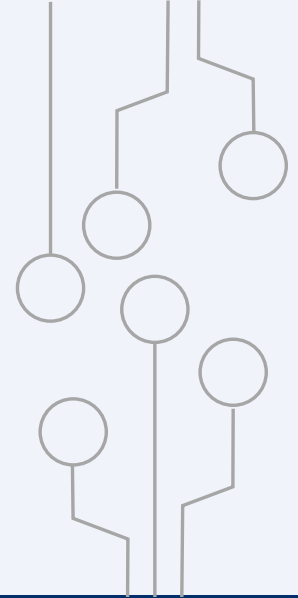


# TECHNOLOGIES IN HUMANITARIAN SETTINGS: DIGITAL UPSKILLING OF HUMANITARIAN ACTORS

DECEMBER 2022



## In brief:

- There is a growing gap between the complexity of digital technologies being adopted and the necessary skill level of staff to implement them in many humanitarian organizations. This gap can delay the rollout of any given technology and affect it from being used safely, sustainably, and effectively.
- Basic digital literacy should be achieved by all frontline humanitarians, even if they are not the intended end-user of an adopted technology at that moment.
- While an increasing number of humanitarian organizations are taking steps to support and advance the digital literacy of their frontline staff and partners, there are no sector-wide regulations and standards on digital literacy.
- Organizational digital strategies and action plans are critical for framing and prioritizing digital needs within an organization and its organizational partners. Action plans need strong involvement from frontline staff to ensure actions are compatible with needs and constraints.

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## INTRODUCTION

The humanitarian sector is in the process of a digital transformation. It is increasingly adopting technological tools, processes, and innovations to make humanitarian action more effective, efficient, and anticipatory [1-2]. The COVID-19 pandemic drove further digitalization, speeding up this transformation [2]. At the same time, the sector has placed an increased focus on localization—the respecting, funding, and strengthening of local organizations to better address the needs of affected communities [3]. Relevant to the increased focus on digital technology and localization in humanitarian assistance are questions about which skills are needed by frontline humanitarians in both global and local organizations to implement technology-based solutions, and how organizations and the sector more generally can support humanitarians in gaining these essential skills.

The introduction and implementation of new digital technologies requires that frontline humanitarian workers are equipped with the proper digital skills and literacy to perform, adopt, and adapt to the digital transformation. It also requires enhanced awareness and improved practices to ensure the digital protection of people served by humanitarian workers and the broader cyber-security of humanitarian data and tools.

This requires training and upskilling to ensure that humanitarian workers possess the skills to operate the technology safely and effectively. With minimal or no training or support, the benefits that digital technologies can bring to humanitarian assistance may be limited and could even contribute to unintended harm. Digital skills for humanitarian workers are essential for mitigating the risks of technology for affected populations as well as organizations, including digital surveillance, monitoring and intrusion; misinformation and disinformation

and hate speech; and misuse and mishandling of data and personal information [4]. Yet, humanitarian contexts challenge the ability to deliver learning. Recent attention has been given within the humanitarian sector to the importance of building digital skills and literacy, with emphasis on the fact that even basic levels of digital familiarity and knowledge of potential risks of new technologies does not exist among many humanitarian workers, nor are there standardized frameworks or regulations for digital literacy training and support across the sector [5].

*This study examines whether and how humanitarian organizations are providing training and support for their frontline staff and local partners as the humanitarian sector goes through its digital transformation.*

Specifically, this study investigates current needs and practices, highlights key challenges, and provides concrete, actionable considerations for how the humanitarian sector can better support the digital literacy of frontline workers. The focus of this study is on the digital literacy of frontline staff of humanitarian organizations and local partners rather than on the skills needed by affected communities to engage with digital solutions, which is the subject of other studies [2]. In addition, within the broad set of technologies and innovations being rolled out in the humanitarian sector, this study focuses on information communication technologies (ICTs) for use in humanitarian crises.

## RESEARCH APPROACH

### CONCEPTUAL FRAMEWORK

The research was guided by the “technology use” conceptual framework which uses a systems lens to place technology within a wider system of five components: (i) technology, (ii)

partnerships, (iii) people, (iv) policy and processes, and (v) operating environment [6]. These components are dynamic and linked, and their interactions lead to system behavior related to digital technology design and implementation in the humanitarian system. Drawing from this framework, the research study focused on the five primary questions in Table 1, detailed below.

## METHODOLOGY

This research was carried out between February and September 2022 and is informed by a literature review and key informant interviews. The literature review sought to understand historical and current approaches in the humanitarian and related sectors and identify standards, best practices, and challenges in design and implementation of digital literacy programs. Relevant documents were identified using search strings in Google Scholar with the following keywords: digital skills, digital literacy, digital competencies, digital divide, digital technology, humanitarian technology, and humanitarian ICTs. Documents reviewed include strategies, evaluations, research studies,

guidance, and project reports. To validate findings from the literature review and learn about current and emerging practices in the humanitarian and related sectors, four key informant interviews were conducted based on a semi-structured interview guide. Interviews were recorded when given permission by interviewees, and interview data was transcribed from recordings using Otter.ai software. Data from the literature review and interviews were thematically analyzed, using deductive and inductive coding.

