SAVING
LIVES
CHANGING
LIVES

DIGITAL TRANSFORMATION

Beyond the Annual Performance Report 2019 series

WFP
World Food Programme

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I. INTRODUCTION

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The World Food Programme (WFP) Strategic Plan recognizes that strengthened investment in and adoption of technology is critical to achieving its goals and objectives. This is consistent with the United Nations Secretary-General's (UNSG's) Data Strategy and the Digital Cooperation roadmap, which envisions the UN effectively and strategically leveraging data to make more informed decisions. In parallel to this vision, WFP is engaged in a digital transformation: a process which is combining the powers of innovation, technology and data in order to fundamentally change its existing business model. This means creating a central system that will make it easier and faster to analyze, operate, adapt and add value to WFP's performance.

Digital transformation is a WFP priority – and as the transformation proceeds, it will enable the organization to better understand and serve its beneficiaries and, at the same time, improve its ability to help governments develop and manage their own food security initiatives. Further, providing this integrated, real-time information will support the humanitarian community's evidence-based planning, decision-making and operational effectiveness.

WFP has seen and embraced the potential of digital transformation. In dealing with the COVID-19 pandemic, for instance, WFP's quick reaction – creating and switching to digital workspaces – enabled it to maintain business continuity. Having this digital prowess has also enabled WFP to maintain continuous support of its 100 million direct global beneficiaries while also adding support for others who require assistance due to the pandemic.

Looking ahead, in order to fully benefit from digital transformation, WFP must continue to evolve. This will call for creating the culture and governance structure, developing, adopting or adapting the needed technology, in alignment with a broader institutional strategy and establishing the partnerships that promote transformation. Ensuring smoothness in this transition will require regular monitoring of progress, strategic leveraging of the global network to deploy technological solutions at scale, and utilizing data across the organization's policies, programmes and operations.

Digital transformation also necessitates a staff that possesses both digital agility and an innovative mindset. It will require WFP to consider: i) how to enable staff to perform optimally; ii) the speed and breadth in which it leverages the technology across the 80 countries in which it operates; and iii) how to maintain the highest standards without compromising the integrity and privacy of beneficiaries, security, human rights or UN values.

Of course, emerging technologies and business models constantly change the digital landscape, making it imperative that, in its effort to transform, WFP remains vigilant of potential challenges as it explores new possibilities. WFP operates in an increasingly competitive funding landscape. Improving digital capabilities will enable it to transform operations and increase cost-efficiency, facilitate stronger collaboration with all partners, adapt to the evolving needs of governments, and use WFP's comparative advantage to further collaboration with donors and partners, and strengthen trust and transparency.

This report provides a snapshot of WFP's digital transformation initiatives and their results to date. It reflects WFP's commitment to continue strengthening its digital footprint to facilitate collaboration with the humanitarian community's growing digital ecosystem and, in turn, enhance its ability to support achievement of the Sustainable Development Goals (SDGs).

II. WFP DIGITAL TRANSFORMATION PRIORITIES AND STRATEGIC APPROACH

Photo: WFP/Alexandra Alden

WFP's digital priorities focus on fulfilling the immediate hunger needs of beneficiaries while also laying the foundation for them to become food secure. The strategic application of digital technology helps build more meaningful one-to-one relationships with beneficiaries. It also strengthens WFP's relationships with its implementing partners and governments by providing access to data that increases understanding of, for example, purchase habits, resource prioritization or policy development. This understanding serves to increase WFP's ability to meet their needs

Throughout its history, WFP has developed internal systems dedicated to alleviating hunger, food insecurity and poverty, and moving quickly to save lives, particularly during emergencies. Yet, these systems have been developed individually and, thus, are fragmented – which means they lack inter-operability and uniform standards. It also means they are unable to consolidate multiple data sources, which prevents more strategic analysis and decision-making.

As a result, WFP's current approach to digital transformation focuses on ensuring all systems, tools and applications talk to each other – providing a seamless source of reliable data that eliminates legacy issues and increases collaboration across the organization. This fluidity will generate greater benefits from across data streams, and provide a more comprehensive view across policies, programmes and operations. Also, thanks to an institutional shift to address cybersecurity, the security of the data itself is considered at the inception of transformation projects rather than as an afterthought.

This approach is included in all of WFP's work - from needs assessments to registering and empowering beneficiaries to enabling partners' work. For example, the mobile version of vulnerability assessment mapping (mVAM) uses data collected through features such as SMS, voice responses and chat platforms. This not only enables real-time remote monitoring of household food security, nutrition, and food-market-related trends, it also provides early warnings of deteriorating food security situations and contributes to more effective decision-making.

Similarly, SCOPE, WFP's digital assistance platform, provides a secure, flexible way to manage the registration and provision of humanitarian assistance and entitlements for over 50 million beneficiaries. WFP is also piloting School Connect, a new platform that enables staff to monitor school attendance, meal consumption, expenditures, nutrition and food stocks. This, in turn, helps address core challenges that impact the performance and development of school children who benefit from school meals programmes.

Additional examples include the Humanitarian Booking Hub, which provides booking services for UN, NGO and partner staff members traveling in the field, and the UN Service Marketplace (Marketplace) – both of which WFP operates. The Marketplace improves the coordination of international responses by providing booking, transport and logistical services. This contributes to enabling WFP partners while promoting UN reform. For example, an emergency version of the Marketplace was launched to combat the impact of COVID-19 on global travel restrictions, and has played a critical role in enabling the continuity of international humanitarian response throughout the pandemic.

