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WFP EVALUATION

Strategic Evaluation of WFP's Use of Technology in Constrained Environments

Centralized Evaluation Report – Volume I

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Key personnel for the evaluation

OFFICE OF EVALUATION

Andrea Cook	Director of Evaluation
Michael Carbon	Senior Evaluation Officer (Evaluation Manager)
Arianna Spacca	Research Analyst

EXTERNAL EVALUATION TEAM

Patrick Vinck	Evaluation Team Leader
Emmanuel Letouzé	Evaluation Deputy Team Leader
Tatiana Goetghebuer	Senior Evaluator
Maria Antonia Bravo	Research Analyst
Romain Fourmy	Research Analyst
Kevin Henkens	Research Analyst
Jeroen Peers	Research Analyst
Stephen Mathew	Research Analyst

With additional input from

Nancy Mock	Strategic Advisor
Steff Deprez	Senior Evaluator (Global Survey)
Teresa Hanley	Senior Evaluator (Bangladesh)
Nick Maunder	Senior Evaluator (South Sudan, Iraq)
Hisham Koghali	Senior Evaluator (Jordan)
Samuel Niki-Niki	Senior Evaluator (DRC)

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Executive Summary

INTRODUCTION

EVALUATION FEATURES

1. This strategic evaluation covers WFP's use of digital technologies and data in constrained environments from 2014 to 2021. The purpose of the evaluation is to assess whether WFP uses, and is equipped to use, the most appropriate digital technologies to achieve its objectives under constrained conditions and whether it has put in place appropriate measures to mitigate and manage risks to populations and operations resulting from the use of digital technologies and data in constrained environments. The evaluation considers an environment to be constrained when WFP operations face important access constraints (e.g. due to insecurity or physical obstacles) or where there are considerable barriers to the use of digital technologies (e.g. due to poor mobile network coverage or political restrictions). The conceptual framework for this evaluation considers four pillars: digital technologies, people, policies and processes and partnerships. The core evaluation questions have been formulated in the context of these four pillars (figure 1).

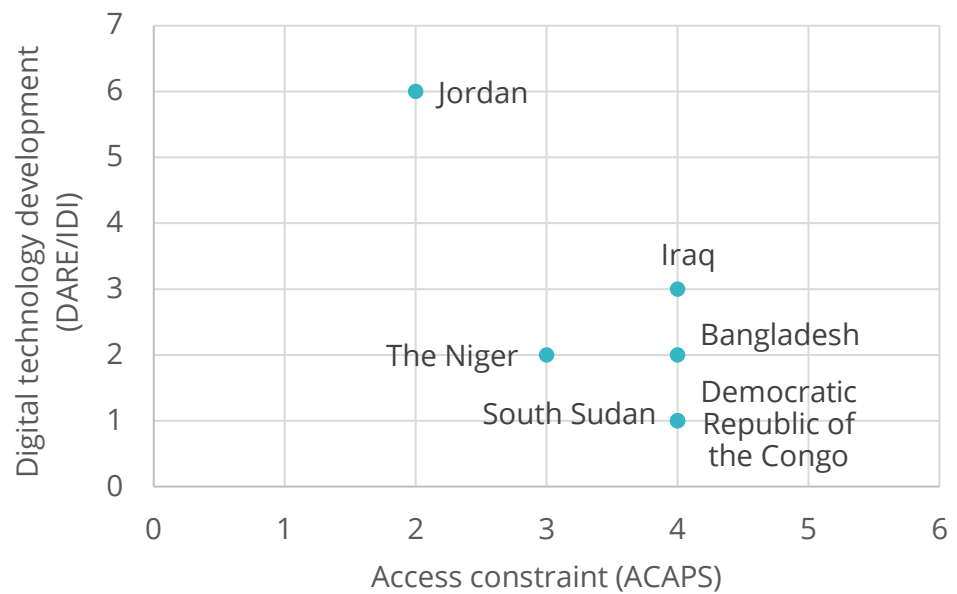
Figure 1: Evaluation questions and conceptual framework

	EVALUATION QUESTIONS	TECHNOLOGY USE SYSTEM
DIGITAL TECHNOLOGIES	1 How does the use of digital technologies help WFP increase the effectiveness and efficiency of its operations in constrained environments?	<i>Includes the characteristics, applications and status (stage in the innovation process) of the digital technologies used or promoted by WFP. This also encompasses the infrastructures and resources (funding) underlying these technologies.</i>
PEOPLE	2 How does the use of digital technologies in constrained environments affect the people served by WFP, and how do people affect this use?	<i>Refers to technology users, technology decision makers, technology developers and managers and affected populations. It encompasses individuals affected by digital technologies or that affect the use of digital technologies.</i>
POLICIES AND PROCESSES	3 How appropriate are WFP policies and processes in place to enable strategic use, promote innovation and manage risks in the use of digital technologies in constrained environments?	<i>Includes the normative environment underlying the development, adoption and use of technologies and digital data. It also includes matters of digital data generation, management, use and governance.</i>
PARTNERSHIPS	4 How well does WFP manage its partnerships in relation to the provision and use of digital technologies in constrained environments?	<i>Focuses on partners that WFP engages with in their operations which enable or affect their use of technologies. It also encompasses the services and transfers of information and communications technologies and digital data that WFP provides to these partners.</i>

2. The evaluation used a mixed-methods non-experimental design leveraging conventional and participatory quantitative and qualitative methods. At the global level, the evaluation featured an extensive desk review, an online WFP staff survey with 874 respondents, 96 key informant interviews and a comparative learning exercise involving four other humanitarian organizations.¹ At the local level, the evaluation featured six in-depth case studies of countries selected on the basis of their regional representation and constraints in terms of humanitarian access and digital development (figure 2). The case studies involved desk reviews, 182 key informant interviews, beneficiary surveys with 1,260 beneficiaries and 137 focus group discussions, including with women, the elderly, adolescents and people with disabilities.

¹ The United Nations Children's Fund, the Office of the United Nations High Commissioner for Refugees, Mercy Corps and the International Federation of Red Cross and Red Crescent Societies.

Figure 2: Case study countries and ACAPS/IDI scope



Sources: *Aide à la Décision Économique*. 2021; ACAPS. 2020. *Humanitarian Access Overview*.
 Abbreviations: DARE = Global Initiative for Inclusive ICTs Digital Accessibility Rights Evaluation Index; IDI = International Telecommunication Union ICT Development Index

CONTEXT

3. Over the past decade, the humanitarian context has seen an increase in the number, scale, complexity and duration of humanitarian crises due to violent conflict, climate change, epidemics and other human-caused and natural disasters of growing proportions. With no indication of these trends changing in the near future, it is expected that humanitarian needs will continue to rise. At the same time, the humanitarian funding gap is growing, as are expectations by donors and politicians regarding transparency, accountability and value for money with regard to humanitarian assistance. Humanitarian organizations are therefore faced with rising needs across the globe as well as increasing expectations regarding cost-efficiency and the protection of the people they serve.

4. Simultaneously, the protracted nature of many contemporary crises entails that most environments in which WFP operates are constrained in one way or another as a result of fragility and extreme poverty, often linked to and compounded by conflict or other human-caused and natural disasters. In parallel and in response to these trends, WFP has made a significant shift in its approach from food aid to food assistance accompanied by a rapid increase in the scale of cash-based transfers (CBTs), which is expected to provide more people and the right people with the right assistance at the right time, while also ensuring that operations are cost-efficient.

5. In parallel, across the humanitarian sector digital technologies and data have been regarded as transformational factors to be used in the pursuit of the Sustainable Development Goals. Digital innovations have been deployed over the past decade to ensure internet access and connectivity to populations on the move, to enable the use of mobile money payment applications for cash-based transfers and for identity registration and verification, among other things. While technological innovation in the humanitarian sector has the potential to improve the quality and continuity of assistance and yield effectiveness and efficiency gains, it can also present major risks and uncertainties, including potential repercussions for affected populations. Digital technologies, for example, can lead to the creation of more inequality and violence, including threats to privacy as a core human right, the risk of growing disparities and imbalances through elite capture of data, the threat of identity theft and fraud and the environmental impact of technological infrastructure.

SUBJECT

6. Over the evaluation period, WFP has invested considerably in digital technologies to support the planning, design, targeting, implementation, monitoring, management and security of its operations. WFP uses and manages digital technologies throughout all focus areas and activities and across all of the environments where it works. Figure 3 shows corporate solutions and systems that are used across organizational levels and units and programme-specific solutions developed at the programme level. There are also numerous local solutions, developed at the country office level. Along with the development of key digital technologies and the increased use of digital data for programmatic decisions, WFP has developed a broad portfolio of policies and processes to guide its use and development of digital technologies. Partnerships with other actors in the humanitarian technology space have also increased during this time, including with private sector actors and governments.

Figure 3: Portfolio of WFP digital technology and data solutions



Source: WFP, 2021

EVALUATION FINDINGS

DIGITAL TECHNOLOGIES

How does the use of digital technologies help WFP increase the effectiveness and efficiency of its operations in constrained environments?

7. There is convincing evidence that the use of digital technologies and data by WFP increased the effectiveness of its operations through improved targeting, tailoring and delivery of assistance to better meet beneficiaries' needs. Digital technology has enhanced the gathering of information about people served, enabling a more objective and accurate assessment of the level of need in targeted areas. The use of digital technologies is associated with improved coordination of logistics and programme delivery, as well as streamlined monitoring and evaluation.

8. There is also evidence that the use of digital technologies and data improves the efficiency of operations through savings in staff time thanks to the automation of routine tasks, simplified and less error-

prone distribution of assistance enabled by digital registration, improved supply chain management and reductions in monitoring costs, among other things.

9. WFP's use of digital technologies for internal work processes and delivery of assistance to beneficiaries meant that the organization was well prepared for the COVID-19 crisis, able to adapt effectively to the circumstances imposed by the pandemic and resulting restrictions. There is a sense that despite challenges in the initial phases of adjustment, WFP was able to provide a satisfactory degree of continuity of services owing to its use of digital technologies.

10. The use of digital technology is integral to all areas of operations in certain countries (e.g., Jordan and Bangladesh), while in others it is more limited, especially in the case of beneficiary-facing technologies (e.g., the Democratic Republic of the Congo and the Niger) due to barriers such as weak physical infrastructure and human and financial resource constraints. WFP digital technologies are generally seen as appropriately suited to their contexts and relevant to their operations. However, these positive perceptions are tempered in highly constrained environments, where significant operational challenges hinder their use and may render them less appropriate. Through the emergency telecommunications cluster, WFP has supported the installation and maintenance of connectivity infrastructure in highly constrained contexts. Since 2005, the cluster has responded to over 40 crises around the world, including eight active emergencies in 2021.

11. There is, however, a widespread perception that the development of digital technologies is top-down, with corporate solutions designed to meet specific needs without sufficient consultation with country offices and end users. This highlights the need for enhanced engagement and digital capacity and needs assessments prior to technology development and deployment.

12. More generally, systematic efforts to assess and analyse the use and deployment of digital technologies are lacking, including in constrained environments. WFP does not implement systematic processes to rigorously evaluate the costs and benefits of deploying digital technology, including its overall development and maintenance costs and implications for the protection (inclusion, safety, integrity and dignity) of people served by WFP. This affects the organization's ability to learn, to make better-informed decisions and to share lessons learned about digital technologies.

13. While WFP has made significant progress in its use of digital technology, this evaluation concludes that significant opportunities remain. The main practical opportunity identified relates to the underutilization of the vast amount of data routinely collected. Complementary investment in data processing resources can help to support data-driven decision making and improve the use of WFP digital technologies. There is also much room to improve on the interoperability between systems to reduce duplication and make reconciliation processes between data stored in different applications more efficient.

14. Perhaps more importantly, at the strategic level WFP could better use its unique expertise and experience with using digital technologies in humanitarian settings to contribute to identifying best practices with partners and to influence digital transformation efforts across the humanitarian sector as well as with government partners, thereby strengthening WFP's position as an essential interlocutor and partner in sector-wide dialogue on digital transformation.

PEOPLE

How does the use of digital technologies in constrained environments affect the people served by WFP, and how do people affect this use?

15. Digital technologies have a generally positive effect on the lives of the people served by WFP, contributing to their access to assistance, flexibility and dignity. This is in part the result of significant investment in the use of digital tools and technologies to know beneficiaries better. The resulting timely and detailed data enabled by digital technologies can directly inform decision making and make it possible to better target, scale up and meet the needs of populations, a critical issue in constrained environments.

16. Nonetheless, lack of local connectivity, technical issues and other barriers often limit the benefits of digital technologies for people in constrained environments. While digital technologies may contribute to greater timeliness and cost-efficiency, there is a risk that the burden of technological failure is largely carried by the people served by WFP. As the organization increasingly relies on quantitatively driven and potentially automated processes, it has given only limited consideration to the potential for biases and gaps in, and misinterpretation of, the data due to the technologies used to collect and analyse it.

17. The use of digital technology by WFP is often mistakenly seen as inclusive or neutral. When the potential for the use of certain digital technologies to exclude some groups is understood, relatively limited efforts are made to employ special measures to accommodate differing needs or to actively engage the most marginalized groups.

18. More specifically, there is a lack of systematic consideration of gender in the development and use of digital technologies, as well as a lack of monitoring of their gender-related impacts. On the positive side, there are examples where digital technology is used by WFP to proactively empower women, generally in the context of financial inclusion.

19. In considering accountability to affected populations, the use of technology-based community feedback mechanisms has broadened the range of ways through which beneficiaries voice their needs and concerns to WFP. Digital technology can also improve the recording of feedback received and the tracking of follow-up on complaints. However, in addition to digital access constraints for certain population groups, these mechanisms are often insufficiently known by affected populations and therefore do not allow for meaningful engagement. As a result, technology-based mechanisms for accountability to affected populations are largely confined to reporting on technical issues and use for notification purposes rather than the systematic incorporation of people's views and enhancement of their participation. In fact, there are no requirements for systematic beneficiary engagement when WFP introduces new public-facing digital technologies to assistance processes.

20. WFP has made rapid and necessary progress in enhancing cyber-security and, increasingly, data protection across the organization, with increased visibility, control mechanisms and enhanced procedures. However, this falls short of a more central and general concern for the protection and security of affected populations and humanitarian personnel in the light of changing risks and threats resulting from the use of digital technologies and data. Even considering data protection only, compliance by WFP staff in the field and by cooperating partners with rules and procedures is lagging, resulting in ongoing risks for data protection, security and privacy. Input from gender and ethics specialists at WFP appears to be side-lined. In addition, WFP efforts to address some risks appear to shift the risks towards those served by WFP, as is the case, for example, with limited and relatively recent efforts to monitor and address the risk of abuses in cash assistance.

21. At the same time, there is evidence that beneficiaries are insufficiently informed and do not fully understand the risks involved in sharing their data. Despite the ethical implications, WFP appears to be insufficiently concerned with ensuring that the people from whom they collect data are sufficiently informed to provide meaningful informed consent, an issue in many humanitarian organizations.² This and other limitations in data sharing and inclusion of partners show that WFP's data practices remain largely extractive and lack sensitivity to context in constrained environments.

22. Internally and externally, WFP does not sufficiently invest in the digital literacy and information technology capacity of its staff and cooperating partner staff, widening the gap between technological capacity and the rapid pace of increasing digital technology use within WFP at all levels of the organization. This investment gap is important because digital tools used by WFP are increasingly complex to manage, yet training opportunities are limited. More generally, there has been little effort to manage broader organizational and behavioural changes resulting from the introduction of digital technologies.

23. Despite these challenges, digital technologies have generally helped to increase the efficiency, scale and frequency of monitoring and to overcome monitoring challenges in constrained and emergency settings. Although WFP has initiated major efforts to integrate data to generate deeper insights (e.g., the DOTS data integration platform), beneficiary data remains scattered across various inconsistent and non-integrated formats and systems, replicated and/or exclusive, held by partners and often not digitized, with a lack of comprehensive continuous data mapping.³ Furthermore, there does not seem to be enough staff

² See for example: United Nations. 2020. Report of the Special Rapporteur on contemporary forms of racism, racial discrimination, xenophobia, and related intolerance (A/75/590); Human Rights Watch. 2021. United Nations Shared Rohingya Data without Informed Consent; United Nations Office for the Coordination of Humanitarian Affairs. 2021. From Digital Promise to Frontline Practice: New and Emerging Technologies in Humanitarian Action; and The Engine Room. 2019. Unpacking 'Informed Consent'.

³ Office of Internal Audit. 2020. Advisory assurance report on beneficiary data mapping.

capacity, both in terms of time and ability, to ensure the quality of the data collected and processed through WFP systems, which negatively affects the ability of WFP to make decisions and learn from its operations.

POLICIES AND PROCESSES

How appropriate are WFP policies and processes in place to enable strategic use, promote innovation and manage risks in the use of digital technologies in constrained environments?

24. WFP's policies and processes related to digital technology and data have rapidly expanded, resulting in the streamlining of the criteria and processes for developing and implementing technology across the various levels of the organization. The acceleration over the last year or so in the publication and revision of critical policies and processes has set a solid foundation of guidance, contributing to the strengthening of cyber-security and, increasingly, data protection, among other benefits.

25. These efforts are aligned with the rapid development and expansion of the use of digital technology and the rolling out of corporate solutions. However, the lack of agreement on a central vision for digital technology is fuelling tensions and has resulted in duplication and poorly integrated systems. This is expected to improve with the expansion of the scope of work of the WFP Digital Business and Technology Committee since October 2020 to include the provision of guidance and oversight with regard to the development of digital business roadmaps within which digital initiatives are prioritized.

26. At the same time, there have been recent efforts to clarify and improve decentralized digital innovation governance and processes, including the appointment of business engagement managers and the creation of a field software development network at the end of 2020. These steps should improve the process for introducing new solutions, which, during this evaluation, was still seen as slow, costly and cumbersome, contributing to tensions between rapid innovation needs and risk management. Awareness of the new policies, however, remains limited. In practice, only large country offices with predictable funding can locally develop solutions that meet WFP standards,⁴ which leaves the others to try to circumvent the standard processes and develop parallel solutions. Importantly, WFP does not have guidance specifically tailored to the development or use of technology in constrained environments, where risks are often higher. More generally, mandates and responsibilities are not clear and lack continuity, for example in addressing the nexus between physical and cyber-security and the nexus between data protection and protection of civilians.

27. With regard to technology management, there are various standard operating procedures (both country and process specific), guidance on the delivery, rollout and maintenance of solutions, and data protection and privacy toolkits and guides. Once solutions become part of WFP's technology portfolio, however, central guidance is limited and fragmented, and the relevant guidelines are frequently seen as optional. Gaps in staff awareness are a main barrier to the full implementation of such guidance, along with the perception that it is often impractical.

28. On the strategic front, policies and guidelines mention the strategic role that digital technology has played for WFP but fail to paint a complete picture of the specific strategic role digital technology currently plays in the organization or the role it ought to play, including in constrained environments. Notably, there is no mention of digital technology as a strategic enabler or priority in WFP strategic plans up to 2021. As a result, it was difficult to discern WFP's exact posture and strategic direction regarding the use of digital technology, specifically for country-level operations. From an operational perspective and in some concrete, well-established business processes – for example, with regard to supply chains and CBTs – there is greater clarity and common understanding of the role that digital technology plays for WFP.

29. The recently approved strategic plan for 2022–2025 for the first time considers digital technology as an enabler supporting the vision set out for the next four years. According to the plan, WFP will solidify its commitment to becoming a digitally-enabled and data-driven organization to inform decision making and increase operational efficiency and agility, and WFP's approach to technology will put people at the centre in a manner consistent with the principles of do no harm, participation, non-discrimination and inclusion.

30. WFP has significantly invested in and expanded its focus on risks to operations in relation to the use of digital technology. Responsibilities for vulnerability and risk management regarding technologies are

⁴ South Sudan and Iraq case studies.

spread across several WFP divisions, including several units within the Technology Division (the Information Security Branch, the Service Management Branch and the Digital Solutions Delivery Branch), as well as regional bureaux.⁵ Yet, while regional bureaux are expected to provide some assurance on technology matters, the evaluation found insufficient processes in place to ensure that this role is played effectively or rigorously. At the country office level, stakeholders noted that tools were available and used to assess and mitigate risks arising from the use of digital technologies and data. However, the evaluation also found that WFP's decentralized nature gives country leadership authority over many technology processes and permits a lack of compliance with recommendations from the Technology Division, even when they are critical to risk mitigation and security. Furthermore, performance checks and risk reviews in respect of digital solutions along their lifecycle were not found to be systematic across the organization, with their cost seen as the main barrier to their utilization.

31. The exploitation of knowledge regarding the use of digital technologies in constrained environments is very limited. The sharing of experiences within and between country offices and between country offices and the regional bureaux and headquarters depends on individuals rather than systems. Specifically, the role that the regional bureaux play in enabling knowledge sharing and linking country offices with headquarters (or even with regional bureau experts) regarding different digital technology-related processes is not consistent. WFP has an insufficient knowledge management culture when it comes to the use of digital technologies, including limited sharing of information with external actors.

32. There is an absence of guidance on the continuous monitoring and evaluation of the performance of digital technologies and data used in constrained environments. There are no systematic processes across the various levels of the organization for monitoring solutions and data quality, including whether systems that have been created – including legacy systems – still meet the changing needs of the organization. Overall, the approach to monitoring the use of technology appears to be ad hoc, with corporate indicators and accountabilities for monitoring not clearly established. The evaluation found that solutions were continued or scaled when and if they had sponsorship from senior management rather than based on rigorous and continual performance assessment.

33. Separately, WFP's ability to raise funds for technological innovation has sharply increased over time. Resource limitations, however, remain a barrier, for example in supporting specific processes relating to the deployment, support and oversight of digital technology used in constrained environments. In such environments, digital technology offers an arguably higher return on investment if it is appropriately designed and adapted to the context and includes adequate support for human resources. Yet, because of WFP's decentralized structure for funding digital solutions and innovation, the evaluation team found it difficult to assess whether current funding levels (or management of such funds) are appropriate to the volume of work that WFP carries out and the number of solutions that it needs.

PARTNERSHIPS

How well does WFP manage its partnerships in relation to the provision and use of digital technologies in constrained environments?

34. WFP is leading the provision of digital technology services across the humanitarian sector, making its systems and solutions available for the operations of various international and national organizations. The organization also collaborates with humanitarian actors through joint initiatives focused on data collection, analysis and sharing including, crucially, the sharing of beneficiary registration data. WFP does not, however, commonly adopt or use systems or technologies developed or managed by other humanitarian organizations.

35. With significant value to be derived from data partnerships, over the years WFP has strengthened mechanisms to enhance its approach to data ownership and partnerships. Yet several challenges hinder the full potential of data sharing, including differences in mandates and policies, a lack of data sharing agreements (see paragraph 38) and the absence of interoperability standards applicable to WFP's and its partners' systems. Similarly, although WFP could be well positioned to further its role in the provision of

⁵ "Management review of significant risks and control issues" (WFP/EB.A/2020/6-E/1); and WFP. 2019. [Internal Audit on Information Technology Vulnerability Management in WFP](#).

common technological platforms for the humanitarian community – including at the onset of emergencies – politics, mandates and policies of organizations hinder cooperation.

36. WFP is well recognized for providing necessary digital technologies and transferring skills to its partners, including national governments, other United Nations entities and cooperating partners, as part of its operations. This support was particularly well recognized during the COVID-19 pandemic. Yet, some partners (cooperating partners and governments) still lack sufficient resources and skills to fully benefit from WFP technologies. Indeed, WFP has made less progress in building the capacities of partners in the general use of digital technologies and data, beyond those capacities directly needed to use the technologies required to conduct the work with WFP. The role and responsibilities of WFP are not well defined with regard to capacity building for partners, even though it has become more prominent as the humanitarian agenda has shifted towards localization.

37. On partnerships with digital technology service providers, WFP has been able to garner a position in the humanitarian technology landscape as a pioneer in working with the private sector to drive innovations for its operations. At headquarters, WFP has engaged in various partnerships for developing digital technologies and data solutions in which the private sector is strongly represented. Partnerships with the private sector help to strengthen innovation capacities, and WFP has a rigorous due diligence process that it follows when selecting private service providers. However, some partnerships are seen as controversial, at least in part due to a lack of transparency during the selection process, the weight given to concerns regarding ethics and protection and the extent to which ongoing sector-wide debates on such partnerships are taken into consideration. There has been insufficient consultation, both at headquarters and at the country level, when it comes to deciding on the appropriateness of sensitive partnerships. At the same time, the evaluation also found strong demand at the country level for more partnerships for the development of digital technologies, even though efforts to further partnerships were undermined by a lack of resources, procedures, market competition and unclear definitions of roles and responsibilities. The establishment of a technology industry engagement committee in 2021 comprising director-level representation from WFP technical units, country offices and regional bureaux is expected to provide a more broad-based forum for discussion and scrutiny of technology partnership opportunities.

38. Awareness about data privacy and protection has been rising across the entire organization, coupled with a greater number of tools for reviewing privacy and protection in data sharing, including through privacy impact assessments. However, standards and guidance are more easily put into practice at the corporate level and when developing new technologies and partnerships. Implementation is lagging at the country level and for legacy systems. At the country level, for example, data are not always shared through secure and safe channels and it is not clear **whether there are in place positive assurance mechanisms to ensure** that data are being handled by partners as WFP mandates, including in field level agreements. Although data sharing agreements with some key partners are being developed, they take a lot of time to negotiate and validate and there seems to be a lack of resources for effectively formulating them in the light of national laws with regard to data privacy.

CONCLUSIONS

39. This evaluation draws seven main cross-cutting conclusions relevant to one or more of the evaluation questions and supporting the proposed recommendations. While some of the conclusions may apply across all settings in which WFP operates, the positive contribution of digital technologies to the effectiveness and efficiency of WFP interventions can certainly be confirmed for constrained environments, which is the focus of this evaluation. However, the risks, repercussions and consequences of the inappropriate use of digital technologies, both for the organization and for affected populations, are significantly higher in constrained environments given the heightened vulnerabilities in these situations.

CONCLUSION 1: STRATEGY

40. WFP has established itself as a recognized leader in the use of digital technologies in response to humanitarian crises. Investments in digital solutions have led to broad gains in effectiveness and efficiency and have increased the relevance and flexibility of operations and enhanced respect for the dignity of the people that WFP serves. They have also contributed to more adaptive responses in constrained environments and in the face of adverse events like the COVID-19 pandemic. However, WFP has yet to articulate a clear and coherent vision for the organization-wide strategic use of technology that critically considers the implications, rights and responsibilities of providing humanitarian assistance increasingly

relying on digital technologies and data, including the specific opportunities and needs of constrained environments. Similarly, to date, WFP has not conveyed a clear position or strategic direction in the debates across the United Nations and the humanitarian community about the use of digital technology in constrained environments and beyond.

41. Effectiveness and efficiency gains appear to be the main objective and outcome of the use of digital technology at WFP. The insufficient prioritization of other important considerations such as protection (inclusion, safety, integrity and dignity), localization and participation is putting the organization at odds with implementing partners and donors and with industry best practices on the people-centred use of technology.

42. Critically, WFP appears to underestimate the sector-wide implications and reputational risks of its digital efforts. This undermines its ability to position itself as an essential interlocutor and partner for other United Nations entities and as a credible leader in the eyes of donors increasingly concerned with interoperability, open data and the responsible use of digital technology and data. Without more active engagement with other actors in emerging debates that require clarity of vision and strategy, WFP may lose its current leadership and comparative advantage in the use of digital technology.

CONCLUSION 2: GOVERNANCE

43. Over the period covered by this evaluation, WFP has experienced significant growth in the use of digital technology, resulting in a wide range of solutions with varying degrees of institutionalization and concern for security. Throughout its digital transformation journey, WFP has seen unequal adoption of digital technology across the organization, with only limited consideration given to constrained environments. Although a degree of delegation and flexibility have been promoted, the organization is struggling to find a balance that will allow it to generate country-specific solutions while developing corporate solutions and processes that result in internal coherence and security. Roles and regulations with regard to the development and use of digital technology at various organizational levels have only recently been formalized, and awareness and compliance are still limited.

44. Despite recent guidance, the process by which innovative digital technologies and applications are identified, tested and scaled up remains disjointed, and country offices continue to develop them outside of standard procedures. The Innovation Accelerator has had some notable successes (e.g., with regard to blockchain technology) but it does not yet appear to play the role of a central pipeline or key node that plays a role in the organization, providing guidance and structure in the development of all digital innovations.

CONCLUSION 3: RISK AND PROTECTION

45. In recent years, WFP has made serious and concerted efforts to enhance visibility and response with regard to cyber-security and digital risks, including through new dedicated processes and policies and practical guidelines. However, this evaluation finds that implementation of even basic measures for data protection are lagging. This creates significant risks for WFP and the people it serves. Importantly, addressing risk and protection challenges is not prioritized or designed specifically for constrained environments; nor is it informed by an analysis of constraints. This leaves WFP unable to meet both the growing responsibility to the people it serves that stems from it holding large quantities of sensitive data or to hold its partners accountable for their management of beneficiary data, a major concern, particularly in constrained environments. Generally, WFP appears mindful but unengaged in addressing these substantial issues, with responsibilities in this area at times unclear or not the subject of clearly articulated processes.

CONCLUSION 4: APPROPRIATENESS AND SUSTAINABILITY

46. WFP's streamlining of various business processes through digital technologies provides country offices with useful and replicable structures for the implementation of WFP activities. Nonetheless, the appropriateness of digital technologies is undermined by what have frequently been top-down efforts to deploy them with limited consultation and engagement with business units at all levels, as was until recently the case for the country office tool for managing effectively (COMET). Digital technologies have usually been designed for specific needs and lack flexibility and interoperability.

47. Critical initiatives to ensure the integration and interoperability of different digital solutions promise to reduce duplication and enhance the overall effectiveness and coherence of WFP's technology portfolio. However, standards to ensure the continued relevance of corporate solutions to business needs

are largely absent, notably with little visibility regarding the level of investment and the sustainability of solutions.

48. For people-facing technologies, despite an interest in people-centred development of digital technology, there is a lack of engagement with the people served by WFP, especially in constrained environments. In such contexts, the use of digital technology is further undermined by external challenges such as limited connectivity or digital literacy and technical issues such as ease of use (including supporting materials) and integration. Failing to account for challenging environments undermines the appropriateness, usability and sustainability of digital technologies.

CONCLUSION 5: INCLUSION AND ENGAGEMENT

49. WFP is strongly committed to broad inclusivity and gender equality and women's empowerment across its operations. Nevertheless, there are significant shortcomings in the way WFP considers inclusivity, gender and the equitable impact of and benefits from WFP's use of digital technology, and little effort is made to proactively and purposefully use digital technologies to empower women and marginalized or under-represented groups across all levels of the organization. There is a general lack of monitoring of differential impacts of digital technology or efforts to uncover exclusionary dynamics related to digital technology use, a potentially critical issue in constrained environments.

50. Efforts toward meaningful engagement, dialogue with and accountability to the people served by WFP are limited when WFP considers whether to use digital technology or which technology to use. WFP recognizes the value of digital technology-based community feedback mechanisms but uses them largely for the reporting of technical issues and for notification purposes rather than meaningful engagement. There is no systematic incorporation of affected population's views or participation in technology decisions, monitoring or evaluation, including the identification of risks and unintended consequences. Considering WFP's investments in knowing people better through data acquisition, its potential over-reliance on quantitative and remote approaches at the expense of an engaged dialogue and localized understanding of people's experience, needs and perceptions is concerning.

CONCLUSION 6: MONITORING, EVALUATION AND KNOWLEDGE MANAGEMENT

51. WFP has acquired a unique level of experience with and knowledge of humanitarian technologies in constrained environments. Most of its knowledge, however, is experiential and is held by its staff because it is rarely formalized or memorialized. More generally, shortcomings in the fit of digital technologies to local and changing needs and experiences in constrained environments are symptomatic of a broader weakness in the WFP learning culture and its lack of systematic processes for monitoring and evaluating the development, testing, deployment and continued use of digital technologies, especially in constrained environments.

52. The broad gap in formal monitoring and evaluation of the use of digital technology documented in this evaluation further hinders overall efforts in knowledge sharing and management across all levels of the organization and outside of it, affecting most critically those in constrained environments facing acute challenges, who are on average relatively ill-equipped with digital skills or infrastructure. The support provided by regional bureaux is unequal, and much knowledge is shared informally and never institutionalized, including knowledge regarding the outcomes of pilots. WFP makes little use of external partners that could enhance learning and the utilization of data, including through partnerships with local research institutes.

CONCLUSION 7: DIGITAL SKILLS AND PARTNERSHIPS

53. WFP staff are a critical asset that have uniquely contributed to the organization's leadership in the use of technology. There are, however, important gaps in foundational digital skills among staff, who increasingly require moderate to complex computer skills and technological know-how. Strategies for attracting, building and promoting digital skills and entrepreneurship are limited and not specifically aimed at under-represented minorities or women. Strategies for recruitment and staffing are also not tailored to the highly varied circumstances of country offices in terms of size and hardship, which may require differentiated strategies and support. While some training is offered, WFP does not sufficiently invest in its staff's information technology skills or overall digital data literacy, widening the gap between technological capacity and the rapid pace of technology use in WFP at all levels of the organization. Low digital skills are

contributing to low awareness of risks and limited compliance with basic cyber-security and data protection measures.

54. Beyond its own staff, WFP does not invest adequately in building the capacities of its partners. WFP is well recognized for providing partners with necessary infrastructure and access to digital technologies, as well as system- and business-specific skills, but such efforts are typically focused on the implementation of WFP technologies. Finally, the due diligence process and reviews of sensitive partnerships with the private sector and state or parastatal actors must better consider the transparency and inclusivity of views and experience in constrained environments, in particular on ethical, reputational and programmatic implications.

RECOMMENDATIONS

55. Considering the findings and overarching conclusions above, the evaluation team proposes the following seven recommendations aimed at specific entities within WFP. Some evaluation recommendations broaden, complement or re-emphasize actions agreed in previous internal audits⁶ that have not yet been fully implemented by WFP. Importantly, as for most conclusions, most recommendations are also relevant to the use of technology beyond constrained environments. However, the issues and the consequences that the recommendations aim to address are most acutely felt in constrained environments. Lastly, while a single lead entity has been proposed for each sub-recommendation, strong and consistent cooperation by contributing entities will be critical for successfully putting the recommendations into practice.

⁶ In particular: WFP. 2019. Internal Audit of Governance of IT-Enabled Projects in WFP; WFP. 2019. Internal Audit of ICT Management in Country Offices; WFP. 2021. Internal Audit of SCOPE WFP's Digital Management of Beneficiaries.

No.	Recommendation	Responsibility	Other contributing entities	Priority: high/medium	By when
1.	<p>Strategy</p> <p>As part of the implementation plan for WFP’s strategic plan for 2022–2025 and the new corporate information technology strategy, formulate in consultation with all relevant divisions an overall strategic vision for the use of digital technology and data in which people and protection are central concerns, and constrained environments are taken into account. Translate this vision into clear standards, directives and practical guidance and disseminate them internally and to partners.</p>				
1.1	<p>Leverage existing committees under the oversight of the WFP Digital Business and Technology Committee (DBTC) and, drawing on all relevant divisions, formulate an overall vision and strategy for the use of digital technology and data at WFP, driving the organization’s agenda and specifically addressing constrained environments. The vision and strategy should include clear principles and priorities for WFP’s use of digital technologies, explicitly articulating the need to prioritize people-centred approaches (protection, localization, participation) to technology along with objectives of effectiveness and efficiency. Disseminate the strategy and principles throughout WFP.</p>	Chief Information Officer (CIO)	DBTC, Programme and Policy Development Department Digital Advisory Board (PD DAB), Global Privacy Office (GPO), Technology Division (TEC), Innovation Accelerator (INKA), Supply Chain Operations Division (SCO), Emergency Operations Division (EME), Security Division (SEC), Programme – Humanitarian and Development Division (PRO), regional bureaux , country offices	High	December 2022

No.	Recommendation	Responsibility	Other contributing entities	Priority: high/medium	By when
1.2	Identify, prioritize, develop, complement and streamline concrete and actionable guidelines, training and processes relating to how to operationalize WFP's strategic vision of the role of technologies in practice, with detailed and tailored approaches for the various levels of the organization and constrained environments in which it operates.	TEC	PD DAB, GPO, INKA, SCO, EME, SEC, PRO, Cash-based Transfers Division (CBT), Nutrition Division (NUT), Research, Assessment and Monitoring Division (RAM), School-based Programmes (SBP), Gender Office (GEN), regional bureaux, country offices	Medium	June 2023
1.3	Develop and complement strategic position papers, in consultation with other humanitarian actors, that define WFP's normative posture on critical issues, including on digital rights and responsibilities, open data, digital identity management and the use of biometrics, treatment of particularly sensitive data, regulatory compliance, public-private partnerships, the role of donor governments, services to governments and other issues as they arise.	CIO	DBTC, PD DAB, GPO, TEC, PRO, CBT, GEN, SCO, EME, Private Partnerships and Fundraising Division (PPF)	Medium	June 2023
1.4	Strengthen WFP's strategic engagement on the use of digital technology and data with other United Nations entities, international NGOs and donor communities on the definition and use of common standards, tools and technologies, thus contributing to sector-wide norm and standard-setting.	TEC	DBTC, PD DAB, Public Partnerships and Resourcing Division (PPR), United Nations System and Multilateral Engagement Division, Washington Office, Geneva Office, Brussels Office, NGO Partnerships Unit, Innovation and Knowledge Management Division (INK), GPO, PRO, CBT	High	December 2022

No.	Recommendation	Responsibility	Other contributing entities	Priority: high/medium	By when
2.	<p>Governance</p> <p>Clarify and strengthen the governance arrangements and allocation of resources driving WFP’s digital transformation and the use of technologies in constrained environments, as well as the division of roles and responsibilities across all levels of the organization, enhancing the balance between product-driven efforts and business needs.</p>				
2.1	<p>Clearly define the scope, roles and responsibilities of entities involved in technological development and innovation at WFP, maximizing synergies and considering the breadth of innovation occurring within the organization at various levels.</p>	CIO	DBTC, PD DAB, TEC, SCO, EME, GPO, Enterprise Risk Management Division (ERM)	High	December 2022
2.2	<p>Clearly establish accountabilities for oversight and compliance between headquarters, regional bureaux and country offices, allocate resources for efficient oversight and support, including for the implementation of the recommendations in the present evaluation, and strengthen incentives for compliance and accountability mechanisms for the (mis-)use of technology.</p>	CIO	DBTC, PD DAB, TEC, INK, GPO, ERM	High	December 2022
3.	<p>Risk and protection</p> <p>Develop strategies and mechanisms for ensuring the effective protection of affected populations and humanitarian personnel and the management of risks associated with the use of technologies, considering constrained environments in particular, building on a strategic position on protection and the rights of and responsibilities to affected communities with regard to the development and use of technologies.</p>				

No.	Recommendation	Responsibility	Other contributing entities	Priority: high/medium	By when
3.1	Expand the use of privacy and protection assessments to identify personal and digital risks and potential unintended consequences of the use of technology for protection, including assessment of partner digital literacy, capacities and processes, taking into account emerging threats such as online rumours and misinformation campaigns and potential physical threats to digital assets and their consequences for the protection of affected populations and humanitarian personnel.	Emergencies and Transitions Unit (PROP)	GPO, TEC, Communications, Advocacy and Marketing Division (CAM), regional bureaux, country offices	High	December 2022
3.2	Enhance protection and security risk management strategies concerning risks to both affected populations and humanitarian personnel to guide the use of digital technologies in country offices in constrained environments and allocate resources for an effective response to general protection risks and long-term solutions to security risks, both digital and personal.	PROP	GPO, SEC, TEC, regional bureaux, country offices	High	December 2022
3.3	Support the expansion of stress test exercises (such as tabletop exercises) to include risks beyond cyber-security risks such as security threats and other adverse events, reputational risks and other challenging situations (e.g., misinformation campaigns, threats associate with data requests) and to include the participation of implementing partners.	ERM	Deputy Executive Director (Business continuity team), SEC, TEC, Legal Office (LEG), GPO, CAM, regional bureaux, country offices	Medium	June 2023
3.4	Enhance transparency, communication and knowledge sharing with regard to protection (inclusion, safety, integrity, dignity) in relation to the use of technology and support country offices and regional bureaux in connecting and exchanging experiences about protection risks and responses related to data and the use of technology in constrained environments.	PROP	GPO, TEC, regional bureaux, country offices	Medium	June 2023

No.	Recommendation	Responsibility	Other contributing entities	Priority: high/medium	By when
4.	<p>Inclusion and engagement</p> <p>Integrate inclusion, gender equality and women’s empowerment in technology development and use and meaningfully engage with diverse community members to inform the development and use of technologies.</p>				
4.1	<p>Ensure that technology development and deployment are inclusive and gender sensitive through enhanced partnerships between the Technology Division and gender, inclusion and protection specialists and through consultation with regional bureaux and country offices and, when appropriate, affected communities.</p>	TEC	GEN, PRO, CBT, NUT, RAM, SBP, regional bureaux, country offices	Medium	June 2023
4.2	<p>Implement inclusive recruitment, retention and staff development strategies in the information technology function of WFP to achieve greater diversity and gender parity in teams (e.g., women in technology positions, regional representation).</p>	TEC	Human Resources Division (HR), heads of all divisions and offices	Medium	June 2023
4.3	<p>Formalize processes and triggers for the engagement and meaningful participation of all relevant stakeholders (internal and external) in the development, piloting and use of digital technology, ensuring the equitable representation of the diverse people served by WFP as a standard component of WFP’s approach and its accountability to affected persons.</p>	TEC	PD DAB, PRO, GEN, CBT	Medium	June 2023

No.	Recommendation	Responsibility	Other contributing entities	Priority: high/medium	By when
4.4	Develop, update and mainstream the process and responsibilities for conducting country-office-level multidimensional technology impact assessments before, during and after digital technology implementation. Ensure that these assessments cover effectiveness, efficiency, sustainability, security, privacy and broader protection, equity and gender concerns.	TEC	DBTC, PD DAB, PROP, GEN, GPO, regional bureaux, country offices	Medium	June 2023
5.	<p>Monitoring, evaluation and knowledge management</p> <p>Develop a knowledge management approach to capturing, storing and disseminating internally and externally relevant information regarding WFP's use of technology, building supportive evidence and maximizing synergies that is appropriate for constrained environments.</p>				
5.1	Strengthen and improve the use of existing knowledge management tools to provide access to all useful technology-related information that is accessible and usable in constrained environments. This may include: i) a trusted digital solutions library containing essential information about WFP's technology portfolio and other approved solutions; ii) a central repository for key resources, factsheets and lessons learned from pilot rollouts and from the use of digital technologies in various settings; iii) an expert database of WFP staff and external experts who can be consulted on digital technology matters; and iv) the use of existing forums and communities of practice to facilitate peer-to-peer learning and support.	INK	TEC, PRO, CBT, NUT, RAM, SBP, SCO, EME, CAM, regional bureaux, country offices	Medium	December 2022

No.	Recommendation	Responsibility	Other contributing entities	Priority: high/medium	By when
5.2	Strengthen existing monitoring and evaluation and reporting efforts by putting in place performance measurements, assessments and reporting frameworks and clearly defining accountabilities, with differentiated approaches during pilot testing, initial deployment, scale up and routine monitoring of digital technologies and data.	TEC	Monitoring and Evaluation Liaison Unit (CPPM), INKA	Medium	December 2022
5.3	Conduct periodic studies and evaluations to fill critical knowledge gaps and disseminate good practices in the use of digital technologies on an as-needed basis on subjects such as gender and inclusion, cost-effectiveness, efficiency and value-for-money, risk reviews and shifting the burden of consent.	TEC	INK, PD	Medium	December 2022
6.	Digital skills and change management Invest in developing and implementing a coherent capacity development and change management strategy with regard to basic digital skills and data literacy for all WFP staff, especially in countries with low digital literacy and skills.				
6.1	Assess opportunities to strengthen digital technology entrepreneurship and digital skills for WFP staff, including through the maintenance and development of specialist skills at headquarters and regional bureaux to support country offices in the use of digital technology and through strengthening job profiles to match technological requirements.	TEC	HR, all divisions and offices	Medium	June 2023
6.2	Update and expand available training modules on the use of digital technologies and data (e.g., WeLearn) and turn them into a coherent curriculum for staff to build their skills incrementally.	TEC	HR	Medium	June 2023

No.	Recommendation	Responsibility	Other contributing entities	Priority: high/medium	By when
6.3	Examine opportunities to make access to sensitive data conditional to having received adequate training on sensitive data handling.	GPO	TEC, heads of all divisions and offices	Medium	June 2023
6.4	Consider digital technology implementation to be a behaviour change effort that requires a change management strategy beyond training to ensure sustainable adoption and compliance.	TEC	DBTC, PD DAB, heads of all divisions and offices	Medium	June 2023
7.	Partnerships Invest in developing and supporting successful technological partnerships in and for operations in constrained environments, focused but not limited to local partners, considering mutual benefits as a key principle for sustainability and including efforts to improve and sustain access to the Internet.				
7.1	Refine and implement guiding principles that include consultation and local relevance and sustainability as key factors in the selection, development and use of technology, including potential support for and partnerships with local innovators.	TEC	INK, PD	Medium	June 2023
7.2	Support digital capacity development for implementing partners, for example through dedicated support staff and appropriate and accessible training modules on a cooperating-partner-facing training platform.	TEC	HR	Medium	June 2023

No.	Recommendation	Responsibility	Other contributing entities	Priority: high/medium	By when
7.3	Enhance procedures and capacities for increasing personal data protection when working with various stakeholders, including through contract templates, guidance material and training and capacity building.	GPO	PROP, LEG, TEC, PD, Partnership and Advocacy Department (PA), regional bureaux and country offices	Medium	June 2023
7.4	Take stock of, streamline and continue to raise awareness of oversight, due diligence and review processes for the development of partnerships with a digital technology or data dimension, including with regard to the vetting of partners, communication and transparency and their ethical, reputational, and operational implications, especially when considering state, parastatal and private partners.	TEC	Technology Industry Engagement group, PPF, LEG and regional bureaux	High	June 2022

1. Introduction

1.1 EVALUATION FEATURES

1.1.1 Rationale and objectives

1. This strategic evaluation (SE) assesses the World Food Programme's (WFP) use of digital technologies and data in constrained environments in its efforts towards its vision of zero hunger by 2030. The evaluation objectives serve the dual purpose of accountability and learning. The strategic evaluation aims to provide lessons and insights to support the design of the new WFP Information Technology (IT) Strategy and the WFP Strategic Plan (2022-2025), and to help guide the organization's digital transformation and use of technology in constrained environments to improve operations and accountability to affected populations (AAP). To this end, the evaluation intends to determine to what extent WFP has effectively and efficiently deployed the most appropriate information and communication technologies (ICTs) and how, why and under which conditions the use of technologies has contributed to increasing WFP management and programmatic performance in constrained environments. The evaluation also looks at how well WFP has taken advantage of technological opportunities, at good practices in adapting ICT applications to evolving constraints, and whether effective measures are in place to mitigate and manage risks to operations and populations resulting from the use of ICTs and data. This evaluation covers the period from January 2014 to June 2021.