## SUBJECT

The concept of digital literacy was introduced at the end of the twentieth century alongside the diffusion of ICTs. Digital literacy refers to the ability to use digital technology easily, effectively, and safely, and to access knowledge and problem-solve within digital environments [7]. Therefore, it involves more than possessing technical skills; cognitive and socio-emotional skills are also needed to problem solve in digital environments [7-8]. At the global level and in many countries, digital skills have increasingly become essential and are now a training

*Table 1: Analytical framework and research questions*

<b>TECHNOLOGY</b>	What digital technologies have been utilized in humanitarian settings and how has the digital literacy of frontline humanitarian staff been supported during their rollout?
<b>POLICIES AND PROCESSES</b>	What legislation, policies, and procedures exist that enable digital literacy for humanitarian staff?
<b>PEOPLE</b>	Who conducts, participates in, and supports digital literacy initiatives in the humanitarian sector?
<b>PARTNERSHIPS</b>	How do humanitarian agencies support local partners in improving digital literacy?
<b>OPERATING ENVIRONMENT</b>	How have external factors, including the COVID-19 pandemic, influenced humanitarian organizations' perceptions of and ability to provide digital literacy support to their staff and partners?

requirement for many organizations including international agencies such as the European Commission, UNESCO, and OECD [7].

There are varying definitions of digital literacy and there is minimal standardization of the term. This is because of its broad scope and applicability to many different fields, and the fact that in different countries and contexts users need to be able to do different tasks with digital tools [7, 9]. The digital literacy term is used interchangeably with other terms including information literacy, digital competence, digital skills, new literacies, multiliteracies, media literacy, e-literacy, internet literacy, ICT Skills, ICT Competence, ICT Literacy, meta-literacy, computer literacy, computer skills, e-competence, e-skills, and technology literacy [7]. In this research study we draw from definitions proposed by UNESCO and USAID and define digital literacy as the ability to access, manage, understand, integrate, communicate, evaluate and create information safely and appropriately through digital technologies utilized in the humanitarian sector [10-11].

The study takes a broad approach to competences—or those skills that help people effectively and safely use digital technology [10]—and considers technical as well as cognitive and socio-emotional skills needed by humanitarians to maximize the potential of digital technologies and minimize risks. Digital skills sit along a continuum from basic skills (the effective use of hardware, software, and internet/ICT tasks) to intermediate skills (the ability to critically evaluate technology or create content) to advanced skills (in ICT fields such as computer programming and network management) [12-13]. In the humanitarian field, skills needed to implement some digital technologies are easily mastered (such as

mobile devices for data collection) while others can be much more complex [14]. A range of digital literacy frameworks have been created to provide a structure for assessing competences, identifying gaps, and measuring impact of capacity building efforts [10]. The European Commission's Digital Competence Framework 2.0, which is not specific to the humanitarian sector but is broadly applicable to it, categorizes the key components of digital competence in five areas, as shown in Table 2 [15].

*Table 2: DigComp Framework 2.0 Categories of Digital Competence*

<b>Information and data literacy</b>	To articulate information needs, to locate and retrieve digital data, information and content. To judge the relevance of the source and its content. To store, manage, and organize digital data, information and content.
<b>Communication and collaboration</b>	To interact, communicate and collaborate through digital technologies while being aware of cultural and generational diversity. To participate in society through public and private digital services and participatory citizenship. To manage one's digital presence, identity and reputation.
<b>Digital content creation</b>	To create and edit digital content to improve and integrate information and content into an existing body of knowledge while understanding how copyright and licenses are to be applied. To know how to give understandable instructions for a computer system.
<b>Safety</b>	To protect devices, content, personal data and privacy in digital environments. To protect physical and psychological health, and to be aware of digital technologies for social well-being and social inclusion. To be aware of the environmental impact of digital technologies and their use.
<b>Problem solving</b>	To identify needs and problems, and to resolve conceptual problems and problem situations in digital environments. To use digital tools to innovate processes and products. To keep up-to-date with the digital evolution.