To achieve and maintain this kind of impact throughout its country and regional offices, WFP must also ensure strategic alignment, digital literacy, and cultural change across the organization. Longer term transformation will require sustained funding levels and strategic technical partnerships. Above all, it will necessitate linking WFP's technology, processes, people and partners in a way that emphasizes results, speed, openness and autonomy.

For example, automating repetitive and time-consuming tasks gives WFP staff space and time to perform other, more impactful work. Similarly, providing partners access to select platforms and data encourages collaboration and streamlines resource allocation. Finally, access to systems such as the Country Strategic Plan (CSP) Portal ensures WFP remains fully accountable to its donors.

ALIGNING STRATEGY AND TECHNOLOGY FROM THE GROUND UP

It is not easy to align an established operating model with rapidly evolving technology across WFP operations, which have vastly different strategic priorities, budget allocations, infrastructure and skills base. This means that solutions developed for unique problems at the field level must be consistent with a strategic global approach that delivers economies of scale for WFP's budgets, impact and data assets.

It is for this reason that a team of business engagement managers from the Technology Division (TEC) works closely with all WFP functions. The team guides WFP's planning and prioritizes investment in technologies that offer the biggest strategic impact. This complements a senior-level strategic review that ensures a common approach before allocating significant amounts of time or money.

The team focuses on understanding how different business areas' capabilities evolve and how investment in technology supports longer-term objectives. The result is reflected in the team's ongoing creation of strategy-technology roadmaps for each division, which align to ensure the entire organization is moving in the same direction.

For example, the WFP School-Based Programming division's global strategy is set to adapt to the diverse operational, socio-economic and programmatic needs of each country. Some of the most common challenges include: i) finding ways to minimize supply pipeline breaks; ii) helping increase the number of feeding days in schools; iii) expanding the diversity of nutritious and affordable school meals; iv) providing access to food produced by the local community; v) strengthening capacity-building through knowledge transfer; and vi) making it easier for staff to access quality data to make timely decisions.

The School-Based Programming division works with TEC to identify where and which technology offers viable solutions to support achievement of strategic goals. This insight is gleaned using methods such as school visits and interviews in collaboration with country offices. The information is then integrated into the strategy-technology roadmap for School-Based Programming, helping identify the most effective way to design a product or platform that enables operational and programmatic impact on the ground.

WFP is employing a similar approach in designing Farm2Go, a digital traceability solution that ensures commodities purchased through smallholder farmers are tracked throughout WFP's supply chain. It is currently a pilot and will be fundamental to realizing WFP's Local and Regional Food Procurement Policy that was approved 18 November 2019. This practical approach to aligning field-based solutions with longer-term WFP strategies and investments will lead towards a more streamlined, fit-for-purpose portfolio of products to better serve WFP's beneficiaries, partners and governments.

UNLOCKING THE VALUE OF WFP'S DATA

WFP produces and consumes a wealth of data that requires costly and time-consuming efforts to format and facilitate decision-making. In addition, the organization's rapid switch to remote working and digital collaboration triggered by COVID-19 called for adoption of or creation of myriad new digital tools and data pools needed to support the wider humanitarian community as it urgently adapts to this unprecedented situation.

The two biggest challenges WFP is tackling currently concern having access to reliable, governed data, and the need to integrate data to identify insights for decision-making.

At this time, WFP is focusing efforts to unlock the full value of data by:

- assessing and addressing data gaps and needs at all levels - from country office to headquarters, using strategic technology roadmaps;
- shifting the culture through promoting data literacy for all staff and a network of data champions identified through WFP's Global Data Fellows Programme;
- providing staff with simple tools that integrate data collection, analysis and visualization as well as training to fully leverage data;
- building a robust, single source of truth that is governed and accessible to all through DOTS – WFP's new data platform;
- adhering to defined data protection and privacy standards.

DOTS, WFP's new data engine that supports evidence-based decision-making, was launched in 2019. Now used by more than 400 WFP staff on a weekly basis, it promotes transparency among partners and host governments. Usage will increase as it is adopted across different regions, particularly during the COVID response. The platform's end-to-end visibility informs decisions on the delivery of critical assistance – from anticipating supply chain disruptions to identifying alternative solutions. In the coming year, efforts will focus on expanding DOTS to all staff in country offices and headquarters.

Photo: WFP/Nihab Rahman

Photo: WFP/Tatenda Macheka

DIGITAL TRANSFORMATION LEADS TO GREATER EFFICIENCY

Becoming an organization that extracts maximum value from its data will require simple, user-friendly administrative processes. This begins by automating time-consuming tasks that prevent staff members from having time to perform more complex activities that would provide greater value.

Last year, for example, WFP automated eight of its most frequently used paper forms as part of its Critical Corporate Initiative 2.1. Similarly, over half a million paper-based transactions a year will be digitized and automated by the end of 2020. This year, ongoing investment will result in a new tool that streamlines staff services, providing them with a single access point for all of their requests. This not only reduces the volume of paperwork and simplifies processes, it simultaneously saves resources, improves efficiency and makes WFP more environmentally friendly.

FUTURE-PROOFING WFP

Digital transformation remains an ongoing process of learning, doing and improving – being prepared to adopt or adjust as new technologies and opportunities emerge. Establishing a more open, integrated, secure and prepared WFP requires both increasing the quality of technology adopted and used and making sure it is fit for purpose.

While there is more to do, WFP has already made significant progress by, for example, harnessing technology to integrate newly built solutions, while also facilitating the integration of data from existing systems. Recognizing that technology is not limited to IT departments that specialize in using technology, WFP provides guidance and standards to developers across the organization, enabling them to build technology safely and to integrate it with existing tools and applications. This collaborative approach to development allows WFP to deliver reliable performance, and to move faster and more easily exchange data securely across WFP and with external partners.

