian actors and minimum technical standards for the safe,

ethical, and responsible conduct of Humanitarian Information Activities (HIAs) before, during, and after disasters strike. Based on these rights, obligations are identified which, in turn, should form the basis of technical standards for products and services (Capgemini Consulting 2019). The Humanitarian Data And Trust Initiative (HDTI) is a multi-stakeholder initiative launched in 2020 by the ICRC, the OCHA Centre for Humanitarian Data, and Switzerland to advance the protection and responsible use of humanitarian data. It aims to connect technological expertise with policy research and catalyse collective action on data responsibility (Centre for Humanitarian Data 2020). The DigitHarium, part of the HDTI, provides a space where humanitarian, diplomatic, academic and technology practitioners can meet to collaborate in order to find local and global solutions to today's digital dilemmas.

Public-private partnerships have also emerged, such as the ID2020 Alliance, which promotes ethical digital ID both globally and in humanitarian and development contexts, namely digital ID that is: privacy protecting and allows individuals to control access to their data; portable and persistent across time and jurisdictions; and interoperable between institutions (Arendt-Cassetta 2021). By 2030, the Alliance aims to have facilitated the scaling of a safe, verifiable, persistent digital identity system, consistent with Sustainable Development Goal (SDG) 16.9 – providing legal identity for all including free birth registrations. Many organisations joined forces to achieve this target (Capgemini Consulting 2019).

- **Recommendations**

Based on our research, a number of key principles/mitigation measures and recommendations can be drawn for an effective and responsible use of digital tools in humanitarian action.

Promotion of digital tools and infrastructure

- **Scaling up the development of digital tools for greater efficiency and impact: It is key that the EU and its member states continue to work together to promote innovation and digitalisation with their humanitarian partners.** At the *policy level*, it allows for evidence-based support and, in the case of forgotten crises, to get financing where it is needed based on objective and accurate data and information rather than on political interests (Interview October 2021). As was said about the Forgotten Crisis Assessment (FCA), "[s]uch quantification tools strengthen the apolitical credibility of decision-making as well as the transparency and accountability of implementation" (Pusterla and Pusterla 2021: 41). At the *implementation level*, it supports the EU's commitments to more effective, efficient and impactful humanitarian assistance. The thematic policies annex of the Humanitarian Implementation Plans (HIPs) already provides that "digital approaches and solutions built into the design and the proposed implementation of humanitarian actions, with data protection and security measures built in by design, will represent an asset when funding requests from partners are assessed". DG ECHO encourages partners to make use of new technologies and innovative practices to address humanitarian challenges (EC 2020b: 3). This should continue to be promoted with the right safeguards in place.
- **Promoting digital literacy within organisations and institutions:** As highlighted by ODI, "[w]hile the language of digital risks is gaining traction beyond a narrow technical audience, there is limited organisational readiness to deal with both new opportunities and risks and threats" (Willitts-King et al. 2019). However, the use of digital tools requires different ways of working, skills and capabilities of humanitarian organisations and other actors (Capgemini Consulting 2019). The fast pace of technological change makes it challenging for humanitarians and non-technical experts to consider the prospects and risks of various technologies and the policy implications. This leads digital approaches to be siloed in organisations, particularly in ICT teams or innovation hubs (Willitts-King et al. 2019). It is thus **key to equip DG ECHO and partners with the tools to understand digital technologies, their risks and opportunities and build (a mix of**

humanitarian and technical) expertise (Interviews October-November 2021). Looking at data protection, for example, is an investment that requires internal capacity.