## FINDINGS SUMMARY

- ▶ There is a growing gap between the complexity of digital technologies being adopted and implemented by many humanitarian organizations and the skill level of frontline staff to utilize them. This gap between digital technology complexity and the level of digital literacy is often even greater with local partners. This limits the pace of technology rollout as well as the potential to use these technologies effectively, safely, and sustainably.
- ▶ During the COVID-19 pandemic, humanitarian organizations increasingly relied on digital technology to support their work, requiring frontline humanitarian staff to develop skills in the use of these technologies and further exposing digital skills gaps.
- ▶ The digital skills needed by frontline humanitarians are diverse and go beyond a narrow focus on technical competence. Skills required include the understanding of risks and legal obligations pertaining to technology use and data, as well as problem-solving and related skills.
- ▶ Humanitarian organizations have undertaken a range of efforts to support the digital literacy of frontline staff and partners, including the provision of ongoing access to specialist skills, creation and distribution of guidance and training materials, and delivery of training (in person, online, and through mentorship and coaching). Some of these efforts are delivered in partnership with external agencies. Overall, however, they are primarily independent initiatives by one or several humanitarian agencies. Sector-wide efforts, regulations, and standards on digital literacy do not yet exist.
- ▶ Organizations' experiences highlight multiple challenges to ensuring sufficient levels of digital literacy for frontline humanitarian workers. These include infrastructural challenges and lack of organizational priority, as well as staff turnover, a narrow and short-term focus of training efforts, and adoption of tools that may be unnecessarily complex. Additionally, guidance and resources are not always made systematically available or appropriate to the context. Addressing these barriers, as well as recognizing the power dynamics related to humanitarian labor, is critical to improving digital literacy.
- ▶ Digital literacy training that is currently conducted for local partners usually focuses on specific tools and applications, rather than more general skills building of partners to use digital technology and data. More investment by international humanitarian agencies in continuous and comprehensive digital skills training of local partners is needed.
- ▶ Organizational digital strategies are important for framing and prioritizing digital literacy needs for staff and partners and action plans for addressing them.
- ▶ Other fields are implementing sector-wide digital literacy initiatives and these offer insights into how the humanitarian field could more systematically build digital skills of frontline workers through sector-wide standardization, certification, and accreditation. Training is needed broadly across the humanitarian sector and not just for staff and partners working in the digital technology space.



## FINDINGS

### TECHNOLOGY

*There is a growing gap between the complexity of digital technologies being adopted and implemented by many humanitarian organizations and the skill level of frontline staff to utilize them. This limits the pace of technology rollout as well as the potential to use these technologies effectively, safely, and sustainably.*

Digital technologies being rolled out by humanitarian organizations are increasingly sophisticated yet many frontline staff who are expected to use them have not been sufficiently trained or supported. A recent evaluation of WFP's use of digital technologies in constrained environments found a low level of digital literacy in parts of the organization and a lack of continuous training, leading to an increasing gap between technological capacities and the rapid rollout of digital technologies at all levels of the organization [6]. In a global survey within the organization, respondents requested more training and greater capacities for country office staff with functions related to ICT and digital data [6]. Similarly, a review of Oxfam's SHINE program found that all countries desired more regular refresher training on the use of technologies, suggesting a lack of confidence among staff and partners [17].

Lack of adequate training and support for frontline staff affects the pace of technology rollout as well as the ability to use technologies effectively, safely, and sustainably. One interviewee emphasized that these issues were particularly a problem with "high-tech" solutions such as blockchain.

*[For high tech], the technical literacy of humanitarians often is not as high as it needs to be to make sensible decisions*

*around the technology being implemented. They often do not know the questions they should be asking technologists, nor do they necessarily know as a result what a syllabus around a technology would look like.*

Innovation Researcher and Manager

Limited staff capacities can slow the pace of registration of and distribution to affected communities, and a report highlighted that data protection, privacy guidance and tools were not generally known or implemented [6]. Lack of sufficient training and support for frontline staff on new technologies means that management of these tools may shift to headquarters to ensure security and protection [6], a move that runs counter to the goals of the localization agenda.

*The digital skills needed by frontline humanitarians are diverse and go beyond a narrow focus on technical competence.*

Humanitarians' digital learning needs go beyond technical competence related to the use of specific technologies and also include knowledge about rights and risks of technology use and data, as well as problem-solving and related skills. A study of the use of technology in efforts to address conflict-related sexual violence found that digital literacy includes capacity to use a device and understanding of the basic purposes of doing so, but also involves issues of law, digital risk and rights, and awareness of the "digital body"—a body made legible as data [18]. Other studies have shown that rollout of specific technologies may also require unique learning needs. For example, IRC's implementation of digital cash transfers meant that staff needed to learn about how working with a digital payments' provider varies from other service providers, and how to train affected communities to understand the benefits of using mobile money [19].

To reflect these comprehensive learning needs, NetHope developed a Digital Skills Framework for digital nonprofits, as shown in Table 3, and is developing learning resources for each of these competences [20]. The framework was adapted from the European Commission’s DigComp

Framework 2.0 (see Table 2) and developed based on research into technology trends, current frameworks, and digital skills needed for employees and organizations now and in the future [20]