MAKING IT EASIER FOR FIELD STAFF TO MAKE INFORMED DECISIONS

One of WFP's strengths is its network of all staff members who work closely with beneficiaries in over 80 countries. They provide a unique understanding of beneficiaries' needs and of potential solutions.

In order to support their work, digital transformation efforts must scale in a way that best serves regional bureaux, country offices, sub-offices, and area and field offices. This means ensuring that local priorities are fully aligned with WFP divisions' global strategy-technology roadmaps. WFP took a significant step in that direction in 2018 by establishing the global Digital Transformation Services Unit in Kenya. The hub works closely with teams in country offices to identify, define, develop, deploy and scale digital solutions in alignment with CSPs and the global strategy-technology roadmaps.

It also supports the recruitment of digital talent, onboarding, training, planning and budgeting for technology.

WFP's model for scaling digital transformation in the field is in its nascent stages. Yet, it is already demonstrating promising, tangible benefits. The Burundi and Bangladesh Country Offices were the first to engage in full technology assessments against their CSPs. The assessments are used to develop a roadmap for deploying technology to achieve objectives at the country level.

For example, the Burundi Country Office is piloting School Connect, the digital platform for school meals programmes. It is helping over 18,000 students in 20 schools by tracking attendance, costs, food deliveries and meal distribution to ensure more children are fed each month. The country office will continue to scale the platform post-COVID-19.

Likewise, the Bangladesh Country Office is using WFP's blockchain product, Building Blocks, to enable a common distribution platform across agencies within the Cox's Bazar refugee camps. Launched in March 2020, the product has served 200,000 refugees since its inception. With the onset of COVID-19, UNICEF adopted Building Blocks for soap distribution, and the biometric identification tool was quickly switched to QR codes to avoid personal contact. The project will continue expanding, reaching all retail outlets in the refugee camps.

TRANSFORMATION CHALLENGES

The steps of increasing digital transformation are simple, but delivering it is not. The challenges can be anticipated and overcome but should not be underestimated.

Lessons emerging from efforts to provide digital technology for CSPs must be analyzed and shared quickly. This will help align CSPs with WFP's broader strategy within the next two years. In addition, WFP recognizes that culture change and data literacy are essential to digital transformational success.

With regards to operations, ensuring strong connectivity is paramount, but the connectivity must be coupled with ongoing maintenance of tools, systems and applications. WFP needs more reliable, flexible and secure connections to support daily operations and to access the benefits of digital transformation. Further, the transformative potential of technology is dependent on the ability to properly maintain, manage and host that technology. As a result, WFP must continue investing in these areas to support its ongoing digital transformation.

Ethics and risk management must remain foremost in WFP's decisions and actions. Beneficiaries, partners, donors and staff data must be securely protected. It's therefore imperative to create a governance structure which keeps pace with the digital transformation and ensures the highest data protection standards. Consequently, WFP has created an interim Responsible Data Task Force – a team of experts and practitioners from across the organization – to address these issues. The Task Force has also added the new position of Data Protection Officer to assume these responsibilities.

III. WFP'S CURRENT TRANSFORMATION INITIATIVES AND THEIR IMPACT

Photo: WFP/Laura Lacanale

This section highlights eight of the digital initiatives WFP has launched or participates in, explaining their necessity and also looks at their impact. These initiatives – including digital applications, tools, platforms and services – are detailed below.

1. Offer the right assistance at the right time for beneficiaries

2. Enable efficiency and effectiveness for WFP partners

3. Prepare and coordinate emergency response

4. Facilitate decision-making and policy development

5. Explore the use of innovative technology to drive exponential impact

6. Leverage technology and innovation expertise with collaboration and partnerships

7. Prepare for culture change and the future workplace

8. Explore creative digital communication and advocacy

1. OFFER THE RIGHT ASSISTANCE AT THE RIGHT TIME FOR BENEFICIARIES - SDG 2

Government donors are increasingly advocating for multilateral institutions to increase the effectiveness and efficiency of their assistance. This trend reflects electorate and elected officials' heightened scrutiny of governments' development and humanitarian expenditures. It will also be exacerbated by COVID-19's anticipated negative impact on donors' multilateral budgets – resulting in greater pressure on WFP to use donor resources more effectively and efficiently.

Strategic Result 1 – Access to Food

WFP has undertaken several initiatives to achieve this objective, including making use of digital payments and beneficiary management platforms. These and similar activities contribute to WFP reaching the right people, at the right time, with the right type of assistance.

- **Cash Based Transfers (CBT).** WFP uses this modality to provide beneficiaries with the means to meet their essential needs, including food and nutrition, and to empower them with greater choice. WFP transferred a record US$2.1 billion in CBTs in 2019, up from US$10 million in 2009. These funds are delivered digitally through smart cards, mobile money, cash-in hand or paper vouchers. For many beneficiaries, CBTs are the first time they use financial means such as bank cards, regular transfers or accounts. CBT programmes provide people with access to financial products. Funds provided through CBT are injected directly into local economies and yield important market multiplier impacts.

- **SCOPE.** WFP's beneficiary information and transfer management platform. SCOPE was developed internally and launched in 2013. It acts as a secure digital registry of beneficiary and operational data. The registry provides a comprehensive view of the programme while allowing assigned users to easily manage the data across the multiple and simultaneous operations run in SCOPE. To date, over 50 million identities from 64 countries have been stored in SCOPE.