2. The need for an evaluation of this kind emerged from an advisory study commissioned by the Office of Evaluation (OEV) in 2017,⁷ which identified the use of technology in constrained environments as a global theme of relevance to WFP strategic direction and management. The need for such an evaluation also emerged from the increased use and management of ICTs across all focus areas and activities of WFP operations. More precisely, from the expectation that technology and technological innovation would

*enable the rapid expansion of WFP operations; improve the time- and cost-efficiency and quality of assistance to people in need; help adapt and increase operational resilience to changing conditions, constraints and risks; present new opportunities (ICT connectivity, new partnerships, etc.); and help WFP to meet donor expectations, including greater accountability.*⁸

3. The lead role of WFP in the emergency telecommunication cluster (ETC), the increased provision of cash-based transfers (CBT), the introduction of a digital beneficiary registration and transfer management platform, and the increased use of remote vulnerability analysis and mapping (VAM) illustrate the increased reliance of WFP on technologies as part of its operations in constrained environments.

4. The primary internal users of the evaluation are WFP senior management and various divisions, for whom this report serves as a valuable source of information about the effectiveness and efficiency of its past initiatives to determine needed technology-related strategies for the future. Specifically, this evaluation is of great importance to the Technology Division (TEC) and the wider Resource Management Department, the Innovation and Knowledge Management Division (INK) and the broader Programme and Policy Development Department, the Office of the Inspector General and Audit (OIGA) and the Partnerships and Advocacy Department. Other key stakeholders include the regional bureaux (RBs) and country offices (COs) as users and developers of technologies and digital data and the Global Privacy Office (GPO), created in 2021. Potential external users of this evaluation include a range of WFP partners, including governments, non-governmental organizations (NGOs), civil society organizations (CSOs), the private sector, United Nations agencies and international financial institutions (IFIs), especially those that collaborate with WFP in constrained environments. An external panel consisting of digital technology and data experts from diverse backgrounds provided valuable insights and advise at key stages of the evaluation.

7 WFP. 2017. Strategic Evaluation Review: Themes and Coverage Levels, Advisory Report. The review identified 10 topics which were discussed and agreed upon with the Executive Management Group.

8 WFP. 2020. Terms of Reference: Strategic Evaluation of the WFP's Use of Technology in Constrained Environments.

5. The data collection and analysis phase was conducted between January and July 2021. The methodology for the evaluation consisted of a convergent mixed methods non-experimental design that leveraged conventional and participatory quantitative and qualitative methods. The methodological design relied on two levels of analysis: a global level study encompassing the use of ICTs and digital data across the different levels of the organization, mainly at WFP headquarters (HQ), regional bureaux and across country offices, and a local-level study, focused on six country-specific case studies (Jordan, Bangladesh, South Sudan, Iraq, the Democratic Republic of the Congo (DRC) and Niger). It was also complemented by a comparative learning exercise of several organizations in the humanitarian technology space (the United Nations Children's fund (UNICEF), the United Nations High Commissioner for Refugees (UNHCR), the International Federation of Red Cross and Red Crescent Societies (IFRC) and Mercy Corps). This exercise was intended as a best practice and landscape analysis focused on learning from other organizations on how they are experiencing and dealing with similar technology-related challenges to WFP.

6. The evaluation draws on six main sources of evidence, including: review of internal documents during the inception and evaluation phases; review of external documents during the inception and evaluation phases; key informant interviews (KIIs) during the inception and evaluation phases; a global online survey of WFP; mobile phone or online surveys targeting the people WFP serves, and focus group discussions with hard-to-reach affected populations. Annex II (Evaluation Timeline) and Annex VII (Fieldwork Agenda) further detail the timing and duration of the fieldwork.

1.1.2 Scope and definitions

7. This evaluation is concerned with the use of digital technologies and data by WFP in constrained environments. For the scope of this evaluation, technology is understood as the "ICT hardware and applications used to help achieve the objectives of WFP" (see Annex I, (Summary Terms of Reference)). Included in this evaluation are digital technologies integrating the necessary software and hardware to enable users (WFP, its partners and/or people served by WFP) to access, store, transmit, and manipulate information.⁹ This includes a range of digital technologies used throughout the WFP programme's lifecycle, including technologies for internal management (for example the WFP Information Network and Global System (WINGS)), technologies deployed in WFP operations be it directly by WFP or by its partners, technologies used by governments developed with WFP support (for example a national social protection information system) and technologies used by affected populations (mobile phones for providing market information or feedback). The use of ICTs and digital data in WFP covers a wide range of programme and management activities, ranging from assessments and forecasting, over targeting and resource management, to monitoring and communications. Considering this broad range of technologies and uses, the evaluation examines the strategic use of ICTs rather than assessing single tools or technologies.

8. This evaluation is specifically concerned with constrained environments. WFP, like most humanitarian actors, focuses most of its programming in constrained environments, although the nature and intensity of the constraints vary. Constraints include physical access challenges to populations in need due to the physical environment, security conditions, rapid population movements, and the social and political context. Some constraints may directly affect the use of technology (connectivity, legal and political restrictions on the use of technology), while others broadly affect operations and may be alleviated using technology. This definition was operationalized in the selection of country case studies using both humanitarian access indicators¹⁰ and the technology development indicators.¹¹ The evidence collected and analysed in this evaluation pertains specifically to the constrained environments within its scope. The extent to which findings and conclusions may be generalizable to other (non-constrained) environments was not assessed.

9 This evaluation therefore does not consider other technologies used by WFP to achieve its mission such as biotechnologies or "physical" technologies utilized in logistics (warehouses, cargo planes and other transportation devices, shelters) or nutrition supplements, health equipment and medication.

10 ACAPS. 2019. Humanitarian Access. Methodology Note.

11 United Nations International Telecommunication Union. 2017. Global ICT Development Index.

1.2 CONTEXT

1.2.1 Global context

9. In the era of the “data revolution”, digital technologies and data have been regarded as transformational sources and tools to be leveraged in the pursuit of the Sustainable Development Goals (SDGs). Digital- and ICT-enabled innovations have been deployed over the past decade for a range of purposes, including to ensure internet access and connectivity to populations on the move, to enable the use of mobile money payment applications for cash-based transfers, and for the design of distributed ledger technologies for identity recordkeeping and verification.¹² Technology and data gathering, processing and analysis can help humanitarian organizations anticipate events and monitor outcomes, enable evidence-based decision making, facilitate communication between humanitarian personnel and amongst affected populations and enable faster coordination of emergency responses.¹³ The “datafication” of society is occurring in both developed and developing economies, and the widespread use of technology directly and indirectly affects all individuals in our increasingly globalized world.

10. The recognition of the potential of digital technologies – including newer technologies such as blockchain and artificial intelligence (AI) – in development and humanitarian action has also been echoed by the United Nations. From 2018, the United Nations put forth a series of strategies and recommendations outlining how the United Nations system should support the use of such technologies in its work, also emphasizing support towards ensuring that these technologies align with the values enshrined in the United Nations Charter. More recently, the Roadmap for Digital Cooperation and the United Nations Secretary-General’s Data Strategy set out a list of recommendations and priorities aimed at leveraging the use of digital technologies, acknowledging the “enormous potential for positive change” resulting from technologies, whilst also noting that these can “reinforce and magnify existing fault lines and worsen economic and other inequalities.”^{14,15} Concerted efforts to unlock the potential of data and technology for the United Nations signal a changing ecosystem, whereby the use of technologies by United Nations and other humanitarian organizations is enabled by a sector-wide recognition of the potential of data and technologies in pursuit of humanitarian mandates.

11. During the COVID-19 pandemic, as in other sectors, the use of technology by the humanitarian sector has accelerated, bringing about new opportunities, lessons learned and challenges. Not only have organizations had to increase their reliance on already digitalized business processes, but in some cases, they have also had to turn analogue systems completely digital.¹⁶ For example, with the onset of the pandemic, many organizations shifted to remote data collection methods, including increasing the use of phone surveys and remote key informant interviews using virtual conferencing software.¹⁷ Others have developed new technologies in sectors or areas that were previously manual, such as health. While organizations have borne the brunt of delays in the supply chain and an inability to reach populations, they have also had to adapt and streamline technology use for business continuation, and to innovate and scale existing technologies. In parallel, there is also a bigger push to streamline data governance, to build trust around technology and to ensure that technologies being developed and applied uphold the rights of people involved.

12. Additionally, with the widespread use of technologies in their operations, humanitarian organizations need to consider risks borne or exacerbated by digital divides, including the digital gender divide. According to UNESCO,¹⁸ young women account for around 59 percent of the total illiterate youth

12 Mercy Corps. 2019. Seven tech trends that are transforming humanitarian aid.

13 Belliveau, J. 2016. Humanitarian access and technology: opportunities and applications. *Procedia Engineering* 159: 300-306.

14 Report of the Secretary General. 2020. Roadmap for Digital Cooperation. United Nations.

15 Secretary General. 2020. Data Strategy of the Secretary-General for Action by Everyone, Everywhere. United Nations.

16 Bharania, R. 2020. Opinion: COVID-19 as the catalyst for NGO’s digital transformation. Devex.

17 Gazi, T. & Gazis, A. 2021. Humanitarian aid in the age of COVID-19: A review of big data crisis analytics and the General Data Protection Regulation. International Review of the Red Cross.

18 UNESCO. 2019. UNESCO Institute of Statistics Global Database, available via <https://data.unicef.org/topic/education/literacy/>.

population and only 48 percent of women have access to the internet, compared to 58 percent of men.¹⁹ In humanitarian and development contexts phone and smartphone ownership is most prevalent amongst men, with women and girls having significantly less access to technology due to economic and cultural constraints, and therefore having to rely on second-hand information from male relatives. At the same time, digital technologies can also be drivers of greater gender inclusion, for example, by expanding financial services to women, who, compared to men, are more likely to be underbanked and excluded from financial systems.

13. While technological innovation in the humanitarian sector has the potential to improve the quality and continuity of assistance and yield effectiveness and efficiency gains, it can also present major risks and uncertainties, including important potential repercussions for affected populations.²⁰ The United Nations Secretary-General's Strategy on New Technologies²¹ recognizes that new technologies can lead to the creation of more inequality and violence, including: threats to privacy as a core human right; the risk of growing disparities and imbalances through elite capture of data; the threat of identity theft and fraud; and the environmental impact of sustaining technological infrastructures. In fact, literature on the impact of humanitarian technologies and the effect they have on improving the delivery of assistance has reached mixed conclusions, with the practical and tangible gains in efficiency and effectiveness of some technologies still questioned.²² The literature also suggests that optimism around ICTs and humanitarian technologies is sometimes misplaced, an opinion heightened by the relatively few impact evaluations of technologies and digital data impact on humanitarian operations. Several discussions on the challenges and trends of humanitarian technologies have gained prominence, including debates around:

- a. **Leaving no one behind.** While technology has the capacity to reach more people by driving efficiency gains and advancing innovations that lead to increased coverage and inclusion, for example, the widespread use of mobile applications to spread timely and crucial information,²³ increased use of technology for operations and programmatic purposes poses the risk of exacerbating or creating new types of exclusion, including along gender, socioeconomic, and cultural lines. According to a UN Women report "Making Innovation and Technology Work for Women", history shows that innovation does not automatically benefit all equally. ICTs may systematically exclude people without access to mobile phones, such as women, the elderly, people with disabilities, and less educated people. By embedding technology in operations, humanitarian actors risk leaving individuals without access to digital technologies behind, including through increased reliance on digital modes of assistance (for example, use of mobile money). Furthermore, not everyone who has access to technology is able to effectively use it, as literacy barriers and cultural norms often pose a "second digital divide". Technologies are also at risk of amplifying existing inequalities of "power and influence,"²⁴ for example, as occurs when cash agents charge beneficiaries unapproved fees for them to withdraw their entitlements.
- b. **Responsible data.** The concept of responsible data outlines "the collective duty to prioritize and respond to the ethical, legal, social and privacy-related challenges that come from using data".²⁵ As one of the most recurring topics of discussion, practitioners argue that technologies used in the

19 ITU. 2019. Bridging the gender divide.

20 European Parliamentary Research Service. 2019. Technological innovation for humanitarian aid and assistance.

21 UN. 2018. UN Secretary-General's Strategy on New Technologies.

22 Willitts-King, B., Bryant, J. & Holloway, K. 2019. The humanitarian 'digital divide'. HPG Working Paper.; Vinck, P. 2013. World Disasters Report: Focus on Technology and the Future of Humanitarian Action. Geneva, Switzerland: International Federation of Red Cross and Red Crescent Societies.; Coppi, G. & Fast, L. 2019. Blockchain and distributed ledger technologies in the humanitarian sector. London, ODI.; Belliveau, J. 2016. Humanitarian access and technology: opportunities and applications. *Procedia Engineering* 159: 300-306.; Ramalingam, B., Bound K. 2016. Innovation for International Development: Navigating the Paths and Pitfalls. Nesta.; Rahman, Z., Verhaert P. & Nyst, C. 2018. Biometrics in the Humanitarian Sector. The Engine Room and Oxfam.; Thylin, T. & Novelo Durate M.F. 2019. Leveraging blockchain technologies in humanitarian settings – opportunities and risks for women and girls. *Gender and Development*, 27:2, 317:336.; García, O., & Kotturi, P. 2019. Information and Communication for Technologies for Development Evaluation. *Routledge Studies in Development Economics*.

23 Mercy Corps. 2018. How technology is affecting the refugee crisis.

24 McGee, R., Duncan, E., Anderson, C., Hudson, H. & Feruglio, F., 2018, Appropriating Technology for Accountability: Messages from Making All Voices Count, *Institute of Development Studies*.

25 Responsible Data Forum. What is Responsible Data?

humanitarian sector must promote “digital agency”, which is understood to be a population’s ability to exert ownership and control over its electronic data whilst being able to independently create, access and make informed decisions about its data.²⁶ However, ensuring standards of data ownership, control and protection is not systematically done throughout the humanitarian sector, as the urgency of responding to emergencies can outweigh the need to carefully put in place policies and processes.²⁷ Given that typical data protection frameworks are focused on individual rights and consent - many aspects of collective autonomy regarding responsible data use are lacking within existing data protection regimes and human rights law.²⁸ This is amplified during times of emergency. Reconciling the need for speed in deploying operations with the rigor of responsible data requires robust data governance systems and safeguards to ensure adherence to humanitarian principles. Notions of data agency are further complicated by the fact that affected populations and beneficiaries – the data subjects – are seldomly aware of the management given to their data or are insufficiently data literate to provide informed consent.²⁹ In fact, inherent to the use of most digital technologies is the loss of direct control over one’s data and how it is used. Such loss of agency comes with strong ethical concerns about what purposes personal information can and should be used for. Additionally, data privacy risks are not confined to internal, confidential information only. Analysis developed from multiple streams of public information for WFP use (for example, predicting migration or displaced persons) can create a fundamental security issue, particularly for the marginalized groups or communities in constrained environments that could be targeted. There have been suggestions that WFP should “invest in data literacy at all levels”.³⁰ This includes data protection guidance.

- c. **Biometrics.** Recent debates around the use of biometrics have focused on two strands: one strand is on the ability of biometrics to extend identity coverage to millions across the world, and the other strand is on the oversized importance that biometrics may have unnecessarily garnered in humanitarian operations. The use of biometrics is expected to increase the accuracy of aid targeting and reduce fraud at key points in the food assistance distribution process. Some argue³¹ that identity verification systems do not always need the “enormous” and “rich” personally identifiable information that these data sets contain. Arguments also centre around the fact that perhaps more undue risks are brought on from sharing biometric data than the benefits this practice provides. For example, June 2021 reports about the United Nations Refugee Agency (UNHCR) sharing personal data, including biometrics of Rohingya refugees with the Myanmar Government, raised flags of inappropriate data management from the organization.³² UNHCR reportedly did not perform a full data impact assessment and allegedly failed to obtain refugees’³³ informed consent to share data with the Government of Myanmar for possible repatriation purposes.³⁴ Considering the harm to beneficiaries such mismanagement could pose and subsequent reputational damage for organizations, these events put onus on the importance of proper data management for WFP, given the size and scope of the data that it collects and stewards. There are also concerns with the several exclusionary elements associated with utilizing biometric data, specifically obtaining samples for people with disabilities, people who carry out hard manual labour which hinder the reliability of fingerprinting, or for those who may be reluctant to submit biometric samples for cultural reasons.³⁵ Yet, the need for enhanced biometric

26 Willitts-King, B., Bryant, J. & Holloway, K. 2019. The humanitarian ‘digital divide’. HPG Working Paper.

27 Ramalingam, B., Bound K. 2016. Innovation for International Development: Navigating the Paths and Pitfalls. Nesta.

28 Zwitter, A., Gstrein, O.J. 2020. Big data, privacy, and COVID-19 – learning from humanitarian expertise in data protection. *Int J Humanitarian Action* 5.

29 Currion, Paul. 2021. The Case Against Cash. *The New Humanitarian*.

30 WFP. 2020. Management Review of Significant Risks and Control Issues, 2019.

31 Rahman, Z., Verhaert P. & Nyst C. 2018. Biometrics in the Humanitarian Sector. The Engine Room and Oxfam; The New Humanitarian, Head-to-Head: Biometrics and Aid - One timely topic, two opinionated views, July 2019.

32 Rahman, Z. 2021. The UN’s Refugee data shame. *The New Humanitarian*.; HRW 2021. UN Shared Rohingya Data Without Informed Consent: Bangladesh Provided Myanmar Information that Refugee Agency Collected.; UNHCR 2021. News comment: Statement on refugee registration and data collection in Bangladesh.

33 Habib, M., Jubb, C., Ahmad, S., Rahman, M. & Pallard, H. 2018. ‘Forced Migration of Rohingya: The Untold Experience’, 1st edition Ontario International Development Agency. Ottawa, Canada.

34 Thaiger. 2018. “Myanmar prepares for the repatriation of 2,000 Rohingya”.

35 Kondakchyan, A. 2018, Questioning the Use of Biometric Data in Humanitarian Response. Views & Voices, Oxfam.

systems is tightly related to the obligations that arise from private sector actors involved in the cash transfer value chain, as well as increasing calls from funders for accountability.³⁶ A common thread reconciling both sides is the call to ensure data minimization – collecting the least amount of data needed in order to avoid the risk of what has been called “surveillance humanitarianism”. During the COVID-19 pandemic, to reduce the risk of transmission, biometrics using contact-based devices were suspended in WFP and some other organizations.³⁷ Alternative methods were used and documented, however there is to date insufficient hindsight to quantify an impact on targeting accuracy or cases of fraud. According to Latonero, “to date, the humanitarian sector has not developed the calculus to weigh the benefits of digital identity systems against the costs to fundamental rights”.³⁸

- d. **Autonomous decision making systems.** A rising concern in the humanitarian sector relates to the increased use of artificial intelligence to drive decision making.³⁹ Though an area of great potential – for example, the use of classification and clustering algorithms to automate image detection for early warning systems – the risk of using algorithms for humanitarian decisions is heightened by the uncertainty around algorithmic predictive power and training and interpretation biases. For example, if algorithms trained with skewed datasets are used to make strategic decisions in the targeting of food assistance, the delivery of aid is at risk of being biased towards those most represented in the datasets. As in other sectors, it is important to ensure that algorithms and systems are explainable and to avoid embedding “black-box” algorithms into software as the sector moves towards the adoption of more autonomous decision making systems.
- e. **Shift to remote assistance and remote engagement with communities.** With more operations relying on remote modes of assistance over the last decade, and recently even more so due to COVID-19, it is worth highlighting that the provision of aid remotely can hinder accountability and may exacerbate existing power asymmetries. With more remote assistance, the availability of face-to-face aspects of accountability and encounters between staff and beneficiaries are reduced. In Kenya, the Democratic Republic of the Congo, Syria and countries affected by the Syrian refugee crisis (including Egypt, Iraq, Jordan, Lebanon and Turkey), affected populations served by WFP have noted their preference for in-person community feedback mechanisms (CFM), rather than feedback over the phone due to the impersonal nature of the communication or due to fear of using technology.⁴⁰ Shifting to remote assistance may limit these encounters and exchanges amongst these groups, hindering the exchange of ideas and communication amongst them. The Evaluation of WFP’s Policy on Humanitarian Protection in 2012 also found that more reliance on remote modes of community feedback mechanisms coincided with respondents’ perceptions of a lack of control to trace the feedback provided to WFP, and negatively affected their perception of the hotlines’ efficiency or effectiveness. Institutionalizing remote management may further take place without the involvement of local non-governmental organizations and local innovation hubs in the development of innovations and digital solutions, decreasing opportunities for local engagement around the design and development of technologies. Additionally, shifting towards more remote assistance can lead to reinforcing existing imperfect markets and local governance dynamics based on access to technology. It can also lead to the entrenchment of bureaucracies and power structures, including the predominance of Western technology companies as developers of humanitarian technologies.⁴¹ Furthermore, an increase in the use of technology and digital data in humanitarian operations risks extending engagement in these settings to technology

36 Rahman, Z., Verhaert P. & Nyst, C. 2018. Biometrics in the Humanitarian Sector. The Engine Room and Oxfam.

37 WFP. 2021. Management Review of Significant Risks and Control Issues, 2020.

38 Latonero, M. 2019. Stop Surveillance Humanitarianism. *The New York Times*, Opinion: The Privacy Project.

39 Willitts-King, B., Bryant, J. & Holloway, K. 2019. The humanitarian ‘digital divide’. HPG Working Paper.

40 WFP Kenya country office. 2018. An evaluation of the effects and a cost benefit analysis of the general food distribution (GFD) cash modality scale up (cash-based transfers for PRRO 200737) for refugees and host communities in Kenya. August 2015-November 2017.; WFP. 2018. Corporate Emergency Evaluation of the WFP Regional Response to the Syrian Crisis (January 2015-March 2018).; WFP. 2020. The Democratic Republic of the Congo: an Evaluation of the WFP Interim Country Strategic Plan (2018-2020), October 2020.

41 Ramalingam, B. & Bound, K. 2016. Innovation for International Development: Navigating the Paths and Pitfalls. Nesta.

organizations lacking humanitarian expertise and not necessarily aligned with humanitarian principles.

- f. **Partnering with the private sector and governments.** Though private sector actors have a role to play in the development of humanitarian technology, mixed opinions remain on the extent of that role. Evaluation interviewees expressed doubts on the appropriateness and perceived misalignment of private sector values, ways of working and commitment to WFP and humanitarian principles. Interlocutors have expressed concerns that WFP lacks the capacity to ensure that private sector partners are not misusing data obtained through their partnerships with WFP to gather valuable insights on vulnerable populations. These capacity concerns are also reflected by the independent evaluations of other WFP technology deployment projects, including their use of a biometric identification system.⁴² Across the humanitarian technology space, organizations concur on the need to develop technologies that are relevant and appropriate to the culture and context in which they are deployed whilst also emphasizing the importance of promoting flexible and adaptable digital innovations rather than focusing on specific, single-use solutions.⁴³ This concerns the integration of digital solutions designed for other purposes in the private sector, and the need to ensure that they are responsive to the needs and principles of humanitarian organizations. At the same time, given the growing expertise of WFP, there is an increased focus on delivery of technology as a service to governments, partners and for the people WFP serves. This relates closely to the provision of more ICTs and digital solutions to governments via digital assistance to governments. This assistance has signalled an increasing focus within operations on the creation and transfer of existing tools and data as part of country exit strategies.

1.3 SUBJECT BEING EVALUATED

1.3.1 The use of technology by WFP in constrained environments

14. Over the past decade, the humanitarian context has seen an increase in the number, scale, complexity and duration of humanitarian crises due to violent conflict, climate change, epidemics, and other man-made and natural disasters of growing proportions. The 2021 Global Report on Food Crises highlights the “remarkably high severity and number of people in Crisis or worse conditions (IPC / CH Phase 3 or above)”, estimating that 155 million people were acutely food insecure – an increase of around 20 million from 2019, and the highest figure in the past five years.⁴⁴ The onset of the COVID-19 pandemic has further exacerbated the vulnerability of many across the globe, leading to the number of severely hungry people rapidly doubling to 272 million.⁴⁵ With no indication of this trend changing in the near future, it is expected that the high levels of humanitarian need will continue to rise.⁴⁶ At the same time, the humanitarian funding gap is growing, as are expectations by donors and politicians on the transparency of, accountability for, and value for money of, humanitarian assistance. Humanitarian organizations are, therefore, faced with rising needs across the globe as well as increased expectations for cost efficiency.

15. Simultaneously, the protracted nature of many crises and emergencies – where conflict is a major feature – entails that most environments in which WFP operates are constrained in one way or another as a result of fragility and extreme poverty, often linked to and compounded by conflict or other man-made and natural disasters. Those constraints include: high uncertainty and rapidly evolving situations and needs; difficult physical access to populations in need due to poor or damaged infrastructure, physical barriers or population movements; poor or no telecommunications coverage; high security, health and other safety risks; very weak national and local public and private services; time and resource constraints; social, economic, institutional and political constraints; and risks of fraud or theft. Highly constrained environments, as depicted in Figure 1 that provides a snapshot of the Level 2 (L2) and Level 3 (L3) emergencies WFP has responded to in the past decade, represent the main caseload of WFP operations.

42 McDonald, S. M. 2019. From Space to Supply Chain: Humanitarian Data Governance, Centre for International Governance Innovation (CIGI).

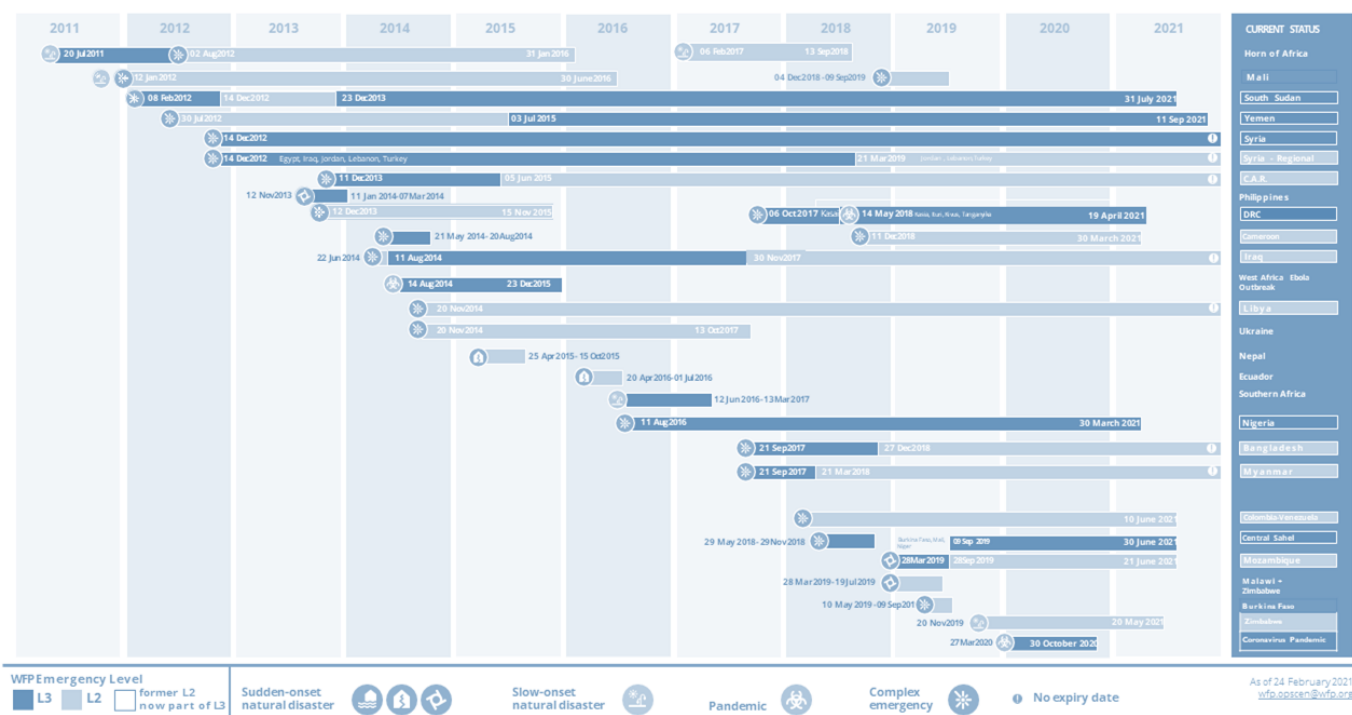
43 Ramalingam, B. & Bound, K. 2016. Innovation for International Development: Navigating the Paths and Pitfalls. Nesta.

44 Global Network Against Food Crises. 2021. 2021 Global Report on Food Crises.

45 WFP (USA). (n.d). The devastating toll of COVID-19.

46 WFP. 2020. Strategic Evaluation of WFP's Capacity to Respond to Emergencies.

Figure 1. WFP emergency responses (2011-2021)



Source: WFP, 2021.

16. In parallel and in response to these trends, WFP has made a significant shift in its approach from food aid to food assistance. The rapid increase in the scale of cash-based transfers allows WFP to ensure that more people and the right people get the right assistance at the right time, whilst also ensuring cost efficiency of its operations. With the introduction of the WFP system for cash operations (SCOPE) and the successive and systematic adoption of cash-based transfers, technologies have evolved into crucial inputs for operations, including in constrained environments. In 2020, SCOPE was used in 68 of the 85 countries WFP works in, with over USD 1.5 billion transfers enabled through the application.⁴⁷ WFP has invested considerably in ICT solutions to support the planning, design, targeting, implementation, monitoring, management and security of its operations. In fact, WFP uses and manages ICTs throughout all focus areas and activities, and across all of the environments where it works.

17. The evolution of the use of ICTs by WFP has included the introduction of key corporate and programme technologies as well as the installation and maintenance of connectivity infrastructure in highly constrained contexts through the emergency telecommunications cluster. Since 2005, the cluster has responded to over 40 crises around the world including eight currently active emergencies.⁴⁸ In the last decade, WFP has also actively partnered with other actors in the humanitarian technology space, including private sector actors to develop solutions, creating avenues to promote innovation within WFP operations. Over the evaluation period, WFP has established partnerships with Tableau, Palantir, GSMA, Alibaba and Mastercard, amongst others.

18. Most recently, with the onset of the COVID-19 pandemic, WFP operations have faced new and increasing constraints, presenting sizeable challenges to operations. In addition to creating opportunities for increased use of technology, such as increased remote data collection, the changes to operations precipitated by COVID-19 have also resulted in the suspension of technological applications, including a shift away from contact biometrics.⁴⁹ Though COVID-19 poses threats to the continuity of WFP operations, it

47 WFP. 2021. Internal Audit of SCOPE – WFP’s Digital Management of Beneficiaries.

48 ETC. 2021. Active ETC Operations.

49 WFP. 2021. Management Review of Significant Risks and Control Issues, 2020.

also renders visible why the efficient and effective use of technologies across WFP is a strategic priority specifically in constrained environments.

19. Part of the evolving context of WFP and its dual mandate includes identifying and promoting synergies across the humanitarian-development-peace nexus. Given the acceleration of the organization's use of technology over the past years, the delivery of technology as a service internally for WFP has increased, as has its technology portfolio for partners and for the people WFP serves. As WFP operations continue to engage in development-oriented work, strategic considerations around the role of technology and technology assistance offered to partners have been raised and currently are an area of focus for WFP leadership, including in its digital assistance to governments.

1.3.2 Strategic direction, policies and guidance

20. In line with its aim and vision of a zero-hunger world by 2030, WFP has, over the past decade, adopted ICTs and digital data as part of the digital transformation of its activities, seeking to improve assistance and drive effectiveness and efficiency gains from the deployment of technology. As such, key planning documents, including the 2008-2013, 2014-2017 and 2017-2021 strategic plans and the 2020-2022 management plan make note of digital technologies and data as tools to help WFP meet its objective, specifically through strengthening its ability to assess and respond to shocks and emergencies.⁵⁰ In 2015, WFP along with other United Nations agencies and international non-governmental organizations (INGOs), endorsed a set of guidelines known as the Principles for Digital Development, which are designed to help development practitioners integrate best practices regarding the use of technologies and digital data.⁵¹ Subsequently, WFP produced a Corporate Information Technology Strategy (2016-2020), which outlines 12 information technology principles for the organization, in line with the Principles for Digital Development.⁵²

21. WFP policies and processes regarding ICTs and digital data have evolved rapidly, with a strong emphasis on policies related to the development of technology. These are discussed in more detail in Section 2.3 of this evaluation. With the introduction of SCOPE as a system for cash operations, and the successive and systematic adoption of cash-based transfers, technologies have evolved into crucial inputs for operations. The evolution of ICT and digital data use has represented the establishment of corporate and programme systems and technologies, notably SCOPE, Country Office Tool for Managing (programme operations) Effectively (COMET), WINGS, Logistics Execution Support System (LESS) and more recently DOTS.⁵³ To address connectivity issues within remote areas, and sometimes in areas with local restrictions or regulations (which effectively cause delays and affect emergency response), support for the digitalization of country offices through enhanced satellite and mobile data and voice connectivity has been essential. Most recently, with the onset of the COVID-19 pandemic, WFP operations have faced new and increasing constraints, presenting sizeable challenges to operations. In addition to creating opportunities for increased use of technology, such as the increased use of cash-based transfers for programmes or remote data collection, the changes to operations precipitated by the health and socioeconomic crises brought on by COVID-19 have also resulted in the suspension of technological applications (such as biometrics).⁵⁴

22. Notably, there has been a concerted effort to enhance security and data protection and centralize the development of technologies at the corporate level, to avoid the duplication of solutions or potential risks associated with technologies developed at the country office level. There has been an acceleration in the creation of initiatives and positions in relation to the digital transformation and the new challenges it brings for WFP, including the creation of the Innovation and Knowledge Management Division (INK) in 2015, the launch of the Innovation Accelerator in 2016, the creation of the chief information security officer position in 2018, and the introduction of the data protection officer in 2021. The creation of the Technology Investment and Technology Industry Committees, as well as other critical roles and offices, demonstrate the intensification of the organization's digital transformation.

50 WFP. 2007. *WFP Strategic Plan (2008-2013)*.

51 Waugaman. Adele. 2016. *From Principle to Practise: Implementing the Principles for Digital Development*. Washington, DC: *The Principles for Digital Development Working Group*.

52 WFP. 2016. *WFP Corporate Information Technology Strategy (2016-2020)*.

53 The WFP data integration platform developed in collaboration with Palantir Technologies, which supports the efficient allocation of available resources using real time supply and demand information.

54 WFP. 2021. *Management Review of Significant Risks and Control Issues, 2020*.

1.3.3 The WFP digital technology portfolio

23. To contribute to the overarching objectives of WFP and its digital transformation goals, ICTs and digital data are harnessed to support the planning, design, targeting, implementation, monitoring, management and security of its interventions and operations. This includes technological applications in telecommunications, early warning systems, market monitoring, food security monitoring, vulnerability analyses and mapping, beneficiary management, data management, fundraising, communication, and awareness raising, supply chain, logistics, intervention management, nutrition, school-based programming, monitoring, evaluations, reporting, accountability to affected populations, trainings, staff guidance, governance, and knowledge management. These examples of use of technology for operational purposes are supported by WFP investment in technological infrastructure and connectivity.

24. Notably, WFP has developed and deployed a broad portfolio of technologies to support its operations. These include “corporate” solutions⁵⁵ and systems, which are used across organizational levels and units, and local solutions, developed at country office or programme level. Figure 2 below presents a broad view of the portfolio of corporate and programme level digital solutions - divided along their purpose and users. These tools can be described as:

- a. **Tools to execute operations:** These include solutions such as the Platform for Real-time Impact and Situation Monitoring (PRISM) to assess and forecast risk and the impact of climate hazards, and Optimus, an optimization tool for the design of the food basket, selection of transfer modality, amongst others. It also includes the LESS and the Relief Item Tracking Application.
- b. **Tools for enabling financial and administrative services:** These include solutions such as WINGS, the WFP corporate enterprise resource planning system, containing modules for human resources (HR), budget, finance, procurement and travel, amongst others. It also includes tools such as the Invoice Tracking System, an online application to track invoices, check payment status and standardize the invoice approval and payment process.
- c. **Tools to manage and engage staff:** These include some of the third-party technologies that WFP utilizes for its day-to-day business process, for example Microsoft365 suite, and internal information management systems and applications, such as the PASPort application to calculate payroll. It also includes information repositories and platforms to access WFP information, such as wfp.go and WeLearn, the WFP e-learning platform.
- d. **Tools for evidence-based decision making:** These include data aggregation and visualization software, tools and applications, such as Hunger Map Live and DOTS. Hunger Map is the WFP global hunger monitoring system that combines key metrics from various data sources, such as food security information, weather, population size, conflict, hazards, nutrition information and macro-economic data to help assess, monitor and predict the magnitude and severity of hunger in near real-time. DOTS is the WFP data integration platform that pulls together operational data from multiple sources in a central platform to aid more informed and quicker decision making.
- e. **Tools to power partnerships:** These include solutions for resource mobilization, such as the ShareTheMeal fundraising and advocacy app and Salesforce, a cloud application used for customer management for donor information.
- f. **Tools to know and service beneficiaries better:** These include solutions that have been adopted to offer the right assistance at the right time for beneficiaries. This covers solutions that enable the delivery, verification, tracking and tailoring of assistance to beneficiaries, including technologies that power cash-based transfers. Core solutions under this category include SCOPE, the WFP digital beneficiary information and transfer management platform. SCOPE is an integrated global registry of WFP beneficiaries that enables the organization to better assess needs and trends and monitor the effectiveness of assistance provided.

55 According to the Technology Division’s Architecture Branch (TECA), an IT solution is designated a “corporate” IT solution when it is granted by the IT Architectural Board a monopoly over a specific domain or process, irrespective of the organizational unit which manages the solution.

SCOPECARD and SCOPECARD Light are used for verification and attendance tracking purpose, with SCOPECARD serving as an advanced digital wallet.

Additional technologies under this category include Building Blocks (BB), a blockchain technology used for authenticating and registering beneficiary transactions; COMET, a tool for programme design, implementation, monitoring, reporting and performance management; and technologies used internally to support programme implementation, monitoring and evaluation such as Mobile Operational Data Acquisition (MoDA) for collecting post-distribution monitoring data and mobile Vulnerability Analysis and Mapping (mVAM), which entails the application of mobile technologies for food security monitoring.

Figure 2: Portfolio of WFP digital technology and data solutions



WFP. 2021. (extracted from glass.wfp.org)

1.3.4 Investments and funding for technology

25. There is no consolidated figure on the investments made by WFP on its technology portfolio. However, several figures are available on the level of funding that different information technology initiatives have received over the timeframe of the evaluation. Corporate digital technologies and data initiatives are funded in WFP through the programme support and administrative budget (PSA⁵⁶), including through an information technology per capita model⁵⁷ (see Table 1 below), through special accounts and

56 The PSA budget provides the core funding required to support the implementation of WFP's global programme. PSA budget allocations for IT include services provided by HQ and regional bureaux in specific areas within WFP, which contribute to providing programme and administrative support for implementation of the CSPs. This includes hardware, software, staffing, and services for IT services and staff. For 2016, 2017, PSA budgets were organized by Organizational Unit (not Functional Area).