- **Developing a relationship with the private sector (beyond big companies and as active partner in designing solutions):** Due to the existing pressure on availability of funding, the majority of funds is spent on the humanitarian sector's core business, the provision of assistance itself instead of innovation (Capgemini Consulting 2019). This is even more relevant for forgotten crises which face a shortage of funding. This makes it necessary to partner with the private sector for innovation (including small local enterprises), and for the industry to be more conversant with concerns relating to humanitarian action (Willitts-King et al. 2019).[10] This would, for instance, allow for the identification of innovations that could potentially be useful and adapted for humanitarian aid and the specific needs of diverse crises (Interview October 2021). It would also allow better understanding and valorisation of the private sector's contribution and prevent potential political implications conflicting with humanitarian principles (Pusterla and Pusterla 2021). It does, however, require the development of clearer, protection-driven standards to guide engagement with private technology actors (Bryant et al. 2020).
- **Promoting the sustainability of technological infrastructure and innovations in forgotten crises:** Infrastructure in these crises may not be mature and robust enough for the technological innovations, and it is often destroyed or affected in a disaster or crisis. Therefore, the technical capacity and capability to ensure long-term maintenance (and build a "pathway for future digital interventions" (Baah and Hamilton 2021)) should be in place. This includes training, regulatory frameworks but also improving data quality and coverage (Interviews October-November 2021). Building such an enabling environment requires a "nexus approach", namely, strengthening collaboration and complementarity between DG ECHO and DG INTPA to strengthen the resilience of communities, provide long-term solutions and have a transformational impact for communities in these countries. This is in line with the **EU's strong commitment to the humanitarian-development-peace nexus as reaffirmed in the 2021 Communication on the EU's humanitarian action** (EC 2021; Veron and Hauck 2021).

<u>Regulation and standardisation</u>

- **Promoting shared technological standards and interoperability:** There is currently a lack of coordination in the humanitarian sector in terms of how digitalisation is harnessed. Given the concerns about privacy and data protection, as well as the need for technological skills and system interoperability to effectively implement technological innovations in humanitarian assistance, shared technological standards are needed in the sector, especially in co-creation settings with non-traditional humanitarian actors (Capgemini Consulting 2019). This could include, for instance, requirements for both donors and implementing partners to have an "exit strategy" at the end of a project (in terms of what the produced database will become). **Policy work at EU level is thus very important, and DG ECHO has a key role to play in supporting the development of common standards around the safe and responsible use of digital tools and best practices across the sector** (Interviews October-November 2021). This is a responsibility that comes with being a leading humanitarian donor. The fact that the **EU promotes a human-centric digital transformation** is a positive sign in this regard (EC 2020c; EC 2020d).
- **Data protection** is an important pillar of this work (Interview October 2021) and the **GDPR** is considered as an **influential standard providing widely accepted data protection principles and incentivising other actors to adopt similar regulations** (Interviews October-November 2021; Hayes and Marelli 2019).[11] Such norms and regulations thus send a signal and push other organisations to prioritise these issues

(Interview November 2021). DG ECHO'S single form guidelines for partners to submit proposals for the Humanitarian Implementation Plan 2021 for example include questions on data protection risks for the partner to analyse any data risks in their operation as part of their risk analysis and propose mitigation measures. More broadly, contractual arrangements with humanitarian agencies (for example, 2021 partnership framework, Financial and Administrative Framework Agreement (FAFA) with the UN) all include data protection principles (equivalent to the GDPR) (Interview October 2021).

- **System interoperability** is necessary to enable several technological innovations. Data needs to be made available and shared between different actors and access to joint systems may be necessary (Capgemini Consulting 2019).