  The platform uses all of the available transfer modalities – CBT, commodity voucher and in-kind – and facilitates the management of an operation, from creating the interventions to the delivery of assistance. Assigned users can securely transmit instructions to entities distributing the benefits, including the types and frequency of items to be distributed. Moreover, actions performed in SCOPE are traceable. As of May 2020, over 12 million beneficiaries had been assisted through SCOPE, representing a total transfer value of approximately US$568 million.

- **Building Blocks.** WFP's Building Blocks project is the humanitarian sector's largest blockchain-based cash distribution system. It enables multiple humanitarian organizations to combine resources, resulting in a jointly owned, central network where assistance is quickly channeled to beneficiaries through a single access point. WFP uses Building Blocks to provide cash-transfers directly to recipients, which reduces costs while increasing transparency and accountability.

  In 2019, Building Blocks:

  - served 107,000 Syrian refugees in Jordan's Azraq and Zaatari refugee camps;
  - transferred US$3 million every month, saving 98 percent in financial transaction fees;
  - conducted its first transactions with UN Women using the Building Blocks platform.

  In 2020, WFP is seeking to expand Building Blocks' implementation to other countries. This includes expanding the Bangladesh pilot that supports over 200,000 Rohingya refugees in Cox's Bazar, Bangladesh – the world's largest refugee camp.

Strategic Results 2, 3 and 4: End Malnutrition, Smallholder Productivity and Incomes, and Sustainable Food Systems

- **Farm2Go.** A mobile app that WFP developed in 2019, Farm2Go is currently being piloted. It integrates existing solutions and resources from external partners into a central platform, with the goal of empowering smallholder farmers to strengthen resilience and productivity in more vulnerable communities. The platform enables farmers to sell their commodities, but also to access crop prices, weather information, financial services, agricultural inputs, training inputs and other services.

  The app provides WFP with a more unified view of smallholder farmers and their interactions with WFP and other institutions. This enables WFP to improve the way it traces the movement of commodities across the entire supply chain.

  More than 6,000 farmers currently use Farm2Go in Kenya and Rwanda, with plans to expand coverage to over 40 additional countries during the next year. Information gathered through the app generates insights that enable WFP and external partners to make evidence-based decisions to improve programming.

- **H2Grow.** WFP's hydroponics project, H2Grow, provides a no-soil, water-efficient solution for people to grow their own food in harsh environments. H2Grow supports food-insecure families – increasing their access to fresh food by using local materials. H2Grow was featured at the 2019 UN General Assembly and Paris Peace Forum.

  In 2019, H2Grow directly impacted more than 7,600 people in seven countries, many of them women and children. In 2020, WFP plans to expand H2Grow to five more countries and, by 2021, it aims to reach 2 million people in 21 countries through partnerships, scaling strategies and leveraging technology for digital training with the new H2Grow online platform.

- **PLUS School Meals.** WFP launched this digital solution to optimize school menus in 2019. PLUS offers information to make school meals more nutritious and cost-effective while promoting locally-sourced products and respecting cultural food habits. Using advanced algorithms and drawing from various types of data, such as food prices and food composition tables, PLUS recommends a series of meals for school administrators and cooks to prepare.

  The first PLUS-made menu, in Bhutan's Punakha region, provided the same nutrient content as the previous school menu but cost 21 percent less. It also sourced more produce locally, buying 17 percent of food directly from nearby farmers compared with just 10 percent before PLUS. The PLUS software received the Global Best Practices Award from the World Expo Dubai 2020.

- **School Connect.** School Connect is a web-based data tracking solution developed by WFP specifically for school meals. The Burundi Country Office is currently testing the tool. School Connect operates on various devices and facilitates real-time tracking of important indicators such as attendance, food utilization and school inventories.

- **School Meals Dashboards.** WFP school-based programming and TEC are currently developing real-time, interactive online dashboards to equip school meals managers with up-to-date quality data. This enables WFP to deliver food more efficiently, and to plan monitoring visits, and report to partners and donors. The integration of programme, logistics and reporting data in interactive dashboards will optimize monitoring, planning, decision-making and overall programme quality and operations management. To date, WFP staff members in 10 countries have been trained to develop, maintain and upgrade their dashboards.

Photo: WFP/Brook Dubois

Photo: WFP/Marco Frattini

2. ENABLE EFFICIENCY AND EFFECTIVENESS FOR WFP PARTNERS – SDG 17

3. PREPARE AND COORDINATE EMERGENCY RESPONSE

WFP is scaling its technology systems and deepening its digital solutions and services to increase operational efficiency, effectiveness and transparency, and to take steps to prepare and coordinate emergency response. The following lists important examples of ongoing work.

- **Humanitarian Booking Hub (Hub).** The Hub is a digital platform offering booking and management services to the staff of UN, NGOs and partners travelling in the field. Registered staff members have access to 240 guesthouses, 100 hotels listed with United Nations Department of Safety and Security (UNDSS), 285 United Nations Humanitarian Air Service (UNHAS) flights, 360 drivers, 45 UN clinics and 30 counsellors' services from 7 UN agencies in more than 50 countries.

- **Drones.** WFP first deployed drones in the aftermath of tropical cyclones Idai and Kenneth in Mozambique during March and April 2019. Drone pilots captured thousands of aerial images, creating high resolution maps of damaged areas. The time needed to map the hardest-hit areas reduced significantly – from roughly one week to two or three days. Similarly, Digital Engine for Emergency Photo-analysis (DEEP), a machine-learning application, reduced the disaster analysis time from weeks to hours.

  This agile approach to data collection and damage assessment along with cross-referencing markers such as population density, demographics and food security, has the potential to yield more accurate information for humanitarians. This will contribute to their ability to make faster and more accurate decisions.