57 These services are charged on an IT per capita model, a funding model that was introduced in 2013 to recover recurring IT costs for corporate systems and connectivity, including costs of software licenses, VSAT, amongst others.

through critical corporate initiatives, amongst others. However, these investments are not specific to ICT and rather cover a broader understanding of information technology. Most notably, spending on information technology per capita has increased over recent years, after consistent decreases since its implementation in 2013. This is not surprising considering both the increase in human resources in the organization and a bigger demand and need for bandwidth consumption per person. Several past audits have noted that the WFP "IT value for money" approach has not been defined to allow for the effective management of resources and to render fully visible costs and spending on information technology capital investment, including development and acquisition costs, as well as maintenance, support, and decommissioning costs.⁵⁸

Table 1: Information technology spending and budget over time (in USD millions)

	2014	2015	2016	2017	2018	2019	2020	2021
Central management, procurement and maintenance of IT services	--	26.0	24.0	19.1	19.1	19.5	25.1	27.6
PSA budget for Information Technology (organizational unit)	19.1	17.2	14.9	17.7	30.0			
PSA budget for Information Technology (functional area)						45.9	51.3	51.8
PSA budget for Technology Division (organizational unit)							18.9	18.9

Source: Management plans (2014-2023).

Table 2: Digital technology-related budgets identified in key documents

Document	Focus / scope (i.e., critical corporate initiative / area)	Budget items
WFP Management Plan (2021-2023)	Establishment of a data protection function	USD 0.5 million for the establishment of a data protection function
	IT Special Account*	USD 10.6 million in income and 10.6 million in expenditures (estimated)
	FITTEST ⁵⁹ Special Account*	USD 12 million in income and 12 million in expenditures (estimated)
WFP Management Plan (2020-2022)	Digital transformation	USD 6.49 million for digital transformation and, for technical adjustments for centralized services, USD 35.2 million in 2019 and USD 40.8 million in 2020 (increase of USD 5.65 million).
	Simplification and efficiency	USD 400,000 for innovation and knowledge management at headquarters and regional bureau level, USD 690,000 at country office level
	Systems integration and IT enabled efficiencies	USD 11 million to support robust data integration across corporate systems (one year)
	IT Special Account*	USD 12.8 million in income, 14.0 million in expenditures (estimate)
	FITTEST Special Account*	USD 12 million in income and expenditures (estimate)

This charge is levied on budget holders on a per capita model based on the number of staff in the units and offices, but it is funded from the PSA for project staff in country offices. IT services under this model must be available to all WFP units and offices. Though this has been calculated since 2013, the evaluation team could not locate such figures prior to 2015. Source: 2014 to 2021 Management Plans.

- 58 WFP. 2019. Internal Audit of Governance of IT-Enabled Projects in WFP; WFP. 2020. Internal Audit of SCOPE – WFP’s Digital Management of Beneficiaries.
- 59 Fast Information Technology and Telecommunications Emergency Support Team (FITTEST).

Document	Focus / scope (i.e., critical corporate initiative / area)	Budget items
WFP Management Plan (2019-2021)	Systems integration and IT enabled efficiencies	USD 5 million as an initial investment for platform integration (one year)
	Cash and digital platform	USD 20 million for funding to leverage data and technology to enhance knowledge and improve delivery of assistance to people in need (two years)
	IT Special Account*	USD 15 million in income, 15 million in expenditures (estimate)
WFP Management Plan (2018-2020)	Business services to operations	USD 1.2 million for the development of a monitoring module for COMET USD 5 million for developing and mainstreaming enhanced corporate capabilities in CBTs USD 0.4 million for INTTRA-based shipment data management solution
	Policy, guidance and quality assurance	USD 0.3 million for Library Research Centre (i.e., GoDocs)
	Advocacy, partnerships, fundraising and United Nations coordination	USD 2.0 million for digital mobile platforms for fundraising (i.e., ShareTheMeal)
	Governance and independent oversight	USD 0.4 million for the expansion of the Executive Board website
WFP Management Plan (2017-2019) (including the 2017 Addendum)	Cash-based transfers and SCOPE	USD 6.1 million to scale up CBT capacity and support SCOPE USD 1.4 million for COMET USD 5.65 million for WINGS USD 1.3 for the development of a budget planning tool and online portal
WFP Management Plan (2016-2018)	Programme design processes, platforms and systems, and evidence-based decision making	USD 5.0 million to complete the development of the “CBT platform”, roll-out COMET and other systems.
Internal Audit of SCOPE	Development, operational support and implementation costs of SCOPE	As of November 2020, USD 47 million have been spent on SCOPE (excluding country office-driven implementation costs) The audit was unable to determine the total costs associated with the deployment of scope in the field (range from USD 0.825 million to 19 million)

Source: WFP Management Plans (2016-2022); Internal Audit of SCOPE WFP's Digital Management of Beneficiaries (2021).

* Budget items are estimates.

1.4 EVALUATION METHODOLOGY, LIMITATIONS AND ETHICAL CONSIDERATIONS

1.4.1 Conceptual framework

26. While the role of technology as an enabler to WFP operations has been acknowledged by the organization, no explicit theory of change or logic model has been defined by WFP for the use of ICTs and digital data in constrained environments. Due to the diversity, the complexity, and the cross-cutting and dynamic nature of the organization's use of ICTs, it was impractical for the evaluation team to reconstruct one for the purposes of the evaluation. Instead, a conceptual framework was adopted, building on a systems approach developed by the Active Learning Network for Accountability and Performance in Humanitarian Action's (ALNAP) Review of Humanitarian Action,⁶⁰ theories of innovation management⁶¹ and

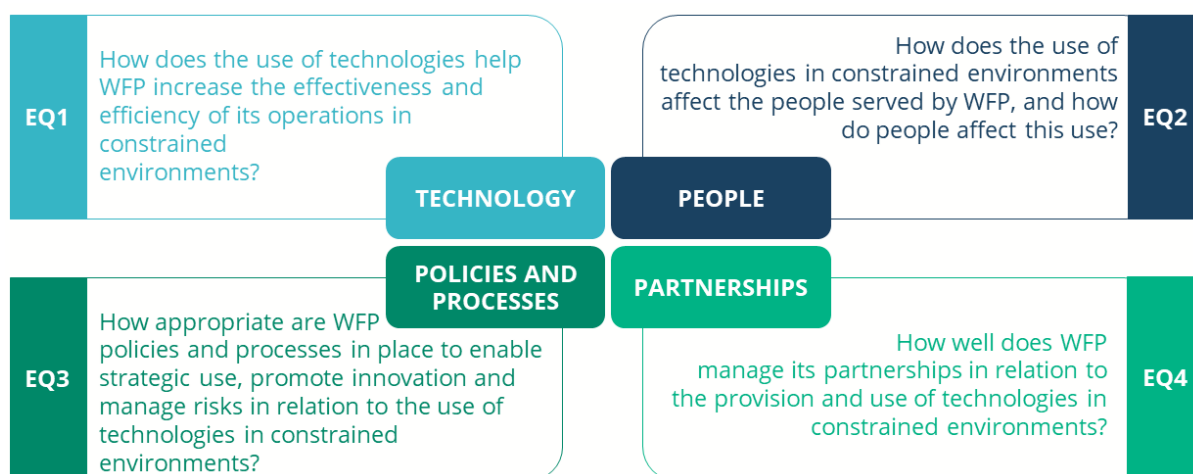
60 Active Learning Network for Accountability and Performance in Humanitarian Action (ALNAP). 2009. 8th Review of Humanitarian Action: Performance, Impact, and Innovation. London, ALNAP.

61 Bessant, J. & Tidd, J. 2008. *Managing Innovation: Integrating Technological, Market, and Organization Change*. Fourth edition. London, John Wiley & Sons.

diffusion,⁶² the World Disasters Report,⁶³ and the Technology Use System⁶⁴ proposed in the terms of reference (ToR) (see Annex III Conceptual Framework). The four pillars of this conceptual framework are Technologies, People, Policies and processes, and Partnerships, as outlined below. Each of these pillars represents a core evaluation question, with additional focus given to how these pillars interact with the overarching and cross-cutting objectives of WFP, and their relation to the operating environment. Figure 3 below illustrates the core evaluation questions.

- a. **Technology:** This pillar includes the characteristics, applications, and status (stage in the innovation process) of the ICTs used or promoted by WFP. It also encompasses the infrastructures and resources (funding) underlying these ICTs.
- b. **People:** This pillar refers to all actors interacting with technologies both within and external to WFP (technology users), technology decision makers, technology developers and managers and affected populations. It therefore encompasses individuals affected by, or who affect the use of, technologies.
- c. **Policies and processes:** This pillar includes the normative environment underlying the development, adoption and use of technologies and digital data (WFP policies, strategies, investment decision processes, norms, standards, regulations, protocols, operating procedures, guidelines, resource mobilization mechanisms and governance arrangements). It also includes matters of digital data generation, management, use and governance.
- d. **Partnerships:** This pillar focuses on partners that WFP engages with in its operations that enable or affect its use of technologies. It also encompasses the services and transfer of ICTs and digital data that WFP provides to these partners.

Figure 3: Conceptual framework and evaluation questions



Source: ADE

27. The evaluation considered technology as a driver – an enabling or contributing factor – which is present in many results chains that link WFP interventions to their intended outputs and outcomes. Rather than attempting to attribute actual results to technology, the evaluation assessed To what extent technology “drives” the achievement of results in a better, targeted way that is faster and cheaper, more relevant to needs, of better quality and better monitored and reported upon. At the same time, the

62 Rogers, E. 2003. *Diffusion of Innovations*. Fifth edition. New York, Free Press.

63 Vinck, P (ed.). 2013. *World Disasters Report: Focus on Technology and the Future of Humanitarian Action*. Geneva, International Federation of Red Cross and Red Crescent Societies.

64 Leavitt, H. J. 1964. Applied organization change in industry: structural, technical, and human approaches; BMC. Four Dimensions of Service Management in ITIL 4, Service Management Blog, April 2019.

evaluation also considered the possible unintended consequences (positive and negative) of the use of technology in constrained environments.

1.4.2 Methodology

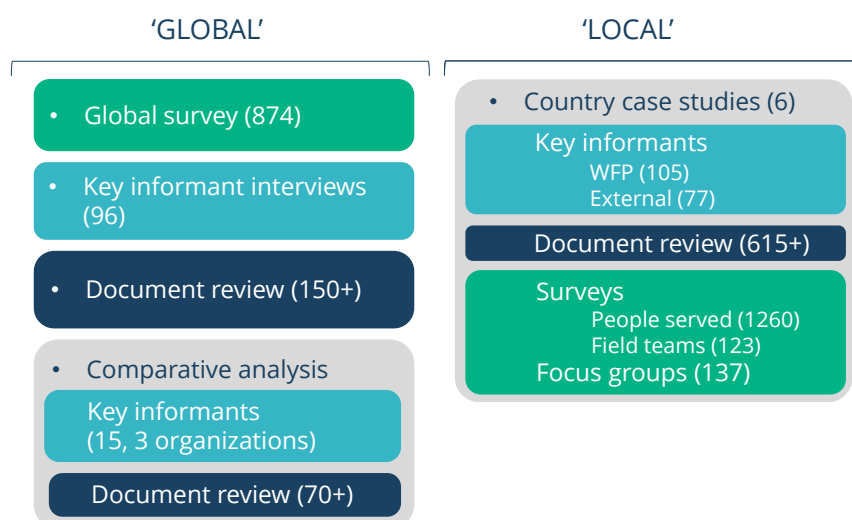
28. The methodology for the evaluation consisted of a mixed methods non-experimental approach that leveraged conventional and participatory quantitative and qualitative methods in a convergent and sequential explanatory design. The methodology for this evaluation builds on the evaluation questions proposed by the Office of Evaluation and the conceptual framework described above. The methodology acknowledges the complex nature of the interactions between the components of the system and makes note of the evolving nature of the use of technology, including the rapid changes on the types of use, the evolution of needs and objectives, changes in users of technologies, and the changing nature of constrained environments. Throughout the design of the entire evaluation, the evaluation team aimed to include the voice and experience of all WFP beneficiaries. However, special consideration was given to women and other groups at risk of exclusion (for example, the elderly and people with disabilities).

29. This strategic assessment largely relied on existing evidence documented by WFP, the primary data collected throughout the evaluation and stakeholders' perceptions of technologies' contributions to WFP objectives. Emphasis was placed on triangulating information from multiple sources collected through various methods (document review, key informant interviews disaggregated by stakeholder type, phone surveys with affected populations, an online survey with WFP staff and partners, etc) to reduce bias. Findings were also validated through a series of discussions between the evaluation team and various stakeholders of the evaluation.

30. Annex V (Evaluation Matrix) outlines the lines of inquiry proposed by the evaluation team to answer the main evaluation questions. It also notes the data sources and data collection techniques that were used to collect and triangulate data. The proposed lines of inquiry reflect the broad set of criteria for evaluation suggested by the Office of Evaluation and considers the linkages and dependencies between the components of the Technology Use System.

31. During the evaluation phase, two levels of analysis were covered to obtain input from all identified stakeholders: a global-level study encompassing the use of ICTs and digital data across the different levels of the organization, mainly at WFP headquarters, regional bureaux and across country offices, and a local level study focused on country-specific case studies. In addition, a comparative learning exercise was conducted to contextualize the position of WFP, and its practices, challenges and barriers with respect to its use of technology in constrained environments when compared to its peer humanitarian organizations.

Figure 4: Evaluation data sources

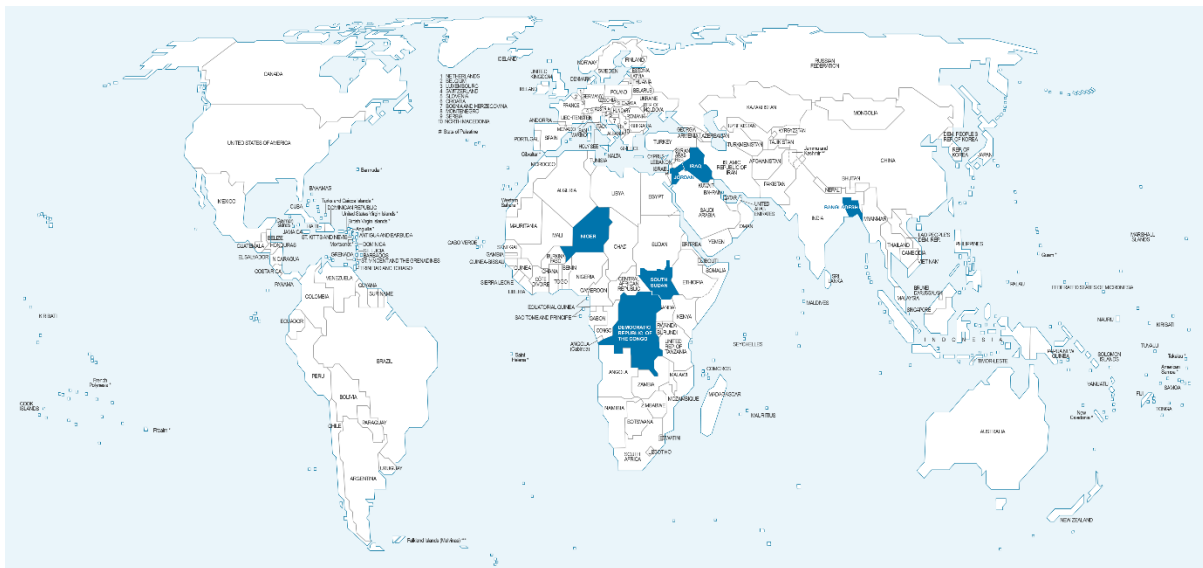


Source: ADE

32. At the “global” level, the evaluation team conducted an online global WFP staff survey, which provided an overarching analysis on the agency’s use of ICTs and digital data in constrained environments, informed by the range of technologies, people, processes, and partners involved throughout the different levels of WFP. It included a participatory narrative enquiry component using SenseMaker® software, prompting participants to share a narrative or story about their experience with the use and development of technology by WFP in constrained environments. The survey included questions to help the respondents self-analyse their own narrated experience and additional questions to share their viewpoints on broader technology use-related issues. It was successfully answered by 874 people across headquarters, regional bureaux and country offices (including sub-offices and liaison offices). The team also conducted semi-structured interviews with 92 stakeholders across headquarters and regional bureaux during this phase and analysed over 150 documents pertaining to the use of technology by WFP. Information collected at global level supported triangulation of the information collected at country case study level and vice-versa.

33. At the “local” level, the team conducted six in-depth case studies in Jordan, Bangladesh, South Sudan, Iraq, the Democratic Republic of the Congo and Niger to gather in-depth insights around country office processes. The countries were selected to represent a variety of constrained environments and engagement with technologies. This approach allowed the team to dive deeper into how ICTs and digital data are used in operations by technology-end users, including WFP staff and partners, and by populations served by WFP. Additionally, the case studies permitted the team to examine country- and region-specific variations, including different approaches, uses, barriers and challenges arising from the use of technology in environments with different levels of constraints. The countries were carefully selected based on the criteria proposed in the inception report, including representativity of WFP regions, the constraints to humanitarian access encountered by WFP and its partners, main areas of intervention and the technologies deployed along the programme cycle.

Figure 5. Case studies map



Source: ADE, adapted from United Nations Stylized Map of the World (2021)

34. Each case study was led by an evaluation expert from the core evaluation team, supported by a pool of experienced national consultants and by junior evaluation experts. Case studies consisted of four main components, including a country-specific literature review of internal and external documents related to the use of ICT and digital data to support operations, interviews with key internal and external stakeholders, beneficiary surveys (phone or online), and focus group discussions (FGDs). The team, in coordination with local country offices and national consultants, adapted beneficiary surveys and focus group discussions to account for restrictions related to COVID-19 and feasibility within the country contexts. Instruments were designed to ensure the evaluation team was able to gather input from multiple stakeholders and different types of technology users. To maximize replicability and consistency across countries, case study reports followed the same template, structured around the evaluation matrix. To be able to compare phone survey results over gender, the evaluation team ensured a gender-balanced sample

in each country. In addition, specific focus group discussions with women and other groups at risk of exclusion including the elderly, adolescents and people with disabilities, were organized to create an open environment to share their views.⁶⁵

35. Cross-cuttingly, the comparative learning exercise allowed the evaluation team to scope and analyse approaches, developments and trends in the humanitarian technology space, specifically assessing the use of technology by four organizations (Mercy Corps, UNHCR, UNICEF and IFRC). Although the comparative learning exercise was intended as a component of the evaluation that would be relevant to both the global and local levels of data collection, in practice, only a global understanding of organizations' approaches was achieved given barriers to engagement with several of the organizations at the country level. Nonetheless, by assessing the use of ICTs and digital data by WFP in constrained environments compared to that of other humanitarian and development organizations, the evaluation team gathered information regarding patterns, perceptions of the WFP technology portfolio and possibilities for synergies. The main topics of this study include: staff attitudes and capacity; ICT and data governance; processes and policies; innovation; partnerships; and in general the readiness of the organizations to integrate and actively use technology in constrained environments. The benchmarking analysis was not intended to be a performance benchmark, but rather a landscape analysis focused on learning from other organizations on how they are experiencing and dealing with similar technology-related challenges to WFP. However, to ensure alignment and consistency with the rest of the evaluation, the analysis considered the same key dimensions (Technology, People, Processes and Partnerships). Annex VIII (Comparative Learning Exercise) details the finding of this benchmarking.

36. This evaluation report is the culmination of the evaluation phase, describing the key findings, conclusions and recommendations gathered throughout the past year in line with the evaluation matrix. The evaluation team's relevant expertise helped to design high quality data collection tools, such as interview guides and survey questionnaires, ensuring that these focused on interviewees' areas of expertise, and respondents' knowledge; and that question formulation and guidance given to the experts in charge of data collection were appropriate in terms of language (local, understandable language). Before drafting the final report, core evaluation team members participated in a workshop to brainstorm the main messages to extract from each input in order to answer each of the evaluation questions, and the team leader assigned a team member to draft each section under his close supervision. In drafting the report, the evaluation team has taken care to ensure that each finding is directly traceable to evidence. Information in this report was drawn from a diverse range of data sources and stakeholders to enhance accuracy and reliability of data. Equally, during the entire evaluation process, the evaluation team has been in regular contact with the evaluation manager, ensuring appropriate stakeholders' engagement and to ensure that each step meets WFP expectations. To foster appropriation of findings and recommendations, a global workshop was organized with relevant stakeholders to discuss the implications of findings and operationalize the recommendations.

1.4.3 Ethical considerations

37. The evaluation team maintained the highest ethical standards in the collection, processing, analysis and use of the data gathered during this evaluation. Interviewees, survey respondents and focus group participants were given the time and information necessary to decide whether to participate. Informed consent was sought in all cases, outlining the goals of the evaluation and the voluntary and confidential nature of interviews, presenting the team and discussing the potential risks and benefits from participating in the interview.

38. Specific efforts were made to ensure that marginalized or otherwise excluded groups were represented, including through dedicated focus groups. For data collection among people served by WFP, no personally identifiable information (PII) was collected or handled by the evaluation team. For phone-based interviews, partners with existing data sharing agreements with WFP handled the selection and contact of respondents. Implementers will archive call recordings for one year from the evaluation's date of publication after which point they will be deleted. For key informants, notes and recordings that include personally identifiable information (name, title/role, and work location) are kept in encrypted drives

⁶⁵ Annex 4.1 includes a table with a disaggregation of the Focus Groups Discussion participants in each of the country case studies.

accessible only to the study team. All personnel handling data signed the WFP Confidentiality, Internet and Data Security Statement and the United Nations Evaluation Group Code of Conduct for Evaluation in the United Nations system.

1.4.4 Limitations

39. The evaluation team faced various limitations while conducting the evaluation, including challenges presented by the unpredictability and contextual challenges caused by the COVID-19 pandemic. Due to the COVID-19 pandemic, international travel restrictions meant that some evaluation team members were unable to visit the country to undertake project site visits as initially planned. However, local consultants were able to travel within the country to hold focus group discussions in four of the countries (Iraq, Bangladesh, the Democratic Republic of the Congo, and Niger).

40. Similarly, although beneficiary surveys were intended to be systematically conducted by phone, in some contexts this was not possible either due to local restrictions on mobile phone ownership for population groups who were the object of the survey (specifically, refugees in Bangladesh) or given the lack of sufficient coverage and mobile phone infrastructure (specifically, South Sudan and Niger). In these case studies, given contextual constraints, reaching beneficiaries via phone surveys was deemed not feasible nor practical (the constraints included lack of beneficiary phone lists, low mobile network coverage and mobile phone penetration, and disparities in mobile phone ownership). To mitigate the lack of direct consultations with beneficiaries, the team opted to conduct online surveys for WFP field monitors and cooperating partners, given these stakeholders' constant engagement with beneficiaries and some knowledge of key barriers and enablers to their use of technology. While the online survey was not the ideal tool to obtain information on beneficiaries' perceptions, considering the restrictions in place, getting feedback from those with close contact with WFP beneficiaries was judged to be the best method available.

41. Furthermore, sample sizes for phone surveys drawn in each case study were not representative of the wider context in which they were carried out, and therefore are not generalizable or transferable beyond the scope and purpose of this study. Given that the focus of each case study was to understand beneficiaries' technology use in each context, these surveys were not meant to be aggregated across countries, given the nature of technologies used and types of beneficiaries and assistance received by WFP. However, as precise data collection instruments for this evaluation, gaining insights and gathering patterns and perceptions on grievances or enabling factors from beneficiaries' use of technology is still of high value, especially when triangulating across country-specific monitoring reports.

42. Focus group discussions or in-person consultations with beneficiary groups were also carried out in only a share of the case study countries, including Bangladesh, Niger, Iraq and Jordan (bilateral remote key informant interviews given COVID-19-imposed constraints in Jordan). However, and in most cases due to the COVID-19 pandemic, plans for focus group discussions with hard-to-reach populations changed considerably, including requiring more limited engagement in light of social distancing restrictions. In some settings, such as Jordan and South Sudan, group engagements were prohibited by national authorities. In these instances, alternative arrangements were made to reach beneficiaries. In Jordan, key informant interviews over the phone were conducted with 15 beneficiaries to complement information derived from the phone surveys. In South Sudan, an in-person survey was carried out in select sites, though given operational constraints due to distribution cycle planning, the evaluation team was not able to reach as many beneficiaries as intended.

43. Additionally, the documentary evidence reviewed for this evaluation was based on available information identified by the Office of Evaluation team, case study focal points and interviewees. In some case study countries, the depth of evidence available greatly surpassed that of others, where little documentation was either available or shared by focal points. However, to compensate for the absence of documentary evidence, the evaluation team ensured that findings and main conclusions were triangulated across several data sources. Findings from the country case studies were also discussed with the country office during a debriefing session, and the case study reports were shared with the country office, regional bureaux and the Technology Division for comments, contributing to the accuracy of their findings.

44. An important limitation of this evaluation follows from the scope, range, and dynamic nature of the use of technology by WFP, the lack of systematic monitoring of the benefits and costs of technology, and incomplete results frameworks associated with the WFP technology strategy. Furthermore, quantitative

evidence on the effectiveness and efficiency gains of specific technologies was scant. When it did exist, the evaluation team was unable to independently verify figures. Moreover, theories of change or logic frameworks for technology and digital data interventions did not exist, as discussed above (paragraph 18). Despite these limitations and considering the convergence and triangulation of information the evaluation team considers that all the findings presented below are supported by strong evidence, reflecting the use of technology by WFP in constrained environments within the scope and duration of the evaluation.

2. Evaluation findings

2.1. TECHNOLOGIES

HOW DOES THE USE OF TECHNOLOGIES HELP WFP INCREASE THE EFFECTIVENESS AND EFFICIENCY OF ITS OPERATIONS IN CONSTRAINED ENVIRONMENTS?

45. The technology component encompasses ICT applications, digital data and their underlying infrastructures and resources (funding) leveraged to support the achievement of the objectives of WFP, its partners and target population groups. It also includes matters of digital data generation, management, use and governance. The conceptual model further accounts for the objective characteristics of each technology considered, as well as perceptions and user-feedback, and maturity with respect to the innovation process and programme lifecycle.

2.1.1. Effectiveness

How does the use of ICTs and digital data contribute to the effectiveness of WFP operations and its partners in constrained environments?

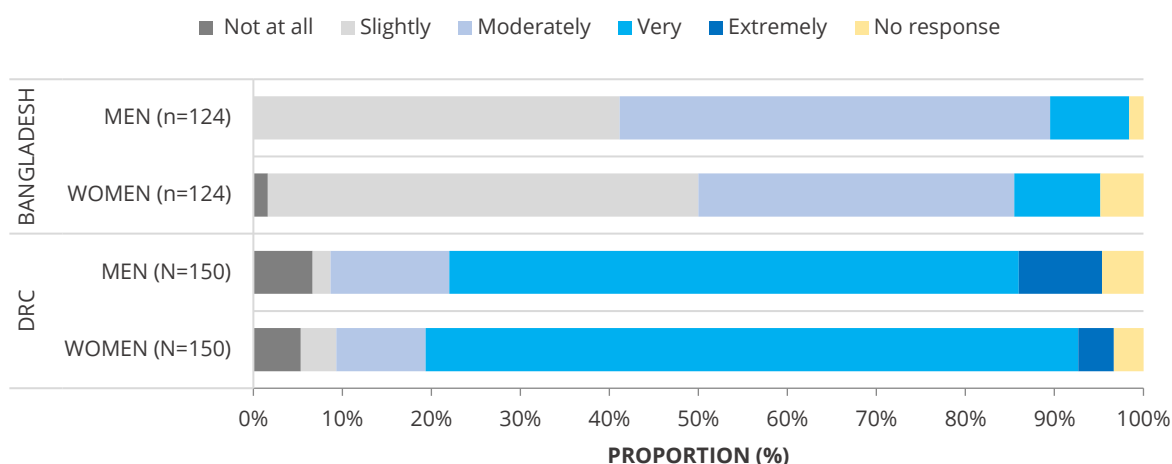
46. **There is positive and convergent evidence that the use of ICTs and digital data by WFP has a positive influence on the effectiveness of WFP operations, including the delivery of assistance to beneficiaries, and the tailoring of assistance to better meet beneficiaries' needs.** ICTs and digital data are found to improve targeting and delivery of assistance to beneficiaries. The use of technology by WFP is also associated with improved organization of logistics and programme delivery, as well as streamlined monitoring and evaluation.

47. Over the evaluation period, WFP intensified its use of ICTs and digital data. The development and use of technologies, as noted throughout the country case studies, interviews and document review, has helped WFP overcome constraints to operations, including: constraints arising from fragility and extreme poverty; conflict and man-made natural disasters; high uncertainty and rapidly evolving situations and needs; difficult physical access to populations in need due to poor or damaged infrastructure, physical barriers or population movements; poor or no telecommunications coverage; high security, health and other safety risks; very weak national and local public and private services; time and resource constraints; social, economic, institutional and political constraints; and risks of fraud or theft.

48. For example, and despite valid critiques about usability and adaptability, SCOPE, which is used for beneficiary registration and management of beneficiary data, has enabled the digital-based distribution of assistance through initiatives including the use of e-vouchers, blockchain-based or mobile money transfers. This can alleviate some of the logistical and security constraints imposed by the environments in which WFP operates by reducing the need to assemble people or move physical goods. Where in-kind assistance is deemed the most context-appropriate modality, digital beneficiary registration also facilitates identity verification and promotes greater transparency. The use of ICTs and digital data by WFP also improves the effectiveness of in-kind assistance, for example, by ensuring that appropriate quantities of foodstuffs are available with sufficient time before their expiry date.

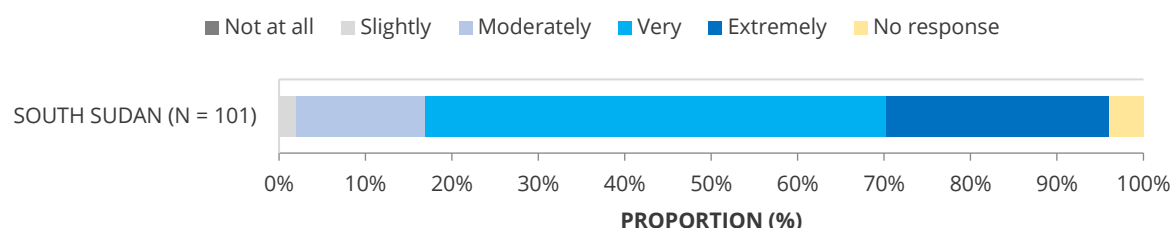
49. Additionally, there is evidence that people are better served with more flexibility and dignity resulting in largely positive views on technological modalities. As shown in Figure 6 and Figure 7, taken from surveys administered for the Democratic Republic of the Congo, Bangladesh, and South Sudan case studies, men and women respondents perceive the use of technology by WFP to have had a positive impact on their interactions with WFP and its ability to serve beneficiaries. Respondents in Niger (not depicted) overwhelmingly agreed that the use of technology by WFP has improved its ability to serve its beneficiaries. Differences in experience between countries may reflect differing use of technology and digital literacy across countries. Specifically, Bangladesh faces constraints to the use of technology, including the Government's restrictions on the use of cell phones among refugees.

Figure 6: Extent to which the use of technologies by WFP has improved interaction between beneficiaries and WFP



Source: ADE, case studies surveys.

Figure 7: Extent to which the use of technology by WFP has improved the ability of WFP to serve its beneficiaries



Source: ADE, South Sudan case study survey.

50. **Technology has enhanced the gathering of information about people served by WFP, enabling a more objective and accurate assessment of the level of need in targeted areas.** The use of technologies such as SCOPE Conditional On-Demand Assistance (SCOPE CODA) or mVAM has enabled country offices to have better and more frequent information on the needs of the beneficiaries, as well as to obtain feedback on their operations. Notably, mVAM is used to obtain regular updates on food insecurity, which in turn can be used to increase assistance to certain target populations. Other examples include novel remote monitoring techniques, such as the use of drones or satellites to obtain information that can be helpful in forecasting or assessing damage following a natural disaster. Aerial assessments helped to provide objective information on the needs of affected populations and prioritize interventions in the coordinated response to Cyclone Idai in Mozambique, for example.⁶⁶ This response provides a powerful example of how technology-empowered needs assessments can inform changes to the delivery of assistance or programme implementation, but remains a relatively isolated case, leaving room to build on this success and apply such techniques to other settings.

51. **The use of technology is integral to all areas of operations in certain countries (for example, in Jordan and Bangladesh), while in other countries there is more limited use of technologies, especially of beneficiary-facing technologies (for example, in the Democratic Republic of the Congo and Niger) due to barriers such as weak physical infrastructure, human and financial resource**

66 IAHE. 2020. Inter-Agency Humanitarian Evaluation of the Response to the Cyclone Idea in Mozambique.

constraints, and in some instances, constraints imposed by host governments. Through the Emergency Telecommunications Cluster (ETC) WFP has supported the installation and maintenance of connectivity infrastructure in highly constrained contexts. Since 2005, the cluster has responded to over 40 crises around the world and counted eight active emergencies in 2021.

52. Physical infrastructure barriers, notably non-existent or intermittent electricity and internet coverage limit the ability of WFP staff to use tools as they are designed and inhibit beneficiaries from interacting with WFP technologies. Issues with internet connectivity account for 50 percent of global survey responses in which technologies were reported to be inappropriate to context, and 35 percent of responses related to technologies that were not easy to use. These ICT infrastructure barriers also pose challenges for other humanitarian organizations such as UNHCR and Mercy Corps.

53. Case studies and key informant interviews further show that human resources constraints, especially lack of appropriate training or insufficient support staff, reduce the efficiency gains from the adoption of ICTs. As a result, within a given unit, only a handful of country office staff may have the skills necessary to use relevant technologies or utilize available data to support informed decision making (see section 2.2.5 for more on staff capacity). Moreover, country case studies revealed that financial constraints compound these difficulties by prohibiting country offices from making sufficient investments in physical and human capital. These budget constraints make it difficult for country offices to justify expenditure on updating information technology infrastructure, including computers and wireless technologies. Moreover, the scarcity of financial resources contributes to difficulties in hiring and retaining qualified personnel with sufficient experience in using the technologies in the WFP portfolio, as well as in training and technical support for staff and partners. Finally, in contexts like Cox's Bazar in Bangladesh, constraints imposed by the host government hinder the use of technology and the appropriateness of solutions used by WFP.

54. **There is a perception among end users that WFP corporate technologies are designed to fulfil only a very specific purpose and lack interoperability.** Numerous key informant interviews and global survey responses reveal that the design of WFP corporate tools to fulfil specific business requirements, for example commodity tracking through LESS and finance management through WINGS, has led to siloed workflows. Moreover, the lack of interoperability and difficulty in reconciling data between systems, as well as limited user friendliness, present barriers to the effective use of ICTs and digital data. There is room for improvement for optimally harnessing all the data WFP holds for informed decision making.

55. **There is a lack of systematic efforts to assess and analyse the use and deployment of technologies.** While technologies may be assessed against a set of output indicators, few outcome measures exist. More generally there are limited rigorous assessments of risks and benefits (intended and unintended). A recent review by the United Nations Office for the Coordination of Humanitarian Affairs (OCHA)⁶⁷ highlighted emerging good practices in assessing the impact of technologies on people served.⁶⁸ For example, Mercy Corps assesses the impact of its use of technology by comparing the situation pre- and post-development as well as with and without technology use in terms of scale, effectiveness and efficiency gains, and any impacts on programme quality.⁶⁹

2.1.2. Efficiency

How does the use of ICTs and digital data affect timeliness and/or cost of operations in constrained environments?

56. **There is also generally positive and convergent evidence that the use of digital data and ICTs by WFP improves the efficiency of operations through: savings in staff time; the automation of routine tasks; simplified distribution of assistance to beneficiaries enabled by digital registration; improved supply chain management; and reductions in monitoring costs, among other benefits.**

67 OCHA. 2021. From Digital Promise to Frontline Practice: New and Emerging Technologies in Humanitarian Action.

68 Best practices include implementing pre- and post-implementation reviews, the development of evaluation metrics and the continuous monitoring of these. The review highlighted that power-shifting dynamics, and legal and ethical standards should also be included as evaluation dimensions. People served (beneficiary communities) and end-users' views and experiences should also be included to ensure that impact on these groups are equally evaluated.

69 Mercy Corps. 2019. Technology for Impact. Annual Impact Report.

57. For example, internal tools, such as recruitment tools, the automated payroll system and the Leave Management System for human resources management and the Humanitarian Booking Hub for making travel arrangements have all been associated with a reduction of time spent on repetitive tasks and are generally perceived to increase accuracy and reduce the risk of error. In Bangladesh, key informants noted that WINGS and LESS are seen as contributing to stronger internal controls. WINGS allowed for more effective tracking of supplies and stock information and faster and more accurate reconciliation and tracking of finances, human resources activities and other WFP business operations. Similar findings emerged across other case studies. The use of LESS has been associated with large cost savings through the optimization of supply chains. Tracking of commodities through the platform ensures that commodities are delivered before their expiry date, and that the movement of goods is well documented. Further examples include the optimization of delivery routes to favour overland cargo rather than more expensive air cargo.

58. Considering people-facing technologies, the registration of beneficiary information in SCOPE has enabled a variety of cost and time savings for WFP operations. The first of these comes from greater transparency and the ability to remove duplicate and potentially fraudulent beneficiary records, ultimately ensuring that assistance is delivered to the correct beneficiaries. The use of digital beneficiary records also enables the shift from in-kind to cash or mobile money assistance, with associated potential cost and time savings in assistance delivery. Moreover, digital beneficiary records facilitate identity verification during in-kind distributions. Such efficiency gains are equally experienced by other humanitarian organizations. The Population Registration and Identity Management Ecosystem (PRIMES) used by UNHCR reportedly provides enhanced accuracy, speed and reduction of errors. Mercy Corps reports that its digitized assistance and beneficiary management system allows delivery at scale with similar efficiency gains.

59. Although the use of technology has the potential to deliver time and cost savings, in some cases the necessary complementary investments in appropriate infrastructure, staff, software licensing etc. may outweigh the potential benefits. Moreover, when the appropriate infrastructure and policies are not in place, digital solutions for beneficiary registration, for example, may prove more time-intensive than analogue ones. In South Sudan, for example, the cost of providing the necessary internet connectivity could significantly outweigh the benefits because of requirements to install very small aperture terminal (VSAT) connections to support the use of CODA at nutrition centres. Unfortunately, there is a lack of rigorous assessment of the cost benefit of these investments as for most technologies used by WFP. Similarly, high costs associated with the use of software such as SugarCRM can occur, especially in the context of low usage.

60. However, WFP does not implement systematic processes to rigorously evaluate the cost benefit of deploying a digital technology, including its overall development and maintenance costs.

61. While the information technology solutions inventory software "Glass" contains fields for solution-related costs, fields such as "app maintenance annual recurring cost" only contained data for 31 of the 418 applications classified as "in production". The cost-recovery model for production environments is still being finalized. Several headquarters-based informants did note that cost-value assessments for technology were not very transparent or common, and regional bureau-based informants explained that such an accounting would be challenging given the cost sharing that occurs for some solutions, with country offices, regional bureaux and units at headquarters covering costs for different aspects of a solution roll-out. While the 2016 WFP Corporate IT Strategy noted that WFP will manage the "full investment lifecycle" to include both "estimated costs and actual spend on capital investment as well as ongoing maintenance, support, and decommissioning", and that "IT will evolve its internal accounting and financial planning to meet Value for Money communication goals by showing back reallocated costs, benchmarked services and total lifecycle costs," the 2019 Internal Audit of Governance of IT Enabled Projects, found that at the time of the audit an "IT value for money" approach had still not been defined to allow for the effective management of resources. "There was no full visibility and monitoring of costs and spending on IT capital investment, including development and acquisition costs, as well as maintenance, support, and decommissioning costs, to confirm the cost effectiveness of IT solutions, including changes and later development from the initial project. For the IT projects audited, the total cost of ownership and other significant metrics such as potential risks and value realization gains were not comprehensively captured." This evaluation notes that current attempts to quantify the cost of technology continue to overlook significant structural costs

associated with the digital transformation, including those associated with training and recruitment of skilled staff.

62. Progress has nevertheless been made on this front, specifically by expanding the mandate of the Digital Business and Technology Committee (DBTC), formerly Management of Information Systems Steering Committee (MISSC). Created by the Executive Director’s Circular in October 2020,⁷⁰ the DBTC is “responsible for setting the strategic direction and providing oversight of WFP’s digital efforts and the underlying data and technology investments, ensuring that they enable the achievement of the desired business outcomes.” The DBTC assists in the development of digital business road maps for technology-enabled projects or products, including the development of key performance indicators (KPIs) and an analysis of the total cost of ownership and return on investment. The Technology Investment Committee (TIC) of the DBTC meanwhile prioritizes the approval of investments according to WFP strategic objectives. To date however, the oversight of the DBTC does not extend to the regional bureau or country office levels, where there is no systematic use of key performance indicators or value assessments to monitor technology investments.⁷¹

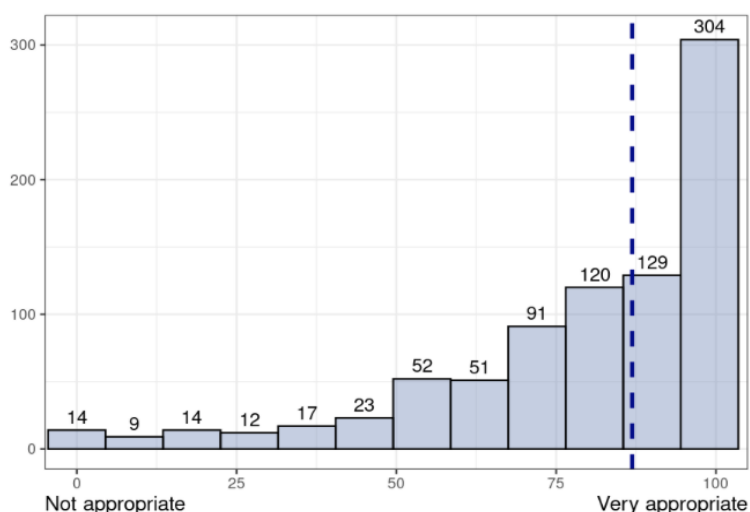
63. From the organizations studied for the comparative learning exercise, evaluating and monitoring cost effectiveness of technology investments were also a challenge, notably for UNICEF and UNHCR. For UNICEF, like for WFP, understanding actual levels of budgeted versus actual expenditure on innovation was implausible, given the lack of complete data on technology and innovation spending. For UNHCR, ensuring sufficient monitoring proved a challenge to fully understand whether technology investments and projects were meeting cost objectives.

2.1.3. Appropriateness

How appropriate are the ICT applications and infrastructure used by WFP at corporate and local level in light of the constraints of the environments in which they are being (or expected to be) deployed and to what extent are these properly used, resilient and adaptable to local and evolving constraints?

64. **In general, WFP technologies are appropriately suited to their contexts, and relevant to their operations, according to global survey respondents. However, these perceptions appear to be less frequent in highly constrained environments.**

Figure 8: Extent to which the digital technology or data was appropriate in the specific context



Source: ADE, global survey; N = 836

65. Lower appropriateness of technology in highly constrained environments, according to findings from case studies and the global survey, likely result from the adverse environments (low connectivity, lack

70 WFP. 2020. Digital Business and Technology Committee (DBTC). Executive Director’s Circular OED2020/019. Information Technology Division.