*Table 3: NetHope Framework of Digital Competences for Digital Nonprofits*

<b>TECHNICAL LITERACY</b>	Based on the Information and digital literacy category of DigComp 2.0 but recognizes there needs to be a deeper understanding of technology, a proficiency in data use, and the ability to follow technology trends and apply those trends to an organization. These skills form the foundation for all the other skills in the framework.
<b>HIGHLY ADAPTIVE COLLABORATION</b>	Based on the Communication and Collaboration category of DigComp 2.0 but recognizes that people within an organization need to participate in digital teams, share projects, tasks, calendars, tools & media. They need to work effectively across cultural, social and language barriers, while learning to share openly across networks as appropriate.
<b>COMPLEX PROBLEM-SOLVING</b>	Based on the Problem-Solving category of DigComp 2.0 which is the backbone of all employee work. Technology allows individuals to use data in figuring out answers to problems. It also means problems get more complicated with the increase in information. Employees will need to solve increasingly complex problems using research, analytics, rapid prototyping and feedback. They will have to pivot to incorporate environmental changes and organizations will need to continually build an agile environment to achieve the best solution.
<b>DIGITAL RESPONSIBILITY</b>	Based on the Safety category of DigComp 2.0 but recognizes that with the proliferation of so many online sites – both social sites and shared sites, it is critical that employees understand their own digital footprint. In the nonprofit sector, work with vulnerable populations means safety and security of those individuals is a moral imperative. They also need to identify secure sites, as well as the benefits and risks of giving information across devices and different sites through software. Involves developing a positive online identity, and building a digital reputation, while being safe.
<b>CREATIVITY &amp; INNOVATION</b>	Based on the Creativity & Innovation category of DigComp 2.0 but grows to include the ability to generate new ideas or revise original ones with divergent thinking or by drawing connections thru categorization, prioritization or other segmentation. This skill uses the information available thru technology and data to make better formed decisions and allows people from different places to participate in the creative process. Organizations can then take well-formulated risks on new ideas to generate greater impact.
<b>ENTREPRENEURIAL SPIRIT</b>	This represents a new category and involves a fail-fast attitude, and a feeling of ownership. Employees can look at old problems or processes with new eyes. They challenge old ways of working and are open, co-creators with a laser focus on users and customers, and an agile way of working within an organization.

**Humanitarian organizations have undertaken a range of efforts to support the digital literacy of frontline staff and partners, including the provision of ongoing access to specialist skills, creation and distribution of guidance and training materials, and delivery of training (in person, online, and through mentorship and coaching). These are primarily independent initiatives and sector-wide efforts on digital literacy do not yet exist.**

Many humanitarian organizations address capacity differences between headquarters and field-level staff by providing frontline staff with ongoing access to specialist skills. For example, a review of Oxfam's Scaling Humanitarian ICT Network (SHINE) program pointed out that staff were given access to and drew upon humanitarian ICT advisers, monitoring, evaluation, accountability, and learning (MEAL) ICT advisers, information management specialists, and humanitarian roving support [17]. When shifting its operations to digital cash assistance, the International Rescue Committee (IRC) found that one of its main challenges was to build staff capacity, skills, and knowledge on digital payments [19]. One way they built capacity was to provide ongoing access to technical advisers in the organization's Economic Recovery and Development unit, with each adviser providing support to a portfolio of countries [19].

One interviewee who provides roving ICT support to frontline humanitarians described the process of providing support to staff who were transitioning from paper-based to digital data collection and emphasized the importance of close communication with and support for field staff when rolling out new digital technologies.

*When we moved to digital, there are some adjustments that need to be made to the questionnaire. Once we have the digital form, then we train the field staff and*

*enumerators. And then we pilot whether this questionnaire is realistic or not in the first week. And then when we are ready to roll it out, the first three and four days of data collection implementation are the most crucial time. I monitor that on a daily basis and communicate with field staff to see if there are any inaccuracies or parts of the questionnaire that do not make sense. And that needs to be quickly communicated and we rectify that and communicate back to upload the form to get the latest update. That is why we need to be in close communication with people in the field. ICT specialist for a humanitarian organization*

A second approach taken by humanitarian organizations to address digital literacy gaps is the creation and distribution of guidance and training materials and the delivery of training (in person, online, and through mentorship and coaching). For example, the International Federation of Red Cross (IFRC) has created the Data Playbook Project which is a collaboration with Red Cross Red Crescent staff, volunteers, and partners and provides 120 short exercises, games, scenarios, and handouts to help teams learn about all aspects of the data lifecycle [21]. IRC also developed a training curriculum, department-wide in-person training, and an online e-learning course when transitioning its operations to digital cash assistance [19]. Oxfam's SHINE program used multiple materials and approaches including webinars, training, workshops, word-of-mouth, and case studies [17]. These all contributed to learning and the building of staff confidence without starting from "scratch" or expecting people to be full technical experts [17].

**Organizations' experiences highlight multiple challenges to ensuring sufficient levels of digital literacy for frontline humanitarian workers. These include infrastructural challenges and**

*lack of organizational priority, as well as staff turnover, a narrow and short-term focus of training efforts, and adoption of tools that may be unnecessarily complex.*

A range of different challenges for ensuring digital literacy of frontline humanitarian workers was identified in the research. Many frontline humanitarians work in remote areas with limited opportunities for in-person training [22]. Trainings are thus increasingly conducted with the use of technology (rather than in person), a shift that accelerated during the COVID-19 pandemic (as will be discussed in the Operating Environment section). Webinars are one tool that has been increasingly used in the humanitarian field as key components of stand-alone and blended learning events, since they provide a flexible format and facilitate both formal and informal learning [22]. A study of eight case studies of webinars in humanitarian learning more generally found that it is a meaningful tool in the context of blended approaches and is in particular useful when focusing on learning needs of humanitarians related to specific phases, or moments, in their work-learn continuum [22]. Success factors that lead to effective learning are in Table 4 [22]. A major limitation, however, is technical problems

from using the platform due to connectivity as well as difficulty of using webinar tools due to varying levels of digital literacy of users [20]. In regard to online platforms for training on digital technologies specifically, reports have found that in constrained environments there is not always sufficient connectivity to access these [6].