  WFP has based personnel with drone expertise in nine high-risk countries and has pre-positioned equipment in various country offices and regional bureaux. Personnel in Mozambique were given a 10-day training course on how to use DEEP in an emergency response.

- **Chatbots.** Working in tandem with national ministries of health, the Emergency Telecommunications Cluster (ETC) is developing and deploying chatbots to disseminate reliable health and safety information. The ETC is a WFP-led global network of organizations that work together and share communications services in humanitarian emergencies.
  Citizens in the pilot countries of Iraq, Libya and Central African Republic can quickly access crucial information related to emergencies such as COVID-19 by directing their questions to a chatbot.

  The ETC plans to further improve the functionality and effectiveness of the chatbot by using machine learning and artificial intelligence models. The objective is to enable the chatbot to interact with users, collect feedback, answer questions and generate in-depth insight into population concerns. In the big picture, the ETC chatbots contribute to informing humanitarian response and programming.

- **The COVID-19 Control Tower (Control Tower).**
  The Control Tower is a WFP mechanism dedicated to delivering vital medical equipment for WHO within the context of the COVID-19 Humanitarian Response Plan. Supplies that are provided include ventilators, masks, and testing kits that are tracked in near real-time through WFP's data engine, DOTS.

  The information generated in DOTS provides WFP Logistics with greater oversight of transportation and potential supply chain disruptions, among other things. The system, which started in March 2020, is expected to scale to 120 countries.

- **Emergency Service Marketplace.** This tailored version of the UN Service Marketplace was launched in March 2020 to support the global response to COVID-19. The platform acts as a central resource for humanitarian actors to request transit services from WFP. The Emergency Service Marketplace helps stakeholders make rapid deliveries of critical items such as medical equipment and food assistance to populations affected by the disease.

  Over 30 organizations are now using the platform to coordinate COVID-19 response efforts in 89 countries, with close to 528 metric tons of supplies shipped and tracked in near real-time by WFP. Those figures are expected to grow as the platform incorporates more partners.

4. FACILITATE DECISION-MAKING AND POLICY DEVELOPMENT

WFP plays a critical role in collecting and disseminating field data and utilizes technology to generate operational and beneficiary data from geographically remote locations. Our data analysis and insights help governments and responders work toward improved food security more effectively.

WFP utilizes the following digital platforms and initiatives to facilitate staff and senior leadership's decision-making and to shape policy development.

- **DOTS.** DOTS is WFP's new data engine that collates operational data into a central platform for staff's use. DOTS informally references connecting the "dots" across WFP. It reduces the time required to access crucial information such as beneficiaries' food ration quantities, transportation and food costs. It also reduces the time required to ship deliveries from hours to just seconds. This rapid and integrated means of providing information allows staff to make quicker, more informed decisions – with the ability to anticipate obstacles and identify mitigation strategies.

  The platform is powered by Palantir Technologies Foundry software. The software is part of a five-year, US$45 million partnership agreement with WFP, signed in 2019. This software is complemented by Tableau software's advanced visualization tools, which enables staff to create compelling, data-driven analyses to inform decision-making.

- **Mobile-VAM (mVAM) initiative.** WFP's mVAM involves conducting remote monitoring through mobile technologies. This primarily includes live voice calls as well as chatbots and text messages (SMSs). The initiative was piloted in 2013 and scaled in 2014 specifically for Guinea, Liberia and Sierra Leone to support the Ebola emergency response. With more than 50,000 households monitored a month, the use of mVAM tools has been rapid and is now used in 47 WFP countries, including in Level 3 emergencies.

  In 2018, remote monitoring evolved further, as WFP began implementing fully automated, approximate real-time food security monitoring systems. They provide a more flexible and efficient way to collect information that can easily be adapted to support a range of WFP programmes. These systems, now active in more than 25 countries, are often less expensive and faster, and they provide representative snapshots of a given situation at any point in time. WFP is collaborating with partners to expand to 32 countries by May 2020 in support of the COVID-19 global response.

- **Hunger Map LIVE.** WFP's new global hunger monitoring system tracks, analyses and visualizes food security data in approximate real-time. It leverages data collected daily through WFP's s remote monitoring systems. Users can leverage this system for easier access to a growing range of resources such as live dashboards and recurring snapshots of how hunger and COVID-19 are evolving globally, regionally and in countries where WFP has established remote monitoring systems.

- **Optimus.** This tool organizes data around nutritional values, sourcing locations, delivery times and various food costs. Data is displayed on a single screen, helping users identify inefficiencies and enabling rapid response to new issues affecting WFP operations. Documented in initial trials in WFP's Iraq operations, use of Optimus resulted in WFP reducing its food basket costs up to US$1.60 per beneficiary, per month. In total, the Iraq Country Office saved US$30 million due to Optimus' use.