71 For more information, see the 2020 TEC Workplan and subsequent summaries and reports.

of electricity) as well as structural issues associated with such environments including potentially lower education levels or digital literacy. In some cases, technology has been downgraded to adapt it to constrained environments, such as the development of a “light” version of SCOPECARD without electronic components on the card. While this light version is quicker/easier to set up, can be produced locally and used off-line, it is less flexible and less secure than its full version.

66. Despite the generally positive views on the appropriateness of technologies, certain corporate technologies, in particular COMET and WINGS, are critiqued for being insufficiently flexible in adapting to different country office needs. For example, WFP staff informants in the Democratic Republic of the Congo noted difficulties in integrating vendor data and reconciling payments made in different currencies in WINGS, as well as the inability to produce reports fitting external donors’ requirements using COMET. Other tools are critiqued for lacking user-friendliness, including the availability of interfaces and supporting documents in multiple languages. Indeed, language barriers can limit the effective use of WFP technologies by staff and beneficiaries. Some WFP corporate solutions, as well as training materials, are available only in English, further complicating use for staff who do not necessarily have a high level of fluency in this language.

67. **Among key informants in various country offices, there is a perception that the development of technologies is top-down, with corporate solutions designed to meet a specific need without sufficient consultation with country offices and end users.**

68. This highlights the need for enhanced digital capacity and needs assessments prior to technology development and deployment. Even more, the development of corporate solutions was largely seen as technology- or efficiency-driven and not always user-driven. The evaluation found little evidence of meaningful consultation with people served by WFP at any initial stage of development of technologies by WFP, except those driven by country offices. Furthermore, two country offices from those consulted through the case studies expressed the view that even when they participated in pilots for new technology developments, they were not aware of the impacts of their contributions, or the resulting adaptations or improvements made on the technologies being piloted. Additionally, there was little evidence that WFP consulted beneficiaries when they were technology end-users. The development and implementation of certain corporate technologies, specifically WINGS (introduced in 2001 and updated in 2009) and, initially, COMET (introduced progressively since 2013), lacked a broad consultation of users and failed to meet the needs of country offices in terms of reporting to external donors and stakeholders. In several instances, country offices report exporting data from corporate tools and using external tools such as Excel or Tableau to fulfil this need. Such tools are continuously improved, but there is a significant misalignment between expectations of rapid feedback and adaption of tools with the realities of technological development. There are several promising examples of bottom-up development, such as those supported by the Innovation Accelerator, but this approach remains rather limited in scope and investment.

69. A critical issue identified by respondents is the concern that an overreliance on technological solutions may unintentionally exclude certain target populations, especially in contexts where there is no systematic effort to accommodate the needs of marginalized groups in the use of technology (see Section 2.2.1). Case studies suggest that in places like Niger, investments in technology are replacing or taking priority over the allocation of resources to proven solutions with similar objectives (for example, community feedback mechanisms). This example suggests there is a need to reframe technology as being sometimes a complement to, rather than a substitute for, existing approaches. Case studies show that redundant systems and alternatives to technology-based services exist in theory (for example, for those with no connectivity), but in practice, do not appear to be effectively in place (for example, alternatives in case of absence of consent and/or issues with technologies).

70. **Consistent with this finding is the concern expressed by some country offices that an increased focus on digitalization and digital transformation will detract from attention on country operations.** For example, while remote data collection can help to overcome access restrictions and reduce costs, there is a concern that such tools are not a substitute for in-person visits, which provide important qualitative and contextual information that cannot be collected remotely.

71. Generally, the appropriateness of various technologies to the specific contexts in which they are being used is not systematically assessed and considered in technological development and piloting. In fact, no guidelines or systematic criteria exist to assess the context-appropriateness for WFP technologies.

2.1.4. Opportunities

Are there unexploited opportunities for use of ICTs and digital data in constrained environments, for instance technologies successfully deployed by other actors?

72. **The main practical opportunity identified in this evaluation relates to the underutilization of existing resources. Complementary investment in filling human resource gaps (see Section 2.2.5) can help to support data-driven decision making and improve the use of WFP technologies.**

73. WFP operations generate a great deal of data related to beneficiary identity and needs as well as programme operations that could be exploited for monitoring and evaluation (M&E), data-driven decision making and other purposes, but lack of training or staff time prevents WFP from effectively taking advantage of this opportunity. In addition to data generated through standard operations, enhancement of staff capabilities can help WFP to take advantage of innovative data sources including satellite and georeferenced data.

74. **Additionally, siloed workflows, the lack of interoperability between systems and cumbersome reconciliation processes between data stored in different software were all identified as drains on resources.** Recent initiatives (for example, DOTS) directly address this issue. Such siloed digital and data systems and challenges in interoperability are similarly experienced by organizations like UNHCR and Mercy Corps. UNHCR has set up data and information management and analysis units (DIMA) with the specific aim of overcoming silos. Mercy Corps' Technology for Development (T4D) team collaborates with Cisco Systems to integrate data and digital systems and develop a single integrated ecosystem for beneficiary identity and information management. These systems tackle different silos than those tackled by DOTS, but point to common problems and potential solutions across the humanitarian sector.

75. Globally, and in the constrained environments considered in this evaluation, WFP is seen as a leader in the use of technology among humanitarian actors. As a result, documentation and key informant interviews revealed few "quick wins" that can be adopted from other actors.

76. **Key informant interviews and the comparative analysis suggest that WFP could better use its unique expertise and experience in the sector to contribute to identifying best practices with partners and influence digital transformation efforts across the humanitarian sector as well as with government partners, thereby strengthening WFP's position as an essential interlocutor and partner in sector-wide dialogue on digital transformation.**

77. Building on its current efforts in aligning digital solutions within the organization, WFP could take the lead in pushing for greater synergies and interoperability of its own systems across the sector. A good example of this is the specific design of the UNHCR PRIMES ecosystem (and the global distribution tool (GDT)), which strives to be interoperable with WFP SCOPE, UNICEF PRIMERO and Mercy Corps' beneficiary data management systems. As a leader in the humanitarian technology sector, WFP could also further enhance collaborative approaches to humanitarian technology use by explicitly calling for greater collective efforts in the vein of Mercy Corps' white paper, "A Revolution in Trust", which was a call to action for greater collaboration in distributed ledger technology (DLT). Some actors within WFP are pushing for such cross-collaborations with its own distributed ledger technology system (Building Blocks), but such sector-wide approaches can be extended to other technologies and aspects of the humanitarian technology sector. This can equally include aspects of best practices, standards and principles related to humanitarian technology where WFP could leverage its role as a pioneer in the sector to further best standards, practices, and principles. For instance, IFRC and UNICEF are actively engaged in producing such practical guidance, guidelines, standards, and best practices for various aspects of the technology space (such as data protection principles and guidelines surrounding biometrics, blockchain etc.). This could also be an important opportunity for WFP to forge strong partnerships and co-development of humanitarian-wide technological solutions to the benefit of populations served.

78. While WFP participation in several advisory boards and events (for example, advisory boards of the GSMA, WEF Council for 4th Industrial Revolution) reflects its commitment to contribute to digitalization efforts across the sector, WFP is seen by some of its cooperating partners (including United Nations agencies) as a risk-taking agency that does not sufficiently engage in learning and formalizing reviews with a view to influencing the sector as a whole. Unlike other organizations, WFP has few position papers that

highlight its experience and views on the use of technology, or engage in substantive discussion around key challenges, such as the ethical implications of large-scale data collection (including biometrics) or the role of private-humanitarian partnerships, to name just a few.⁷² As a result, the agency is missing out on the opportunity to be a genuinely respected thought leader in the humanitarian technology sector.

79. Other important opportunities exist in several key areas explored in more depth throughout the evaluation, including in its recommendations. These include:

- a. Investing and supporting human resources through training and dedicated advancement strategies
- b. Channelling ICT efforts toward enhanced localization through meaningful engagement, dialogue with, and accountability to, people served by WFP
- c. Cautiously exploring responsible and ethical engagement in the provision of technological services to governments.

2.1.5. COVID-19

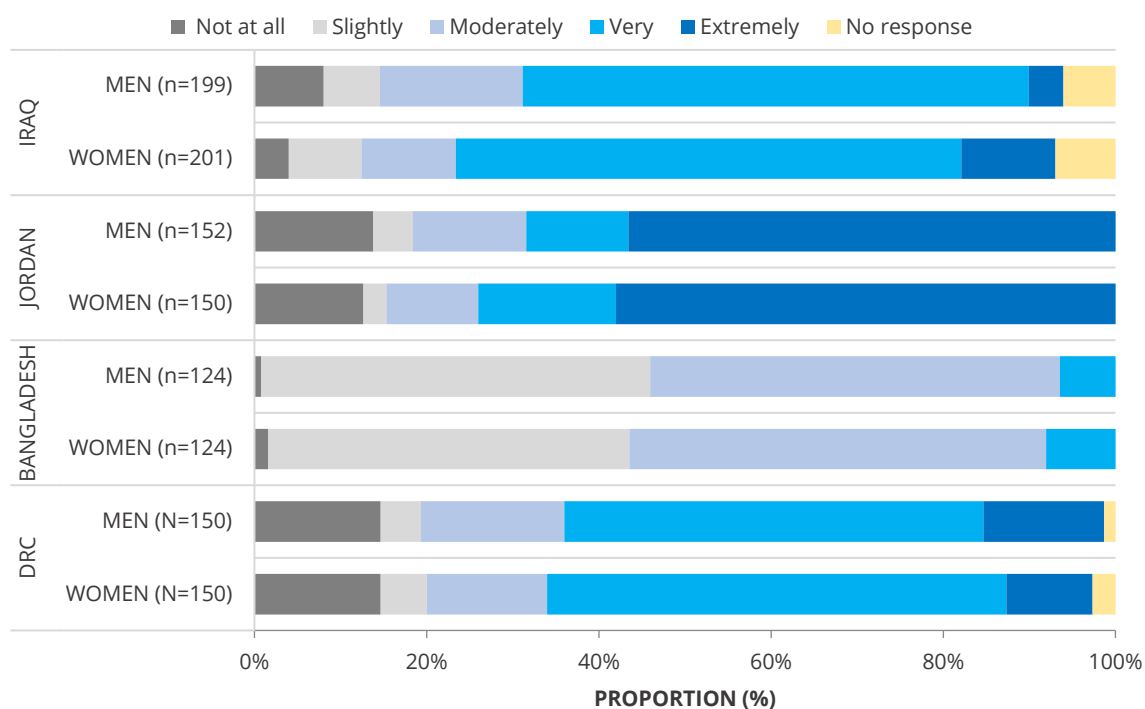
During the global COVID-19 crisis, to what extent has ICT helped WFP to adapt and safely continue operations despite the constraints imposed by the crisis?

80. **The use of ICTs by WFP for internal work processes and delivery of assistance to beneficiaries meant that the organization was well prepared for the COVID-19 crisis, and better able to adapt to the circumstances imposed by the pandemic and resulting restrictions than other humanitarian actors. In general, there is a sense that, despite difficulties in the initial phases of adjustment, WFP was able to provide a satisfactory degree of continuity of services owing to its use of ICTs.**

81. As demonstrated in Figure 9, country case study survey respondents reported that the use of technology by WFP had positively contributed to continued delivery of assistance during the pandemic. In Jordan and Iraq women appear to have an even stronger positive appreciation than men. Overall responses differ across countries, likely reflecting the heterogenous nature of technology use, digital literacy and constraints faced. As noted above, refugees in Bangladesh face unique restrictions to their use of technologies. Country case studies show, for example, that mobile assistance transfers allowed WFP to deliver assistance without gathering crowds at physical distribution points.

72 For example, the WFP website only provides public relations pieces on biometrics and discussions of biometrics as part of country operations, but not a single review, position or reflection on this issue.

Figure 9: Extent to which the use of technology by WFP has contributed to beneficiaries' ability to continue to receive assistance during the pandemic?



Source: ADE, case studies surveys.

82. At the same time, remote data collection through mVAM and web surveys helped to support decisions on resource mobilization, geographical targeting, assistance levels and transfer modalities. In 2020 the number of country offices implementing remote data collection to support needs assessments rose from 11 to 38. The ability to rely on remote data collection enabled the Research Assessment and Monitoring (RAM) division to estimate the additional food insecurity burden created by the pandemic at a global level in order to mobilize resources, as well as to support country offices in needs-based planning in their respective responses.⁷³

83. WFP further engaged in significant efforts to enhance connectivity for remote work, allowing staff and partners to continue performing their day-to-day operations. Nevertheless, limited access to electricity and connectivity remained significant barriers for WFP staff. WFP staff made use of existing tools, especially Microsoft Office Suite and Teams. In some cases, this experience led to benefits such as increased digital literacy and the reduction in costs associated with in-person meetings and field missions. According to global survey respondents, the experience was however not without difficulty as many staff members felt a sense of isolation due to the lack of social contact and others experienced a great deal of difficulty in executing their tasks due to connection issues and challenges imposed by their work settings.

84. In places like Bangladesh, accommodations were made to ensure social distancing by allocating time slots for beneficiary visits to retailers, for example. Elsewhere, adaptations included the suspension of biometric data collection in some operations, as well as reductions in the use of fingerprints for the collection of assistance, presenting an opportunity to evaluate the extent to which the systematic use of biometric verification is necessary, and the gains that are to be derived from its continuation. More generally, technology-enabled cash transfers arguably provided a key advantage to enabling the continued delivery of assistance, although the technology is not risk free for people needing to redeem their transfer.

73 WFP. 2021. Evidence Summary: Evidence, Data and Knowledge Management (Corporate Emergency Evaluation: WFP's Response to the COVID-19 Pandemic).

2.2. PEOPLE

HOW DOES THE USE OF TECHNOLOGIES IN CONSTRAINED ENVIRONMENTS AFFECT THE PEOPLE SERVED BY WFP, AND HOW DO PEOPLE AFFECT THIS USE?

85. This evaluation's consideration of people and the use of technology by WFP includes technology users both within the organization (WFP staff) and external to the organization: beneficiaries, governments, partners, and other humanitarian actors. Findings pertaining to the latter categories (governments, partners and other humanitarian actors) are further discussed in Section 2.4 Partnerships.

86. These actors either affect the adoption and use of technologies or are themselves affected – directly or indirectly – by the use of technologies. In addition, certain people-related factors are considered due to their interaction with the use of technologies and their moderating roles in determining the effects of these technologies. These include elements such as skills, capacities (both user and internal capacities), knowledge, attitudes, and risk awareness.

2.2.1. Effects for people assisted by WFP and others

What are the effects (positive, negative, intended, unintended) of the use of ICTs and digital data on the lives of the different target population groups and others? How does the use of ICTs and digital data affect the assessment of needs, targeting and coverage of interventions in constrained environments? What effect does it have on access and the inclusion of the most marginalized groups?

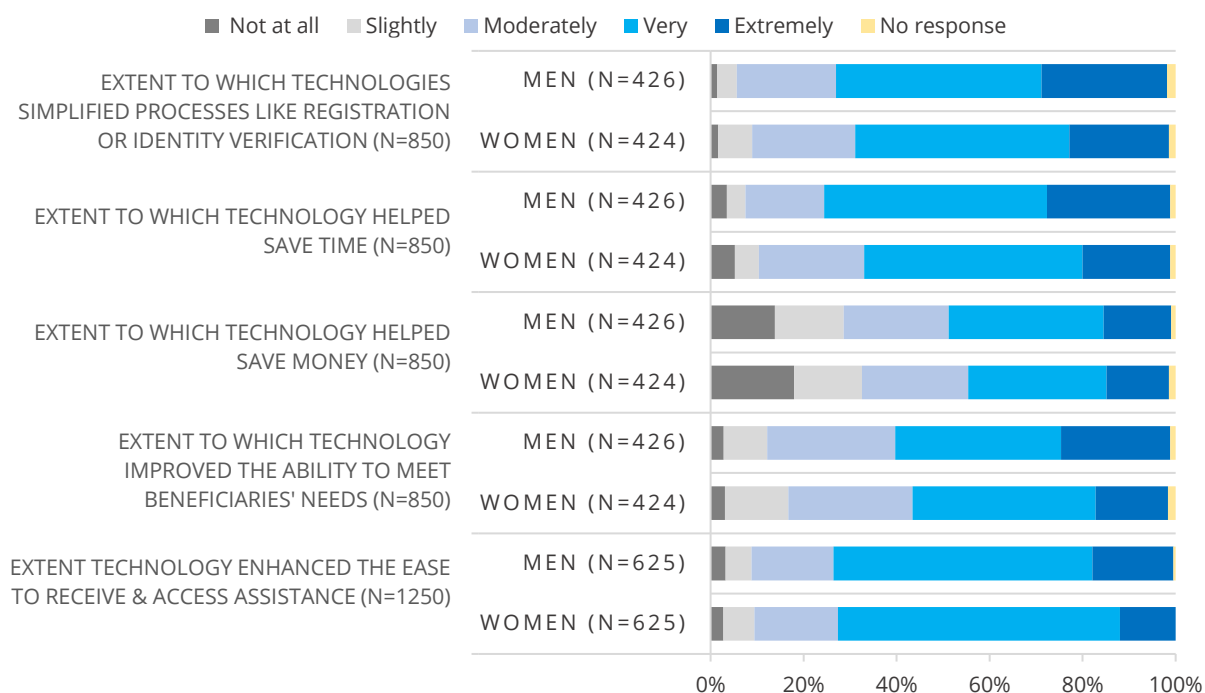
87. **Technology has a generally positive effect for the people served by WFP. In addition to the benefits of enhanced effectiveness and efficiency (see also Section 2.1.1 and 2.1.2), technology is recognized for contributing to greater access to assistance, flexibility and dignity for people served.**

88. Here we examine specifically “people-facing” technology, for which people served by WFP are active users. WFP evaluations show that technology-enabled cash-based transfers provide greater flexibility and dignity to those served by WFP, in addition to more timely and effective assistance.⁷⁴ This evaluation finds consistent supporting evidence across data sources and country cases. However, evidence concerning other people-facing technologies designed to serve people better, such as community feedback mechanisms, is generally less conclusive (see Section 2.2.3).

89. Across case studies, people served by WFP noted that technology-enabled cash-based transfers make access to assistance safer, faster and more practical for beneficiaries. In Jordan, for example, WFP staff and partners as well as beneficiaries noted that the shift away from vouchers to e-cards allowed beneficiaries more choice in selecting shops, how to spend assistance and which household members can use assistance. In South Sudan, WFP beneficiaries emphasized the ability to go to stores at their convenience, the ability to access a greater diversity of food items and time saved in redeeming transfers. Similar benefits were experienced in places with lesser use of the technology such as Niger and the Democratic Republic of the Congo. These benefits are largely related to the shift to cash transfers in general. The underlying use of digital systems behind this shift has been an enabler and has contributed to efficiency and the positive experience for people served by WFP.

74 Central African Republic, Evaluation thématique sur les questions de genre; Evaluation of the 2017 Somalia Humanitarian Cash-Based Response, Evaluation of WFP's General Food Assistance to Syrian Refugees in Jordan from 2015 to mid-2018; ACR, 2018.

Figure 10: Extent to which the use of technology by WFP has enhanced efficiency and effectiveness gains for people served



Source: ADE, case studies surveys

(N=426+424): includes Bangladesh, Jordan and DRC. (n=625+625): includes Bangladesh, Jordan, DRC and Iraq.

90. The positive experience of technology-enabled cash-based transfers is arguably facilitated by what users described as user-friendly, easy-to-use technology, even among users who have little to no experience with banking (for example, Bangladesh case study). Despite documented issues (see below, paragraph 93), users generally described positively the process of accessing services and entitlements, including the identification and authentication process, as well as the clear communication on benefit status (for example, via text messages). Such benefits appear to have been enhanced by the introduction of tools like Building Blocks, resulting in faster transactions and shorter waiting times.

91. Asked about the extent to which technology has helped enhance effectiveness and efficiency (Figure 10), both women and men across case study countries equally found that technology simplified processes, enhanced their ease to access assistance and improved the ability of WFP to meet their needs. Time and at least moderate money savings were also perceived, though slightly less so by women compared to men.

92. WFP staff further noted the relative agility of the digitized system in coping with hindrances such as lost or stolen cards, and in permitting the rapid resumption of services in the face of adverse events (for example, fires in Cox's Bazar) or the displacement of people served by WFP (for example, in Jordan). Although contentious, (see Section 2.4.4) WFP staff across case studies also noted that the digitalization and alignment of registration databases facilitate updating beneficiaries' family status across agencies and systems.

93. Lack of connectivity, technical issues and other barriers undermine the benefits of technologies for people. While technologies may contribute to greater timeliness and cost efficiency in general, there is a risk that the burden of technological failure is largely carried by the people served by WFP.

94. Beneficiaries across all case studies, as well as WFP staff (global survey), and existing evaluations reported technical issues with various digital solutions, tools, and ICTs - including issues related to connectivity. Such technical issues have effects that range from minor inconveniences to significant delays and additional costs for people served.

95. The lack of flexibility in systems like SCOPE to accommodate sudden operational changes is commonly cited as an example of such technical issues. For example, when unforeseen circumstances delay operations, expired vouchers are not automatically renewed. Similarly, errors in appropriately downloading vouchers or reflecting voucher values have hindered people's ability to access food assistance, or even led to the sudden cancellation of distributions when people were already waiting.⁷⁵

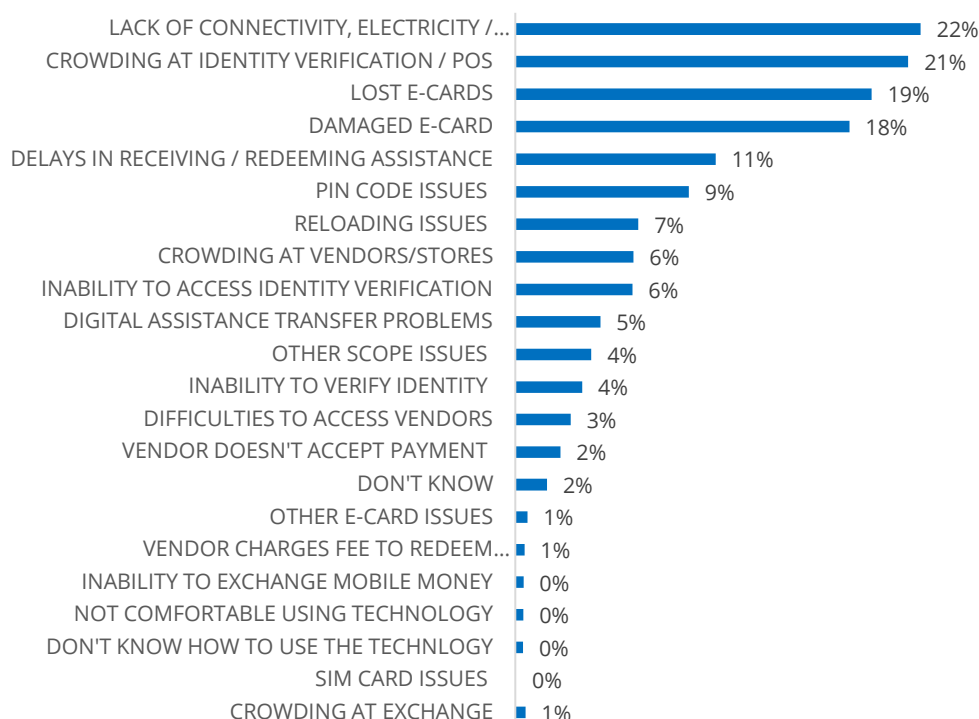
96. Poor connectivity in constrained environments is a common barrier that impacts people's ability to proceed with identity verification, or to update their information, and creates delays in loading benefits and redeeming transfers. In the Democratic Republic of the Congo, such barriers have reportedly made it difficult to access the money transferred under the conditions provided for, sometimes imposing transport or transaction costs on beneficiaries that were not foreseen by WFP. Similar experiences were reported in Iraq and Niger.

97. Hardware malfunction, affecting for example mobile point-of-sale (mPOS) machines, and/or missing components including smartcards, also present an additional burden to beneficiaries and delay the redemption of assistance or the resolution of identity verification and validation issues. The issue is especially pertinent for hardware or material that uses proprietary components, which cannot be locally sourced easily (for example, smartcards) especially in constrained environments. These issues of technology malfunctions have been identified in earlier evaluations.⁷⁶ There is evidence, however, that new e-cards in Bangladesh do not suffer from the same drawbacks, and this has been attributed to the development of linking these e-cards by application programming interface (API) directly to the UNHCR PRIMES systems and WFP Building Blocks. It seems that WFP is working on technical developments that may overcome such difficulties in certain cases. Nevertheless, such issues remain commonly reported elsewhere, such as in Jordan, the Democratic Republic of the Congo, South Sudan and Iraq and in other constrained environments as highlighted by global survey respondents and global WFP staff key informants (see Figure 11).

75 WFP. 2018. *Somalia: An Evaluation of WFP's Portfolio (2012-2017)*; WFP. 2019. *WFP's Corporate Emergency Response in Northeast Nigeria (2016-2018)*. Numerous KIIs, the global survey and FGDs also echoed these issues.

76 WFP. 2018. *Somalia: An Evaluation of WFP's Portfolio (2012-2017)*.; WFP. 2019. *WFP's Corporate Emergency Response in Northeast Nigeria (2016-2018)*. Numerous KIIs, the global survey and FGDs also echoed these issues.

Figure 11: Most common technology-related challenges for beneficiaries

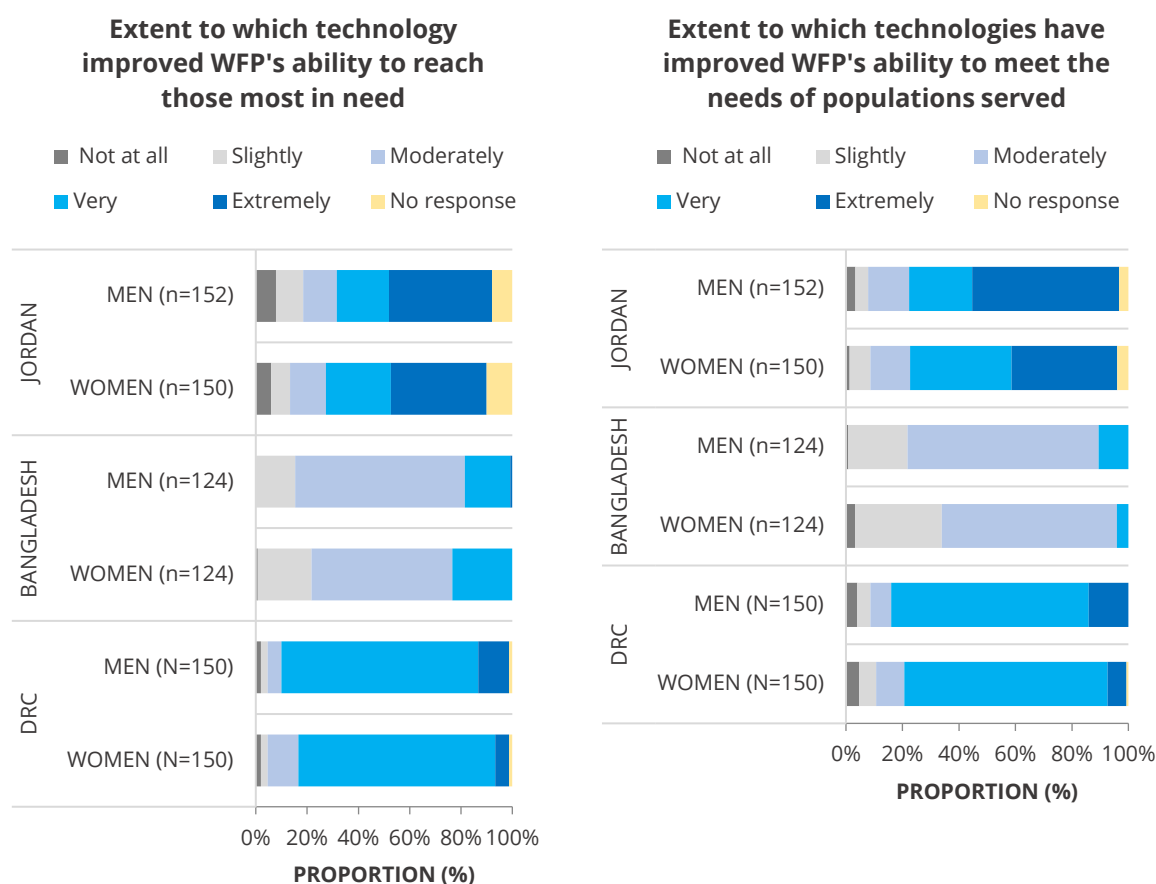


Source: ADE, case study surveys. These percentages are the average percentage of respondents who cited these respective challenges across each case study (Bangladesh, DRC, Iraq, Jordan, South Sudan and Niger).

98. **WFP has made significant investment in the use of digital tools and technologies to know beneficiaries better. The resulting timely and granular data enabled by ICTs directly contribute to informed decision making to better target, scale up and meet the needs of populations served, a critical issue in constrained environments. However, as the organization increasingly relies on quantitatively driven and potentially automated processes, it has limited consideration for more qualitative, localized insights and for the potential biases in algorithmic decision making.**

99. The increasing use of digital data, digital solutions and ICTs allows for more near real-time monitoring and assessments of contexts (food insecurity, disasters), characteristics and needs of people served and affected populations in constrained and emergency environments. This allows for more informed decision making with regards to targeting, tailoring of assistance to needs (including vulnerable groups) and allowing rapid scale-ups of assistance and coverage in constrained and emergency environments. This is perceived as facilitating greater humanitarian access and better meeting the needs of populations served. This access to more information is considered to help in designing higher quality programmes and assistance with improved outcomes and providing beneficiaries with the right transfers at the right time.

Figure 12: Extent to which technologies are perceived as reaching those most in need and improving the meeting of needs



Source: ADE, case studies surveys.

100. A review of mVAM notes that the use of mobile technologies is particularly useful to reach the food insecure in high risk and remote areas where face-to-face assessments are not feasible, as well as when high frequency data is needed. With this approach, WFP is better able to identify the (most) food insecure populations and establish the underlying reasons for food insecurity with direct benefits for targeting, context assessments and monitoring and evaluation of key indicators of interest.⁷⁷ Similarly, integrated context analysis (ICA) has proved valuable for resilience building and emergency preparedness programming.⁷⁸

101. The country case studies confirm major investments in "knowing people better" as a key strategy to enhance operations using ICTs. In Niger, for example, high resolution and high frequency satellite imagery improve the quality of information available about remote and inaccessible areas, and enable WFP to remain better informed of changes in the food security situation on the ground. Similar imagery is used in South Sudan to triangulate findings from in-person and remote collection of beneficiary data using MoDA, a digital data collection platform. Similar digital data collection platforms are used across countries, though not always the same (for example, MoDA, Open Data Kit (ODK), KoBoToolbox). The use of technology also facilitates the frequent monitoring of market prices, and consequently allows the regular updating of transfer values to account for inflation.

77 Mock, N., Morrow, N., Papendieck, A., Pendley, S. C. & Hudson, M. 2015. Review of mVAM programme: novel application of mobile technologies for food security monitoring. Development Information Services International.

78 WFP. 2021. Targeting and prioritization. Operational Guidance Note. VAM food security analysis.

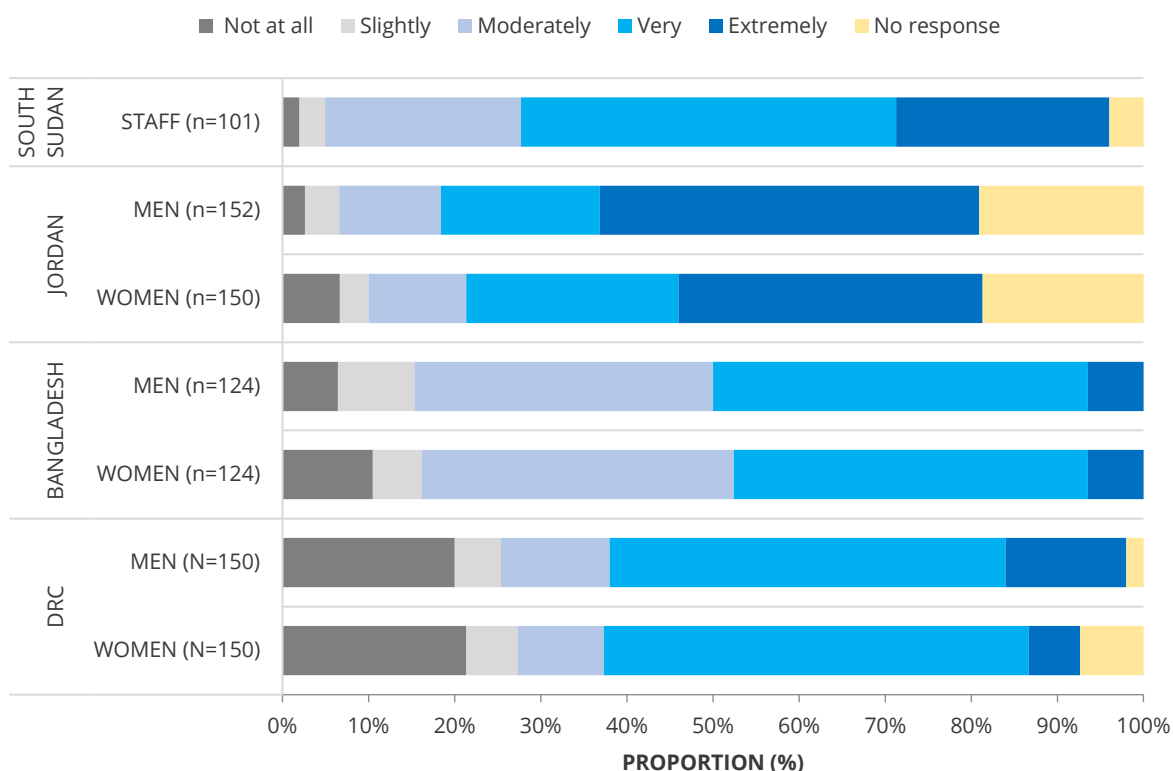
102. These examples highlight conscious efforts to collect insights and translate them into actions. Considering the increase in the amount and granularity of the data collected routinely by WFP, further investments have been made in automated platforms to enhance the processing of such large volumes of data. In theory, the resulting automated and digital targeting models allow for better targeting of beneficiaries and the provision of assistance to those who need it most. For example, in Tigray, WFP used digital systems to guide decision making (virtually blindly). This allowed rapid scale-up for millions of people in areas WFP did not operate in before. However, and critically, this evaluation was not able to identify clear documentation or analysis of potential bias. Automated processes have documented risks to reinforce problematic biases and cause serious harm, especially in contested spaces like constrained environments. Unfortunately, in these environments assessing these biases is likely to be less of a priority and most difficult to achieve considering competing priorities during emergencies. This highlights the need for ex-post review and drawing of lessons learned to enhance future action.

103. **Furthermore, aside from community feedback mechanisms (see Section 2.2.3), efforts to know people better have been largely driven by extractive, quantitative approaches at the expense of a more qualitatively nuanced, engaged dialogue, and localized understanding of people's experience, needs and perceptions.** Key informant interviews and case studies show that efforts to systematize and enhance approaches to understand the culture, practices and social experience of people served by WFP, including in their technology use, remain relatively limited beyond standardized indicators and measures.

104. **The use of technology by WFP is generally seen as inclusive or neutral, but it potentially falls short of actively seeking to include the most marginalized groups. The potential for the use of technology to exclude some groups is understood, but relatively limited efforts are made to have special measures to accommodate for different needs.**

105. Case studies find evidence that people-facing technologies are inclusive, or at least neutral. Across surveys (global and case studies), participants generally find that technology is either inclusive, or at the minimum is not significantly excluding specific groups, and contributing to fair and equal results for women and men (Figure 13). For example, in Bangladesh and Jordan, participants from potentially marginalized groups point to similar benefits as those from other groups. Though seemingly by a lesser proportion of women and men, findings from the Democratic Republic of the Congo suggest that technology supports the inclusion of vulnerable groups and improves the ability to reach certain vulnerable groups through more tailored forms of assistance. There, the strengthening of financial literacy that accompanies the delivery of SIM cards to beneficiaries for cash-based transfers is seen as a positive contribution to the financial inclusion of vulnerable groups.

Figure 13: Extent to which technology is perceived as contributing to fair and equal results for women and men.'



Source: ADE, case studies surveys.

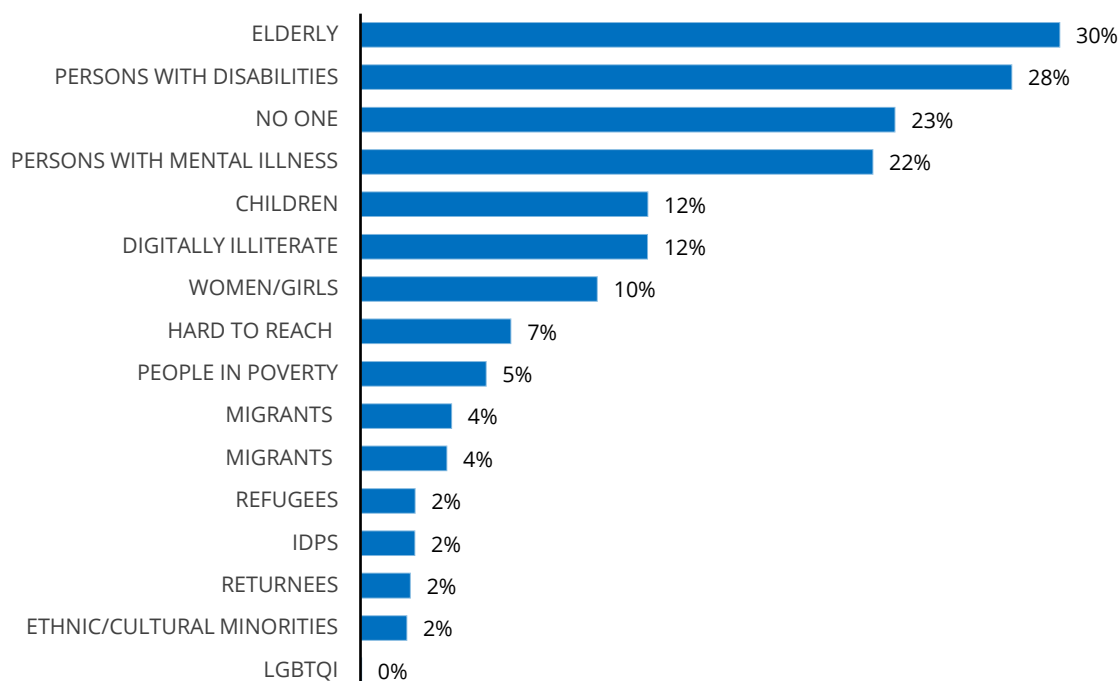
For South Sudan, cooperating partner staff, field staff and nutrition **staff** were surveyed whilst for DRC, Bangladesh and Jordan a sample of WFP **beneficiaries** were surveyed.

106. The most critical and commonly identified issue is the potential exclusion of people who are not digitally connected either because of the lack of connectivity or because of low digital literacy. Such groups include the elderly, those with low levels of education, and disabled people, among others. A common finding in the sector,⁷⁹ these issues have also been well documented by WFP across several evaluations.⁸⁰ This evaluation finds consistent and ongoing challenges to inclusivity, most frequently related to the use of mobile phones either as a means to gather information (such as through mobile or digital remote data collection), deliver assistance (for example, mobile money transfers), or access to community feedback mechanisms. There is evidence that WFP makes a concerted effort to provide information and to make adaptations in its use of technologies to accommodate special needs, and more generally attempts to support multi-modal approaches (for example, combining the use of e-vouchers and in-kind distributions), although country case studies showed that such approaches are not always available. Additionally, countries like Bangladesh have made efforts to address inclusion, such as disability inclusion plans and designation of specific days for vulnerable groups to redeem assistance at shops.

79 OCHA. 2021. From Digital Promise to Frontline Practice: New and Emerging Technologies in Humanitarian action.

80 WFP. 2019. *Corporate Emergency Response in Northeast Nigeria (2016-2018)*; WFP. 2020. *Strategic Evaluation of WFP's Capacity to Respond to Emergencies*.

Figure 14: Groups perceived as marginalized by the use of technologies by WFP across case studies



Note: These percentages are the average percentage of respondents who cited these groups across each case study.

* Refers to responses where the interviewee said no one is marginalized.

(Bangladesh, DRC, Iraq, Jordan, South Sudan and Niger)

Source: ADE, case studies surveys.

107. **Overall, there is a sense that the use of technology creates additional responsibility for WFP to ensure that its technology use has built-in inclusivity and does not widen pre-existing inequalities, but that the organization is not sufficiently meeting these responsibilities.**

108. The Bangladesh Privacy Impact Assessment of 2020 raised concerns regarding the extent to which disabilities and other vulnerability-related data are identified, accurate and included in SCOPE databases, raising specific concerns on the quality of such data. How such data are aggregated can raise concerns for group privacy.⁸¹ Management of data from marginalized groups is a broader issue within WFP, mainly in that how data from these groups are treated is not sufficiently framed around protection, including, for example, guidance on aggregation and reporting.

109. Furthermore, WFP efforts to monitor and rigorously study the potential size, scope, and nature of the differential impacts of technology across groups are insufficient. There is a paucity of any evidence, monitoring or research on the potential differential effects of WFP technological activities on different groups. Instead, the evaluation had to rely mainly on WFP staff, beneficiary key informants and beneficiary survey respondents' perceptions collected by the evaluation team. This in itself was an indicator of the lack of monitoring of the potential differential impacts of the use of technology by WFP. This evaluation found little documented evidence and data around the use of technology and inclusivity, especially in constrained environments. Existing information is focused on inclusivity around age, gender, disability, and literacy. In constrained environments, the potential for more complex social dynamics to affect technology use and access appears to be under-explored. The 2020 WFP Protection and Accountability Policy states the need to inform its use of technology with protection considerations in order to prevent potential discrimination or exclusion.

81 WFP. 2020. Privacy Impact Assessment, Risk Analysis of the Processing of Personally Identifiable Data of Rohingya and Host Community Beneficiary Data in Cox's Bazar, Bangladesh.

Box 1: Inclusion and protection approaches from the comparative learning exercise

Organizations across the comparative learning exercise place an explicit premium on inclusion, reducing marginalization, and ensuring that impacts on people are carefully considered and weighed when using technologies. This approach is evident through the various guidance, policies, strategies and approaches that aim to ensure proper assessments of the inclusion and protection implications for people arising from the use of technologies. Examples of such guidance include:

- The Mercy Corps E-transfer Implementation Guide for Cash Transfer Programming (2018) mandates processes to weigh the (un)equal impacts of e-transfers in making decisions to use technology-based cash-based transfers. It also underscores the engagement of beneficiary communities as equal partners in the design, monitoring and evaluation of projects.
- The IFRC Minimum Standards for Protection, Gender and Inclusion in Emergencies specifies that there is a need to understand the different constraints certain population groups may face when interacting with beneficiary-facing technologies, including gender and diversity analyses.
- The UNHCR Innovation's Digital Access, Inclusion and Participation Programme and UNHCR strategies on Digital Identity and Inclusion and Data Transformation articulate the aims of ensuring that technology use is inclusive and people-centred.
- The UNICEF *Office of Research Innocenti* coordinates and facilitates research on children's use of technologies, including research into the risks and impacts of digital technologies on children, including on the digital divide.⁸²

Besides these organizations, both OCHA and Plan International have published similar guiding documents detailing ways to make the use of technology in humanitarian operations more inclusive, localized, people-centred, context-specific and gender responsive.⁸³

2.2.2. Gender equality and women's empowerment (GEWE)

How does the use of ICTs and digital data affect gender equality and women's empowerment in constrained environments?