Human-centric approach and minimisation of harm

- **Recognising and embracing the core objective of humanitarian assistance as the main driver for technological innovation in humanitarian assistance:** Providing timely and adequate assistance to people affected by humanitarian crisis, including in forgotten crises, should be the main objective of technological innovation (Capgemini Consulting 2019). The use of digital tools should thus be rooted in humanitarian principles. As one interviewee put it, "humanitarian principles are more exposed in the digital world than in the real world" (Interview November 2021).
- **Respecting and promoting the 'do no harm' principle:** The **May 2021 Council Conclusions on the EU's humanitarian action** affirmed the need for responsible and ethical data management in humanitarian contexts in respect with the 'do no harm' principle, including in all instances where digital solutions are used for humanitarian assistance (Council of the EU 2021). Doing no harm in this context means avoiding unintended effects and the exacerbation of vulnerabilities, for instance, through the collection of data. This requires the highest ethical standards possible, and the adoption and implementation of robust data responsibility policies, processes and safeguards (Interview November 2021; Arendt-Cassetta 2021). Protection (both in the 'real' and the digital world) should remain at the heart of any intervention (Interview November 2021).
- **Promote a people-centered, needs-based and context-specific use of digital tools:** The need for and effectiveness of digital tools in humanitarian crises, including forgotten crises, should ideally be assessed by engaging with local communities affected by crises (including field research on information needs and preferences, digital literacy levels, access to technology, programme perception, and local partners and capacities (Arendt-Cassetta 2021)) and not be a top-down decision. Needs should be analysed before identifying the digital tools, as those should be applied as part of the solution to a clearly defined humanitarian problem (DG ECHO 2021). Benefits and risks to these communities, as well as cultural sensitivities need to be carefully assessed (ICRC 2020). This would help with building **trust, transparency and accountability**. Furthermore, localised and emerging technology solutions offer alternatives that could potentially be more appropriate for reaching vulnerable groups (Willitts-King et al. 2019). This is very much in keeping with the principles of **localisation, another important priority of the Communication on the EU's humanitarian action** and is key for resilience.

Knowledge sharing, research and innovation

- **Sharing lessons learned and best practices, promoting further research and building an evidence base:** There is a need for more evidence (including from local and field-based views) on what works and what does not work and in which contexts. This includes exploring the difference technology has made in crises and discerning where it has been detrimental and what principles should be followed to harness its potential (Willitts-King et al. 2019). The Humanitarian Innovation Fund, for instance, provides lessons learned and insights on effective humanitarian innovation and

shares this evidence-base globally (Capgemini Consulting 2019). **Regular exchanges between EU member states on their experience in this field would be valuable in this regard.**

- There is also a **need for more analysis (from outside the humanitarian sector) on the gaps and challenges and potential solutions where technology could be used** (for instance, blockchain for helping to manage identities) (Interview October 2021).
- With **Horizon 2020** (now replaced by Horizon Europe for 2021-2027), the EU Research and Innovation Programme, the European Commission launched in 2017 the first **European Innovation Council (EIC) Horizon Prize**, of a total of six, on Affordable High-Tech for Humanitarian Aid. It facilitates the development of innovative solutions for the delivery of humanitarian aid with the frugal application of technology. In addition, the pilot programme EIC brings together the parts of Horizon 2020 that provide funding, advice and networking opportunities for entrepreneurs, small companies and scientists to scale up innovations internationally. EIC, for example, offers grants for challenges such as 'Early warning for Epidemics' and 'Blockchains for Social Good' (Capgemini Consulting 2019). This should be built upon to **scale-up and promote investments in proven, cost-effective, technology-based solutions for humanitarian aid, in line with the Communication on the EU's humanitarian action** (EC 2021).
- Developing a **comprehensive research and practice agenda for the development, application and scaling of new and emerging technologies in humanitarian action** as well as a catalogue of high-potential use-cases, with special focus on long-term impact, effectiveness and scalability in different contexts is another important aspect (Arendt-Cassetta 2021).