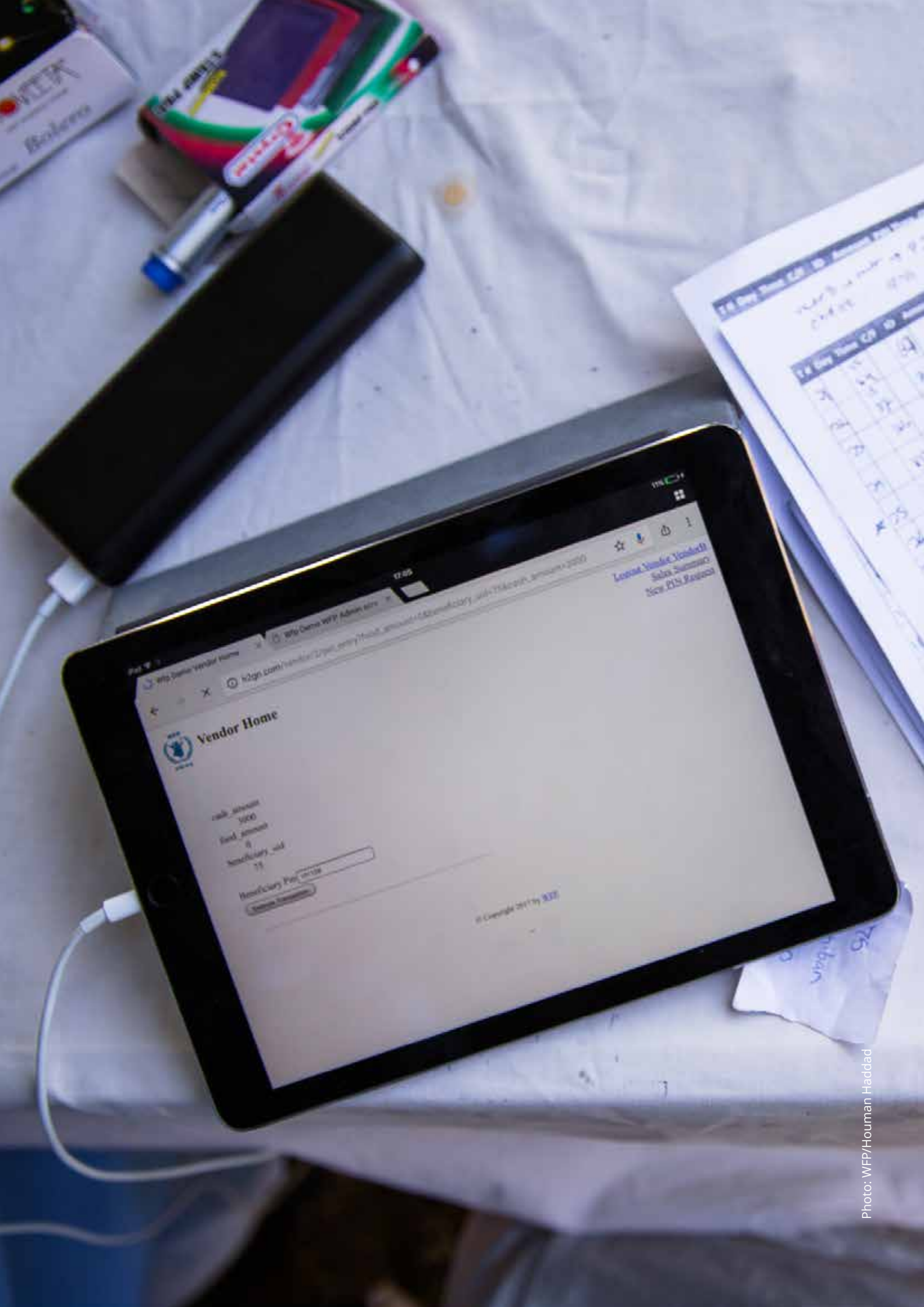

Photo: WFP/Houman Haddad

5. EXPLORE THE USE OF INNOVATIVE TECHNOLOGY TO DRIVE EXPONENTIAL IMPACT

As WFP looks to the future of the humanitarian system, it continuously explores emerging technologies, identifying innovations that can help achieve humanitarian and sustainable development outcomes.

- **Innovation Accelerator.** The WFP Innovation Accelerator sources, supports and provides capital for high-potential, global hunger solutions. Launched in 2015, it provides WFP staff, entrepreneurs, start-ups, companies and NGOs access to funding, mentorship and hands-on support.

- **EMPACT.** The EMPACT initiative equips young people, the majority of whom are women, to develop digital skills through a tailored, focused vocational training programme that prepares them for future work. EMPACT partners with leading tech firms to provide technical platforms to participants and connect trainees to online work opportunities that enable them to generate their own income.

The programme consists of a basic, six-week course that covers fundamental IT skills and is followed by advanced training, apprenticeships and a link to online work. In 2019, EMPACT trained 3,890 students and launched a new campus in the Kakuma, Kenya, refugee camp. Since launching in 2016, EMPACT has trained more than 6,670 students across 12 campuses in Kenya, Lebanon and Iraq, 65 percent of whom are female. In Iraq, almost 20 percent of students earn an income through online work, and 33 percent of alumni were employed four months after graduating. EMPACT's goal is to reach 20,000 students by the end of 2020 and 100,000 by 2025.

- **ShareTheMeal.** ShareTheMeal is WFP's fundraising app which enables smartphone users to provide hungry families with nutritious meals through a simple tap on their phones. It costs US$0.50 to feed one child for a day. Free to download, the award-winning app is an innovative way for people to join WFP's efforts to create a Zero Hunger world.

Over 19 million meals were shared in 2019 alone, a 73 percent increase from 2018. More than 69 million meals have been shared since the app launched worldwide in 2015. Each share helped provide emergency food aid, school meals and even micro-loans. The ShareTheMeal community raised funds for campaigns in Afghanistan, Central Sahel, Chad, the Republic of the Congo, Egypt, India, Madagascar, Malawi, Mozambique, Palestine, Syria, Yemen and Zimbabwe.

Photo: WFP/Lucia Casarin

6. LEVERAGE TECHNOLOGY AND INNOVATION EXPERTISE WITH COLLABORATION AND PARTNERSHIPS

WFP works strategically with the world's leading technology companies, governments, other UN agencies and NGOs to facilitate its work. It is an active contributor to knowledge-sharing fora such as the UN Innovation Network, which is co-led by WFP, UNICEF and UNDP, and the UN Digital Transformation Network. WFP aims to improve efficiency and secure cost savings of at least US$60 million through long-term, innovative engagement with the business sector.