As discussed, many humanitarian organizations have IT teams that provide support and access to specialist skills for frontline workers, but reports suggest that this support can sometimes be too narrowly focused on logistical issues such as connectivity, electricity, and required infrastructure, and less on the skills needed to implement the technology effectively and safely [6]. Moreover, while training of and support for staff is critically important, expectations of their troubleshooting can be minimized by selecting less complex, “off-the-shelf,” and “user-friendly solutions” [17].

Another key issue is that efforts to provide support and training may not always be able to keep pace with the speed of rollout of digital solutions. Often, humanitarian staff do not have enough time to gain skills as this is not included in their terms of reference. Moreover, staff are

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*Table 4: Success Factors for Effective Learning of Humanitarians*

- ▶ Webinars offered in the context of blended environments with multiple options that can cater for different learning preferences and styles of different generations
- ▶ Clearly formulated learning objectives that challenge the learners around application and problem-solving
- ▶ Careful and thoughtful design, which is compelling and engaging, with thought-provoking content and micro-learning exercises focused on problem resolution
- ▶ Reasonable duration – limited duration of webinar session (1 hr on average, repeated over days as necessary) is critical to ensuring sustained engagement of busy humanitarians working from unstable connectivity
- ▶ Use of webinars to create and/or deepen engagement of communities of practice
- ▶ Facilitation skills by the online facilitator that allows engagement of learners
- ▶ Shifting vision of learning from a one-off event to a process that includes applying and adapting acquired skills and recognizing the value of tacit knowledge resulting from experience and action; this enables identification of when the webinar format is most appropriate for learning

frequently rotated and in the humanitarian field, there is high turnover of staff which provides challenges to training programs. These latter two issues will be explored further in the “People” section below.

*Other fields are implementing sector-wide digital literacy initiatives and these offer insights into how the humanitarian field could more systematically build digital skills of frontline workers through sector-wide standardization, certification, and accreditation.*

While many humanitarian organizations have built internal initiatives and procedures, lack of standardization makes the evaluation of quality difficult. To address this, the humanitarian sector could consider standardized, accredited (for organizations), and certified (for individuals) learning activities to avoid duplication and quality challenges, and to promote participation of local organizations. Though not specific to digital technology, some relevant initiatives in the humanitarian sector are already ongoing. For instance, the “Building a Better Response” (BBR) initiative—funded by USAID and implemented by International Medical Corps in collaboration with Concern Worldwide and the Harvard Humanitarian Initiative—provides certification for NGOs and other humanitarian actors after online and in-person training (on foundations of humanitarian action, coordination, planning and funding, and international law and standards) and is recognized by many organizations in the sector.

Lessons from other fields implementing sector-wide initiatives are instructive. For example, in response to the lack of programs focused on building digital health knowledge and leadership skills within government, the Digital Health Applied Leadership Program (DHALP) was launched in 2021 by the PATH-led Digital Square, and funded and designed by USAID, the Bill and Melinda Gates Foundation, and other partners [23]. It is a year-long program involving

teams of eight participants from five countries that seeks to improve participants’ ability to lead and implement digital health programs. Participants include mid- to senior-level managers and leaders working on issues relevant to digital health from national and subnational levels. It involves a leadership curriculum including core online courses, workshops, instruction from tutors, and guidance from country-specific coaches who work with participants on a country team project. A minimum of four people per country team are based in national-level, government digital health decision-making bodies. At the individual level, participants who complete the DHALP receive a certificate as a “digital health leader practitioner.” At the national level, teams of participants gain the skills and experience to strengthen governance structures needed for country-owned digital health programs. Globally, the DHALP creates a network of practitioners who can continue learning from each other as well as advocate for the policies and resources that they need from partners to move ahead with global digital health. One interviewee explained that the sector is currently trying to assess how to accredit the training. The DHALP is being replicated and scaled for additional cohorts and regions—for example, the UNICEF and WHO Digital Health Centre of Excellence (DICE) recently held its first Digital Health: Planning National Systems course, a 10-week blended learning course supported by Digital Square and TechChange for health specialists from over 22 countries from UNICEF and WHO country offices, Ministries of Health, and Ministries of ICTs [24].

## PARTNERSHIPS

*The gap between the complexity of digital technologies being rolled out by international humanitarian organizations and the level of digital literacy is often even greater with local partners.*



Local partners of international humanitarian agencies include actors that provide technological and telecommunication services, private sector entities that supply ICT and digital data services, and national and local governmental and non-governmental agencies that are implementing partners in humanitarian operations. International agencies focus even less on building and supporting these partners' digital skills than for their own staff, and local partners have little say in technological choices. This creates risks for the effective and safe use of digital technologies. A WFP evaluation found that partners—particularly cooperating partners and governments—are often not as advanced in the use of ICTs as humanitarian organizations' staff, particularly in settings where the overall level of digital literacy is low [6].