110. **WFP is strongly committed to cross-cutting gender issues and gender mainstreaming across its operations. With regards to ICTs, however, there is a lack of systematic consideration of gender in the development and use of technologies, as well as a lack of monitoring of gendered impacts of technologies. There is some limited evidence that technology is being used by WFP to proactively empower women, generally in the context of financial inclusion.**

111. As highlighted in Section 2.2.1, case studies find evidence that people-facing technologies are inclusive, or at least neutral, and this applies with respect to women's experiences relative to men. Overall, women tend to report the same efficiency gains from the use of people-facing technologies by WFP as men, albeit with a slightly higher percentage of negative, or more reserved responses as to the extent of benefits (see Figure 10). Women beneficiaries also reported what is largely perceived as gender-neutral effects of WFP technologies with equally slightly higher reservations (see Figure 13).

112. The commitment of WFP to gender mainstreaming across its operations has translated into limited instances of special considerations being given to women surrounding technology use, such as encouraging beneficiary households to name women as the primary beneficiary of the household in order for them to directly receive assistance or to be notified of a mobile money top up. Some initiatives, such as the

82 This guidance includes for example the 2018 Policy Guide on Children and Digital Connectivity, their yearly publication on Children in the Digital World, and working papers such as the 2020 Encryption, Privacy and Children's Right to Protection from Harm.

83 OCHA. 2021. From Digital Promise to Frontline Practice: New and Emerging Technologies in Humanitarian action; Plan International, Guidance for practicing the principles for digital development in a gender transformative and inclusive way.

“SheCan” digital financing platform that enables private donors to support financial inclusion, and other digital financial inclusion initiatives associated with digitally enabled WFP cash-based transfers, are also positive but remain largely limited in scope or lacking empirical evidence on their empowering effects to date. Nevertheless, based on existing evidence, WFP gender-related protocols and practices are limited to general gender considerations such as targeting special needs and ensuring equal participation of women in the general sense, rather than to systematically addressing potential gender implications arising from digital technology use.

113. More concerning, findings from Bangladesh suggest that technology-based initiatives have not always been based on a thorough understanding of gender and technology dynamics, nor was WFP prepared for the associated risks. Examples include women being unable to access internet centres to self-register for the Government’s mother and child benefit programme (with WFP having contributed significantly to the digitalization of the information management system and to self-registration efforts) due to women’s lack of access to them or lack of skills to use them and the fact that women fall disproportionately in the group without mobile phone ownership and mobile bank accounts, and so are dependent on intermediaries to facilitate transactions. All country case studies further suggest a general lack of monitoring of gender differential impacts of technology to uncover gender and power dynamics related to access and use of technology, with no formal evaluation of the gendered impacts of the use of new technology. Good practices in the sector in this regard are detailed in Section 2.3.3, outlining the need for such systematic monitoring and consideration of impacts and differential impacts into the design of technologies and programmes using technologies.

114. The consequence of this lack of monitoring is the scant evidence regarding technology’s role in either contributing to, constraining, or having no impact on gender equality and empowerment. In the absence of established monitoring and rigorous studies of gendered impacts, the evidence for this evaluation is drawn from the various data collection methods utilized during the evaluation. From these, there is no clear evidence that technology was being used by WFP to proactively empower women nor is there clear evidence that the use of technology has in fact empowered women.

115. Rather, the evaluation finds across all case studies that, due to differential access to technological devices, connectivity and digital literacy arising from the digital divide and structural gender-based inequalities, women may not equally enjoy the same benefits from the use of technology by WFP. This includes, for instance, the differences in access to phones or phone ownership, which can undermine the effectiveness of the hotlines or mobile money for women beneficiaries.

116. These findings expand on generally accepted findings, also documented by WFP, showing that mobile phone ownership and digital literacy are significantly lower among women compared to men, which decreases the opportunity for women to equitably benefit from the use of mobile technologies by WFP, as well as services and information provided through digital technologies.⁸⁴ Cultural constraints associated with gender roles can further exacerbate technology-enabled gender-based exclusion. For example, in South Sudan, there is evidence that women are hard to reach using mobile phones due to low ownership and a reluctance to let women be interviewed by phone, resulting in documented biases in remote data collection across several contexts.⁸⁵ Similar dynamics affect the use of phone-based community feedback mechanisms.

117. Globally, and more fundamentally, gender-focused key informants note that gender advisors are rarely involved or contacted to advise on the implementation of technologies. At the same time, strong technological capacities and strong gender expertise are rarely found in the same people. Nevertheless, this evaluation could find no framework or process to have systematic gender expert input in development plans for technologies and their implementation. Furthermore, key informants focused on technology appear to consider their work to be gender-neutral, and to consider gender equity and women’s empowerment to be a programmatic issue. One symptom of this view is the lack of clear initiatives to strengthen and empower “women in tech” within WFP and among partners, for example through dedicated

84 WFP. 2019. The potential of cash-based interventions to promote gender equality and women’s empowerment: A multi-country study.

85 WFP. 2017. Biases in remote surveys. VAM food security analysis. <https://docs.wfp.org/api/documents/WFP-0000121286/download/>

human resources initiatives (for example, recruitment, targeted training, etc.). This extends to country offices, where most key informants with a technology profile were men, with some notable exceptions, such as the head of information technology in the Democratic Republic of the Congo. The integration of a diversity of perspectives, experiences and opinions into technology development and use processes is critical to ensure that the effects of technology for different stakeholder groups are fully considered. This might be difficult to do if one perspective dominates among those who create and drive forward technology and innovation solutions. Diverse teams are more likely to drive equitable innovation, for impact that benefits all; and this should be a critical concern for WFP.

2.2.3. Accountability

How effectively are ICTs and digital data used by WFP in constrained environments to promote accountability to affected populations?

118. **Generally, the use of technology-based community feedback mechanisms has broadened the range of ways through which beneficiaries voice their concerns and issues and generally provide feedback to WFP. Technology also helps improve recording the feedback received and tracking of follow-up given to complaints. However, these mechanisms are insufficiently known and focus on technical issues rather than meaningful engagement.**

119. Across countries, digitally based community feedback mechanisms appear to be efficient solutions that can help fix issues and concerns raised by people served by WFP more expeditiously. Technology-based community feedback mechanisms also improve the ability of WFP to monitor and analyse beneficiary feedback and response given to feedback, which can lead to better insights to inform decision making on improving WFP services.

120. In countries like Jordan, hotlines receive upwards of 100,000 calls per year (2020). The connection of the community feedback mechanism data with the triangulation database has allowed WFP to detect patterns in issues faced by beneficiaries, thus enabling them to develop standard solutions to resolve frequent issues. In Iraq, a joint United Nations telephone hotline, operated by United Nations Office for Project Services (UNOPS), serves in parallel with the Iraq Information Centre (IIC) hotline as a communication channel for refugees. In South Sudan, WFP notes that:

the community feedback mechanism is underpinned by WFP's secure online database, SugarCRM, which captures beneficiary feedback and allows for real-time tracking of referrals, actions, and conclusions taken regarding beneficiary feedback. WFP also commenced its synchronisation process, linking beneficiary feedback mechanisms with beneficiary data, ensuring solutions are end-user driven. Beneficiary feedback was documented, analysed and integrated into programme improvements.⁸⁶

121. Similar systems exist in Bangladesh, the Democratic Republic of the Congo, and more recently, Niger.

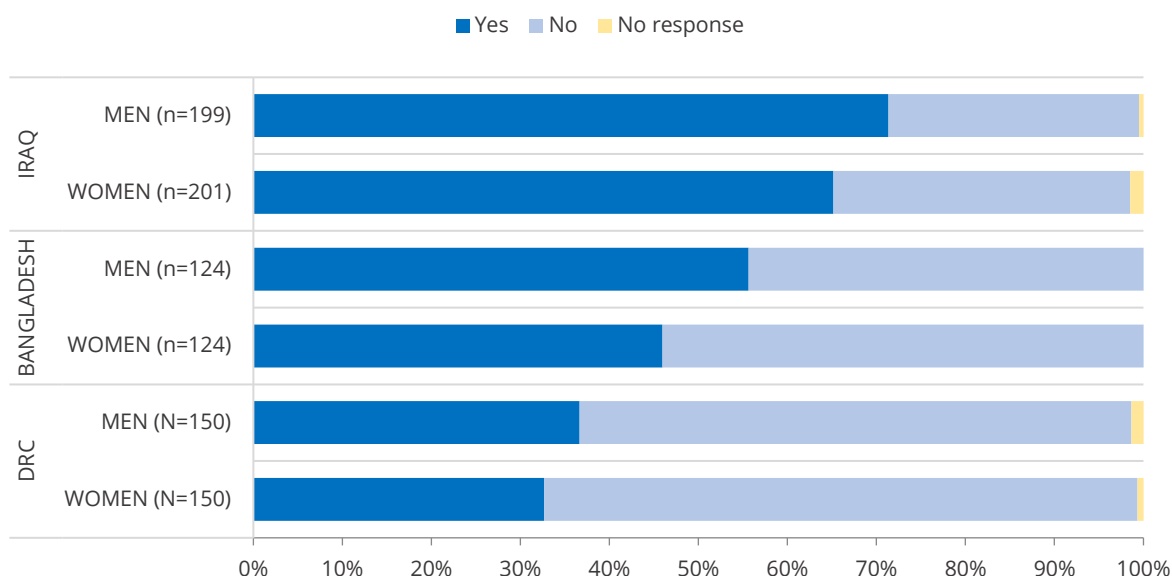
122. These experiences show that, in some contexts, technology makes providing feedback easier for affected populations. Hotlines enable affected populations to raise complaints, feedback or concerns in a way that is more time-efficient. It also opens an additional avenue for feedback that may be more convenient for sensitive cases. The extent of technology's contribution to the accountability to affected populations is nevertheless undermined by the low awareness and use of hotline mechanisms (see Figure 15), by contextual barriers and by certain inefficiencies or functionality issues.

123. Across all case studies, there was a generalized lack of awareness of hotlines and other accountability to affected population mechanisms, which translates into low usage. Poor connectivity, low (mobile) phone ownership or access, intra-household dynamics and social norms are also barriers to their use for certain people served, which has potential exclusionary effects. In fact, in all case study countries where this question was asked, women appeared to know slightly less frequently what to do or who to contact when wanting to give feedback or to make complaints than men (Figure 15). On average across the countries studied, women also report slightly lower levels of agreement that the use of digital community

86 WFP. 2019. Annual Country Report: South Sudan.

feedback mechanisms contribute to improved accountability to affected populations (see Figure 16). Field research further documented challenges in providing prompt or adequate feedback and delays in responding to issues or complaints raised, whilst in some cases (for example, Niger) the hotline was not functioning properly before being discontinued. Moreover, the availability of hotlines only in a set of official languages as noted in South Sudan, where the hotline was only available in English and Arabic, potentially excludes linguistic minorities from taking advantage of this resource.

Figure 15: Extent to which beneficiaries know what to do or whom to contact to give feedback, complaints, suggestions or requests regarding WFP assistance.



Source: ADE, case studies surveys.

124. Such issues with the functioning of community feedback mechanism are not new and have been recorded across various evaluations and studies.⁸⁷ At the same time, low levels of understanding, practical and cultural compatibility and poor follow-up, in part because of unclear responsibilities, undermine the use of hotlines in places like the Democratic Republic of the Congo or Cameroon.⁸⁸ In response to these challenges, the Strategic Evaluation of WFP’s Capacity to Respond to Emergencies in 2020 highlighted the need to

scale up the establishment of complaint and feedback mechanisms across all operations through the provision of appropriately skilled employees, use of practical guidance and investment to enable operations to reach minimum standards. Increase expertise and the use of communication technology for accountability to affected populations through the production and promotion of practical guidance on complaint and feedback mechanisms and the broader use of communication tools such as social media, mass media (radio, television), text messages and other emerging methods as part of accountability systems.

125. Stemming from this evaluation, WFP has developed a series of on-line training and learning courses on accountability using WeLearn and other platforms and is in the process of finalizing a Protection

87 WFP. 2019. *The potential of cash-based interventions to promote gender equality and women’s empowerment. A multi-country study*; WFP. 2020. *Evaluation of Democratic Republic of the Congo Interim Country Strategic Plan (2018-2020)*; WFP. 2020. *Evaluation of Cameroon WFP Country Strategic Plan (2018-2020)*.; WFP. 2021. *Evaluation of Bangladesh WFP Country Strategic Plan (2016-2019)*.

88 Ibid.

and Accountability Handbook, which includes specific methods and tools to mainstream community engagement and participation.⁸⁹

126. **Despite this call for more hotlines and digital community feedback mechanisms, there is a general perception that accountability to affected population mechanisms are largely confined to fixing technical issues and for notification purposes rather than for the systematic consideration of affected populations' views and engagement.**

127. Evaluations from Bangladesh, the Syrian crisis response and the Democratic Republic of the Congo note that accountability to affected population mechanisms are confined to raising people's awareness and alerting them rather than the systematic incorporation of their views, especially concerning their preferences regarding various transfer modalities or technology uses.⁹⁰ Case studies further noted that investments in technology-enabled community feedback mechanisms tended to take away resources from in-person mechanisms that are often preferred and lead to deeper engagement, albeit on a smaller scale.

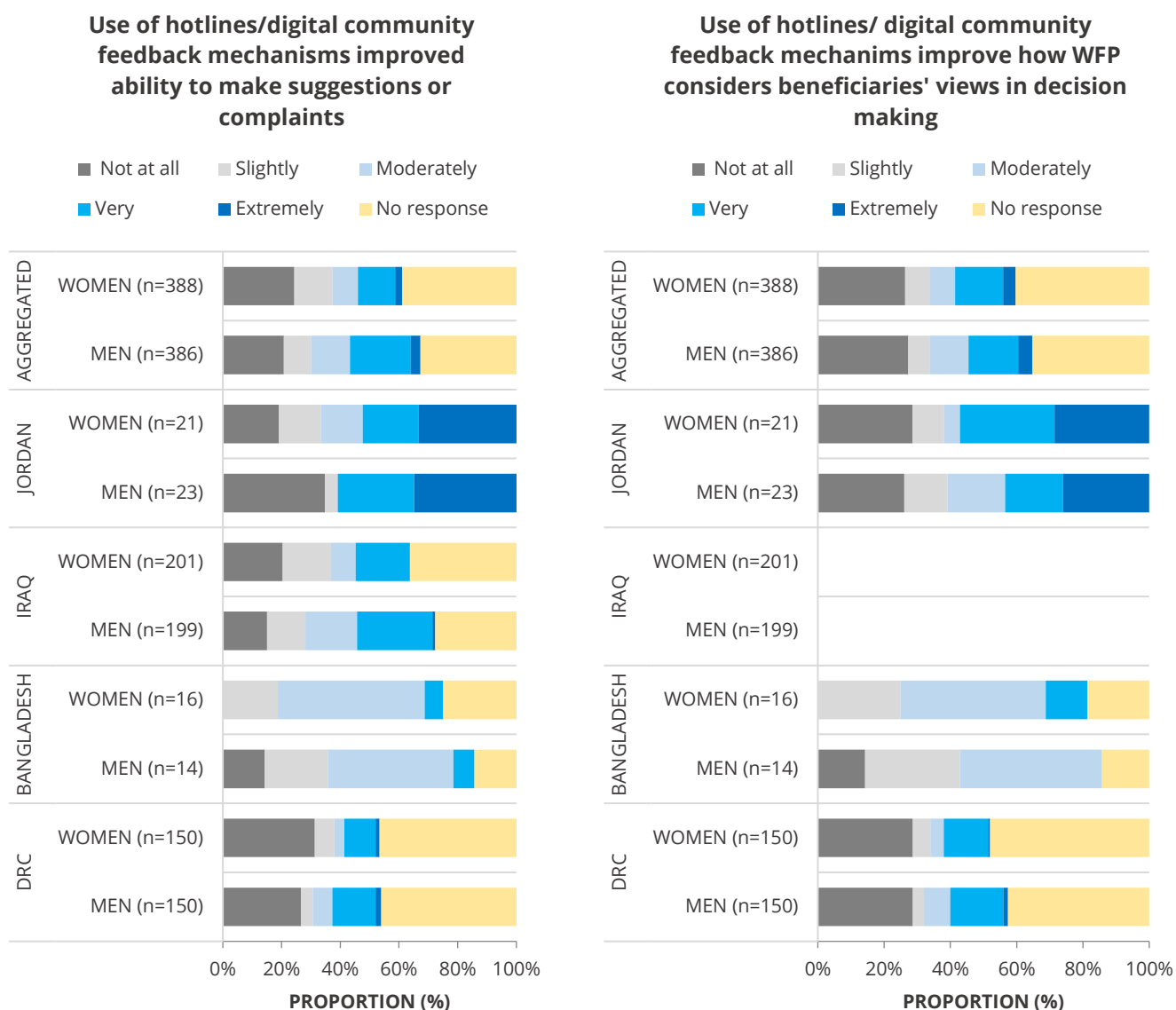
128. **In fact, there is no evidence of a systematic process mandating stakeholder engagement with the people WFP serves with regards to the relevance, coherence and sustainability of a solution when introducing new technologies to assistance processes.**

129. The lack of community engagement around technology choices was particularly noted across case studies. External stakeholders consulted also emphasized that there is little room for participation from communities in shaping technologies, as well as little work done for the localization of the organization's technology use. The extent of engagement suggested by WFP guidance is limited to the privacy impact assessment or protection assessments, if these take place. No other formal consultations are mandated to engage beneficiaries in the process of technology development.

89 Extracted from the R2 system, which records the management response and action taken on the recommendation made for the Strategic Evaluation of WFP's Capacity to Respond to Emergencies.

90 WFP. 2018. *Corporate Emergency Evaluation of the WFP Regional Response to the Syrian Crisis (January 2015-March 2018)*; WFP. 2021. *Evaluation of Bangladesh WFP Country Strategic Plan (2016-2019)*; WFP. 2020. *Evaluation of the Democratic Republic of the Congo Interim Country Strategic Plan (2018-2020)*.

Figure 16: Beneficiary perception on the degree to which the WFP digital community feedback mechanisms improve accountability to affected populations



Source: ADE, case studies surveys.

130. These findings fuel broad concerns within and outside WFP that localization and putting people at the centre of humanitarian principles are somewhat secondary to WFP interests in technology use and that the current approach to community feedback mechanisms is insufficient to ensure local engagement. This is critical since the increased ability of WFP to operate remotely leads to potentially greater distance from affected populations and a lesser ability to qualitatively “take the pulse” of people’s experience and context. This is a common issue across the humanitarian sector epitomized by the finding that the Grand Bargain’s aim of a “participation revolution” was not met in practice.⁹¹ Nevertheless, despite slow progress on a so-called participation revolution, best practices are emerging as described in Box 2.

91 HPG & ODI. 2021. The Grand Bargain at five years. An independent review.

Box 2: Accountability to affected populations and technology: Best practices and patterns from the comparative learning exercise

- Organizations like UNICEF and Mercy Corps are leveraging digital platforms (for example, RapidPro, U-report etc.) for greater two-way communication and participation of affected populations by providing populations with various modalities to express their views on diverse aspects of assistance and decision making affecting them. Through two-way communication, organizations are able to provide direct feedback to beneficiaries who submit a grievance or report.
- Organizations have also developed specific strategies, guidelines, and processes to ensure that the views of people served are better considered in decision making in order to ensure greater participation in practice. For example, the UNHCR operational guidance on accountability to affected populations emphasizes the need to establish a range of accountability to affected population mechanisms (both technology and non-technology based) well situated for specific contexts which should complement each other and not displace in-person mediums. The UNICEF Accountability to Affected Populations Handbook mandates the same considerations. Both organizations stipulate the need to scope people's preferences for engagement and reporting on how decision making and programming considers people's inputs, views and feedback. This is a recognized good practice in the sector, with organizations like the International Rescue Committee (IRC) and Save the Children also developing guidance and strategies detailing processes to demonstrate how feedback is incorporated in decision making.
- The UNHCR Innovation service has a thematic work unit specifically devoted to communication with communities (CwC) as part of its Strategy on Digital Identity and Inclusion. It focuses on leveraging new technologies when appropriate as channels of communication for certain population groups and in specific contexts. Their toolkit of technologies includes social media, chatbots, two-way SMS and radio.

2.2.4. Risks to protection and security

What are the contributions and risks to protection and security of affected populations and humanitarian personnel from the use of ICTs and digital data in constrained environments and how well does WFP identify and manage those risks?

131. **WFP has made rapid and necessary progress in enhancing cyber-security and, increasingly also data protection across the organization, with increased visibility and control mechanisms centrally, and enhanced procedures. However, practice is lagging, resulting in ongoing risks to data protection, security and privacy, among others. Specific input, for example on ethics, appears to be side-lined.**

132. WFP has invested heavily to enhance its approach towards risks to protection and security for the people served by WFP and the organization itself in relation to the use of technology. This includes efforts to improve data protection and safeguard sensitive and personal information from potential breaches, and efforts to enhance the cyber security of networks, systems and programmes. Recent data protection initiatives include: standardized privacy impact assessments; ensuring more secure data handling, access and sharing practices (for example, application programming interfaces to replace manual downloading and sharing etc.); establishing clear data protection guidelines and data breach protocols; setting up a responsible data task force;⁹² and appointing data protection officers, among other measures. With these initiatives WFP has been able to enhance data protection, address potential cyber security threats and more professionally manage its information technology infrastructure. Stakeholders noted the contribution of the responsible data task force to awareness raising about data protection across functions and levels at WFP. The Global Privacy Office (GPO) under creation will take over from the responsible data task force under the leadership of the recently appointed data protection officer.

92 Co-chairs of the responsible data task force were TEC and PRO directors. Members included CBT, INK, RAM, CAM, PPF, HR, Legal, OIGA and Ethics. The NGO unit was also invited as an observer. The task force has been retired as of June 2021, following the recruitment of the data protection officer and the establishment of the Global Privacy Office.

133. WFP efforts, in part, have followed critiques in audits and evaluations that “governance, risk management and controls for data processing, including related partnering choices or system support decisions, have not kept pace with WFP’s evolving business model, increasing the potential for misuse and missed use of beneficiary data”⁹³ and earlier concerns about data protection in practice and country operations-level handling of sensitive data.⁹⁴ In fact, as recently as 2020, an audit highlighted multiple risks associated with the roll-out of SCOPE and biometrics in Yemen, including that WFP had to agree to technical arrangements and stipulations that “biometrics data shall be retained in a joint server room” with the effect that potentially sensitive data could come into the hands of de facto authorities. It also raised risks resulting from poor data protection and understanding of the application of WFP guidance and standard operating procedures (SOPs) by cooperating partners (CPs).⁹⁵

134. Additional risks exist when third parties are involved. These risks are related to the confidentiality, integrity, and availability of WFP data and information assets. The latest Internal Audit of Third-Party Access to WFP’s Data and Systems (2020) found that WFP did not fully account for these risks. These included: a missing corporate framework for third-party risk management; a lack of ownership of the overall third-party management process; a lack of adherence to the Data Classification Policy by WFP business units and a lack of information technology data mapping identifying external systems involved in processing data.⁹⁶ Since then, mitigating efforts have been underway to address the audit findings, which include, amongst other actions: performing periodic third-party user reviews; establishing guidelines on information logging; and ensuring information technology and data security checklists are part of due diligence processes in screening third-party users. Additional mitigating actions put in place also include: implementing a comprehensive third-party risk management system, including third-party risk policies, principles and risk tolerances; establishing responsibilities and oversight roles; and conducting data protection impact assessments where appropriate.

135. In part, risks to data protection, security and privacy concerns result from the lack of maturity of the systems and processes in place to regulate and guard against such risks, especially in light of increased digitalization and digital transformation within the organization (see Section 2.2.4). Indeed, this evaluation finds low levels of compliance, for example, in terms of how certain data is handled and shared. Training requirements and credentialing are limited and so is accountability, which appears mainly focused on intentional security breaches. Communication on data protection with country offices and partners is relatively limited and needs constant updates given the rapid evolution of digital technology and data generation in WFP. At the same time, aspects of data protection are not well streamlined in monitoring and evaluation. Key informant interviews show that opportunities to report malpractice or breaches are not sufficiently known or available.

136. Key informant interviews also show that discussion around ethical uses of technology tend to be focused on legality, more than on ethically appropriate considerations, and that ethical concerns can be and are easily dismissed with limited to no consequences.

137. Furthermore, despite the high awareness of cyber security and, increasingly, data security, there is a lack of effort to link cyber security, technology, and physical risks, for both people served by WFP and for staff and cooperating partners. There are perceptions of low physical protection risks due to technology/data.

138. Across case studies in constrained environments, the evaluation noted a lack of focus on the use of ICTs to monitor and address physical security concerns, as well as a lack of focus on technology as a potential physical security threat. Some efforts around enhanced communication (multi-platforms) were noted, but overall, the potential for cyber security events or other technology-enabled attacks to lead to physical security concerns was not identified.

139. Organizations like WFP face an increasingly complex and contentious data and information landscape enabled by technology and social media. Misinformation around WFP operations or impartiality,

93 OIGA. 2020. Advisory Assurance Report on Beneficiary Data Mapping. Audit.

94 WFP. 2018. *Somalia: An Evaluation of WFP’s Portfolio (2012-2017)*; WFP. 2017. Internal audit of beneficiary management.

95 WFP. 2020. Internal audit of WFP operations in Yemen.

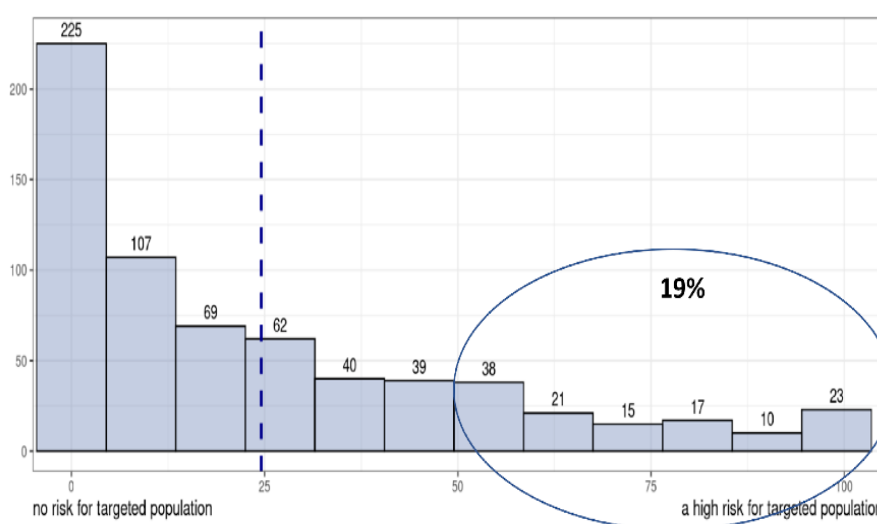
96 WFP. 2020. Internal Audit of Third-Party Access to WFP’s Data and Systems.

for example, can adversely affect the organization’s ability to operate on the ground, undermine its relationship with people served by WFP, and jeopardize its staff security. Yet, this evaluation found no clear responsibility or coherent approach to address such threats.

140. **Additionally, WFP efforts to address some risks and its use of technology appear to shift the risks toward those served by WFP, with limited efforts to monitor and address such risks.**

141. According to key informants, positive effects of the use of technology for security are generally achieved, for example in the form of reduced handling of cash or in-kind assistance, which reduces security risks for partners and beneficiaries. Global survey responses echo this pattern. While the majority of respondents report no risk for the targeted population from the use of digital technology, nearly one fifth of stories lean towards a high risk for the targeted population (Figure 17). Similarly, all case studies report instances of coercion, exploitation and potential protection violations and risks to people arising as a corollary of technology use.

Figure 17: Risk for the targeted population by using digital technology



Source: Global survey report (sample size: N = 666).

142. Earlier evaluations in Somalia (2018), Nigeria (2019) and Kenya (2018) noted increased risks of insecurity and protection incidents during overcrowded SCOPE registration and abuses by mobile money agents, as well as coercion and protection violations from traders, when cash-based transfer beneficiaries were asked to leave their SIM cards with traders as collateral for credit.⁹⁷ This evaluation documented similar and ongoing violations in Jordan, Iraq, South Sudan, and Bangladesh, including exploitation by vendors using e-card reloads/assistance amounts as collateral or overcharging interest and exploitation by mobile money transfer (MMT) agents for “tips” or commission when cashing out.

143. With regards to threats to humanitarian personnel, additional threats include physical violence to obtain devices such as tablets. Such devices can further be perceived as being used for espionage, creating additional risks. Importantly, and despite the valuable privacy impact assessments, efforts to assess the risk and systematically monitor such violations for beneficiaries and WFP staff appear to be insufficient.

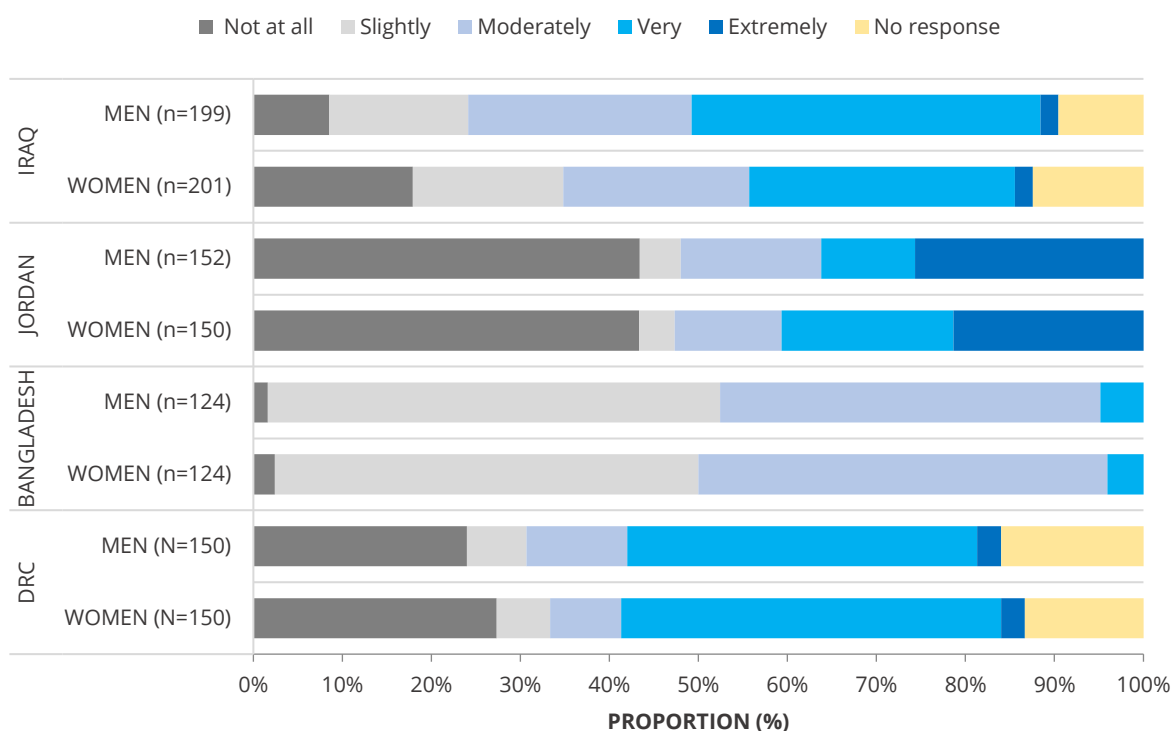
144. **There is evidence of a lack of information for beneficiaries and limited understanding among beneficiaries of the risks associated with data sharing, data protection and security issues.**

97 WFP. 2018. *Somalia: An Evaluation of WFP's Portfolio (2012-2017)*; WFP Kenya. 2018. *An evaluation of the effects and a cost benefit analysis of the GFD Cash Modality scale up (Cash Based Transfers for PRRO 200737) for refugees and host communities in Kenya.*; WFP. 2019. *Evaluation of WFP's Corporate Emergency Response in Northeast Nigeria (2016-2018).*

WFP appears to be insufficiently concerned with the status-quo, despite the implications of there being a low understanding of informed consent.

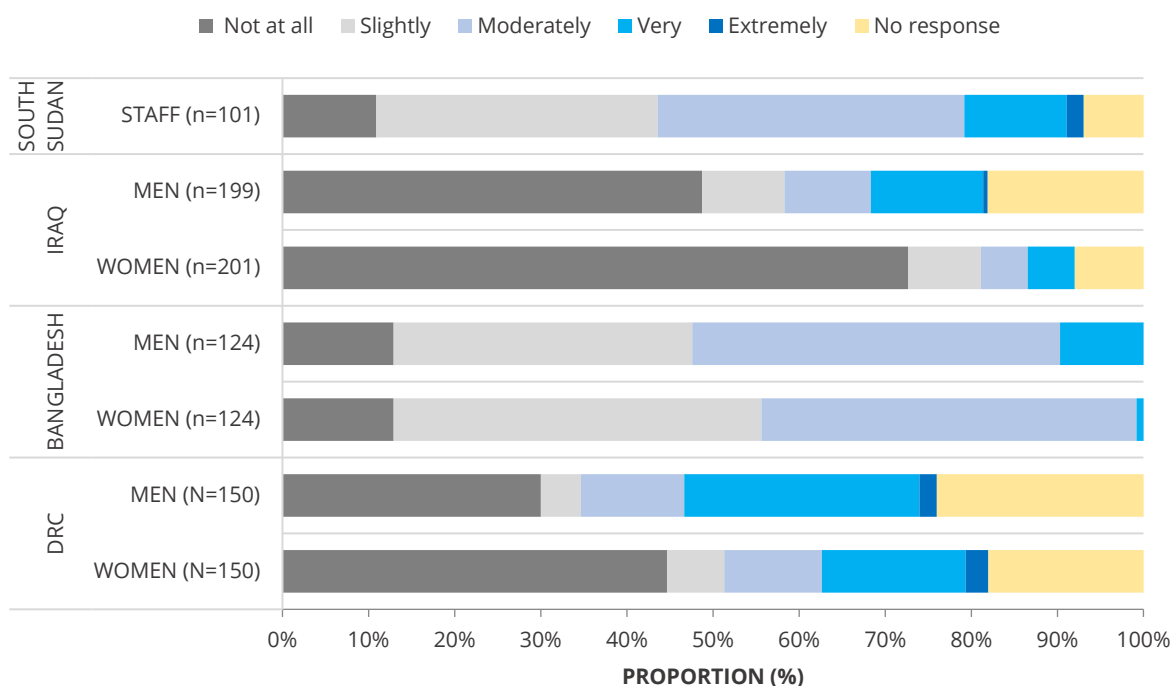
145. Across case studies, people served by WFP show limited awareness of the full extent and nature of the use of their data by WFP, nor are they clear about their related rights (for example, their right to privacy). Although across the surveys over 60 percent of respondents in Bangladesh, the Democratic Republic of the Congo, Iraq and Jordan believed that the use of technology by WFP had not created risks for their privacy and protection, most respondents across Bangladesh, the Democratic Republic of the Congo and Iraq admitted that they had little understanding of issues of data protection, privacy and security, particularly for women (see Figure 18). In some cases, people served by WFP even appeared unaware that they had provided any form of consent to WFP about data usage. In Iraq, a quarter of beneficiaries reported in the phone survey that they had not given consent for WFP to collect, store and share their personal data and information, and yet over three quarters of respondents noted they felt comfortable with sharing personal data with WFP. Across countries, respondents generally understood that receiving assistance was conditional on a willingness to share their personal information.

Figure 18: Degree to which beneficiaries are informed about the type and amount of personal information that WFP holds on them



ADE, case studies surveys

Figure 19: Degree to which beneficiaries express understanding of data protection, privacy and security



Source: ADE, case studies surveys.

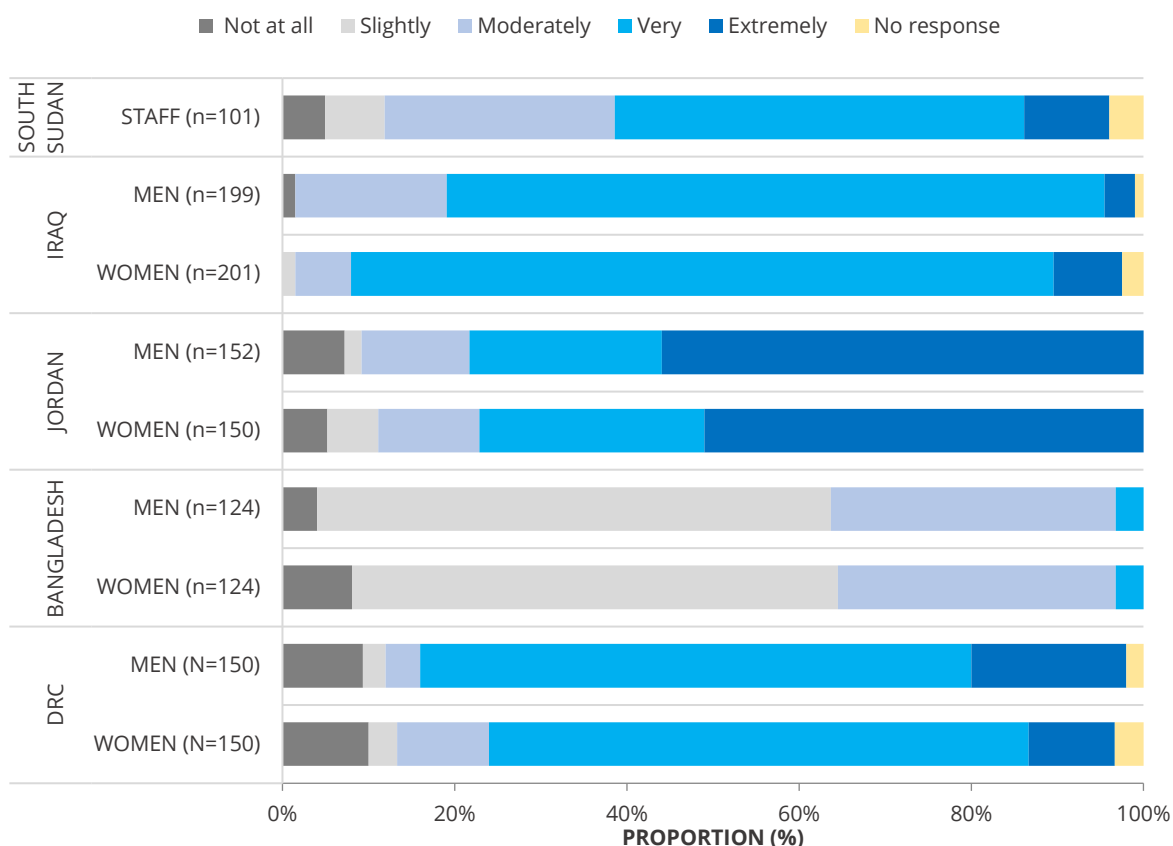
146. In general, WFP stakeholders noted that awareness campaigns have taken place and that, in a context of more urgent needs, most beneficiaries do not seem concerned with data being shared. People served by WFP expressed similar feelings. Key stakeholders within WFP know and understand the limits around beneficiaries providing informed consent (for example, understanding of risks involved in sharing their data). WFP does not appear to be meaningfully engaged in efforts to achieve informed consent and to go beyond the limitations of one-time-only consent processes.

147. This is an issue experienced by many humanitarian organizations as recognized by the report of the Special Rapporteur on contemporary forms of racism, racial discrimination, xenophobia and related intolerance (2020)⁹⁸ and others.⁹⁹ These various reports put forth the notion that consent may not be truly informed when beneficiaries do not fully understand the degree of risk and extent of data being processed, or when steep power differentials exist between agencies and affected communities, leading to beneficiaries not having a real choice in whether to share their personal identifiable information (including biometrics) which, in practice, is often tacitly conditional upon consent.

98 UN. 2020. Report of the Special Rapporteur on contemporary forms of racism, racial discrimination, xenophobia, and related intolerance (A/75/590).

99 UNHCR. 2016. Privacy Impact Assessment of UNHCR Cash-Based Interventions.; HRW, 2021. UN Shared Rohingya Data without Informed Consent.; OCHA. 2021. From Digital Promise to Frontline Practice: New and Emerging Technologies in Humanitarian action.; The Engine Room. 2019. Unpacking 'Informed Consent'.

Figure 20: Beneficiaries' level of comfort in sharing their personal data (including biometric data) with WFP



Source: ADE, case studies surveys.

For South Sudan, cooperating partner staff, field staff and nutrition **staff** were surveyed whilst for DRC, Bangladesh and Jordan a sample of WFP **beneficiaries** were surveyed.

2.2.5. Staff capacities

Are staff capacities in WFP and its partners adequate for an effective and safe use of ICTs and handling of digital data in constrained environments?

148. **WFP does not sufficiently invest in its staff and cooperating partner staff, widening the gap between technological capacities and the rapid pace of increasing technology use within WFP at all levels of the organization. More generally, there are little efforts to manage broader organizational and behavioural changes resulting from the introduction of technologies.**

149. This reflects relatively low digital literacy among some parts of the organization, and a lack of continuous and ongoing training, as well as a lack of certain key technical profiles/systems required, a lack of key local expertise and a lack of adequate knowledge on certain policies, processes, standard operating procedures, and guidance, amongst other areas. A particular recurrent theme is the perception that cooperating partners, implementing partners and field-level and local staff capacities need to be further developed to ensure the effective, safe, and sustainable use of technologies.

150. Audits in Yemen and West and Central Africa have documented the limited understanding, guidance and applications of WFP guidance and standard operating procedures on mobile-based transfers by WFP staff and/or cooperating partners.¹⁰⁰ Corporate guidance (manuals, business process models) are

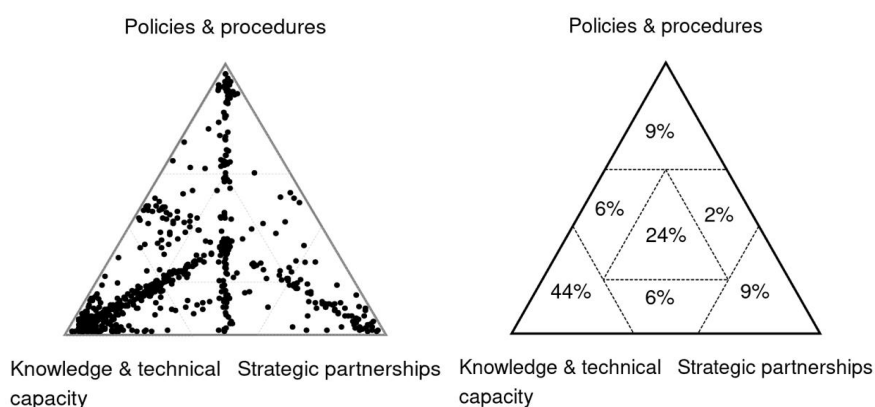
100 Internal Audit of WFP Operations in Yemen; Internal Audit of Mobile-Based Transfers in West and Central Africa.

not systematically available for country offices or fit for purpose to allow them to make decisions on the mobile-based transfer modality. Furthermore, the same audits identified capacity building needs that slowed down the process of registration and distribution. The advisory assurance report on beneficiary data mapping confirmed that data protection, privacy guidance and tools were not widely known, understood, or implemented.¹⁰¹

151. The Strategic Evaluation of WFP’s Capacity to Respond to Emergencies (2020) identifies the need for WFP to build a workforce with an increased number of specialists with analytical expertise, information technology and knowledge management. Existing human resource gaps can result in heightened risk as offices design their own local workarounds.¹⁰² The same review notes that WFP should “invest in data literacy at all levels”.