Across the UN system, WFP has the longest history of innovation and technology development at scale. It has provided reliable technical expertise, data and IT support to governments and partners. Its strategic partnerships with the global technology industry include Palantir, Tableau, NEC, the Global System for Mobile Communications Association GSMA, Google.org, Facebook, and grants from the Bill and Melinda Gates Foundation, the X-Prize Foundation Ericsson, and the Cisco Foundation. They have enabled WFP to responsibly trial and co-develop use of frontier technologies that strengthen humanitarian response and deliver assistance more efficiently. Ericsson, WFP's longest-serving emergency standby partner, has supported WFP and ETC preparedness and response for nearly 20 years.

Two partners in particular – Palantir and Tableau – are helping WFP curate and responsibly use data to transform decision-making and to promote significant efficiency gains. They illustrate the importance of multi-year and sustainable collaboration.

- **Palantir Technologies, Inc.** In 2019, WFP and Palantir Technologies, Inc., signed a five-year, US$45-million partnership agreement. It has subsequently enabled technology and knowledge transfer through dedicated Palantir engineers who are co-located with WFP staff, working together to solve WFP's biggest data challenge: collecting data from multiple systems and making it accessible for staff.

- **Tableau Foundation.** WFP's partnership with the Tableau Foundation (Foundation) began in 2017. This vital three-year partnership has leveraged the Foundation's cutting-edge data visualization software and data science expertise. It has greatly benefitted WFP, enabling it to shift from presenting data in PDF bulletins to using more intuitive, visual and interactive dashboards. This has increased staff understanding of key trends across programs and operations, and has helped inform decision-making.
  Tableau has been used for corporate emergency analysis and mapping, including during the COVID-19 emergency response. In 2020, WFP aims to renew and strengthen the partnership with Tableau and its new owners, Salesforce, seeking to leverage additional Tableau expertise and technology capabilities – particularly data science and systems architecture expertise. This will ensure that the organization consistently uses data to help achieve Zero Hunger.

Photo: WFP/Davide Orr

7. PREPARE FOR CULTURE CHANGE AND THE FUTURE WORKPLACE

Fostering a culture that is data-driven and innovative in its approach to addressing future problems is one of the most critical factors in WFP's successful digital transformation. It calls for exploring emerging technologies and identifying the most useful mechanisms for achieving humanitarian and sustainable development outcomes. Once adopted or adapted for WFP's goals, these technologies will strengthen beneficiaries' empowerment and yield more effective assistance.

- **Innovation Accelerator.** The WFP Innovation Accelerator (Accelerator) regularly convenes humanitarian experts, entrepreneurs, investors and social innovators to identify, test and scale high-potential solutions created by WFP staff. Since its inception in 2015, the Accelerator has run several WFP Innovation Challenges, sourcing over 5,100 applications from 125 countries. It has hosted 26 innovation bootcamps for over 250 teams from its base in Munich, Germany, and in key innovation hubs such as Silicon Valley, USA, and Dar-es-Salaam, Tanzania. To date, the team supported more than 60 innovation teams pilot in the field, with 11 innovations now scaling up.

  The Accelerator adapted to COVID-19 travel restrictions by developing a fully virtual innovation bootcamp. This is a new experience, now running for WFP teams together with USAID, as well as other clients such as UNFPA, the UN Digital Solutions Centre (UNHCR and WFP), Humanitarian Grand Challenges, and The Bill & Melinda Gates Foundation.

- **Data Week.** The WFP Data Week is a biennial initiative that aims to unlock the potential of WFP staff, beneficiaries and partners by using the latest data and digital tools. In 2019, over 600 staff came together to launch WFP's new data engine, DOTS, helping power WFP's transformation into a data-driven digital organization. WFP's Global Data Fellows (see next bullet item) underwent intense training on how to use the platform to inform decision-making and to improve impact across the organization.

- **Global Data Fellows.** The WFP Global Data Fellows programme began in 2017 to promote the value and usage of data across WFP's diverse functions and geographic locations. Roughly 40 fellows – WFP staff who work frequently with data – provide proactive, on-ground support to WFP staff, sharing their knowledge and skillsets, and offering guidance and opportunities to leverage WFP data platforms and tools to make more effective decisions.

- **UN Digital Solutions Center (UNDSC).** UNDSC aims to create a suite of digital solutions that are shared among UN agencies. Launched in 2019 as a joint effort between WFP and UN Refugee Agency (UNCHR) and supported by the UN International Computing Centre (UNICC), its goal is to transform common business operations and to streamline time-consuming, transactional tasks. UNDSC held its first bootcamp in March 2020, with teams from WFP and UNCHR pitching new solutions that will be disseminated among the entire UN system.

- **Seamlessly working remotely.** WFP has initiated cloud storage and promoted online collaboration since it began its digital transformation journey in 2016. COVID-19 has broadened remote working across the organization. With more than 19,000 users working from their homes, hotels or duty stations while in the throes of the COVID-19 pandemic, WFP has supported remote working with secure virtual private network connections, training and tips on collaborating online, and other resources to get the best out of a remote working experience.

8. EXPLORE CREATIVE DIGITAL COMMUNICATION AND ADVOCACY

WFP is using digitalization to advocate and communicate more effectively and strategically with beneficiaries, donors and our partners.