In another example, a survey in Bangladesh and Iraq found that short-term and project-focused funding structures for local organizations limit the ability of organizations to invest in developing staff expertise and better infrastructure [25]. Thus if an international organization utilizes complex technology, e.g. for cyber security, but does not make it available to local partners or ensure it is usable given the level of digital skills, then security will be at risk. Additionally, if local partners do not have sufficient knowledge of risks and legal obligations of using and generating data through technologies (e.g. biometrics), their organizations may also be at risk given that they are often contracted in a way that pushes liability onto them. These are critical issues to be considered in the humanitarian agenda on both technology and localization.

*Digital literacy training that is currently conducted for local partners usually focuses on specific tools and applications, rather than more general capacity building of partners to use digital technology and data. More investment by international humanitarian*

*agencies in continuous and comprehensive digital skills training of local partners is needed.*

Digital literacy training that is currently conducted for local partners usually focuses on specific tools and applications, rather than more general capacity building of partners to use digital technology and data. Sustainable capacity strengthening of local partners requires long-term support and commitment from humanitarian organizations on allocation of resources for staffing and software maintenance [6]. A clear strategy and road map for capacity building is needed when moving from pilot projects to scaling up as is careful analysis on whether digital tools selected are well-designed and suited to the context and whether organizations are available to support capacity strengthening of partners [6, 10].

Efforts to improve literacy should focus on providing partners with all the information they need to use tools effectively and safely. This may include training materials on specific tools as well as on data protection and informed consent [10]. USAID's training for partners has a strong emphasis on increasing communication, collaboration, and risk mitigation in regard to the collection and use of data, as well as overcoming operational challenges [10]. For example, an implementing partner in Nigeria increased from operating nine to 250 phones over a year's time during the scale-up of project activity, so USAID increased its support to the partner in managing the devices and collecting data [10].

One interviewee cautioned international agencies from making assumptions about what capacity local organizations have and therefore what kind of training and support they need, and that it is necessary to embark upon a collaborative effort to identify strengths and weaknesses, and together decide how to address these.

*We do a lot of training with local organizations—helping them understand how to collect the data, how useful it will be, and how to analyze it with the hope that over time you are building that capacity in local groups...with grassroots organizations, the main challenge that I have seen is capacity, and not necessarily capacity in being able to figure out how to use the technology itself but also broader issues such as the time and money needed to run those programs.*

Director of Humanitarian Technology Organization

***Digital literacy training is needed broadly in the humanitarian sector and should not just be offered to staff and partners working in the digital technology space.***

While some humanitarian agencies provide digital literacy support and training internally, others have turned to external agencies in the private and non-profit sectors to assist with skills building of staff. For example, when Mercy Corps' Monitoring, Evaluation, and Learning (MEL) team began rolling out a suite of technologies in 2021 to support MEL functions, they turned to a consulting company to help identify training and support for a virtual training program [26]. The company identified third-party courses, some of which were free, such as from Dimagi Academy, Data Camp, LinkedIn, and Udemy, and Mercy Corps procured and offered these to MEL, IT, and Technology for Development (T4D) staff. After completion, staff then participated in cohort-based learning of the technology platforms along a continuum of complexity, and also received content on data privacy and security and data handling. Trained MEL and T4D staff then were in a position to train other members of the team as well as local partners.

## PEOPLE

***Recruitment of staff with required skills is rarely an option and thus providing support and training becomes necessary, as does dismantling the barriers faced by frontline humanitarian workers to participate in training. This requires recognizing the power dynamics related to humanitarian labor that are present in the sector.***

Recruiting staff with both technical and programmatic experience remains the exception, requiring a focus on providing support and training. But frontline humanitarian staff confront barriers in participating in training—for example their terms of reference may not include time to gain skills. Also, staff are frequently rotated and in the humanitarian field, there is high turnover of staff which provides challenges to training programs [6, 17]. In their review of the SHINE program, Oxfam found that turnover has been a challenge with skills being lost and the need for repeat, continuous training [17].

*One of the challenges is staff turnover. We train people in the field and then they leave. I mean, that's a fact of life. For a country program that has good funding and regular programming, people tend to stay. But for a project that is short lived, with money only for short periods, the response is implemented and then people leave. And then they have another response. That is one of the challenges. Normally, we go to the country, support them for short periods and make sure they have support during the response.*

ICT specialist for a humanitarian organization

The quote from this interviewee emphasizes the funding and power inequalities in humanitarian labor, with humanitarian workers in many

contexts operating as providers of short-term labor [27]. Both the digital technology and localization agendas need to identify ways to ensure that frontline humanitarians are more than laborers and passive recipients of “capacity-building” projects [27].

*Digital literacy training is needed broadly in the humanitarian sector and should not just be offered to staff and partners working in the digital technology space.*

Digital literacy now and in the future is needed by all frontline humanitarian workers, not just those few people making decisions about technologies or responsible for the implementation of specific tools and technologies. Training broadly requires sector-wide initiatives at scale translated into and facilitated in multiple languages.