152. This evaluation finds consistent and ongoing issues with staff capacities and the use of technology by WFP. In fact, the issue of human resources was the main challenge and capacity development was the main request for improvement in the use of digital technology according to global survey respondents (see Figure 21). A demand for more training and greater capacities for country office staff with functions related to ICT and digital data was repeated emphatically across the global survey recommendations. The issue is even more frequently raised in highly constrained environments. Stakeholders noted a clear gap between what the organizations wants to do and the availability and training of staff. The issue is even more acute when considering implementing partner capacities.

Figure 21: Triad pattern “main challenges in the use of digital technology”



Source: Global survey report (sample size n=772; not applicable=75).

153. **One common challenge is that tools used by WFP are increasingly complex to manage yet training opportunities on the use of these tools are limited.** Staff in constrained environments face practical barriers to training, including limited connectivity to use online platforms like WeLearn, limited time to dedicate to acquire non-critical skills and frequent rotation. Since training is generally not part of the staff terms of reference, efforts in this area tend to focus on the minimum necessary. At the same time, the information technology workforce in country offices tends to be focused on practical issues like connectivity, electricity, and basic infrastructure.

154. This means that training is generally insufficient and, in many cases, advanced skills in the use of technology and data are very limited at the country office level, requiring the management of key systems from headquarters to ensure adequate security and protection. In case study countries with low existing use of technologies (for example, Niger and the Democratic Republic of the Congo), the slow acquisition of skills negatively impacts the pace of adoption of corporate technologies such as SCOPE or SugarCRM. Recruitment of staff with the required skills is rarely an option, requiring training, and staff with both technological and programmatic experience remain the exception.

101 OIGA. 2020. Advisory assurance report on Beneficiary data mapping.

102 WFP. 2020. Management Review of Significant Risks and Control Issues, 2019 Executive Board, WFP.

155. **Furthermore, across country stakeholders consulted, there does not seem to be enough staff capacity, both in terms of time and ability, to ensure the quality of the data collected and processed through WFP systems, negatively impacting the organization's ability to learn from its operations,** as noted in Section 2.2.6.

156. Grievances with the quality of data were expressed across different contexts and attributed, in most settings, to insufficient partner and staff capacity to accurately collect data. Steps are being taken that aim to bridge these capacity gaps, such as: the roll-out of trainings for specific digital systems/tools and on data protection; staffing profile adaptations in country offices to reflect local needs and the establishment of certain specialized bodies within WFP at different levels (for example, TEC, Digital Solutions Unit in Bangladesh, data working groups and others); strategic considerations for training and capacity building in the Corporate Information Technology Strategy (2016-2020); and training obligations in field-level agreements (FLAs) to train staff of cooperating partners on WFP digital systems and digital data practices.

157. However, despite these positive steps, there is still some way to go to bridge apparent capacity gaps in order to keep pace with the rapid increase in the use of technological and digital solutions within the organization. These gaps are strategically recognized, as epitomized by strategic considerations in the Corporate Information Technology Strategy (2016-2020), which recommends, amongst other activities: actively supporting staff in the acquisition of functional and core capabilities and skills through the continual development of the information technology career framework; identifying new core skills such as user experience, customer experience, vendor management, analytics/data science, development operations, change management and emergency information technology management; developing training programmes that enhance the information technology workforce's ability to support the business in areas like cash-based transfers/SCOPE training; identifying emerging technologies, anticipating their deployment in WFP; and identifying new skills and/or resources required. Nevertheless, despite this recognition, the findings of this evaluation point to the seeming lack of operationalization of these strategic guidelines in practice with significant staff capacity gaps persisting.

Box 3: Capacity building challenges across the comparative learning exercise

The comparative learning exercise revealed that, similar to WFP, most organizations face staff capacity gaps when it comes to the use of technology in humanitarian operations. Greater sector-wide efforts and investments are needed to develop and ensure proper levels of capacities to maximize the potential of digital technologies whilst mitigating risks. Within this remit, no sector-wide best practices are in place, and instead, several initiatives have been adopted to invest in capacity building, including:

- Bridging capacity gaps between central-level and field-level staff by fostering access to specialist skills at field level
- Prioritizing a better balance in technology-related roles of specialized technological skills and programme-related skills
- Developing mobile specialist teams, such as data science teams
- Creating and distributing guidance materials and services to help and train staff with capacities in various digital tools. For instance, IFRC have developed initiatives to develop playbooks and a data literacy consortium, whilst Mercy Corps' T4D team constantly carries out trainings for staff on digital competencies to effectively use various tools.
- Articulating clearly the need for enhanced staff capacities in strategies and working towards operationalizing these strategies in practice (approaches adopted, for instance, by IFRC and the United Nations Secretary General's Data Strategy).

2.2.6. Use (monitoring, risk management, reporting, knowledge management)

How well does WFP use ICTs and digital data to improve monitoring, risk management, reporting and evaluation, and to support training and knowledge management in constrained environments?

158. **Technologies are generally perceived as helping increase the efficiency, scale and frequency of monitoring and helping overcome monitoring challenges in constrained and emergency settings, but efforts are insufficient and lack coherence and integration.**

159. As noted in Section 2.2.1, WFP has made significant investment and created tools to know beneficiaries better. These investments have brought about an enhanced ability to monitor conditions on the ground and the effectiveness of WFP operations, with technology contributing to increased scale and frequency of monitoring. Contributing technologies across case studies include mobile surveys for food security assessments, including regular price monitoring, high-resolution satellite imagery for programme monitoring and impact assessment, and the use of various dashboards and visualization tools to ease the analysis of monitoring data. Notably, tools used for capturing monitoring data, such as MoDA, and previously ODK, are regarded across countries as greatly facilitating monitoring efforts, with positive impacts on the standardization of data collected and the ability to make rapid decisions based on such data. Additional examples include the triangulation database, which has brought about efficiency gains and near real-time monitoring.

160. Yet, there is the sense that there is still room for improvement in terms of exploiting all the data and information WFP has, and making sense out of it for the purposes of monitoring, risk management, reporting and evaluation, and to support learning, training, and knowledge management.

161. **Despite major efforts to integrate data to generate deeper insights (for example, DOTS), beneficiary data remains scattered across various inconsistent and non-integrated formats and systems, replicated and/or exclusive, held by partners, often not digitized, with an absence of comprehensive continuous data mapping.**¹⁰³

162. Even within country offices, like the Democratic Republic of the Congo, data analysis, information pooling, and information sharing with programme managers remain limited.¹⁰⁴ As the Democratic Republic of the Congo Interim Country Strategic Plan (ICSP) evaluation notes, there is both “a clutter of data of limited use, and a limited ability to probe beyond the data provided, as well as a persistent lack of data integration”. More generally, the application of lessons learned remains inconsistent, despite efforts to improve knowledge management.¹⁰⁵ Findings from the different case studies for this evaluation further note the limited use of digital data and technology for the systematic monitoring and management of risks experienced by beneficiaries, staff or partners as a result of the technology itself. None of these issues, however, can be effectively addressed without first enhancing data quality monitoring, which remains a major gap according to key stakeholders at the country and headquarter levels.

163. Technologies for communication, training and knowledge management also make up an important area of technology use for the organization. In fact, in the global staff survey, more than 25 percent of the stories told by staff related to tools used for communication. The use of such tools is predominant across both lowly and highly constrained environments, with small variations in the types of technologies respondents mentioned in the survey. Respondents in highly constrained environments emphasized more frequently the use of tools for assessment, delivery of assistance, planning and reporting. Respondents also expressed very positive experiences with technologies for staff capacities, training, and knowledge management through the survey, though informants in constrained environments did not mention such technologies frequently. To further illustrate this point, Figure 22 below ranks the areas of operations most frequently associated with positive impacts of digital technology or data use in the stories narrated in the global survey, highlighting a positive impact in staff capacities, training and knowledge. With the acceleration in the adoption of tools such as Microsoft Teams, in part due to COVID-19 (see Section 2.1.5),

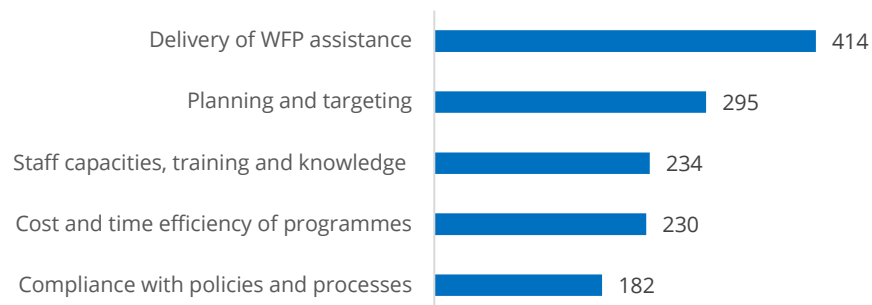
103 OIGA. 2020. Advisory assurance report on beneficiary data mapping.

104 WFP. 2020. *Evaluation of DRC Interim Country Strategic Plan (2018-2020)*: 56.

105 WFP. 2020. *Strategic Evaluation of WFP's Capacity to Respond to Emergencies*.

stakeholders note that WFP has streamlined communication and eased document sharing and version control across organizational levels.

Figure 22. Top five areas of technology use with positive impact



Source: global staff survey (n=661).

2.3. POLICIES AND PROCESSES

HOW APPROPRIATE ARE WFP POLICIES AND PROCESSES IN PLACE TO ENABLE STRATEGIC USE, PROMOTE INNOVATION AND MANAGE RISKS IN RELATION TO THE USE OF TECHNOLOGIES IN CONSTRAINED ENVIRONMENTS?

164. For this evaluation, the policies and processes dimension focuses on the various policies, strategies, norms, standards, regulations, protocols, operating procedures, guidelines, investment decisions processes, resource mobilization mechanisms and governance arrangements established to guide and support the development, adoption, implementation, management, funding and governance related to the use of ICTs and digital data and their respective risks.

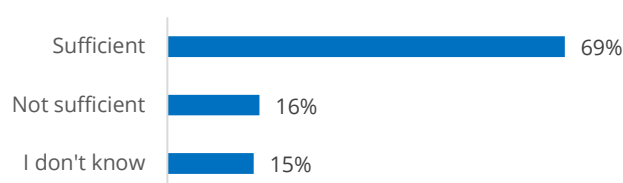
2.3.1. Appropriateness

Does WFP have, at the different levels of the organization (headquarters, regional bureaux, country offices), appropriate policies and processes in place and well-defined roles and responsibilities for the development, management and strategic use of ICTs and digital data in constrained environments?

2.3.1.1. General policies and processes

165. **During the evaluation period, the WFP portfolio of policies and processes regarding the development and management of technologies has evolved, setting a solid base of guidance on the use of technology for different levels of the organization.** Over the last two years mainly, an acceleration in the publication of critical directives has strengthened available guidance, including guidance for country operations. This is largely confirmed by global survey respondents who most frequently perceive those policies and processes are sufficiently present.

Figure 23. Perceived extent to which clear policies and processes were sufficiently present for the use of digital technologies in global survey respondent stories



Source: ADE, global survey report.
(Sample size: N = 874)

2.3.1.2. Technology development

166. **Policies and processes pertaining to the use of ICTs and digital data have mainly focused on streamlining the criteria and processes to develop technology across the different levels of WFP. Available guidance and directives suggest an increasing centralization of processes and standards with which local developments must comply to ensure alignment with the organization’s technology portfolio. However, WFP does not have a set of guidance specifically tailored to the use of technology in constrained environments.**

167. The guidance that does exist pertaining to technology includes: Information Technology Solutions Management Technology Division Directive (2020), the WFP Corporate Information Technology Strategy (2016-2020), the Field Software Development Network Technology Division Directive (2020) and the Executive Director’s Circular on the Digital Business and Technology Committee (2020). The compendium of these policies – chiefly recent directives – underscores the principles that apply to local developments of technology, including: to invest in new developments only when solutions meet assessed and differentiated needs; to “reuse before buy and buy before build”; to comply with information technology architecture standards; and to introduce pre-requisites such as the implementation of a privacy impact assessment (PIA) when a solution manages personal data. Information technology solution development guidelines published by the Technology Division are centralized and available on the WFP intranet.¹⁰⁶ It is understood that the recent wave of directives were prioritized in response to audit conclusions and evaluations performed over 2019, which identified a lack of alignment of information technology investments with the organization’s vision and strategic priorities and a lack of visibility of the WFP approach to the development of technologies.¹⁰⁷ During the course of the evaluation, there was no evidence of specific policies for highly constrained environments, with processes acknowledging the different settings that technologies have to be implemented in, but with no differentiated directives or operational requirements tied to technology use in these environments.¹⁰⁸

168. Importantly, available guidance and processes establish **corporate** information technology solutions as the first option in the technology development pipeline and also lay out the different stakeholder groups involved and consulted throughout the technology development process.¹⁰⁹ Multiple informants at headquarters level, as well as an audit,¹¹⁰ noted that the creation of the business engagement manager (BEM) role to connect business units and field operations has been a positive contribution to increase governance mechanisms for the use of technology at WFP. More recently, the addition of the Field Software Development Network (FSDN) is regarded as a useful introduction to support country offices with technical expertise, to oversee whether new or existing solutions meet WFP guidelines – including security guidelines – and in general, to ensure compliance with best practices for information technology solutions. The TEC directive on the FSDN published at the end of 2020 brings additional clarity on the criteria to determine under which circumstances country offices can develop software outside of existing corporate information technology solutions and the roles and responsibilities of country offices, TEC and other key stakeholders from the inception to retirement of an information technology solution developed at country office level. The network is seen as a stakeholder group with leverage to shut down a digital solution in order to prioritize security and reduce reputational risk if need be, a consideration with greater relevance to highly constrained environments.

169. However, while the process and criteria to introduce new solutions are clear and there is some agreement in that, whenever possible, development of technologies should be done at headquarters level,

106 WFP Technology Division. 2020. IT Solution Development Guidelines: Mandatory guidelines covering legal, hosting, cyber security, data/integration, code/development, and solution life cycle aspects.

107 WFP. 2019. Internal Audit of Governance of IT-Enabled Projects in WFP.; WFP. 2019. Internal Audit on ICT Management in Country Offices.

108 With the onset of COVID-19, various SOPs were modified to consider technical configuration changes required to adjust biometric and authentication standards. These measures were put in place to react to the operational changes needed and do not shape operational processes for emergency or highly constrained environments.

109 These include, among others, the Architectural Board, the Release Compliance Board, IT Solution Owners, the Digital Business and Technology Committee (DBTC), Regional Information Technology Officers, IT Solution Architects, User Experience Specialists, SAP Specialists.

110 WFP. 2019. Internal Audit of Governance of IT-Enabled Projects in WFP.

country offices perceive the process of technology development to be slow, costly and cumbersome, hinting at tensions between innovation and risk management. Yet, buy-in and support from country offices is essential.

170. The speed required to meet the changing needs of the country offices or of their partners is regarded as being often incompatible with the length of time it takes to go through the traditional route for technology development or management. In Jordan, for example, WFP country office staff and its partners perceived the need to go through the Nairobi Digital Transformation Services Hub for approval on new technology as time-consuming. In Iraq, requests for local adaptations or problems with specific applications requiring attention from outside the country were not addressed. Similarly, in South Sudan, there were frustrations that even relatively minor changes to systems had to be referred back to headquarters teams and it often took a considerable time to elicit responses. Delays in turnaround time in high-volume operations have translated into duplicative and lengthy processes, challenges that are felt more acutely in high-volume, high-constraint contexts. Stakeholders from the FSDN recognized that indeed, the trade-off between speed and quality is a dilemma for the local development of technologies, noting that stewards of local solutions expect short turnaround times for approval. To provide some traceability and visibility on the requests coming to TEC, the FSDN has created a ticketing system and has implemented a dashboard to keep track of the status of requests coming from country offices.

171. In specific business processes, clear expectations and alignment on the role that technology plays have been defined – mostly on logistics, supply chain and cash-based transfer. Stakeholders presume this is the case given that the business models for such activities are very well defined, which makes it easier to integrate technology. For other types of assistance, where activities are more contextual or more varied, the business process is not as clear, and therefore there are different process owners, which is not conducive to standardizing the role of technology.

172. Local stakeholders expressed the view that only large country offices with predictable levels of funding are able to locally develop solutions that meet the criteria of TEC, conveying the fact that cost presents a significant challenge to compliance with WFP standards.¹¹¹

173. More support from TEC at headquarters, including technical and senior management visits, was observed in larger operations such as in South Sudan and Bangladesh. Locally developed solutions are not only likely to be rolled out quicker, but they are also perceived to be more cost efficient in the short-term. While a narrow focus on cost efficiency disregards the importance of ensuring security, performance and maintenance, the affordability of solutions has been identified as a pivotal criterion for the uptake of technology in country offices. This has led to some reluctance to use solutions from headquarters, which are perceived to be more expensive. In the near term, as WFP continues to standardize business processes and align its technology portfolio across different levels of the organization, it is necessary to ensure that cost is not a significant barrier to compliance with WFP standards, especially when it comes to the adoption of corporate solutions. Stakeholders at headquarters suggested the need to create new cost-sharing and cost-recovery models in order to ensure the affordability of corporate solutions.

174. For corporate solutions, stakeholders perceive that in some cases, the development of centrally led technology solutions has been championed by different units in headquarters, resulting in duplication and poorly integrated corporate systems.

175. While systems integration is a key objective currently being addressed, there is some confusion amongst staff in country offices about which technology should be used in cases where two or more corporate technologies have similar functionalities or on how to link processes across key corporate solutions. For example, in Iraq, MoDA is used by cooperating partners to capture registration data instead of SCOPE¹¹² creating challenges to data quality and completeness. From Supply Chain, the view was expressed that with the vast number of initiatives and tools rolled out, it is difficult to keep track of which solutions should be used and are corporately recommended. In spite of the progress made to integrate systems, the fact that corporate solutions are rolled out without linking business processes across solutions

111 South Sudan Case Study Report, Iraq Case Study Report.

112 Stakeholders explained that this is the case because of the ease of data entry into MoDA by CPs.

suggest insufficient attention is being paid to the needs of users in defining priorities and design parameters.

2.3.1.3. Technology management

176. **On the management of information technology solutions - once solutions become part of the WFP technology portfolio - the existence of central guidance is leaner and more fragmented.**

Relevant policies and guidelines include the Standard Operating Procedures on the Sanitization of Information Technology Assets,¹¹³ the Directive on Records Retention Policy, the Circular on New Master Data Domains and Owners, and guidance available on the "delivery, roll-out and maintenance" of solutions per the Information Technology Solutions Management TEC Division Directive (2020).¹¹⁴ The directive indicates processes that must be performed by information technology solution owners, including ensuring proper support for the information technology solution, verification and maintenance of license validities, following "DevSecOps best-practices", and ensuring compliance with applicable standards and guidelines for information technology solution development. It is important to highlight that at country office-level, standard operating procedures are often drafted to reflect key operational and management processes for technology around key solutions and data management processes, including the management of beneficiary data, the operation of beneficiary feedback hotlines, or on the registration of beneficiaries using SCOPE. Additionally, the Corporate Information and Information Technology Security Policy provides standards for information security of WFP systems.

177. Pertaining to data protection and privacy specifically, WFP published in 2016 its Guide to Personal Data Protection and Privacy and in 2019 the Data Protection Toolkit. The 2016 document notes the WFP data protection principles, which include: lawful and fair collection and processing; specified and legitimate purpose; data quality; participation and accountability; and security. In addition to setting out the principles and highlighting cases for their specific application, the guide also introduces a private impact assessment tool to identify, evaluate and address the risks arising from the processing of personal data within an activity, project, programme or other initiative. The Data Protection Toolkit explains that a private impact assessment "should be carried out before engaging in large scale processing of personal data or when other specific conditions apply". The introduction and use of private impact assessments have been regarded as greatly enabling data protection for country offices. Additionally, the 2020 Protection and Accountability Policy mentions data protection as an issue that reinforces protection.

178. **Yet, despite clear progress on the availability of relevant guidance, frameworks and processes for the management and development of technology, many of the relevant and important guidelines are not compulsory, but rather advisory in nature, leading to their implementation being interpreted as optional.**

179. Lack of governance and accountability in technology management has been a clearly documented and recognized issue at WFP as highlighted by the series of information technology-related audits published in 2019 and 2020. Since then, several actions have been put in place to increase the implementation and adherence to guidelines, including the creation of information technology-specific review and compliance boards. For example, the FSDN directive notes that TEC has the authority to decommission a technology if it is not following appropriate guidelines. In practice, regional information technology officers (RITOs) noted that headquarters has only shut down "extreme cases". Similarly, headquarters-based stakeholders noted that more often than not, the feedback and recommendations made by these groups are taken as suggestions and not requiring follow up, and thus, even the guidance provided by such bodies and stakeholder groups can be perceived as optional. This also includes when recommendations are made on data protection and risk mitigation. Evidence from stakeholder interviews suggests that processes to track whether recommendations or mitigating actions are taken promptly and adequately are missing. Evidence indicated that this applies both at headquarters and country offices. Several stakeholders further suggested that there is a preference to issue guidelines rather than policies or directives on key issues because of the lengthy process required to roll out policies. Guidance documents are seen as less stringent than policies on topics like data protection and privacy. Opting for guidance over policy weakens mandates to recommendations that are not always fully implemented in day-to-day

113 WFP & TECL. 2020. Sanitization of IT Assets Procedures.

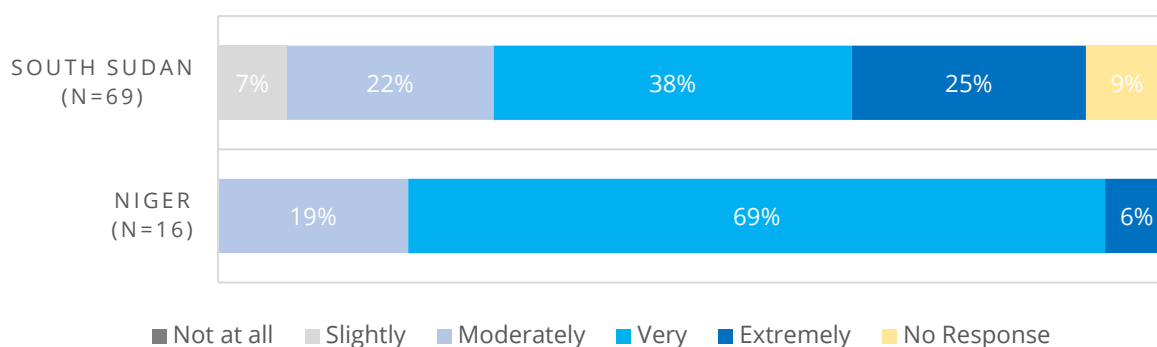
114 WFP staff can find a compendium of WFP IT policies at <https://newgo.wfp.org/documents/it-policies>.

operational choices. With the arrival of a data protection officer at WFP, it is expected that a data protection policy and a biometric policy will be put in place, as will more governance mechanisms to further ensure proper data management.

180. Another barrier to the full implementation of policies and processes is gaps in staff awareness of corporate guidelines and policies.

181. According to the case studies, challenges persist at the country office level to ensure that all staff are up-to-date with the latest corporate guidance and equipped to implement processes tied to digital technologies and data effectively. In Bangladesh, for example, a lack of awareness by staff on data sharing principles and processes was reported, while in Iraq, staff were broadly aware of policies but in practice had not internalized their application in day-to-day activities. Country office feedback from Jordan noted that further adaptation to make these guidance field- and user-friendly is required. Positively, from the surveys administered in South Sudan and Niger, most of the staff expressed the view that they fully understood relevant data protection concepts, though in practice, only 57 percent and 49 percent of field monitors in Niger and South Sudan respectively recalled receiving training on these subjects.

Figure 24. Extent to which beneficiaries understood concepts such as informed consent, data protection, data privacy and data breaches



Source: ADE, case studies surveys.

2.3.1.4. Strategic use of technologies

182. On the strategic front, while some policies and guidelines mention the strategic role that technology has played for WFP, these positions are scattered across documents and fail to paint a complete picture of the specific strategic role technology currently plays or the role it ought to play in the organization, especially in constrained environments. Notably, there is no mention of technology as a strategic enabler or priority in WFP strategic plans covered by the evaluation period.

183. Support for technology and digital data throughout the management plans covering the scope of the evaluation focus initially on supporting the development of specific digital solutions, including budgeting for SCOPE, COMET, WINGS and LESS expenditures, as well as expenses needed to develop and mainstream cash-based transfer corporate capacities. They also focus on costing overall information technology per capita staff cost and other standard information technology budget lines. It is with the WFP Management Plan (2019-2021) that information technology special accounts are formalized, and with the 2020-2022 plan that digital transformation specifically becomes an overall priority for the organization. While technology initiatives, as shown in Table 2 (see Section 1.3.3 Investments and funding for technology) are consistently considered throughout management plans and strategic plans up to 2021 – which set out the organization's corporate strategy and objectives – they have a narrow focus on the strategic and cross-cutting role of technology for the organization, considering technology as a strategic result in so far as partnerships for Sustainable Development Goals (SDGs) results are concerned and as an input to strengthen developing country capacities to achieve the Sustainable Development Goals. The new 2022-2025 Strategic Plan for the first time considers technology as an enabler to support the vision set out for the next four years. According to the plan, WFP will solidify its commitment to becoming a digitally enabled

and data-driven organization to inform decision making and increase operational efficiency and agility, and WFP's approach to technology will put people at the centre along the principles of do no harm, participation, non-discrimination and inclusion.

184. The 2016 WFP Corporate Information Technology Strategy and the WFP Management Plan (2020-2022) are instead the two key documents that lay out an organization-wide vision for the role that technology and digital transformation ought to play in WFP operations. The management plan notes that "WFP's transformation into a leader in the design and use of digital solutions for the humanitarian sector is one of the organization's main priorities", adding that "WFP has begun to execute this vision by launching a leading-edge data integration layer with the aim of providing a unified, intuitive and trusted view of WFP data across functions and domains". Similar strategic statements on the enabling nature of WFP systems integration are noted in the WFP Corporate Information Technology Strategy. Its key objectives include: positioning SCOPE as the ultimate service for beneficiary information management to WFP and external partners; partnering with the business to quickly scale up digital aid in emergencies by provisioning SCOPE resources for fast cash-based interventions; and supporting business intelligence and analytics as well as big data analysis.¹¹⁵ Information technology is positioned by WFP in its Corporate Information Technology Strategy as a "broker and engineer", as an "integrator and optimizer" and as an "explorer and pioneer". While these statements are ambitious and do explain some of the roles that technology plays for WFP at a strategic level, they are not replicated or operationalized into a strategic plan for the organization.

185. Importantly, stakeholders consulted throughout the evaluation and some evaluative documentary evidence, suggest that there is little visibility on the exact posture of WFP and its strategic direction for the use of technology, specifically for country-level operations.

186. For example, the 2019 Internal Audit on ICT Management in Country Offices noted that "from a strategic perspective, there was no clear plan for ICT and how technology was to support the country offices' short to medium term directions, in alignment with the corporate ICT strategy and digital transformation agenda." With a lack of strategic direction, country offices were not able to rectify ICT infrastructure and resourcing, did not adhere to corporate policies and were not able to "evaluate cyber security risks when engaging service providers and cooperating partners" for cash-based transfer or programme implementation. Furthermore, service-level agreements between regional or corporate levels with country offices were not formalized to define the direction and expected level of support for information technology solutions, signalling a lack of knowledge on the extent to which country offices can rely on headquarters for support to ICTs. Staff consulted at headquarters suggested that different units, business, and levels of the organization have different visions on how to move forward. The introduction of business engagement managers and, more recently, the TEC directives on information technology solutions management and the FSDN, have brought some much needed clarity on the governance of information technology solutions, criteria under which country offices can develop software outside existing corporate information technology solutions and the roles and responsibilities of country offices and TEC.

187. When comparing these postures to that of other United Nations agencies, the comparative learning exercise notes that across the sector, there is an increasing recognition for the role that digital innovation and technology plays in bolstering programming as well as in support to the Sustainable Development Goals. The UNICEF Global Innovation Strategy and its upcoming digital strategy,¹¹⁶ as well as the UNHCR Data Transformation Strategy lay out specific strategic directions for the role innovation, data and technology will have for each of their organizations, defining key actions, frameworks and priorities. Given the mandate of these two organizations, the strategic use of technology is less rooted on efficiency gains and organizational business capabilities, focusing instead on protection and on solutions that generate progress for the populations they serve. Key informants noted that the WFP strategic vision, whilst different from that of these organizations, was not clearly articulated and could be up to interpretation, particularly identifying gaps in the organization's posture for digital assistance and for externalizing technology services to cooperating partners or governments.

115 Refers to the strategic statements and business goals in the WFP Corporate IT Strategy.

116 As noted in the April 2021 UNICEF Technology for Development Report, "Harnessing the power of technology and digital innovation for children".

188. Despite the strategic statements from WFP - including in its Information Technology Corporate Strategy - to "position SCOPE as the ultimate service for beneficiary information management to WFP and external partners for coordinated improvement of digital aid", SCOPE's initial goals and objectives were set in the absence of a clear and coherent digital assistance strategy. According to the audit of SCOPE,¹¹⁷ a lack of a business-led vision for digital assistance has led TEC to assume operational responsibilities to sustain specifically the momentum of SCOPE, and to respond "to the country office's operational imperatives". "This poorly defined, untimely, and arbitrated digital assistance decision resulted in delays and gaps in SCOPE's roll-out, leading to a partial adoption in many countries", resulting in major data quality issues.

189. Similarly, the WFP strategy, when it comes to digital assistance to governments and partners, was unclear to the majority of stakeholders at headquarters, regional bureau and country office level. The Iraq country office, for example, has partnered with local ministries to support the operation of the public distribution system, including its digital component. Stakeholders in Iraq noted that the focus at corporate level was seen as very inward looking and focused on the use of technology to support WFP internal business processes with insufficient attention on externalizing their services. In practical terms this led the country office to work on the application independently as "headquarters did not appear to understand the urgency". Despite some work in this area (including a Digital Advisory and Solution Services Consultations report), the idea of digital assistance to governments is raising concerns around potential data privacy infringements given that part of the WFP model involves assisting governments with creating databases on their citizens. Currently, there is not a separate data protection regime for this process (see Section 2.4.4).

190. Internal stakeholders in Iraq also indicated that providing these services to the Government exceeded some of the technical capacities held by WFP, or suggested even that these exceeded the organization's own mandate. This further illustrates the importance of setting a strategic position on the extent of service WFP can provide to governments, whilst still being aligned with the organization's objectives regarding the use of technology in constrained environments. On the other hand, one regional bureau stakeholder noted that it appeared as if WFP has not decided yet whether digital assistance to governments fits only under the remit of its development-oriented work, which in such a case would require shifting from a focus of service provision to co-design of solutions. It is worth noting that the Digital Business and Technology Committee (DBTC), according to the 2020 Management Review of Significant Risks and Control Issues, has endorsed a proposal to review existing WFP capacities and services for government with a long-term view to developing a model for digital advisory and support services for government.

2.3.2. Risks

Does WFP have appropriate policies, governance arrangements, structures, frameworks, and guidelines in place to manage risks to operations in relation to the use of ICTs and digital data in constrained environments?

191. **WFP has significantly invested and expanded its focus on risks to operations in relation to the use of ICT. Responsibilities for vulnerability and risk management regarding technologies are spread across several WFP divisions, including several units within TEC (TECI, TECM, Digital Solutions Delivery).**¹¹⁸

192. In spite of multiple units holding responsibilities for risk management, evidence suggests that in the past years there has been some centralization of security and risk management roles in the Chief Information Security Office (CISO), the chief information officer (CIO), the Cyber Security Unit and the Digital Business and Technology Committee. The introduction of the CISO and expansion of a dedicated information security team has helped WFP to steadily improve its vulnerability and patch management capacities.¹¹⁹ The main WFP Security Division, according to the stakeholders in the unit consulted, is not involved in overseeing risks arising from technology.

117 WFP. 2021. Internal Audit of SCOPE – WFP's Digital Management of Beneficiaries.

118 WFP. 2019. Management Review of Significant Risks and Control Issues and WFP. 2019. Audit of Vulnerability Management.

119 Ibid.

193. From the Security Division, there seems to be some knowledge deficit in understanding innovations and projects coming from the broader risk-management sector. The Security Division is not up to date with the latest sector-wide innovations or emerging technologies that can help modernize its business processes and security needs – this contributes to the perception from TEC colleagues that there is no readiness to involve it in the process. It was reported that no technology experts are available to assist this division, with no one fully dedicated to exploring the combination of security and technology. However, the division has recently received some funding to modernize security.

194. **Besides these units in headquarters, regional bureaux also have a stake in risk management, as they are expected to provide some assurance on technology matters. Yet, there do not seem to be sufficient processes in place for the regional bureau to play its assurance role effectively or rigorously.**

195. With the regional bureau providing some level of assurance on technology matters, the Internal Audit of Mobile-Based Transfers in West and Central Africa found inconsistencies in the planning, implementation and coordination of support and oversight missions for cash-based transfer interventions, resulting in an ad hoc and reactive approach to challenges faced by country offices. There did not seem to be sufficient processes in place for the regional bureau to play its assurance role effectively or rigorously. Furthermore, criteria and triggers for selecting support or oversight missions to country offices were not defined and were not based on sufficient risk analytics, data sets and dashboards. The missions were also dependent upon ad hoc requests from country offices and their availability and willingness to accommodate them. This was found to be further exacerbated by a reported lack of processes to assess operational risk from cash-based transfer implementation, including operational risks associated with mobile network operators (MNOs).¹²⁰

196. Additionally, there was no systematic analysis of red flags in country offices' reports by the regional bureau, making it difficult for it to provide timely support or oversight missions.¹²¹ This evaluation also noted the lack of process to assess operational risk from cash-based transfer implementation, including operational risks associated with mobile money operators (for example, signing a contract with a mobile money provider that turned out to have no adequate set-up for institutional clients to monitor their bulk payments on the online platform and other country offices planning to sign agreements with the same large mobile money provider without assessing all operational and regulatory risks). In 2020, action towards this shortcoming was taken in the shape of an Information Note on Information Technology Field Oversight Missions, in which roles and responsibilities are defined to facilitate such analyses.

197. At the same time, **the decentralized nature of WFP gives country leadership authority over many technology processes and permits the lack of compliance with recommendations from TEC and other technology experts regarding information technology solutions, even when these are critical to risk mitigation and security.**

198. Given the decentralized set-up of WFP, Country Directors have the "authority to sign off on the risks and set up, at times against the advice of regional bureau or headquarter experts".¹²² This has led to inadequate contracts and/or processes at best, or to unsustainable operations that were too complex for the expertise available. This has exposed WFP to a high level of fraud risk, where gaps in the processes remained unidentified. Across TEC, it was repeatedly noted that Country Directors benefit from broad flexibility and authority to decide whether to strictly comply with the policies and requirements put in place by headquarters. For example, an informant explained that once a privacy impact assessment is completed, it is up to the country office to see whether they should implement the recommendations arising from it. This is a clear constraint because even when there is evidence to suggest a modification or change is needed, a country office may decide otherwise for a range of practical reasons (for example, resources needed) or because it may not be strategic for them, or it does not align with the plans they have in the country office. In emergency scenarios, particularly in politically constrained environments, this lack of

120 WFP. 2019. Internal Audit of Mobile-Based Transfers in West and Central Africa.

121 Ibid.

122 Ibid.

adherence and compliance with well-informed recommendations contradicts WFP commitments to responsible data and technology use.

199. More generally, existing frameworks for organization-wide risk management seem slim for an organization that handles the volume of personal beneficiary data that WFP does, including sensitive data such as biometric data. Guidance seems to be broad and not focused on the different types of data processing, solutions, contextual constraints, or types of assistance provided by WFP. There are no clear guidelines on data retention and potential deletion in constrained political environments.

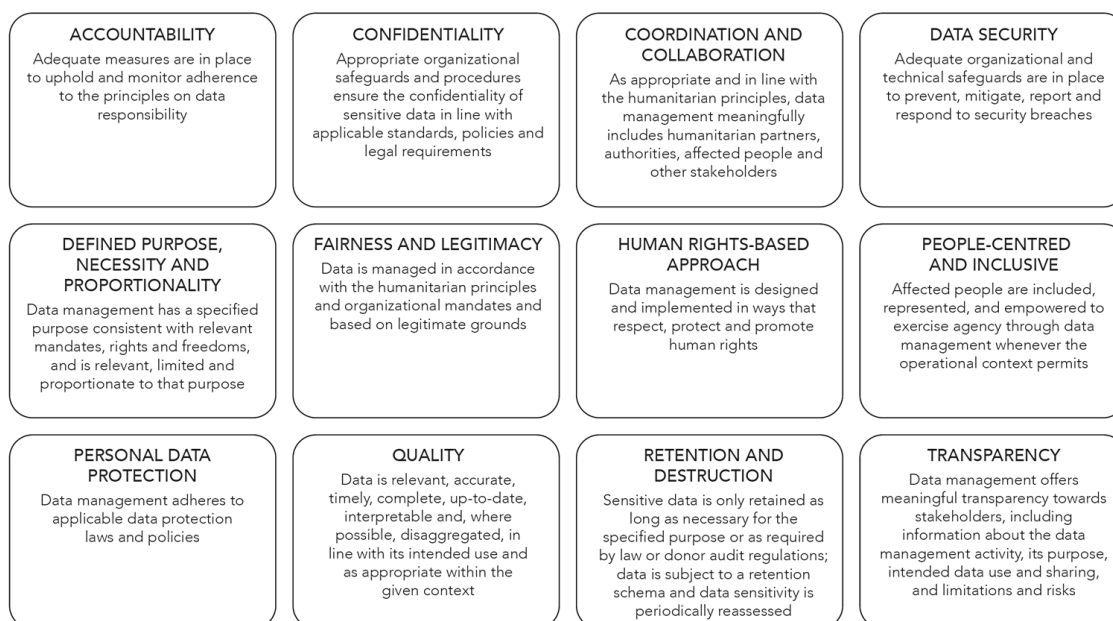
200. Core instruments and policies for risk management available to WFP staff include corporate risk registers, the 2019 Data Protection Toolkit – including the privacy impact assessment –, and field-level agreements. Additional policies and guidance to either identify or manage risks include the 2015 Corporate Information and IT Security Policy, the Corporate IT Technology Strategy, the WFP Guide to Personal Data Protection, and other TEC policies and guidelines. For example, the Corporate Information and IT Security Policy describes the relevant processes, roles and responsibilities staff using information technology systems and the internet should abide by in order to support the protection, control and management of the organization's information assets. It also lays out data classification guidelines, divided by levels of confidentiality and standards for their availability and integrity.

201. Importantly, WFP guidance on personal data protection is well-aligned with the principles upheld by other humanitarian organizations, as compared to the Inter-Agency Standing Committee (IASC) Operational Guidance on Data Responsibility in Humanitarian Action and the principles proposed by the organizations featured in the comparative learning exercise (CLE). WFP guidance is underscored by five key principles, which include:

- a. Lawful and fair collection and processing
- b. Specific and legitimate purpose
- c. Data quality
- d. Participation and accountability
- e. Security.

202. Although minor differences exist in the structure and emphasis that is placed on some principles across organizations, no major deviation was identified, other than WFP being the only organization whose data protection approach is understood as guidance and not policy. There is general alignment on the principles that underpin personal data protection policies and guidance as well as on the tools and accountabilities to support implementation, including privacy impact assessments, technology inventories (such as GLASS) and practical toolkits. One notable difference across organizations is that while all organizations' guidance is based on similar principles, the depth of the guidance with regards to specific data types - such as biometric data - or risks presented to personal data from the use of different technologies - including blockchain or drones - is not prominent in the WFP guidance portfolio.

Figure 25: Inter-Agency Standing Committee principles for data responsibility in humanitarian action



Source: IASC 2021, operational guidance “data responsibility in humanitarian action”.

203. **Furthermore, performance checks and risk reviews on information technology solutions along their lifecycle are not systematic across the organization, with costs identified as the main barrier to performing these checks.**

204. There is some awareness from headquarters that commitments made to improve the WFP approach to data protection are not always followed with the financial or capacity building commitments needed to ensure a sustainable and meaningful commitment to data protection. Positively, the visibility of policies and guidelines as well as compliance with existing risk management policies and frameworks have increased over time.

205. **The case study country offices all agreed they did have some tools to assess and mitigate the risks of using ICT and digital data.**

206. However, this evaluation finds that WFP does not always clearly distinguish among information necessary to service provision, legitimate interest information and/or information that can help improve services but is not strictly necessary.

207. Collectively, the available tools provided a good understanding of the risks surrounding the use of technology and a framework of potential mitigation measures. In most cases, there was strong evidence that, even with some delays, country offices were being proactive in implementing mitigation measures. Staff indicated that there was an increased appreciation of the need for data privacy and why it is important.

208. While evaluation interviews found a good understanding of the reasons for corporate measures and control of some technologies, a deep frustration was expressed among some country offices citing tensions between having central controls that aim to guarantee quality and minimize risk, and operational needs for flexibility and speed. Key informant interviews in Bangladesh reported measures such as central control on software updates that disrupted work and also the limitations (“clunkiness”) of some applications and systems – notably WINGS – but also corporate systems. On the other hand, TEC emphasized that maintaining safety of technological solutions requires some centralization, and that this centralization is not always welcome by country offices, which are used to being independent.

209. Country offices have even invested in internal oversight mechanisms. In Jordan, an oversight committee was created to enable oversight and risk management. Senior managers (including the Deputy Country Director (DCD)) along with the Business Analytics Unit (BAU) and programme staff meet monthly to

discuss the results of the triangulation database. This provides managers with oversight of issues arising, enables the identification of anomalies, for example unusual multiple uses of a card, and potential fraud. The oversight committee is viewed as an effective risk management forum by WFP staff.

210. The Jordan case study also shows that WFP should maintain a central capacity in headquarters able to prevent and react to potential data breaches. In 2020 a cyber security incident occurred, where repeated hacking attempts were made into the WFP Jordan country office server. These were identified by the TEC Division in WFP headquarters and the servers were shut down prior to any data breach. While this is the only episode of an attempted hacking the evaluation team heard of, this episode confirms that WFP does maintain a close central capacity for monitoring ICT systems. This enhanced visibility from headquarters on connected systems is a recent and important improvement. However, given the breadth of technology usage across the organization there are concerns as to whether TEC can effectively cater to the entire organization and maintain sufficient information technology competency, including in country operations, to manage and mitigate emerging risks across all operations.

