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Summary report on the strategic evaluation of WFP's use of technology in constrained environments

Executive summary

This strategic evaluation of WFP's use of technology in constrained environments was conducted between September 2020 and September 2021. It serves the dual purpose of accountability and learning. It aims to provide lessons and insights to help guide WFP's digital transformation and use of technology in constrained environments to improve operations and accountability to affected populations.

The findings are based on the triangulation of multiple sources of information, including six country case studies, interviews with more than 300 key informants, and surveys and focus group discussions involving 1,000 staff members and 1,400 people served by WFP.

The use of digital technologies to support the planning, design, targeting, implementation, monitoring, management and security of operations has long been a feature of WFP's actions in constrained environments. Notably, WFP has developed and deployed a broad portfolio of corporate, local-level, internal and external digital technologies to support its operations. This reflects an early recognition of the potential of digital technologies within WFP and has been accompanied by increasing consideration of the risk posed by the development and use of digital technology and data in constrained environments.

The importance and the challenges of WFP's digital transformation have been recognized and are given increasing consideration in its strategic plans and organizational structure. This evaluation finds convincing evidence that the use of digital technology is enhancing the effectiveness and

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efficiency of WFP operations. It observes important progress towards addressing data protection and cyber-security risks through rapidly expanding processes, policies and practical guidelines.

Acknowledging the unique expertise and experience of WFP, this evaluation finds that strategic clarity is lacking both in terms of a coherent direction for digital transformation and in terms of clear positioning on contentious issues pertaining to humanitarian technology. This includes the use of biometrics, open-source solutions, public-private partnerships and digital services to government. This lack of clarity hinders progress internally and undermines the potential for WFP to establish itself as a trusted and credible leader in humanitarian technologies.

Despite its successes, there remain fundamental challenges to the digital transformation of WFP, including fragmented governance and responsibilities, unresolved tensions between centralized technology services and the needs of country operations and the requirement for greater investment in human resources. Perhaps more fundamentally, WFP's rapidly expanding use of digital technology and processing of data are at risk of failing the people it is supposed to serve by not including them meaningfully in technology choices and assessments and by shifting the technological burden and protection risks to individuals and communities, especially in constrained environments.

WFP has demonstrated a robust strategic commitment to its digital transformation, focusing on operational efficiency. This needs to be matched by an equal focus on inclusion and protection and clear internal and external positioning on the responsible use of digital technology and data.

The report makes several recommendations, all of which require special consideration with regard to constrained environments. These include the formulation of an overall strategic vision for the use of digital technology and data in which people and protection are central concerns and the translation of this vision into clear standards, directives and practical guidance; the strengthening of governance arrangements for the digital transformation; the further development of strategies to ensure the effective protection of people and the management of risks associated with the use of digital technologies; the mainstreaming of inclusion and gender equality considerations and more meaningful engagement with communities in the development and use of digital technologies; the development of an appropriate approach to managing information and learning about WFP's use of digital technology; increased investment in capacity development relevant to basic information technology skills and data literacy; and the further development of technology partnerships.

Draft decision*

The Board takes note of the summary report on the strategic evaluation of WFP's use of technology in constrained environments (WFP/EB.1/2022/6-A) and management response (WFP/EB.1/2022/6-A/Add.1) and encourages further action on the recommendations set out in the report, taking into account the considerations raised by the Board during its discussion.

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* This is a draft decision. For the final decision adopted by the Board, please refer to the decisions and recommendations document issued at the end of the session.

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?	*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.*
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?	*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.*
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?	*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.*
PARTNERSHIPS	4	How well does WFP manage its **partnerships** in relation to the provision and use of digital technologies in constrained environments?	*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.*

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.

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[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.

Figure2: Case study countries and ACAPS/IDI scope
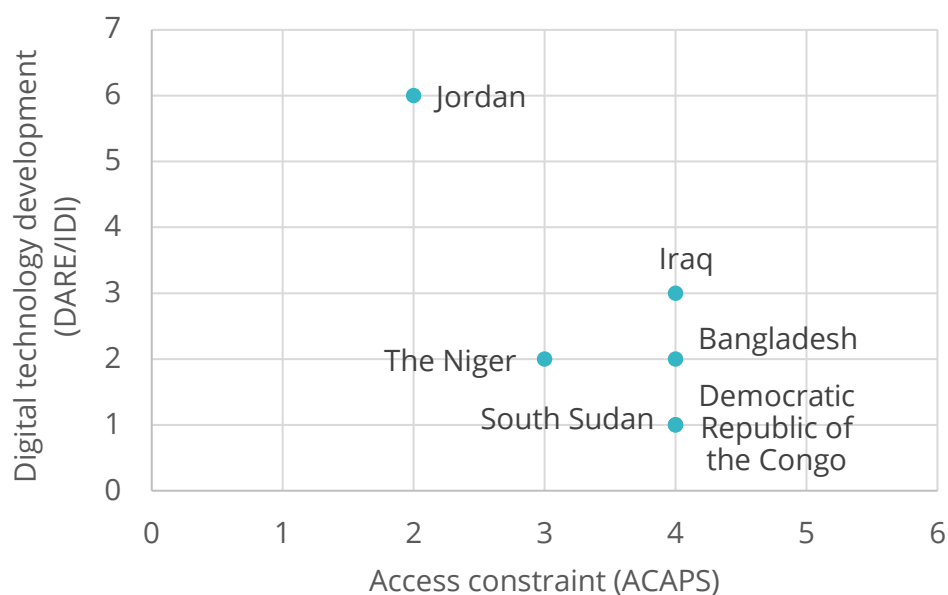
Sources: *Aide à la Décision Économique.* 2021; ACAPS. 2020. *Humanitarian Access Overview*.
Abbreviations: DARE = Global Initiative for Inclusive ICTs Digital Accessibility Rights Evaluation
Index; IDI = International Telecommunication Union ICT Development Index

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 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,

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[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.

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 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.

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[4] South Sudan and Iraq case studies.

[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*.

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 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 audits[6] 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.

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[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.	**Strategy** 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.				
1.1	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.	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.	**Governance** 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.				
2.1	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.	CIO	DBTC, PD DAB, TEC, SCO, EME, GPO, Enterprise Risk Management Division (ERM)	High	December 2022
2.2	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.	CIO	DBTC, PD DAB, TEC, INK, GPO, ERM	High	December 2022
3.	**Risk and protection** 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.				

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.	**Inclusion and engagement** 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.				
4.1	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.	TEC	GEN, PRO, CBT, NUT, RAM, SBP, regional bureaux, country offices	Medium	June 2023
4.2	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).	TEC	Human Resources Division (HR), heads of all divisions and offices	Medium	June 2023
4.3	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.	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.	**Monitoring, evaluation and knowledge management** 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.				
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, heads of 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