*One thing that should be prioritized is training and capacity-building of UNHCR staff, ICRC staff, USAID staff, etc.—people who are not already deep into the digital space so that they understand what types of investments and other kinds of parameters need to be taken into consideration.*

UN Digital Technology Expert

## POLICY AND PROCESSES

*There are increasingly strict regulatory frameworks around data, and humanitarian staff require the knowledge to understand the risks and legal obligations pertaining to data.*

Humanitarian organizations are increasingly operating within strict regulatory environments in terms of data generated by technology. The European Union’s (EU’s) General Data Protection Regulation (GDPR) was adopted in 2018 and is comprehensive legislation on data processing for the public and private sectors. It is applicable to humanitarian organizations established in the EU or offering services to

people within the EU [28]. Failure to comply with the GDPR creates risks both for data subjects and also for the reputation of humanitarian organizations [28]. Though the GDPR is not applicable to all countries, its seven principles (lawfulness and fairness, purpose limitation, data minimization, accuracy, storage limitation, integrity and confidentiality) are adhered to by many international actors [28]. It is critical, therefore, that frontline staff and local partners understand legal obligations and risks pertaining to data collection, sharing, and use. The “Handbook on Data Protection in Humanitarian Action” [29] is a starting point for understanding the high-level risks of using digital tools in the humanitarian sector and learning resources at OCHA’s Centre for Humanitarian Data can be used to build data skills of technical and non-technical humanitarians [30], but further work needs to define standards and training programs for global and local humanitarian actors across the sector.

*There are currently no regulations or standards for digital literacy in humanitarian settings, but organizations have established their own guidelines and protocols for providing guidance and conducting training of humanitarian staff and other digital literacy activities. These, however, are not always systematically available or appropriate to the context.*

Currently, there are no regulations or standards for digital literacy in humanitarian settings. As mentioned in the previous section, however, humanitarian organizations have created and distributed guidance materials and trained staff on various digital skills and tools. A number of different guidance documents and toolkits for training humanitarians on digital technologies were found in the research and these are shown in Table 5. Despite the existence of guidance, protocols, and standard operating procedures, studies have found that they are not always made systematically available or appropriate for decision-making,



with staff reporting a lack of awareness of these policies and processes [6].

*We have some guidelines and standard operating procedures. We attempt to make them available at every opportunity—for example during trainings, webinars, and other encounters—to make sure our staff globally have access to the resources. But this isn't always enough. There is always a gap in the field, so we have to continue this effort. We do have some challenges where our team is not big and consists of less than five people globally. But we try to make sure they have access to us and the resources.*

ICT specialist for a humanitarian organization.

**Organizational digital strategies are important for framing and prioritizing digital literacy needs and action plans for addressing them.**

The research found that humanitarian organizations were more likely to prioritize digital literacy if they had a clear digital strategy in place. As an example of a digital strategy, the UN Secretary General's Data Strategy focuses on iterative learning to deliver data use cases and strengthening of organizational enablers

“including shifts in people and culture, partnerships, data governance and technology” [31]. Digital strategies should frame digital literacy needs and how strategies will be operationalized. Digital strategies facilitate establishment of support by providing necessary resources, producing toolkits that can be adapted by the field, setting up in-person or remote trainings, establishing communities of practice or any other action that will support frontline humanitarian workers [14]. Action plans need strong involvement from field-level staff to make sure actions are compatible with both needs and constraints [14].

### OPERATING ENVIRONMENT

**During the COVID-19 pandemic, humanitarian organizations increasingly relied on digital technology to support their work, requiring frontline humanitarian staff to develop skills in the use of these technologies and further exposing digital skills gaps.**

Humanitarian organizations during the COVID-19 pandemic were forced to move online and turned to digital technology to support their operations [32]. The pandemic led to a surge in the availability and use of digital tools, platforms, products, and services, and communication

Table 5: Guidance documents and toolkits for training humanitarians on digital technology

- ▶ [IFRC Data Playbook Version I](#)
- ▶ [Oxfam Mobile Survey toolkit](#)
- ▶ [Oxfam's Responsible Data Management Training Pack](#)
- ▶ [Digital Humanitarian Network's Guidance on Incorporating Big Data into Humanitarian Operations](#)
- ▶ [GSMA's Humanitarian Connectivity Needs and Usage Assessment. Guidance for Implementing the Toolkit](#)
- ▶ [GSMA's Mobile Internet Skills Training Toolkit \(MISTT\)](#)

moved online using teleconferencing applications [33]. Moreover, pre-existing technologies that had been tested and tried for years prior to the pandemic—such as digital cash transfers—were quickly taken to scale [32]. The use of all these digital tools required a digitally-skilled workforce and meant that many frontline staff were confronted with quickly learning how to use these technologies. The pandemic thus further exposed existing digital skills gaps and the importance of prioritizing digital literacy initiatives in the post-COVID world [34].