211. WFP risk management or strategic policies and processes insufficiently acknowledge the organization's role in the humanitarian sector as a data processor nor do they acknowledge the consequential responsibility to the people WFP serves from holding such volume of data.

212. Across the comparative learning exercise, it was clear that organizations regard WFP as a pioneer in the sector, having rolled out technologies prior to most humanitarian organizations. They see WFP as an organization prepared and with experience to quickly mobilize and roll out technologies in emergencies, having achieved a level of standardization that allows it to scale its technologies rapidly. However, several of the stakeholders consulted did note that WFP was a risk-taking organization. While for some this risk was not seen from a positive standpoint, they did acknowledge that their organizations started from a more risk-adverse space, especially regarding data protection, some even suggesting the WFP approach as lacking rigour. Specific remarks were made on the extent to which the digital solutions that WFP shared with partners were actually designed and prepared to ensure compliance with standards for both organizations, and the extent to which WFP could effectively play a data processor role. While partners acknowledge WFP commitment to ensure data protection, they put in doubt its capacity to monitor and adjust improper data processing.

213. In SCOPE alone, WFP has almost 62 million identities, with around 25 million actively managed through the application.¹²³ These active identities are more than double that of UNHCR, which as of 2020, processed the biometric records of 9.2 million individuals.¹²⁴ Arguably, as the largest data processor in the humanitarian sector, WFP is missing a robust framework to leverage data responsibly, both mitigating and avoiding undue risk.

2.3.3. Monitoring, evaluation and knowledge management

How effective is WFP monitoring, reporting and knowledge management around its use of ICTs and digital data in constrained environments?

2.3.3.1. Knowledge sharing

214. There is both interest in and potential for increased sharing and learning across organizational units and across regions. Despite some efforts in knowledge sharing and engagement between country offices and regional bureaux, knowledge management on the use of ICT in constrained environments is not planned or carried out in a systematized way.

215. In some cases, the sharing of experiences in relation to the use of technology within the country office, between country offices, and between the country office and the regional bureau and headquarters appeared to depend on individuals rather than systems. This evaluation further notes that: (1) the organization is not, generally, effective at learning from its past experience and results, leading to an insufficient knowledge management culture; (2) sharing knowledge outside of country offices' own regions is insufficient; and (3) larger country offices have greater visibility on innovations occurring at headquarters

123 WFP. 2021. Internal Audit of Scope – WFP's Digital Management of Beneficiaries.

124 UNHCR. 2020. Global Report, 2020. Flagship Reports: Forced Displacement in 2020.

and can more easily connect to other units and country offices. Similarly, the larger country offices of, for example, South Sudan and Bangladesh are more often engaged than their smaller counterparts in corporate learning and evaluation processes and pilots relating to technology such as the global audit of SCOPE, COVID-19 response, and this technology-focused evaluation. Finally, from the countries consulted for the case studies, there is an overall desire to engage and interact with more country offices working in similar constrained contexts in order to share learning and experiences.

216. The role that regional bureaux play in enabling knowledge sharing and linking country offices with headquarters (or even with regional bureau experts) regarding different ICT-related processes is not consistent across regions and countries studied.

217. In some regions, regional bureaux played a key role in bringing stakeholders together to facilitate cross-country learning. Yet this was not standard across all regional bureaux. Similarly, while country office-based stakeholders noted that regional bureaux played an important role in the roll-out of corporate technologies or digital data processes - such as SCOPE, use of remote sensing, or mVAM - they also noted that they were often ill-equipped to advise on the local development of technology when sufficient expertise was not available in the country office. This was due to the time investment and familiarity needed with the operations to provide effective and tailored support. While the role of the regional bureaux was seen as enabling expertise in those corporate technologies, their knowledge was not a replacement for country office expertise, prompting country offices to develop the capacities internally to meet the offices' emerging and localized needs.

218. The extent of intentional knowledge sharing with external actors is relatively limited. In Iraq for example, WFP was regarded as somewhat insular and did not proactively share its experiences with other actors. External in-country stakeholders perceived that WFP was not proactive in its engagement with other actors or oriented towards the sharing of information on the use of ICTs and digital data. For example, members of inter-agency coordination groups to ensure harmonization and coordination in the delivery of assistance in Iraq, noted that WFP should have played a far more prominent role in this group given its expertise and experience in-country using mobile money transfers. Local stakeholders of organizations consulted through the comparative learning exercise also noted that at regional level, little coordination and knowledge exchange on ICT and data is happening. Other external stakeholders noted that there was limited public information available about WFP involvement in the provision of digital assistance services to the governments, and that more transparency would be welcomed.

219. Organizations consulted for the comparative learning exercise recognize that they had learned ample lessons from the digital trajectory of WFP, through publicly available documents and guidance, through its application of innovative technologies, and through issues that have generated controversy for WFP, such as the Palantir partnership (see Section 2.4.3). On the latter point, commentary from two of the external organizations consulted noted that coverage of the Palantir partnership prompted them to have internal conversations about who their organizations would be willing to partner with and to revise their own policies and postures accordingly.

2.3.3.2. Monitoring and reporting

220. Critically, there is an absence of guidance and processes for the continuous evaluation of the performance of ICTs and digital data used in constrained environments. There are no systematic processes across the different levels of the organization to monitor solutions and data quality, including whether systems that have been created - including legacy systems - still meet the changing needs of the organization. Overall, the approach to monitoring on the use of technology appears to be ad hoc, with corporate indicators and accountabilities for monitoring not clearly established.

221. Most of the stakeholders consulted on the existence of processes to monitor the fit and performance of technologies to business needs noted that these were largely lacking in WFP. This was previously reported in the Internal Audit of Governance of IT-Enabled Projects in WFP, which noted the absence of a regular and consistent process to monitor the delivery of information technology projects. It also highlighted the fact that mechanisms were not present to flag deviations in costs, delivery times or functionality, suggesting ineffective process monitoring on the development of information technology

solutions. In response to the audit, WFP has instituted regular reporting to the DBTC of Digital Roadmaps and instituted a Technology Investment Committee, yet key informants continue to highlight this gap.

222. However, there is evidence that specific aspects of some technologies are regularly assessed, mainly focused on the fit of solutions to context, as occurred in Niger with an evaluation conducted to understand the benefits of using SCOPE compared to non-digital solutions or in South Sudan to assess differences on food security estimates arising from different modes of data collection (in-person versus through mobile phones). Additionally, business engagement managers did mention the existence of several indicators that help them understand whether a technology is working or not, though it was conveyed that the responsibility for keeping track of the performance of a technology lies with the product owner. Little evidence was found to support the contention that these checks are actually being conducted.

223. In general, systems do not appear to be regularly reviewed and monitoring efforts appear to be ad-hoc – in part, it was mentioned that this was due to the cost of assessing each technology. This makes measuring the impact of certain solutions more difficult, making it challenging for WFP to assess the sustainability and long-term effects of its technology use. In Niger, for example, informants noted that insufficient monitoring of technologies' performance hinders their long-term sustainability. This is because they are sometimes unaware of bugs in these systems, and therefore do not have planned capacity to resolve issues. Similarly, across country stakeholder consulted, there does not seem to be enough staff capacity, with regards to time and ability, to ensure the quality of the data collected and processed through the technology systems available. This point was also identified in the 2019 Management Review of Significant Risks and Control Issues as an area for improvement, highlighting limited data analysis capabilities - an issue that has led to the under-utilization of monitoring data.

2.3.4. Innovation

How appropriate and effective are WFP strategies, mechanisms, and funding for identifying, testing, approving and upscaling ICT innovations for use in constrained environments?

224. Innovation is broadly understood under this sub-evaluation question as bringing about changes to previously established practices, technology portfolios, methods or processes. Innovation occurs across the different organizational levels of WFP and at different scales – for example, identifying and scaling a new technology through the Innovation Accelerator (INKA), or introducing for the first time a solution in a new context or operation. The Innovation Accelerator is seen as a welcome introduction to encourage and streamline innovation in WFP. The Mid-Term Review for the Innovation Accelerator (2017), conducted by KPMG, notes that "the Accelerator has done a good job of positioning itself in an eco-system of innovation, covering technical expertise, investors/donors, WFP and the United Nations system, customers and academia".

225. **The Innovation Accelerator has established and defined processes for sourcing, selecting, supporting and scaling innovations.** This includes Innovation Challenges, Innovation Bootcamps, the Sprint Programme and the Scale-Up Enablement Programme, amongst others. In 2020, the Innovation Accelerator supported 19 new innovations and has cumulatively, supported over 80 Sprint projects and 14 Scale-Ups.

226. The 2017 review of the Innovation Accelerator's work underscored effective processes for scaling innovations and satisfaction from innovators on the financial and technical support received by WFP. It also provided a clear focus for the organization's mandate across its innovation activities. Given the scope of this evaluation, the team was unable to conduct in-depth reviews of recent successful innovations and associated processes for identification and scaling. However, evidence from Bangladesh on the roll-out of blockchain technology through Building Blocks, an innovation graduated from the Innovation Accelerator, points towards effectiveness and efficiency gains to operations, including streamlining reconciliation of registration data across agencies and enabling better tracking of assistance. Building Blocks meets recognized needs and barriers faced by WFP, with tangible benefits for the organization and beneficiaries. It was scaled up through the Innovation Boot Camp and the Sprint programme and piloted in Pakistan to be

later scaled up to Jordan, Bangladesh and Lebanon.¹²⁵ However, the Bangladesh country office team echoed challenges with knowledge management and the systematic recording and sharing of lessons learned, even for large scale innovations such as Building Blocks.

227. Evidence from the case studies also suggest that, in some cases, WFP has piloted technological innovations without ensuring sufficient staff skills (both those staff members implementing the pilot, and those testing the implementation) and with solutions lacking sufficient technical performance. In South Sudan, stakeholders noted a very rapid rate of innovation and development at the corporate level. In consequence there was a sense, and certain degree of frustration, that technological solutions were not fully developed and rolled out before they were succeeded by a new round of development. A specific example was given of the development of SCOPE CODA, an innovation scaled up through the Innovation Accelerator, where stakeholders expressed the view that the solution was not quite field ready to allow for effective piloting when it was rolled out, despite it having been developed based on MAPS, a prized local innovation that was initially introduced in El Salvador.

228. **The Innovation Accelerator is considered by some informants as the only group that can afford to fail**, suggesting a lack of tolerance for risk and innovation outside of the Innovation Accelerator, including for the identification and testing of innovations for use in constrained environments. Stakeholders from the FSDN, another stakeholder group with an explicit role in technology development, expressed the fear that they do not believe they can afford to fail. In other words, FSDN does not have the same freedom of testing, failing and experimenting as INKA has. Given the scope of FSDN work on improving compliance and mitigating risks emerging for country office information technology solutions – generally concerning software developed outside the corporate framework and without involvement from the Innovation Accelerator – some latitude to incorporate failure into the system is relevant and necessary to maximize ways in which technology can meet the differentiated needs of country offices in innovative ways.

229. **When scaling up decentralized innovations outside of the Innovation Accelerator– or broadly deciding when to continue investments on a given solution – it is understood that solutions survive (or are scaled up) in WFP if they have sponsorship from senior management rather than whether they are based on rigorous and continuous performance assessment.**

230. Admittedly, such sponsorship is always necessary, but there is an implication that experience, knowledge and comfort with new technologies and innovation, rather than proof of effectiveness or alignment with needs, shape willingness to adopt a new technology. While this view was echoed by the majority of stakeholders interviewed across programme divisions at headquarters and specific functions at regional bureaux, a specific group of regional bureaux cash-based transfer advisors/specialists expressed a different view, noting that this is not usually the case in their opinion. There was collective agreement, however, that buy-in from senior leadership is crucial for a solution to be successful in a certain country. Besides buy-in from senior leadership and approval by the FSDN, there are no clear criteria to decide when to scale-up decentralized or small-scale innovations through formal routes, according to key informants interviewed.

231. It is worth noting that this is not the case for formal innovation taking place with the supervision and sponsorship of the Innovation Accelerator. For INKA, decisions on investments and support to projects are based on a series of assessments, including measurement of key performance indicators and evaluation of team performance and project outcomes.

232. **With regards to financing innovation, while funding continues to be a barrier to increasing support to emerging projects and initiatives, the ability of WFP to raise funds for innovation has sharply increased over time.** Though not completely focused on ICT and digital data innovations, the KPMG report of the Innovation Accelerator's work noted that INKA had made large advances in securing external funding, ensuring that if a project was scaled up, external funding was ensured, and that demand existed for the innovation being developed. A rapid acceleration in funds raised is observed – by 2017 the Innovation Accelerator had "leveraged USD 15m for scaling",¹²⁶ with reports in 2019 of USD 90 million

125 KPMG. 2017. Mid-Term Review of the WFP Innovation Accelerator.; WFP. 2021. "Building Blocks – Blockchain for Zero Hunger – Graduated Project"; WFP. 2021. Innovation Accelerator 2020 Year in Review.

126 KPMG. 2017. Mid-term review of the WFP Innovation Accelerator.

raised and USD 117.8 million by 2020 (cumulative) in co-funding for innovation. Though funding has increased parallel to the growth and formalization of INKA, funding continues to be a key barrier.

233. **Given the decentralized structure for funding information technology solutions and innovations**– including through the programme support and administrative budget, the information technology cost per capita,¹²⁷ the information technology special account, the Accelerator and the budget for critical corporate initiatives, besides regional bureau and country office specific funding – **it is difficult to assess whether current funding levels (or management of such funds) are appropriate to the volume of solutions and work that WFP carries out.**

234. There is little visibility on the overall cost of key corporate solutions and innovations. As the Audit of SCOPE (2021) noted, from January 2013 to September 2020, “WFP’s corporate estimated expenditure for SCOPE products and tools was USD 47.3 million between development, operational support and headquarter-driven implementation costs”. Yet, over the same period, country offices invested an indeterminate – but likely substantial – amount of resources in the customization and development of other SCOPE-related tools and processes, and roll-out of SCOPE in-country. The audit could not determine the total cost associated with the deployment of SCOPE in country operations, a similar challenge met for other technologies, including for the roll-out of CODA and associated infrastructure costs in South Sudan.

235. During interviews held for the evaluation, TEC stakeholders noted that funding windows for technology through WFP strategic critical initiatives are perceived to be too short and incongruous with the lifecycle for technologies, whose development and implementation go beyond this time frame. While this issue was not explored in depth, a need for longer term strategies for information technology funding was suggested by stakeholders in TEC. One challenge to ensure appropriate levels of funding is communicating the value of the digital transformation to donors, given doubts from staff on whether donors, which often require proof of impact in short periods of time, are able to support a digital transformation agenda if the return on investment is only seen, for example, five years down the line.

236. Furthermore, **headquarters-based informants noted that some donors incentivise and sponsor technological innovations at a local level, sometimes promoting duplicative solutions outside of formal processes established for innovation at WFP.**

237. There is evidence that some country offices may be afraid of losing funding if they revert or hand back a solution to headquarters, or alternatively, adopt a corporate solution instead of developing a local iteration. As discussed above with regards to the process to build new or modify existing information technology, solutions and processes to scale up innovations are considered to be slow by different units across WFP. For example, Supply Chain perceives that innovation is quite difficult from a funding and project management perspective – it is a slow process to scale up even relatively small-scale innovations. The unit hinted that innovating within corporate solutions requires buy-in from management, funding and agreement from various parties and this process is often lengthy.

238. **Given the operational necessity to implement tools expediently, the length taken for country offices to receive approval for innovations prompted some country offices to push forward with implementation regardless of processes in place.**

239. For example, the evaluation heard of the frustrations from the Bangladesh country office team with corporate policies and processes to approve change and development in several instances. The Bangladesh country office has built technical expertise within its team to increase its ability to respond to operational needs. The country office developed the Humanitarian Access Project - a key logistics innovation using QR coding of humanitarian vehicles to enable their rapid access to the camps in response to access restrictions during COVID-19. The project was submitted for corporate approval, but went ahead well in advance of approval due to operational necessity. This also occurred with the Staff Access and Wellness Solution, which collects COVID-19-related medical information. The country office moved forward

127 The IT per capita model, according to the WFP Corporate Information Technology Strategy, is a method of shifting global IT costs away from the PSA to “a more appropriate funding source”. This funding model covers recurring costs of services that are used across WFP, are centrally managed and provide a standard solution. The per capita annual unit cost is calculated and charged to each office or business unit on a quarterly basis using the average number of active directory users in those areas.

with implementation as they requested approval in parallel, in spite of advice to wait for approval from TEC, HR and Medical.

2.4. PARTNERSHIPS

HOW WELL DOES WFP MANAGE ITS PARTNERSHIPS IN RELATION TO THE PROVISION AND USE OF TECHNOLOGIES IN CONSTRAINED ENVIRONMENTS?

240. The partnerships component includes the organization's engagements with: humanitarian actors, to which WFP provides technological and telecommunication services in constrained environments; United Nations agencies and other cooperating partners, which receive WFP support regarding the use of technology and provision of digital data; the private sector, which provides ICT and digital data services and resources to WFP; donors, which fund the development and implementation of technologies; and local or national governments, which may receive WFP support in the development, adoption and implementation of technologies in public service operations such as beneficiary management and food assistance.

2.4.1. Coherence, coordination

How well is the use of ICTs and digital data in constrained environments by WFP coordinated with other humanitarian and development actors, and how consistent is it with the technology choices made by other actors?

241. Generally, the use of ICTs by WFP is perceived to be well coordinated with other humanitarian and development actors at both the global and country level. This coordination covers a broad range of areas and concerns diverse partners.

242. **On partnerships with technology service providers, WFP has been able to garner a position in the humanitarian technology landscape as a pioneer in working with the private sector to drive innovations for its operations.**

243. In line with its Private Sector Partnership and Fundraising Strategy (2020-2025) and the "mandate to explore how to engage with innovations in the private sector" as technology evolves, WFP has partnered with Palantir, Alibaba, Tableau, NEC, GSMA, Google, Facebook, Ericsson, and the Cisco Foundation. WFP also partners with actors such as NASA/National Oceanic and Atmospheric Administration (NOAA) and European Space Agency (ESA) in the use of technology. These partnerships enable the organization to "trial and co-develop use of frontier technologies."¹²⁸ At the same time, the ability of WFP to draw on expertise from experts has been expanded through advisory boards (for example, the IT Advisory Board,¹²⁹ ITAB, and the Innovation Accelerator Advisory Board).

244. Notably, the WFP long-term agreement with Palantir has enabled WFP to achieve important strides on one of the organization's most recurrent issues: the lack of integration among systems. DOTS is the new WFP data engine that collates operational data into a central platform for staff's use powered by Palantir's Foundry software. This USD 45 million partnership started in 2016 with the creation of Optimus,¹³⁰ a food basket optimization tool used by Supply Chain, with significant benefits to constrained environments given its ability to design a food basket that considers and optimizes beneficiary outcomes and operational constraints. However, document review as well as internal and external stakeholder interviews noted concerns regarding the controversial WFP partnership with Palantir, citing this organization's past use of technology and data with governments as worrisome. Section 2.4.3 explores the appropriateness of such partnerships in more detail.

128 WFP. 2020. Digital Transformation. Beyond the Annual Performance Report 2019 Series.

129 The ITAB is a small group of experienced professionals from the private sector who advise WFP senior executive management through the DBTC on current trends and leading practices in the management of digital technologies and data. The ITAB meets every year to review technology opportunities for WFP, and exchange management knowledge and advice.

130 The development of Optimus also involved United Parcel Service (UPS).

Box 4: Comparator organizations private sector partnerships

Like WFP, the organizations in the comparative learning exercise partner with a broad array of other organizations. Across the United Nations agencies consulted, a strong partnership was described among WFP-UNICEF-UNHCR in the use of technology, including regular communication between chief information officers and other technology stakeholders. With regards to private sector engagement, these three agencies also engage with similar partners, such as Ericsson, Facebook, Microsoft, amongst others. IFRC and Mercy Corps also partner with similar organizations, mentioning Microsoft, Visa, Mastercard and Accenture, amongst others.

Both UNICEF and Mercy Corps have recently formed relationships with DLT-focused organizations working specifically on crypto currencies. Mercy Corps is a founding member of the Libra Association (now Diem). Libra is a Facebook-led digital currency initiative. Separately UNICEF has recently partnered with Huobi Charity Limited, the philanthropic arm of the Huobi Group, “the world’s leading blockchain company”. Through this partnership, Huobi is committing USD 1 million in bitcoin and fiat currency to foster development and innovations rooted on blockchain. In line with this donation, UNICEF has created a Crypto Fund to receive, hold and disburse crypto currency.

245. **Given the extent of the organization’s digital solution portfolio, WFP does not commonly adopt or use other humanitarian organizations’ solutions. Instead, when it comes to the use of shared systems or collaborations, these are focused on data collection, analysis or sharing including, crucially, sharing of beneficiary registration data. There is a need to strengthen the coordination in terms of ICTs and digital data use in constrained environments, as actors perceive clear and strong advantages in shared approaches.**

246. Throughout the case studies, there was no evidence of WFP using a partner’s information technology solution. However, there was extensive evidence of joint data collection and analysis efforts concentrated on needs assessment. There was also extensive evidence on efforts to harmonize beneficiary data for registration and authentication exercises. For example, in Iraq, since April 2021 WFP has pioneered a Hunger Monitoring System of data collection and analysis on the impact of COVID-19 on food security, alongside weekly and monthly price and market monitor reports. Together with the Food and Agriculture Organization (FAO), International Fund for Agricultural Development (IFAD) and World Bank, WFP has used the analysis to publish regular joint reports, supporting the Government and humanitarian-development actors with decision making. Such types of coordination have facilitated the publication of regular joint reports, supporting WFP government and humanitarian-development partners with decision making.

247. There are opportunities to further streamline the use of technologies and digital data during emergencies in order to avoid each United Nations agency conducting isolated analyses and data collection campaigns. Several stakeholders noted that with the onset of emergencies, each agency turns to its own data collection tool for needs assessment, with often little sharing or standardization of the data collected. In fact, there was no evidence of a specific process to align or engage with international and local partners on the use of data or technology at the onset of new emergencies.

248. Other joint efforts include the United Nations Partner Portal to exchange information relevant to procurement and implementation partners, including to ensure joint procurement of financial service providers (FSP). WFP and partners consulted throughout the case studies recognized some underutilized opportunities to benefit from increased and improved coordination on the use of emerging technologies, such as Building Blocks.

249. **With significant value to be derived from data sharing, over the years WFP has strengthened mechanisms to establish data sharing partnerships, including achieving interoperability between different organizations’ systems. However, several inefficiencies still hinder the full potential of data sharing.**

250. Digital data sharing is increasingly central to collaborations with partners, mainly with United Nations agencies for exchange of beneficiary registration and authentication data. Over the past years, data sharing agreements have been standardized at global levels with a few key partners. In 2018, WFP signed

its first data sharing agreement with the International Organization of Migration (IOM) and has since signed a global data sharing agreement with UNHCR. These data sharing agreements have been pivotal to enable close cooperation amongst agencies, including for the development of shared road maps for the provision of assistance and for the targeting and delivery of assistance to vulnerable groups.

251. It is evident that a series of inefficiencies are hindering WFP from maximizing the benefits of data sharing. These include the lack of technical mechanisms to streamline data exchange given differences in each organization's systems and protocols and an absence of interoperability standards across partners' systems. It also includes inefficiencies arising from the absence of appropriate legal and functional frameworks with most partners, such as data sharing agreements,¹³¹ to ensure safe and secure transfers of data between partners. There is no evidence of data sharing agreements containing provisos for the different types of data and risks that may emerge in highly constrained environments, including in light of heightened political constraints.

252. When data sharing protocols are absent, time-consuming manual reconciliation is often required when aggregating data collected across WFP programmes, including by cooperating partners in the field to ensure the use and consistency of the data across systems. When they do not exist, these agreements can take time to formulate and validate. Furthermore, when global data sharing agreements exist, lengthy processes still take place to operationalize such agreements in each context given the differences in each operation. These are challenges not unique to WFP and are currently the subject of coordinated efforts toward standardization.

253. In many cases, WFP is leading the provision of technology services across the sector, making their systems and solutions available for the operations of various international and national organizations.

254. WFP provides technology-related services to the humanitarian sector in two core areas – the creation and support of connectivity and telecommunication infrastructure through the emergency telecommunication cluster in humanitarian emergencies, and the use of different platforms and solutions to enable cash-based transfer across operations. Furthermore, the Supply Chain Division with TEC also developed the Service Marketplace for about 70 partners during the pandemic. Under these sets of partnerships, the organization's most common partners are United Nations agencies, such as UNICEF, UNHCR, the United Nations Department of Safety and Security (UNDSS), IOM and FAO, as well as most large international non-governmental organizations and to a lesser extent, national non-governmental organizations.

255. In Iraq, South Sudan and Bangladesh, the role of WFP as convenor and lead of the Emergency Telecommunications Sector has been critical to ensure organizations have access to connectivity and telecommunication services, such as radio communications. In the case of Bangladesh, the Emergency Telecommunications Sector has been critical to provide connectivity in light of access constraints imposed by the Government – it in fact received an 89 percent satisfaction rating from other agencies in 2020.

256. However, it is the WFP SCOPE that is the centrepiece of the organization's collaboration and service provision for partners. This includes the use of SCOPE for beneficiary identification, registration, and distribution, including leveraging the system's multi-wallet function to enable the delivery of non-food items assistance. SCOPE is being used by United Nations agencies, such as UNICEF to provide joint assistance to drought-affected households in Somalia and by UNICEF and FAO in South Sudan, where they used SCOPE's multi-wallet feature to offer complimentary assistance to beneficiaries already registered in SCOPE. In some countries, international and national non-governmental organizations such as Catholic Relief Services or the South Sudanese Relief and Development Agency (SSUDRA) have also received professional and technical services from WFP to enable the use of SCOPE. In South Sudan, a cost-recovery model was developed with the support of headquarters to be used in services provision partnerships for SCOPE. These collaborations have reduced duplicative processes for beneficiaries and have centralized their ability to withdraw their entitlements.

¹³¹ Data sharing agreements are discussed in more detail in Section 2.4.4.

257. **Recently, WFP has moved into the provision of technology services to governments, as part of its digital assistance to governments portfolio.**

258. On the provision of services for governments, various stakeholders noted the importance of improving coordination amongst United Nations agencies to reduce duplication of the different types of assistance each agency is providing. For example, in Iraq WFP and external stakeholders noted that United Nations agencies seldom speak to each other but often propose similar solutions to the Government. Stakeholders also expressed the view that WFP systems, such as SCOPE, have not been designed for use by governments, nor necessarily to specifically support social protection of more development-related work. There remains an important need to improve coordination with other United Nations agencies in terms of solutions provided to governments, although some coordination to build common projects exists in some country offices.

Box 5: Differing approaches across the comparative learning exercise

Some of the organizations consulted have defined and specific interests in open-source technologies, and in the case of UNICEF, in promoting digital public goods. The evaluation team is not aware of WFP having an expressed priority for replicable and open-source solutions or in spearheading similar large-scale collaborative efforts in the humanitarian technology space. However, those other organizations tend to focus more on development-oriented work and their open-source platforms are mostly focused on third-party use (i.e., RapidPro, U-Report).

Comparison organizations have dedicated research agendas to define their normative position regarding the use of technology. Three of the four organizations have in-depth guidance and practical tools applicable to the broader humanitarian sector for the use of technology in humanitarian settings. This was not observed for WFP.

UNHCR relies heavily on outsourcing parts of its technology portfolio through managed service partners both on infrastructure and management. It also relies heavily on third party providers for most of its information technology portfolio.

259. **Although WFP could be well positioned to further its role in the provision of common technological platforms for the humanitarian community, including at the onset of emergencies, organizations in the sector do not seem to be inclined towards a single service provider.**

260. With vast experience convening actors and delivering services across the logistics and emergency telecommunications clusters, WFP is positioned as a credible technology service provider for the humanitarian sector. Evidence of discussions regarding the role of WFP as a provider of common platforms across the sector point to some interest from key internal stakeholders for WFP to take the lead in providing platforms for cash-based transfer. However, this is not necessarily a vision held by other organizations in the sector, particularly given doubts expressed by some United Nations agencies regarding the rigour of WFP data protection policies.

261. Furthermore, throughout the comparative learning exercise, some stakeholders noted that there is some competition amongst agencies on the selection of systems that underpin humanitarian assistance distribution. This concerns primarily UNHCR and WFP regarding the use of SCOPE or PRIMES for registration. Given that each system has been designed to fit organizational needs, this competition arises from each organization's preference and ability to tailor systems to fit their own needs. Unifying across the sector in a common system – for example to host beneficiary data for United Nations agencies – is likely unrealistic with agencies having valid reasons for independent registration, budget, distribution, and monitoring platforms. However, the use of tools such as application programming interfaces (APIs), that pull information from different repositories regardless of original format and convert it in a standardized and consistent format can promote enhanced flexibility. Ensuring that systems can communicate with each other and transfer data efficiently is specifically crucial to humanitarian operations during emergencies.

2.4.2. Transfer of ICTs

How successful is WFP in transferring ICTs to partners (national governments, other United Nations agencies, and cooperating partners) in constrained environments?

262. **WFP is well recognized for providing the necessary technologies, as well as transferring skills to partners (national governments, other United Nations agencies, cooperating partners) at both the global and country level. Furthermore, this support was well recognized during the COVID-19 pandemic.**

263. The transfer of technologies to partners by WFP includes the direct transfer of hardware, such as computers, devices for data collection, and batteries for devices. Furthermore, WFP has provided access to specific technologies, such as SCOPE, MoDA, KOBO, and SugarCRM to various partners. As mentioned before, WFP is also well recognized for its provision of common ICT services to the humanitarian community in emergency settings, such as data connectivity.

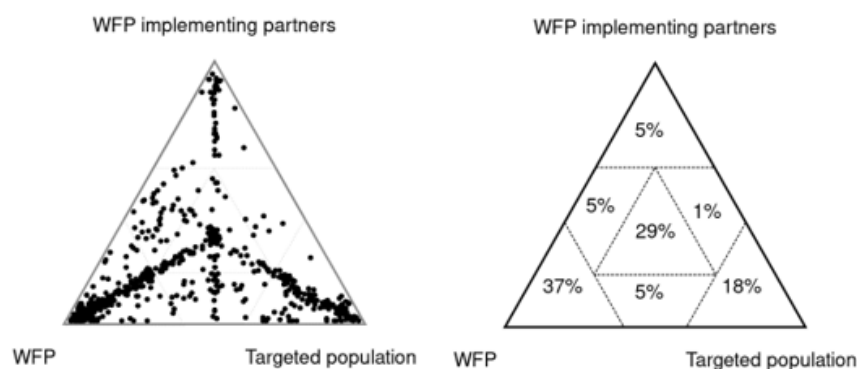
264. With regards to the transfer of skills to partners, country case studies show a broad range of efforts including training and skill development around data collection, data management, data analysis, monitoring, early warning systems, use of drones, social protection mechanisms, communication tools, cyber security, and data protection. Some trainings are also specific to some WFP technologies, such as SCOPE, MoDA or SugarCRM. This transfer of skills has been happening at the global level and country level, through the TEC Division. In addition, the transfer of skills has occurred extensively at the country level, from country office to partners. Although trainings are well appreciated by partners, the online format used during the pandemic is generally perceived as less effective.

265. During the COVID-19 pandemic, WFP has accompanied partners in maintaining communication with partners using teleconferencing applications including Zoom and Teams, in some cases providing licenses and training to partners on the use of these platforms. To a more limited extent, there is evidence that the transfer of equipment and skills to governments has produced positive results for certain governments' programmes, and in their response to the COVID-19 pandemic.

266. **Lack of resources and skills limit the ability of some partners (cooperating partners and governments) to fully benefit from WFP technologies, although this is less of an issue for United Nations partners.**

267. Barriers include the lack of infrastructure to use these technologies, as well as the gap in digital literacy, reinforcing the need for support in developing infrastructure and skills for certain partners on a continual basis. In partnerships with sister United Nations agencies, the transfer of technology suffers less from these issues. This finding was also confirmed by the global survey, in which respondents indicated that WFP implementing partners benefit the least from the use of digital technology or data in constrained environments, with WFP itself receiving most of the benefits.

Figure 26. Triad – who benefits most from the use of digital technology or data in global survey narratives?



Source: ADE, global survey. N=754, not applicable=93.

268. Observed through different case studies, partners are often not as advanced in the use of ICTs as is WFP. This was particularly identified for cooperating partners and governments. Not surprisingly, this

finding is more prominent in countries where the overall level of digitalization is lower, such as in Niger, South Sudan, and the Democratic Republic of the Congo, compared to countries such as Bangladesh, Jordan, and Iraq.

269. The lack of infrastructure is identified as the first cause in the poor advancement in the use of ICTs for certain partners. For instance, some partners in remote areas lack reliable connectivity or even electricity. Therefore, this gap in infrastructure can limit the opportunities for WFP to transfer certain technologies, such as CODA or School Connect.

270. The lack of digital skills has been identified as a second cause. While partners may use some technologies, digital skill trainings are required to render certain technology transfers effective. Such skill trainings would ideally occur on a continuous basis, requiring organizational investment in order to meet those needs.

271. WFP has made less progress in building capacities of partners in the use of digital technologies and data, beyond those capacities directly needed to use technologies required to conduct the work with WFP. Thus, limited technology capacities are built that could benefit partners beyond the partnership with WFP. The role and responsibilities of WFP are not well defined with regards to capacity building, although the humanitarian agenda toward localization should focus attention on this activity.

272. Although partners show interest in building their capacities to use technology through WFP partnerships, evidence from country case studies show that transfers were often aimed towards the use of WFP tools and applications, rather than strengthening the general capacity of cooperating partners to use digital technologies and data. Likely as a result, cooperating partner staff rely heavily on WFP for technical support. Moreover, some technologies provided by WFP are proprietary, further limiting the sustainability of transferred technology capacities.

273. In this context, key informants note that sustainable capacity strengthening of partners (governments) requires long-term support from WFP and commitment from those partners to sustain or increase their allocation of resources for staffing and software maintenance required to enable a WFP exit strategy.

274. Over recent years, WFP has received and responded to governments' requests for technical and operational support relating to its expertise with digital technologies. According to the Internal Audit of SCOPE¹³² around 20 country offices have received requests from host governments to supply the SCOPE platform or to support the development of platforms with similar functionalities. At the global level, some guidance is in place to encourage governments to develop their own programmes, such as their own social safety nets and hunger solutions, with a coordinated approach and/or support by the United Nations.

275. However, at the country level, the case studies show that when transferring capacities to partners, several issues are recurrent, including limited technical capacity, restricted access to government-owned beneficiary data and an absence of exit strategies for the provision of technology services. In Iraq for example, WFP is working with the Government to support and test digital solutions to modernize the public distribution system (PDS). Although the proof of concept has demonstrated significant benefits with improved identity management and reconciliation and reporting, stakeholders indicate that some of the technical challenges in the development of such a platform proved to be beyond WFP capacity and mandate. Sustainability of solutions or processes has proven to be one of the most challenging barriers for effective transfer.

276. Furthermore, the role and responsibility of WFP in partners' interventions are less clear at the country level. A careful analysis is required of the positioning of WFP to support capacity strengthening of national institutions in the use of technology. Moreover, there should be a clear strategy and road map for capacity building and transfers associated with the transition from any pilot projects operated by WFP to implementation at scale.

132 WFP. 2021. Internal Audit of SCOPE to OPCE.

2.4.3. Appropriateness

How appropriate are WFP partnerships for the development, uptake and management of ICTs and digital data used in constrained environments?

277. **At the global level, WFP has engaged in different partnerships to develop ICT and digital data solutions, in which the private sector is strongly represented. Although partnerships with the private sector help to strengthen innovation capacities, some have become more controversial than others, with no established consensus on their appropriateness.**

278. WFP, at the global level, has engaged in several partnerships with the private sector to develop solutions covering programmatic needs such as supply chain, data management and visualization, donations, beneficiary registration solutions, etc. These partnerships included different actors in the private sector, such as Mastercard, Tableau, Alibaba, and Palantir.

279. Key informants supportive of such partnerships highlight private partners' focus on innovation and best practices. However, other key informants express serious concerns around how such partnerships affect the way in which WFP is fundamentally perceived as a neutral actor.

280. For example, the partnership with Palantir became especially controversial at the time the agreement was signed, both inside and outside the agency. Discussions emerged both around the type of partner WFP was engaging with, and the process used to vet and validate such a partnership.

281. Importantly, while several reliable sources within WFP affirmed that the organization's rigorous due diligence process has been followed and repeated every three years, the vetting and risk assessment process lacked transparency and inclusivity, fuelling concerns among internal and external stakeholders. No documents relating to the due process were made available to the evaluation team. While the evaluation recognizes that finding the right balance between transparency and confidentiality in procurement-related processes is clearly challenging, insufficient transparency around the considerations informing decisions about potentially highly controversial partnerships, in the eyes of many stakeholders, has negatively affected their confidence in existing WFP policies and processes. The establishment of a Technology Industry Engagement Committee in 2021 comprising Director-level representation from Technical Units, Country Offices and Regional Bureaux is expected to provide a more broad-based forum for discussion and scrutiny of technology partnership opportunities.

282. While the partnership is still developing, some positive programmatic outcomes have been achieved by enabling better insights into operational needs. The partnership, however, exemplifies the difficult balance and strategic direction that WFP must weigh for its technology investments, for example, clearly engaging in questions about whether efficiency gains trump protection concerns. In fact, UNHCR stakeholders consulted for the comparative learning exercise echoed views from the case studies on the organization's approach to technologies, noting that on average, WFP does seem to favour meeting needs swiftly versus prioritizing protection, often creating competing priorities for the organization.

283. **Although more initiatives are set up to promote appropriate partnerships for the development of technologies, there seems to be a lack of consultation, both at the headquarters level and country level.**

284. At the global level, different initiatives have been put in place with other actors to coordinate the development of technologies. For instance, the WFP Innovation Accelerator helps frontier innovations exchange and design together with United Nations agencies, academia, non-profit and the private sector, humanitarian experts, social entrepreneurs, investors, and innovators. This network helps ensure that software standards are aligned across the humanitarian sector for these innovations. Moreover, two internal committees have been recently created: the Technology Investment Committee (TIC) for in-depth analysis of technology investments and the Technology Industry Engagement group (TIE), focused on assessing partnerships with the industry sector.

285. Other initiatives, such as collaboration with UNHCR, aim at establishing common business (enabling) services, where larger agencies will make available common business services for the development of technologies. Within WFP, some recent directives address the use of market standards for the development of technologies.

286. While there is more coordination and alignment at the global level, country case studies reveal that it does not trickle down to the country-level operations. In particular, this is found to be the case for the development of partnerships around technologies and translates to a lack of coordination between WFP and implementing partners. While partners express preference for free and widely available open-source solutions, these sometimes do not comply with policies and standards set at the global level and require lengthy and difficult approval processes. Internally, fragmented approaches to partnerships have resulted in duplicated efforts but are expected to be addressed through enhanced coordination under the recently created Technology Industry Engagement group.

287. **At the country level there is a strong demand for more partnerships to develop ICTs, but efforts are undermined by a lack of resources, procedures, market competition, and the definition of roles and responsibilities.**

288. Evidence from country case studies show that many initiatives have been launched at the country level. These initiatives cover a broad range of areas, such as: monitoring food assistance for assets (FFA) activities using drones, food monitoring through mVAM, data collection, cash-based transfer, nutrition, and emergency mechanisms, in partnership with different types of actors, such as the private sector, ministries, non-governmental organizations, financial service providers, and United Nations agencies.

289. While most initiatives are well regarded and further encouraged by partners, some issues have been identified. For instance, some retailers are side-lined when WFP selects larger partners for their operations, generating criticisms that WFP is providing a significant market advantage in helping its selected partners to develop their market presence and capacities. This issue was recognized by some country offices, which are exploring how to broaden the range of providers in this system and further spread benefits to the local economy.

290. Furthermore, the same debate as before is advanced in terms of the role and responsibilities of WFP in developing solutions with partners. At present, there does not seem to be any guidance or strategy on this matter.

2.4.4. Risk management and partnerships

How well does WFP ensure data privacy and protection towards outside parties? Is the way WFP shares digital data with government, cooperating partners, other United Nations agencies, donors, local/de facto authorities having the effective control over WFP areas of operations etc. secure and appropriate?

291. WFP has developed and shared guidelines on data privacy and protection within the organization. Specifically, in its Private Sector Partnerships and Fundraising Strategy, it notes that for partnerships with businesses in the technology sector, WFP will give particular consideration to risks associated with data use and will ensure data privacy for beneficiaries. Some of these guidelines were also formulated in collaboration with other United Nations agencies.

292. **Over recent years, awareness about data privacy and protection has been rising across the entire organization. Furthermore, country offices have been initiating privacy impact assessments to review current practices in terms of data sharing.**

293. Evidence from the desk review and WFP key informant interviews, show that guidelines were formulated to ensure data privacy and protection, as well as adequate provision of information to beneficiaries. These guidelines are not only directed to WFP staff, but also to implementing partners, as noted in Section 2.3.2. These guidelines are sometimes developed with other United Nations agencies, through the Inter-Agency Standing Committee. For instance, this committee has been drafting guidelines on the responsible use of data, as well as guidelines on the use of non-personal data.

294. Alongside the guidance and due diligence processes, awareness across the organization on the importance of ensuring data privacy and protection has been rising slowly over the last few years. The case studies find that several privacy impact assessments were initiated to review current practices for beneficiary personal data sharing, and to identify any risks around collection, storage and sharing of such data. Nevertheless, despite the enhanced guidance, key informants recognize that headquarters guidance

on data sharing is only providing advice on high-level considerations. Therefore, the country offices also need to consider local regulations within the country.

295. Additionally, cooperating partners consulted in case study countries considered that WFP is appropriately cautious when it comes to data sharing. Field-level agreements signed with third parties, including cooperating partners and private sector actors, address issues such as data retention, access, copying, alteration, and deletion of beneficiary data following available corporate guidance. They also include specific provisions for beneficiary identity management, including requirements for secure data transmission and a section on security and confidentiality of beneficiary personal data, noting that the cooperating partner “shall ensure that its data protection obligations and the rights of beneficiaries are observed at all times in respect of any use and processing of personal data. This includes ensuring the confidentiality of all beneficiaries’ personal data”, and requesting that cooperating partners ensure that access to personal data is for authorized personnel only. They also require that cooperating partners “establish and maintain appropriate technical and organization measures to protect beneficiary personal data against data breaches”.

296. While the levels of guidance and awareness have been rising, it seems that these are more easily translated in practice at the corporate level in the development of new technologies. However, this seems to be lagging at the country level, where data are not always shared through secure and safe channels.

297. From the evidence at the headquarters level, it seems that guidelines and directives with regards to data protection are put into practice, and this is the case especially in the development of new technologies. For instance, with regards to DOTS, only approved WFP employees have access to sensitive data, none of the data is stored in an environment outside WFP control and rules, and Palantir is not allowed to use any of the WFP data for any purpose other than those allowed by WFP. With regards to data sharing at the headquarters level with other United Nations agencies, data sharing agreements, vetted by data protection and legal teams on what can be shared, exist.