Doing business as usual is not an option given the scale of humanitarian challenges. However, we are still in the early phases of understanding the potential of digitalisation in humanitarian action, as well as the risks associated with it (Interview November 2021). Several messages can be drawn from this research. First of all, without the right resources, capacities, policies and governance, technology cannot fulfil its potential (Willitts-King et al. 2019). Secondly, technological innovations are merely enablers: political and organisational will and resources are needed to turn insights provided by digital tools into action (Capgemini Consulting 2019). This is particularly relevant for forgotten crises, as digital tools alone cannot be expected to solve challenges arising from these contexts. These crises ultimately face a lack of political commitment to address their underlying drivers and thus will require more than innovation to be prioritised and for their challenges to be tackled. Thirdly, it is key to keep in mind that digital technology's main purpose is to reach out to the beneficiaries more effectively and more rapidly and that risks and benefits of using digital tools must be balanced and assessed against this primary purpose. These messages and principles would benefit from being discussed with partners (both at policy and field level) in fora such as the **European Humanitarian Forum**. As underlined by OCHA, "[u]ndertaken jointly with affected communities and partners across sectors, such converging efforts could powerfully enable transformation in the years to come" (Arendt-Cassetta 2021: 5).

Acknowledgements

This paper was produced in the framework of cooperation between the European Centre for Development Policy Management (ECDPM) and the Slovenian Presidency of the Council of the European Union 2021. It served as an input to the Council Working Party on Humanitarian Aid and Food Aid (COHAFA) resulting in this public version which can be seen as one of the offsprings from this Presidency. The author would like to thank all the interviewees for sharing their insights. The author is grateful to Ambassador Zorica Bukinac for her support throughout the drafting process. The author is also grateful to ECDPM colleagues Andrew Sherriff and Ennatu Domingo as well as Richard Tighe from Oxfam for their valuable feedback, and Annette Powell for her work on layout. The views expressed in this paper are those of the author and any errors or omissions remain the responsibility of the author. Comments and feedback can be sent to Pauline Veron via email at <pv@ecdpm.org>.

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Endnotes

[1] This is similar to the 'right to be forgotten', a prominent feature of EU General Data Protection Regulation (GDPR), which enshrines in law the right of EU citizens to demand data about them be deleted (Willitts-King et al. 2019).

[2] As pointed out by the OCHA Centre for Humanitarian Data, "Donors have an important role in the humanitarian data ecosystem, both as drivers of increased data collection and analysis, and as direct users of data." (OCHA 2020b: 1).

[3] UNHCR's data protection policy reserves the right to share data with host countries and other 'third parties' that comply with the policy (Willitts-King et al. 2019).

[4] The CDAC network for instance has recently organised discussions around technology and the balance of power in aid.

[5] Technical failures include false positives, the recognition of a match that is not a match; false negatives, the rejection of a match that is a match; biometrics that are hard to capture, such as fingerprints that are not clear because of hard labour, darker coloured irises, et cetera; technology that can be hacked, fooled, corrupted or misused and other failures that result due to lack of electricity, faulty equipment or network connections. For example, in 2013, 6,500 refugees in Mauritania were denied access to refugee assistance because of problems with the biometric registration system. Their status as refugees and as appropriate recipients of aid was questioned sooner than the technology. (Willitts-King et al. 2019).

[6] Data responsibility in humanitarian action is defined by the IASC as "the safe, ethical and effective management of personal and non-personal data for operational response, in accordance with established frameworks for personal data protection" (IASC 2021: 7).

[7] As well as more specific policies on biometrics, such as Oxfam's biometric and foundational identity policy (Oxfam 2021) or ICRC's Biometrics policy (ICRC 2019).

[8] https://centre.humdata.org/tag/guidance-note/

[9] 1) the right to information, 2) the right to protection, 3) the right to privacy and security, 4) the right to data agency, and 5) the right to rectification and redress (Greenwood et al. 2017).

[10] The GSMA Mobile for Humanitarian Innovation (M4H) team plays a valuable role as a partnership broker between the humanitarian and private sectors.

[11] https://centre.humdata.org/introducing-the-humanitarian-data-and-trust-initiative/

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In addition to structural support by ECDPM's institutional partners: Austria, Belgium, Denmark, Estonia, Finland, Ireland, Luxembourg, The Netherlands and Sweden, this publication also benefits from a contribution by the Ministry of Foreign Affairs of Slovenia in the framework of the Slovenian Presidency of the Council of the European Union 2021.

ISSN1571-7577

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