*The pandemic shifted our country programs to use more digital technologies, to think about how we can use these technologies in implementation, and this is what has made me very busy during the pandemic.*  
ICT specialist for a humanitarian organization

***Humanitarian organizations during the pandemic had to shift skills training for their staff and partners to virtual learning, which was not always perceived to be effective.***

Skills training for staff of humanitarian organizations and partners—both ongoing and new initiatives—had to move online during the COVID-19 pandemic. For example, WFP’s Technology Division transfers technologies to partners as well as training and skills development related to data collection, data management, data analysis, data protection, monitoring, early warning systems, drone use, social protection mechanisms, communication tools, and cyber security, as well as training for specific technologies [6]. A WFP evaluation found that partners appreciated the trainings, but the virtual learning format during the pandemic was perceived to be less effective [6].

*I think the pandemic holds up a mirror to the sector as to where technical literacy is in*

*a way that is not particularly flattering...We went entirely remote with our [headquarters] banning travel. And so, we were running all of our workshops and trainings around ethics virtually. And yet people's digital penetration wasn't sufficient to be participating in that way.*  
Innovation Researcher and Manager

## KEY AREAS FOR CONSIDERATIONS AND ACTION

The findings from this research study point to considerations and actions at two levels. The first is the organizational level and is focused on global and local humanitarian organizations, including the donor community. The second level is the sector level and focuses on considerations for building sector-wide digital literacy initiatives.

### HUMANITARIAN ORGANIZATIONS

#### 1.1 Considerations and Actions to improve digital literacy in global and local humanitarian agencies

##### *Rationale*

To ensure that there is sufficient digital literacy of frontline humanitarian workers and local partners for technologies to be used effectively, safely, and sustainably, a purposeful approach to digital literacy is needed within humanitarian organizations.

##### *Audience*

These considerations and actions are relevant for all humanitarians—in headquarters of international agencies, in regional and country offices, and in national and subnational organizations.

##### *Considerations and Actions*

- ▶ Assess digital skills of frontline staff and local partners and assess how the organization can ensure safe and effective use of digital tools. Identify gaps in access to infrastructure, materials, and devices to meet safety needs and effectively participate in trainings.
- ▶ Based on these assessments, create an organization-wide digital strategy and action plan.
  - ▶ This strategy should frame digital literacy needs of staff, as well as responsible data principles, and an action plan for addressing these.
  - ▶ This strategy should also include a plan for long-term support and commitment for digital literacy of local partners.
  - ▶ Action plans need strong involvement from field-level staff to make sure actions are reflective of needs and constraints.
- ▶ Select and promote the use of digital technologies for which training, and capacity building of staff and partners is possible and appropriate at the field-level.
- ▶ Build a common approach with Human Resources departments to make sure that digital skills training is included in staff and partners' terms of reference.
- ▶ Develop guidance, protocols, and standard operating procedures and make them systematically available to staff and use every opportunity to provide them; do not assume that staff are aware of them and can access them.
- ▶ Develop and mandate training programs for frontline staff and local partners. Training content should include skills relevant to specific tools as well as database skills, data quality, informed consent, data privacy and security, and other risks of digital technologies for affected populations and organizations.
  - ▶ Ensure that training is comprehensive (e.g. not just focused on technical capabilities), and continuous.

- ▶ Consider online as well as blended training solutions, assessing in advance and planning for potential infrastructural constraints of participants.
- ▶ Trainings should be optimized according to the needs of those learning the content. This could take shape as tutorials, webinars, web-platforms, or mentorship
- ▶ Adapt content to local needs with local co-creation or consultation and pre-training surveys.
- ▶ Invest time in selecting participants. Ensure equal access to infrastructure and training across frontline workers.
- ▶ Consider engagement with external agencies to deliver training where needed and appropriate.

## **I.2 Considerations and Actions to improve digital literacy through donor funding of humanitarian response**

### *Rationale*

To ensure that funding facilitates, rather than limits, digital literacy of frontline humanitarian workers, changes need to be made to the structure of donor funding for humanitarian response.

### *Audience*

These considerations and actions are relevant for all donors funding humanitarian responses that include digital technology.

### *Considerations and Actions*

- ▶ For programs with a digital technology component, actively ask about how they

include digital literacy training and support, including for local partners.

- ▶ Provide long-term support for local organizations which will allow them to invest in infrastructure, staff, and capacity-building.

## **HUMANITARIAN SECTOR**

### **2.1 Considerations and Actions to improve digital literacy through sector-wide approaches**

#### *Rationale*

A sector-wide approach is needed to improve digital literacy of frontline humanitarian workers.

#### *Audience*

These considerations and actions are relevant for all humanitarian organizations and partners across the sector.

#### *Considerations and Actions*

- ▶ Develop a standardized training package and materials at several proficiency levels that can then be adapted by organizations as needed. Ensure these are available in multiple languages.
- ▶ Scale training broadly across the sector in multiple languages, rather than focusing narrowly on decision-makers or digital humanitarians.
- ▶ Consider certification (of participants who complete training) as well as accreditation (of programs) across the sector. Focus on certifying and/or accrediting a few actors to allow the sector to take training to scale but also avoiding duplication.

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