298. However, the application of data privacy and protection mechanisms and standards seems to be lagging at the country level, based on the evidence from the country case studies. For example, with regards to WFP data protection principles (see Section 2.3.1), the principle of specific and legitimate purpose demands that the purpose for processing data is defined prior to its collection and notified to data subjects before or at the time of data collection. In practice, it seems that the specific purpose for processing is not always communicated. Concerning participation and accountability, the guidance also notes that “WFP shall ensure that beneficiaries are consulted about the processing of their personal data before and during all stages of such processing”. It defines participation as beneficiaries being able to request and modify their data. In practice, though WFP advises the creation of mechanisms for requesting information, and for correction or deletion of beneficiaries’ personal data, these are not always, indeed rarely, implemented in country offices. With regards to data retention, in at least three case study countries, a lack of awareness and enforcement over data retention policies was observed. For example, a privacy impact assessment in one of the case study countries noted that from around 3.3 million individuals registered in SCOPE, only 24 percent were active, with the remaining personal information not used or not relevant to current programming.

299. Additionally, although some measures are being put in place at the country level to ensure data privacy and protection, evidence exists of improper data sharing, some risk of data leakages and vulnerabilities due to political pressure and partner capacities. Evidence is available for example, of data being shared via emails and Excel files among WFP offices and third parties, with no encryption in place for any medium used. While some countries seem to be more advanced in terms of secure and safe data sharing, the evaluation team itself experienced the existence of gaps. For instance, when preparing phone surveys, the evaluation team easily attained access to personal identifiable information (name, camp, mobile phone number) shared via email. We also observed that data sharing norms were not consistent across countries. In the different country case studies, some were more reluctant in sharing mobile phone numbers with the evaluation team, while for others, access was easily gained to that information by email in Excel files.

300. To mitigate some of these risks, WFP has introduced the NEST platform for secure exchange of files between different partners that were previously shared through unsecured email attachments. This

platform has been used by different country offices but is still under early implementation. For instance, community feedback mechanism data collected through hotlines in Iraq has not yet been shared in an encrypted form although plans are underway to address this.

301. Alarming, there is no clarity on whether positive assurance mechanisms exist to ensure that data is being handled by partners as WFP mandates it should be, including in its field-level agreements.

302. Key informants expressed the view that in practice, WFP cannot guarantee adherence to its guidelines when data is processed by partners. It may be able to monitor parts of their processing – for example, existence of firewalls, or file sharing protocols – but not a full picture on the compliance with these standards. Instead of having effective controls to ensure that cooperating partners are managing the data that is being shared with them appropriately throughout the data's entire lifecycle, these capacities are assessed at an initial point in time and not followed up throughout the evolution of these partnerships.

303. Similarly, WFP partners consulted through the comparative learning exercise expressed concerns over the rigour of WFP data protection and privacy policies and processes and suggested this lack of robustness is a deterrent for partnering with the organization. Of the organizations interviewed, all expressed some challenges in reaching agreements with WFP on the desired level of data protection, with stakeholders suggesting that their organizational approaches were more pragmatic and less risk tolerant. Even if guidance exists, partners note that it is not sufficiently complied with. With regards to data sharing, it was also expressed that WFP does not always assess the purpose specification and use for data it requests from others.

304. The importance of ensuring data protection in third party access to WFP data is exacerbated by the fact that “data may be legally protected from government access while stored by an international organization with privileges and immunities, but such protections will not necessarily benefit partners”.¹³³ Third parties include cooperating partners (international and national non-governmental organizations) as well as service providers (including mobile network operators or software companies). Furthermore, given that WFP ought to ensure that the data it collects and shares with partners are solely used for humanitarian purposes – in line with the purpose specification and legitimate use principles of its data protection guidance – having controls to ensure this is the case for partners is necessary from a normative and legal point of view. Failure to ensure compliance with stringent protection and privacy requirements by third parties may put WFP in a vulnerable position concerning reputational risk and may very well bring unintended consequences to the people it serves and its partners. As WFP continues exploring digital assistance to government as a core service of its digital transformation portfolio, more investment in research, vulnerability mapping, risk monitoring, identification and mitigation will have to be performed to reduce the probability of unintended processing by third parties and mismanagement, in order to ensure that it does not pose a risk to beneficiaries or to the organization.

305. The lack of data sharing agreements impedes the safe and secure sharing of data with partners. Although some agreements are underway, these agreements take a lot of time to negotiate and validate. Furthermore, there seems to be a lack of resources to effectively formulate them as headquarters has limited awareness of national laws with regards to data privacy. One main limitation is the fact that some authorities pressure partner organizations to obtain access to data.

306. As mentioned previously, not all data is shared through agreements. The evidence from country case studies shows that sharing with external partners poses challenges due to the lack of data sharing agreements. Although more and more agreements are being initiated, country offices face issues, as it takes a lot of time to formulate and negotiate these agreements. The agreements go through different parties (such as headquarters) within the organization, which slow down processes. Sometimes, these delays could be related to administrative issues – such as the turnover of responsible staff in partner agencies – rather than any fundamental disagreements. Furthermore, some challenges faced were related to complying with national and international data sharing regulations, developing governance for this type of partnership, addressing data protection concerns on both sides and creating a process for sharing data

133 OCHA. 2021. *From Digital Promise to Frontline Practice: New and Emerging Technologies in Humanitarian Action*.

across two different platforms. In fact, while headquarters can support a country office in formulating data sharing agreements, its support is limited to high-level considerations. In fact, national laws can put limits to data sharing agreements.

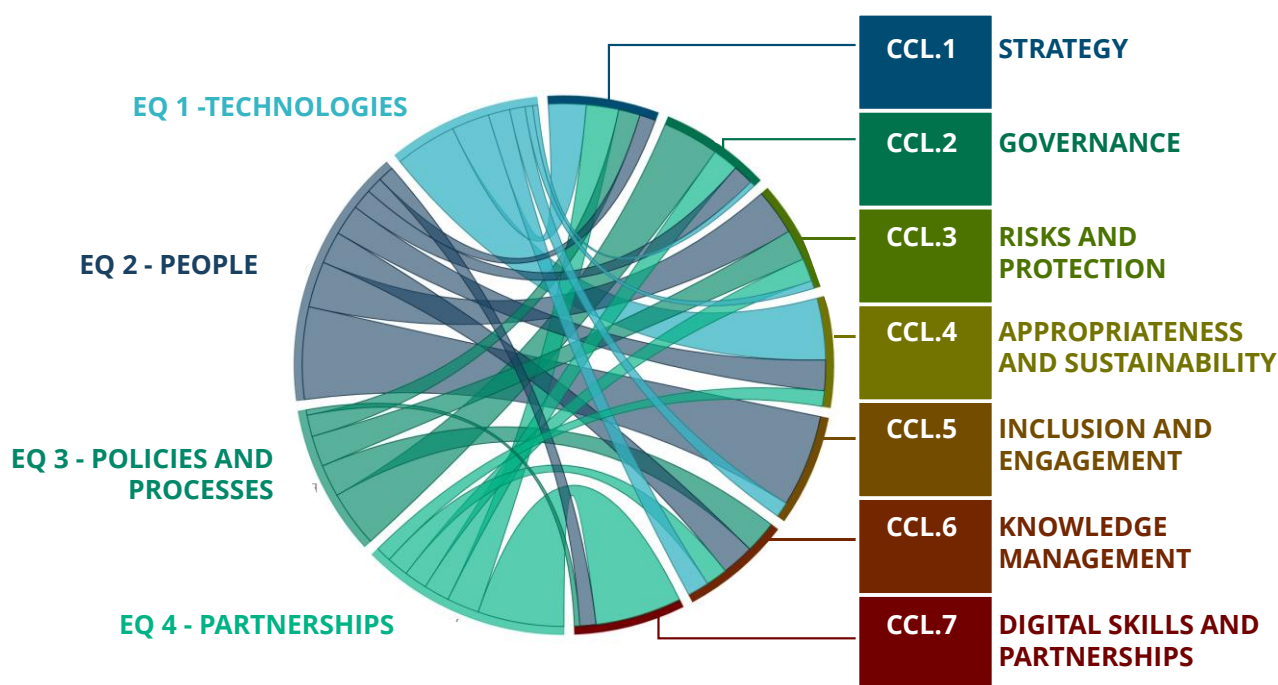
307. With regards to less recent technologies, such as SCOPE, there is the perception from comparative learning exercise organizations that WFP is not well set up as a data processor to meet the data protection needs of partners when using this system for their own assistance. Furthermore, these stakeholders perceive that sharing SCOPE with partners was thought of at a later stage, and proper data safeguards for protecting partners were not initially planned for and continue to be absent to date. Indeed, some countries do not have any data privacy and protection laws in place. This means humanitarian organizations may come under pressure to provide data to authorities wishing to use such data for other purposes. On the partners' side, some are not very familiar with secure data transfer protocols, while some partners perceive WFP data protection policies as cumbersome. As noted earlier, some agreements took place at the global level, such as the memorandum of understanding (MoU) with UNHCR, which facilitated the secure transfer of data. However, there remain inefficiencies in sharing the data, due to the lack of interoperability between systems. These inefficiencies require manual manipulation of the data, thereby introducing the potential for new security risks.

3. Conclusions and recommendations

3.1. CONCLUSIONS

308. This evaluation analyses WFP achievements and challenges in its use of technology in constrained environments. This section builds on the detailed findings presented in the evaluation report, drawing seven main cross-cutting conclusions relevant to one or more of the evaluation questions. The figure below highlights the link between the findings by evaluation question and the conclusions. A detailed table linking findings, conclusions and recommendations is available in Annex IX.

Figure 27: Link between findings and conclusions



Source: Ade

309. While many of the findings in Section 2 in fact may apply across all settings in which WFP operates, they have emerged from extensive data collection in constrained environments and not across all contexts. The issues and challenges posed in the above section and their consequences are felt more acutely in constrained environments, where the repercussions and consequences from an inadequate use of technologies pose greater risks given heightened vulnerabilities in such contexts, both to the organization and to affected populations. Addressing the issues highlighted in this report will benefit operations in constrained environments, with valuable impacts for the entire organization. These conclusions focus on strategic issues beyond technical issues relating to the use of technology in constrained environments and are the main basis for the recommendations presented in the following section.

Conclusion 1: Strategy

310. WFP has established itself as a recognized leader in the use of technologies in response to humanitarian crises. Notably, WFP has been able to achieve major gains in effectiveness and efficiency of its

operations using technology in constrained environments, for example through the enhanced understanding of people's needs and feedback, as well as the strengthening and tailoring of the delivery of assistance to better meet beneficiaries' needs. These efforts have contributed to more adaptive responses in constrained environments and in the face of adverse events like the COVID-19 pandemic. Digital technology and data efforts have led to increased relevance of operations and have contributed to greater access to assistance, flexibility and dignity for the people WFP serves. WFP has also developed robust policies and processes on the use of technology and has increased its oversight over risks and cyber security matters.

311. However, WFP has yet to articulate a clear and coherent vision – and, consequently, a road map – for the organizational-wide strategic use of technology that critically considers the implications, rights, and responsibilities of providing humanitarian assistance in increasingly digital and “datafied” settings, including the specific opportunities and needs of constrained environments. In these environments, the stakes are higher to appropriately balance the response to acute needs with concerns for the long-term well-being and protection (inclusion, safety, integrity and dignity) of the people WFP serves. Yet despite a growing number of concerning incidents in the humanitarian sector, WFP has yet to craft risk assessments, procedures and policies that are specific to the use of technology in constrained environments.

312. Effectiveness and efficiency gains appear to be the main objective and outcome of the use of technology at WFP. While such gains are welcome, a lack of prioritization of other important considerations such as protection (inclusion, safety, integrity and dignity), localization, and participation, is putting WFP at odds with stakeholders, most notably other United Nations agencies, cooperating partners and donors, and overall, with industry best practices on the people-centred use of technology. Again, these issues are particularly salient in constrained environments, where differential consideration for risk and protection across agencies may undermine cooperation.

313. In particular, to date, WFP has not conveyed a clear positioning and strategic direction on United Nations-wide and humanitarian debates surrounding the use of technology in constrained environments and beyond (for example, humanitarian ethics and technology, services to government, private partnerships, use of biometrics, and open data). Critically, WFP appears to underestimate the sector-wide implications and reputational risks of its digital efforts, as illustrated by the public backlash surrounding its partnership with Palantir. This undermines the ability of WFP to position itself as an essential interlocutor and partner for the United Nations, and as a credible leader in the eyes of donors increasingly concerned with interoperability, open data, and the responsible use of technology and data. Without more active engagement with other actors in emerging debates that require clarity of vision and strategy, WFP may lose its current leadership and comparative advantage around the use of technology.

Conclusion 2: Governance

314. Over the period covered by this evaluation, WFP has experienced significant growth in the use of technology through the creativity and entrepreneurial spirit of its staff and through private sector partnerships. Throughout its digital transformation journey, WFP has seen unequal adoption of technology across the organization, with limited specific considerations for constrained environments. The “organic” growth in the use of technology has resulted in a wide diversity of solutions, with varying degrees of institutionalization and concerns for security. The agency is now consolidating these initiatives as part of a concerted digital transformation effort. The Technology Division is largely driving this digital transformation in part because of a lack or unequal distribution of digital skills within and across business units. Business engagement managers have recently been appointed to enhance the collaboration with business units and field operation units. However, the governance of the use of technology developed and used by WFP remains fragmented. Specifically, the agency has not clearly established which processes should be controlled by information technology specialists within the Technology Division and what should be controlled by other business units within the agency. Roles and regulations with regards to the development and use of technology across different organizational levels have only recently been formalised and awareness and compliance are still limited. Furthermore, progress toward the digital transformation of WFP has been unequal across the organization and specific considerations for constrained environments are lacking.

315. The lack of clarity on matters of governance extends to the role and prerogatives of regional bureaux and country offices with regards to the development and use of technology, including in response to donor requirements and expectations. Although some levels of delegation and flexibility are promoted through directives, WFP still struggles to find the right balance between the need to generate country-specific solutions while consolidating around corporate solutions and processes for internal coherence and security. Similar tensions centred around strategy and governance are emerging around the organization's positioning in support of governments around the use of ICTs.

316. Furthermore, despite recent guidance, the process by which innovative technologies and applications are identified, tested and scaled up remains disjointed, and Country Offices continue to undertake development outside of standard procedures. Formal and informal innovations follow and adhere to substantially different processes and standards. The Innovation Accelerator has had some notable successes (for example, Building Blocks) but it does not appear to yet play the role of a central pipeline or key node that has visibility on all innovations within the organization, providing guidance and structure, arguably because of a lack of physical and conceptual connection to the Technology Division and/or operations in country offices.

Conclusion 3: Risk and protection

317. In recent years, WFP has made serious and concerted efforts to enhance central visibility and response over cyber security and digital risks, including through new dedicated processes, policies and practical guidelines.

318. However, this evaluation finds that implementation of even basic measures for data protection are lagging. This and other related challenges (for example, workaround dysfunctional data sharing agreement or processes) create significant vulnerabilities and risks for the agency and the people it serves. Importantly, addressing risk and protection challenges is not prioritized or designed specifically for constrained environments nor is it informed by an analysis of constraints.

319. Fundamentally, as noted above, the protection of people served by WFP is not centrally driving the development and use of technology. In some sensitive areas, such as the use of biometrics or data retention, for example, guidance is not specific enough. This leaves WFP unable to meet both its growing responsibility to the people it serves from holding such volumes of sensitive data and unable to hold its partners to account for the management of WFP beneficiary data, a major concern particularly in constrained environments. Efforts linking cyber security and physical security are currently insufficient to address potential risks to infrastructure and equipment as well as threats to both staff and people served by WFP, including threats emerging from rumours and misinformation.

320. This evaluation further found that the use of technology has at times displaced the risks and burden toward the people it serves (for example, digital data risks, coercion at "digital" points of access) with limited efforts to monitor and address such risks. This is critical globally, and acutely so in constrained environments where people served by WFP have generally low levels of digital literacy and no credible alternatives to consenting to the organization's use of technology. In these contexts, WFP has not clearly engaged in challenging issues regarding meaningful informed consent and other important ethical issues regarding the use of technology and data concerning highly vulnerable populations, many of which have limited understanding of the potential risks to their data. Rather WFP appears mindful of, but unengaged in, addressing these substantial issues. In this area, responsibilities are at times unclear or lacking clearly articulated processes (for example, the role of the regional bureau). At the same time, there are insufficient resources allocated to ensure a sustained and meaningful commitment to data protection and, in parallel, limited accountability for mishandling of data and/or failure to follow appropriate processes and guidelines, to the point that many policies are considered optional.

Conclusion 4: Appropriateness and sustainability

321. WFP's streamlining of various business processes through technology such as SCOPE, WINGs, and LESS, provides differently sized country offices with useful and replicable guidance and structure for the implementation of WFP activities. These technologies provide a useful framework and a set of standards

that have to be complied with in order to ensure alignment and coherence across different environments, though not specifically considering constrained environments.

322. While the use of technology by WFP has significantly enhanced its response in constrained environments, the appropriateness of technologies is undermined by what have frequently been top-down efforts to deploy technologies designed for specific needs that lack flexibility, consultation, and engagement with business units at all levels, as was until recently the case for COMET. These include staff working on ethics and gender, among others. Specifically, concerns over poor connectivity, low digital literacy or language are not sufficiently considered.

323. Critical initiatives to ensure integration and interoperability of different digital solutions promise to reduce duplication and enhance the overall effectiveness and coherence of the WFP technology portfolio. Systems integration will also be conducive to greater sustainability of technology investments by unlocking added value from existing systems and data. However, standards to ensure the continued relevance of corporate solutions to business needs are largely absent, notably with little visibility on levels of investment and on the sustainability of solutions for WFP.

324. For people-facing technologies, despite an interest in “people-centred” development of technology, there is a lack of engagement with people served by WFP, especially in constrained environments. In such contexts, the use of technology is further undermined by external challenges such as limited connectivity or digital literacy, and technical issues such as ease-of-use (including supporting material) or integration. Failing to account for such challenging environments undermines the appropriateness, usability and sustainability of technologies.

Conclusion 5: Inclusion and engagement

325. WFP is strongly committed to broad inclusivity and gender equality and women's empowerment across its operations. Nevertheless, this evaluation finds significant shortcomings in considerations for inclusivity and gender, equitable impact of and benefits from the organization's use of technology, and few efforts to proactively and purposefully use technology to empower women and marginalized or under-represented groups across all levels of the organization. Despite a recognition of the risk of exclusion, the use of technology is generally seen as neutral, with inclusion being more a programmatic issue than a technological one. The potential for the use of technology to exclude some groups is understood, but relatively limited efforts are made to accommodate diverse needs or even understand such needs. There is a general lack of monitoring of differential impacts of technology or efforts to uncover exclusionary dynamics related to technology use, a potentially critical issue in constrained environments.

326. Beyond considerations for gender and marginalized or under-represented groups, efforts toward meaningful engagement, dialogue with and accountability to people served by WFP are limited when considering the use of technology.. There is in fact no evidence of a systematic process mandating stakeholder engagement with the people WFP serves with regards to the relevance, coherence and sustainability of a solution when introducing new technologies to assistance processes. This includes processes to engage with and consider the long-term needs of WFP implementing partners. There is also little evidence of participation of the people served by WFP in technology-related decision making, with WFP missing an opportunity to leverage the potential of the people WFP serves not only as data subjects but as partners for innovations.

327. Community feedback mechanisms, the main avenue for engagement, are largely used to report practical technical issues and for notification purposes rather than for meaningful engagement. There is no systematic incorporation of affected population's views and participation/engagement in technology choices, monitoring and evaluation, including the identification of risks and unintended consequences. Aside from the community feedback mechanism, WFP has made major investments in knowing people better through data acquisition. This evaluation is concerned about potential over-reliance on quantitative and remote approaches, which are not a good substitute for the richness of qualitative information and feedback collected in person. Biased data, potentially in combination with algorithm-based decision making, has the potential to reinforce inequalities, with limited human checks and balances. Overall, data collection efforts appear to be largely extractive, at the expense of an engaged dialogue and localized understanding of people's experience, needs and perceptions.

Conclusion 6: Monitoring, evaluation and knowledge management

328. Through its entrepreneurial and practical approach to innovation, WFP has acquired an arguably unique level of experience and knowledge around humanitarian technologies in constrained environments. Most of this knowledge, however, is experiential and exists in the organization largely through its human capital, as it is rarely formalized/memorialized.

329. Shortcomings in the fit of technologies to local and changing needs and experiences in constrained environments are symptomatic of a broader weakness in the organization's learning culture for technology and the lack of a systematic process to monitor and evaluate the development, testing, deployment and continued use of technologies, especially in constrained environments. With a few exceptions, there is a lack of systemic efforts to assess the cost benefit of deploying digital technologies, including their overall development and maintenance costs, and limited efforts to establish performance checks and risk reviews on information technology solutions along a solution's lifecycle. The approach to monitoring the use of technology appears to be ad hoc, without clearly established corporate indicators and accountabilities for monitoring, for example concerning effectiveness, appropriateness, data quality, unintended consequences (including risks to people served by WFP) and inclusiveness. Adding to this is the lack of consideration for such indicators to be adapted to specific constraints in the environment in which WFP operates, for example due to insecurity, limited infrastructure, or complex relations with authorities.

330. The broad gap in formal monitoring and evaluation of the use of technology documented in this evaluation further hinders overall efforts in knowledge sharing and management across all levels of WFP and outside the agency, affecting most critically those in constrained environments facing acute challenges and, on average, less equipped with digital skills and infrastructures. Levels of support from regional bureaux are unequal, and much knowledge is shared informally and never institutionalized, including outcomes of pilot implementations. WFP makes little use of external partners that could enhance learning and the utilization of data, including through partnerships with local research institutes.

331. The evaluation also finds that sensibilization and training of staff to the specific opportunities and requirements raised by context-specific features (such as various types of constraints) is generally insufficient. This poses significant risks when deploying technologies in constrained environments, where personally identifiable information and other less granular yet sensitive data may be used to harm beneficiaries.

Conclusion 7: Digital skills and partnerships

332. WFP staff are a critical asset that has uniquely contributed to the organization's leadership in the use of technology. Nevertheless, important gaps in foundational digital skills among staff who increasingly require moderate to complex computer skills and technological know-how. Strategies to attract, build and promote digital skills and entrepreneurship are limited and not specifically aimed at under-represented minorities and/or women. Strategies for recruitment and staffing are also not tailored to the very different circumstances of country offices in terms of size and hardship level, which may need differentiated strategies and support arrangements. While some training exists, WFP does not sufficiently invest in its staff's IT and overall digital data literacy, widening the gap between technological capacities and the rapid pace of technology use within WFP at all levels of the organization. Additionally, although COVID-19 has largely shifted the organization's adherence and willingness to use technologies for internal communication and management, there is an absence of a digital learning culture, which the shift to remote work during the pandemic has made even more visible. Low digital skills are contributing to low awareness of risks and limited compliance with basic cyber security and data protection measures.

333. Beyond its own staff, WFP does not invest significantly in building capacities of its partners. WFP is well recognized for providing the necessary infrastructure and access to technologies, as well as system- or business-specific skills to partners, but such efforts are typically focused on the implementation of WFP technologies. Rather than building wider capacities and providing an enabling environment for a broader use of technologies with potential effectiveness and efficiency gains for organizations, this support is narrowly focused on WFP business processes and needs. Additionally, partnerships would benefit from an approach more focused on mutual benefits, especially when considering local partners. Finally, the due diligence process and reviews of sensitive partnerships with the private sector and state or parastatal

actors must better consider transparency and inclusivity of views and experience in constrained environments, in particular on ethical, reputational, and programmatic implications.

3.2. RECOMMENDATIONS

334. Considering the detailed findings and overarching conclusions, the evaluation team proposes the following seven recommendations aimed at specific entities within WFP. These were discussed during a remote, internal global stakeholder workshop and during separate follow-up sessions with selected entities in WFP. Some evaluation recommendations broaden, complement or re-emphasize actions agreed in previous internal audits,¹³⁴ which have not yet been fully implemented by WFP. Importantly, as for most conclusions, most recommendations are also relevant to the use of technology beyond constrained environments. However, the issues and the consequences that the recommendations aim to address, are most acutely felt in constrained environments. Lastly, while a single lead entity has been proposed for each sub-recommendation, strong and consistent cooperation by contributing entities will be critical for successfully putting the recommendations into practice.

134 In particular: WFP. 2019. Internal Audit of Governance of IT-Enabled Projects in WFP.; WFP. 2019. Internal Audit on ICT Management in Country Offices.; WFP. 2021. Internal Audit of SCOPE WFP's Digital Management of Beneficiaries (2021).

No.	Recommendation	Responsibility	Other contributing entities	Priority: high/medium	By when
1.	<p>Strategy</p> <p>As part of the implementation plan for WFP's strategic plan for 2022–2025 and the new corporate information technology strategy, formulate in consultation with all relevant divisions an overall strategic vision for the use of digital technology and data in which people and protection are central concerns, and constrained environments are taken into account. Translate this vision into clear standards, directives and practical guidance and disseminate them internally and to partners.</p>				
1.1	<p>Leverage existing committees under the oversight of the WFP Digital Business and Technology Committee (DBTC) and, drawing on all relevant divisions, formulate an overall vision and strategy for the use of digital technology and data at WFP, driving the organization's agenda and specifically addressing constrained environments. The vision and strategy should include clear principles and priorities for WFP's use of digital technologies, explicitly articulating the need to prioritize people-centred approaches (protection, localization, participation) to technology along with objectives of effectiveness and efficiency. Disseminate the strategy and principles throughout WFP.</p>	Chief Information Officer (CIO)	DBTC, Programme and Policy Development Department Digital Advisory Board (PD DAB), Global Privacy Office (GPO), Technology Division (TEC), Innovation Accelerator (INKA), Supply Chain Operations Division (SCO), Emergency Operations Division (EME), Security Division (SEC), Programme – Humanitarian and Development Division (PRO), regional bureaux , country offices	High	December 2022

No.	Recommendation	Responsibility	Other contributing entities	Priority: high/medium	By when
1.2	Identify, prioritize, develop, complement and streamline concrete and actionable guidelines, training and processes relating to how to operationalize WFP's strategic vision of the role of technologies in practice, with detailed and tailored approaches for the various levels of the organization and constrained environments in which it operates.	TEC	PD DAB, GPO, INKA, SCO, EME, SEC, PRO, Cash-based Transfers Division (CBT), Nutrition Division (NUT), Research, Assessment and Monitoring Division (RAM), School-based Programmes (SBP), Gender Office (GEN), regional bureaux, country offices	Medium	June 2023
1.3	Develop and complement strategic position papers, in consultation with other humanitarian actors, that define WFP's normative posture on critical issues, including on digital rights and responsibilities, open data, digital identity management and the use of biometrics, treatment of particularly sensitive data, regulatory compliance, public-private partnerships, the role of donor governments, services to governments and other issues as they arise.	CIO	DBTC, PD DAB, GPO, TEC, PRO, CBT, GEN, SCO, EME, Private Partnerships and Fundraising Division (PPF)	Medium	June 2023
1.4	Strengthen WFP's strategic engagement on the use of digital technology and data with other United Nations entities, international NGOs and donor communities on the definition and use of common standards, tools and technologies, thus contributing to sector-wide norm and standard-setting.	TEC	DBTC, PD DAB, Public Partnerships and Resourcing Division (PPR), United Nations System and Multilateral Engagement Division, Washington Office, Geneva Office, Brussels Office, NGO Partnerships Unit, Innovation and Knowledge Management Division (INK), GPO, PRO, CBT	High	December 2022

No.	Recommendation	Responsibility	Other contributing entities	Priority: high/medium	By when
2.	<p>Governance</p> <p>Clarify and strengthen the governance arrangements and allocation of resources driving WFP's digital transformation and the use of technologies in constrained environments, as well as the division of roles and responsibilities across all levels of the organization, enhancing the balance between product-driven efforts and business needs.</p>				
2.1	<p>Clearly define the scope, roles and responsibilities of entities involved in technological development and innovation at WFP, maximizing synergies and considering the breadth of innovation occurring within the organization at various levels.</p>	CIO	DBTC, PD DAB, TEC, SCO, EME, GPO, Enterprise Risk Management Division (ERM)	High	December 2022
2.2	<p>Clearly establish accountabilities for oversight and compliance between headquarters, regional bureaux and country offices, allocate resources for efficient oversight and support, including for the implementation of the recommendations in the present evaluation, and strengthen incentives for compliance and accountability mechanisms for the (mis-)use of technology.</p>	CIO	DBTC, PD DAB, TEC, INK, GPO, ERM	High	December 2022
3.	<p>Risk and protection</p> <p>Develop strategies and mechanisms for ensuring the effective protection of affected populations and humanitarian personnel and the management of risks associated with the use of technologies, considering constrained environments in particular, building on a strategic position on protection and the rights of and responsibilities to affected communities with regard to the development and use of technologies.</p>				

No.	Recommendation	Responsibility	Other contributing entities	Priority: high/medium	By when
3.1	Expand the use of privacy and protection assessments to identify personal and digital risks and potential unintended consequences of the use of technology for protection, including assessment of partner digital literacy, capacities and processes, taking into account emerging threats such as online rumours and misinformation campaigns and potential physical threats to digital assets and their consequences for the protection of affected populations and humanitarian personnel.	Emergencies and Transitions Unit (PROP)	GPO, TEC, Communications, Advocacy and Marketing Division (CAM), regional bureaux, country offices	High	December 2022
3.2	Enhance protection and security risk management strategies concerning risks to both affected populations and humanitarian personnel to guide the use of digital technologies in country offices in constrained environments and allocate resources for an effective response to general protection risks and long-term solutions to security risks, both digital and personal.	PROP	GPO, SEC, TEC, regional bureaux, country offices	High	December 2022
3.3	Support the expansion of stress test exercises (such as tabletop exercises) to include risks beyond cyber-security risks such as security threats and other adverse events, reputational risks and other challenging situations (e.g., misinformation campaigns, threats associate with data requests) and to include the participation of implementing partners.	ERM	Deputy Executive Director (Business continuity team), SEC, TEC, Legal Office (LEG), GPO, CAM, regional bureaux, country offices	Medium	June 2023
3.4	Enhance transparency, communication and knowledge sharing with regard to protection (inclusion, safety, integrity, dignity) in relation to the use of technology and support country offices and regional bureaux in connecting and exchanging experiences about protection risks and responses related to data and the use of technology in constrained environments.	PROP	GPO, TEC, regional bureaux, country offices	Medium	June 2023

No.	Recommendation	Responsibility	Other contributing entities	Priority: high/medium	By when
4.	<p>Inclusion and engagement</p> <p>Integrate inclusion, gender equality and women’s empowerment in technology development and use and meaningfully engage with diverse community members to inform the development and use of technologies.</p>				
4.1	<p>Ensure that technology development and deployment are inclusive and gender sensitive through enhanced partnerships between the Technology Division and gender, inclusion and protection specialists and through consultation with regional bureaux and country offices and, when appropriate, affected communities.</p>	TEC	GEN, PRO, CBT, NUT, RAM, SBP, regional bureaux, country offices	Medium	June 2023
4.2	<p>Implement inclusive recruitment, retention and staff development strategies in the information technology function of WFP to achieve greater diversity and gender parity in teams (e.g., women in technology positions, regional representation).</p>	TEC	Human Resources Division (HR), heads of all divisions and offices	Medium	June 2023
4.3	<p>Formalize processes and triggers for the engagement and meaningful participation of all relevant stakeholders (internal and external) in the development, piloting and use of digital technology, ensuring the equitable representation of the diverse people served by WFP as a standard component of WFP’s approach and its accountability to affected persons.</p>	TEC	PD DAB, PRO, GEN, CBT	Medium	June 2023

No.	Recommendation	Responsibility	Other contributing entities	Priority: high/medium	By when
4.4	Develop, update and mainstream the process and responsibilities for conducting country-office-level multidimensional technology impact assessments before, during and after digital technology implementation. Ensure that these assessments cover effectiveness, efficiency, sustainability, security, privacy and broader protection, equity and gender concerns.	TEC	DBTC, PD DAB, PROP, GEN, GPO, regional bureaux, country offices	Medium	June 2023
5.	<p>Monitoring, evaluation and knowledge management</p> <p>Develop a knowledge management approach to capturing, storing and disseminating internally and externally relevant information regarding WFP's use of technology, building supportive evidence and maximizing synergies that is appropriate for constrained environments.</p>				
5.1	Strengthen and improve the use of existing knowledge management tools to provide access to all useful technology-related information that is accessible and usable in constrained environments. This may include: i) a trusted digital solutions library containing essential information about WFP's technology portfolio and other approved solutions; ii) a central repository for key resources, factsheets and lessons learned from pilot rollouts and from the use of digital technologies in various settings; iii) an expert database of WFP staff and external experts who can be consulted on digital technology matters; and iv) the use of existing forums and communities of practice to facilitate peer-to-peer learning and support.	INK	TEC, PRO, CBT, NUT, RAM, SBP, SCO, EME, CAM, regional bureaux, country offices	Medium	December 2022

No.	Recommendation	Responsibility	Other contributing entities	Priority: high/medium	By when
5.2	Strengthen existing monitoring and evaluation and reporting efforts by putting in place performance measurements, assessments and reporting frameworks and clearly defining accountabilities, with differentiated approaches during pilot testing, initial deployment, scale up and routine monitoring of digital technologies and data.	TEC	Monitoring and Evaluation Liaison Unit (CPPM), INKA	Medium	December 2022
5.3	Conduct periodic studies and evaluations to fill critical knowledge gaps and disseminate good practices in the use of digital technologies on an as-needed basis on subjects such as gender and inclusion, cost-effectiveness, efficiency and value-for-money, risk reviews and shifting the burden of consent.	TEC	INK, PD	Medium	December 2022
6.	Digital skills and change management Invest in developing and implementing a coherent capacity development and change management strategy with regard to basic digital skills and data literacy for all WFP staff, especially in countries with low digital literacy and skills.				
6.1	Assess opportunities to strengthen digital technology entrepreneurship and digital skills for WFP staff, including through the maintenance and development of specialist skills at headquarters and regional bureaux to support country offices in the use of digital technology and through strengthening job profiles to match technological requirements.	TEC	HR, all divisions and offices	Medium	June 2023
6.2	Update and expand available training modules on the use of digital technologies and data (e.g., WeLearn) and turn them into a coherent curriculum for staff to build their skills incrementally.	TEC	HR	Medium	June 2023

No.	Recommendation	Responsibility	Other contributing entities	Priority: high/medium	By when
6.3	Examine opportunities to make access to sensitive data conditional to having received adequate training on sensitive data handling.	GPO	TEC, heads of all divisions and offices	Medium	June 2023
6.4	Consider digital technology implementation to be a behaviour change effort that requires a change management strategy beyond training to ensure sustainable adoption and compliance.	TEC	DBTC, PD DAB, heads of all divisions and offices	Medium	June 2023
7.	Partnerships Invest in developing and supporting successful technological partnerships in and for operations in constrained environments, focused but not limited to local partners, considering mutual benefits as a key principle for sustainability and including efforts to improve and sustain access to the Internet.				
7.1	Refine and implement guiding principles that include consultation and local relevance and sustainability as key factors in the selection, development and use of technology, including potential support for and partnerships with local innovators.	TEC	INK, PD	Medium	June 2023
7.2	Support digital capacity development for implementing partners, for example through dedicated support staff and appropriate and accessible training modules on a cooperating-partner-facing training platform.	TEC	HR	Medium	June 2023

No.	Recommendation	Responsibility	Other contributing entities	Priority: high/medium	By when
7.3	Enhance procedures and capacities for increasing personal data protection when working with various stakeholders, including through contract templates, guidance material and training and capacity building.	GPO	PROP, LEG, TEC, PD, Partnership and Advocacy Department (PA), regional bureaux and country offices	Medium	June 2023
7.4	Take stock of, streamline and continue to raise awareness of oversight, due diligence and review processes for the development of partnerships with a digital technology or data dimension, including with regard to the vetting of partners, communication and transparency and their ethical, reputational, and operational implications, especially when considering state, parastatal and private partners.	TEC	Technology Industry Engagement group, PPF, LEG and regional bureaux	High	June 2022

Acronyms

AAP	Accountability to Affected Populations
AB	Architectural Board
ACR	Annual Country Reports
ADE	Aide à la Décision Économique
AI	Artificial Intelligence
AIMS	Asset Impact Monitoring System
ALNAP	Active Learning Network for Accountability and Performance in Humanitarian Action
API	Application Programming Interface
APP	Annual Performance Plan
ARM	Association on Refugees and Migrants
BB	Building Blocks
BEM	Business Engagement Manager(s)
BIMS	Biometrics Identity Management System (UNHCR)
CARM	Community Accountability Reporting Mechanisms
CATI	Computer-Assisted Telephone Interviewing
CBT	Cash-Based Transfers
CFM	Community Feedback Mechanisms
CIO	Chief Information Officer
CISO	Chief Information Security Office
CLE	Comparative Learning Exercise
CMAM	Community Management of Acute Malnutrition
CO	Country Office
CODA	Conditional On-Demand Assistance (SCOPE)
COMET	Country Office Tool for Managing Programme Operations Effectively
COVID-19	Coronavirus Disease 2019
CP	Cooperating Partner
CPPS	Corporate Performance Planning Branch
CRF	Corporate Results Framework
CSO	Civil Society Organization(s)
CSP	Country Strategic Plan
CSPE	Country Strategic Plan Evaluation
CTA	Cash Transfer Assistance
CVA	Cash and Voucher Assistance
CwC	Communication with Communities
DAC	Development Assistance Committee
DBTC	Digital Business and Technology Committee
DED	Deputy Executive Director
DIMA	Data and Information Management and Analysis Unit (UNHCR)
DLT	Distributed Ledger Technology
DPKO	Department of Peacekeeping Operations (United Nations)
DRC	The Democratic Republic of the Congo
DVAC	Digital Cash and Voucher Assistance Programme
EAP	External Advisory Panel
ED	Executive Director
ELAN	Electronic Cash Transfer Learning Action Network
EM	Evaluation Manager
EME	Emergency Operations Division
EMEG	Emergencies

EQAS	Evaluation Quality Assurance System
ERM	Enterprise Risk Management Division
ERP	Enterprise Resource Planning
ET	Evaluation Team
ETC	Emergency Telecommunications Cluster
ETO	Ethics Office
ETS	Emergency Telecommunications Sector
FAO	Food and Agriculture Organization
FbF	Forecast-based Financing
FFA	Food Assistance for Assets
FGD	Focus Group Discussion
FLA	Field-Level Agreements
FO	Field Office
FSDN	Field Software Development Network
FSP	Financial Service Provider
GAM	Gender and Age Marker
GDT	Global Distribution Tool
GEN	Gender Office
GEWE	Gender Equality and Women Empowerment
GFA	General Food Assistance
GFD	General Food Distribution
GPO	Global Privacy Office
HQ	Headquarters
HR	Human Resources
HRMTM	Talent Acquisition and Deployment Branch
HRMTW	Workforce Planning and Strategy Branch
IASC	Inter-Agency Standing Committee
ICA	Integrated Context Analysis
ICSP	Interim Country Strategic Plan
ICT	Information and Communication Technology
ICTD	Information and Communication Technology Division
IFAD	International Fund for Agricultural Development
IFI	International Financial Institutions
IFRC	International Federation of Red Cross and Red Crescent Societies
IIC	Iraq Information Centre
IMC	International Medical Corps
INGOs	International Non-Governmental Organizations
INK	Innovation and Knowledge Management Division
INKA	Innovation Accelerator
IOM	International Organization for Migration
IPC	Integrated Phase Classification
IRC	International Rescue Committee
IRG	Internal Reference Group
IRRM	Integrated Rapid Response Mechanism
ISP	Internet Service Point
IT	Information Technology
ITU	International Telecommunications Union
IVR	Interactive Voice Response
KII	Key Informant Interview
KPI	Key Performance Indicator
LDCs	Least Developed Countries
LESS	Logistics Execution Support System

LGBTI	Lesbian, Gay, Bisexual, Trans and Intersex Individuals
M&E	Monitoring and Evaluation
M&E	Monitoring and Evaluation
MENA	The Middle East and North Africa
MIS	Management Information System
MISSC	Management of Information Systems Steering Committee
MMO	Mobile Money Operators
MMT	Mobile Money Transfers
MNO	Mobile Network Operator
MoDA	Mobile Operational Data Acquisition
MoU	Memorandum of Understanding
mPOS	mobile Point of Sale
mVAM	mobile Vulnerability Analysis and Mapping
NGO	Non-Governmental Organization
NUT	Nutrition
OCHA	United Nations Office for the Coordination of Humanitarian Affairs
ODK	Open Data Kit
OEV	Office of Evaluation
OIGA	Office of the Inspector General and Audit
OMS	Operations Management Support Office
OMS	Operations Management Support Office
OPSCEN	Operational Information Management and Operations Centre Unit
OSE	Emergency Preparedness and Support Response Division
OSZPH	Emergencies and Transitions Unit
PD	Programme and Policy Development Division
PDS	Public Distribution System
PIA	Privacy Impact Assessment
PID	Project Initiation Document
PII	Personal Identifiable Information
PPE	Personal Protective Equipment
PPF	Private Partnerships and Fundraising Division
PRIMES	Population Registration and Identity Management Ecosystem
PRISM	Platform for Real-time Impact and Situation Monitoring
PRO	Programme – Humanitarian and Development Division
ProGres	Profile Global Registration System
PRRO	Protracted Relief and Recovery Operation
PSA	Programme Support and Administrative Budget
PWD	Persons with Disabilities
RAM	Research Assessment and Monitoring
RAM	Research Assessment and Monitoring Division
RAMAH	Hunger Monitoring Unit
RAMM	Field Monitoring Service
RB	Regional Bureau
RBC	Regional Bureau for the Middle East and Northern Africa
RBD	Regional Bureau for Western Africa (Dakar)
RITO	Regional Information Technology Officers
RMP	Performance Management and Monitoring Division
SBP	School-based Programmes
SCO	Supply Chain Operations Division
SCOLB	Logstics Service
SCOO	Supply Chain Planning Service
SDG	Sustainable Development Goal(s)

SE	Strategic Evaluation
SEC	Students (secondary schools)
SMS	Short Message Service
SOC	Social Protection Office
SOP	Standard Operating Procedures
T4D	Technology for Development
TEC	Technology Division
TECA	IT Architecture, Policy and Strategy Branch
TECB	Beneficiary Services Branch
TECE	Business Engagement Branch
TECG	IT Governance and Partnerships
TECI	Information Security Branch
TIC	Technology Investment Committee
TIE	Technology Industry Engagement Group
ToR	Terms of Reference
UN	United Nations
UN WOMEN	United Nations Entity for Gender Equality and the Empowerment of Women
UNDAF	United Nations Development Assistance Framework
UNDSS	United Nations Department for Safety and Security
UNEG	United Nations Evaluation Group
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
UNOPS	United Nations Office for Project Services
USAID	United States Agency for International Development
VAM	Vulnerability Analysis and Mapping
VSAT	Very Small Aperture Terminal
WASH	Water Sanitation and Hygiene
WEL	Staff Wellness Division
WFP	World Food Programme
WINGS	WFP Information Network and Global System

Office of Evaluation

World Food Programme

Via Cesare Giulio Viola 68/70

00148 Rome, Italy

T +39 06 65131 wfp.org/independent-evaluation