- **Digital Communication Tools.** WFP's Communication, Advocacy and Marketing (CAM) division has transitioned to utilizing digital communication tools to streamline internal team coordination, planning and production, and to reach and engage new audiences. Internally, digital tools are used to produce social media videos, publish engaging human-interest stories, create templates, and track social and traditional media mentions.

  Externally, CAM has piloted the use of telepresence technologies to bring voices of beneficiaries from the field into global events, allowing audiences to hear directly from the people WFP serves. Additionally, the WFP Storytellers Project, which began in 2017, has trained nearly 250 beneficiaries in new media skills. The Storytellers Project is an innovative communication concept that offers hands-on digital communications training in areas ranging from photography to social media.

- **Technology, Innovation and the End of Hunger Exhibition.** At the UN General Assembly in 2018, CAM mounted an interactive exhibition in the lobby of UN headquarters. It enabled attendees to walk through a number of WFP digital innovations, including interacting with chatbots and demonstrations of WFP's hydroponics programme, and watching a virtual reality film about data collection in the field. The central feature of the exhibit was an "augmented reality" experience, which allowed people to use a digital tablet and headphones, immersing in audio and visual content to follow the story of beneficiaries and frontline WFP workers. The exhibit was subsequently installed in a number of capital cities in 2019.

Photo: WFP/Lucia Casarin

IV. CONCLUSION

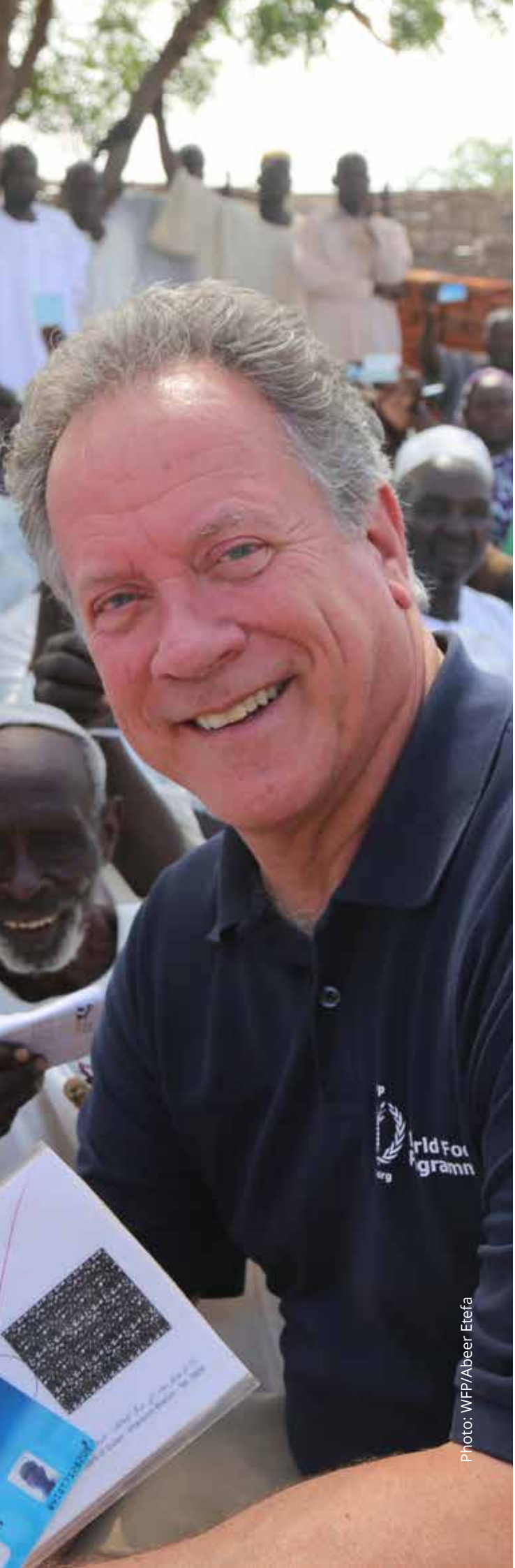

Photo: WFP/Abeer Etefa

WFP continues to witness innovative approaches to using modern technologies to help alleviate hunger, food insecurity and poverty. As an organization, WFP has committed to adopt similar approaches and strategically leverage data digital technology in its operations and partnerships.

For example, the data collected through platforms such as SCOPE, Building Blocks, School Connect or Farm2Go will facilitate a closer examination of problems and help WFP develop more effective solutions for families, schools and local communities. Integrated databases such as DOTS will be critical to helping build a granular picture of food access, costs, nutritional value and distribution systems.

As the UN's data strategy matures, WFP envisages connecting these insights and solutions with the wider humanitarian community to scale progress across districts, countries and regions. Finally, WFP will look introspectively and explore how it can further improve the efficiency and effectiveness of its own operations – strengthening accountability and trust for donors and beneficiaries.

This report illustrates that WFP has established the foundations of a strong digital ecosystem. It has created a basic proof-of-concept that has generated understanding, enthusiasm and engagement. It is work that has already been invaluable in responding to the COVID-19 pandemic. Looking ahead, WFP's challenge is to bring together the different strands of progress to build a cohesive strategy for the organization.

While achieving Zero Hunger by 2030 is ambitious, WFP believes it is realistic. Digital transformation is equipping the organization to take ambitious steps towards bringing Zero Hunger to fruition. Doing so means WFP must combine the experience of staff working in more than 80 countries together with its extensive network of partners and a robust digital ecosystem. It is essential that WFP collates lessons that are learned locally and scaled globally.

This report is meant to give WFP's partners, Executive Board members and donors a better understanding of WFP's progress to date, as well as to encourage readers to push the digital transformation even further in the year ahead.

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