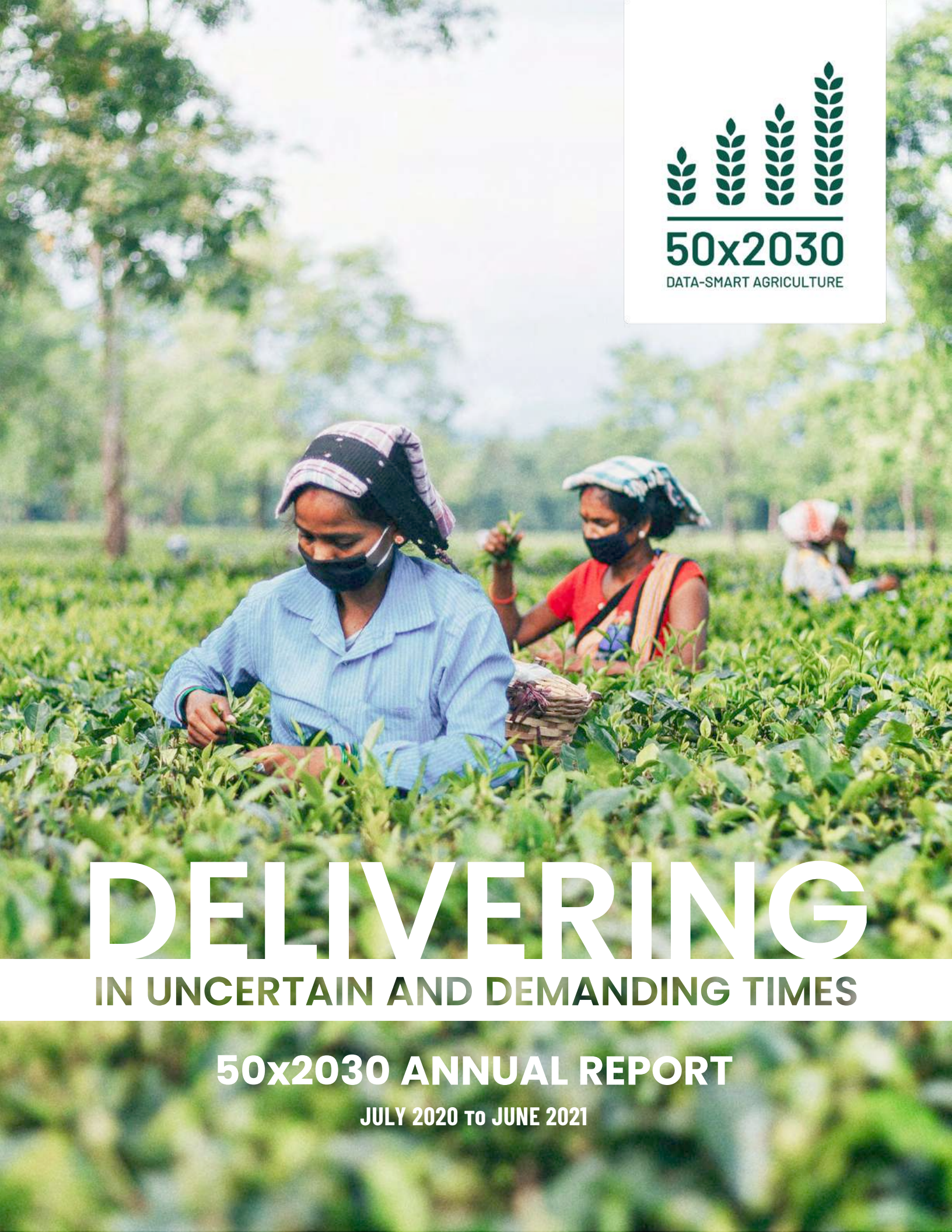


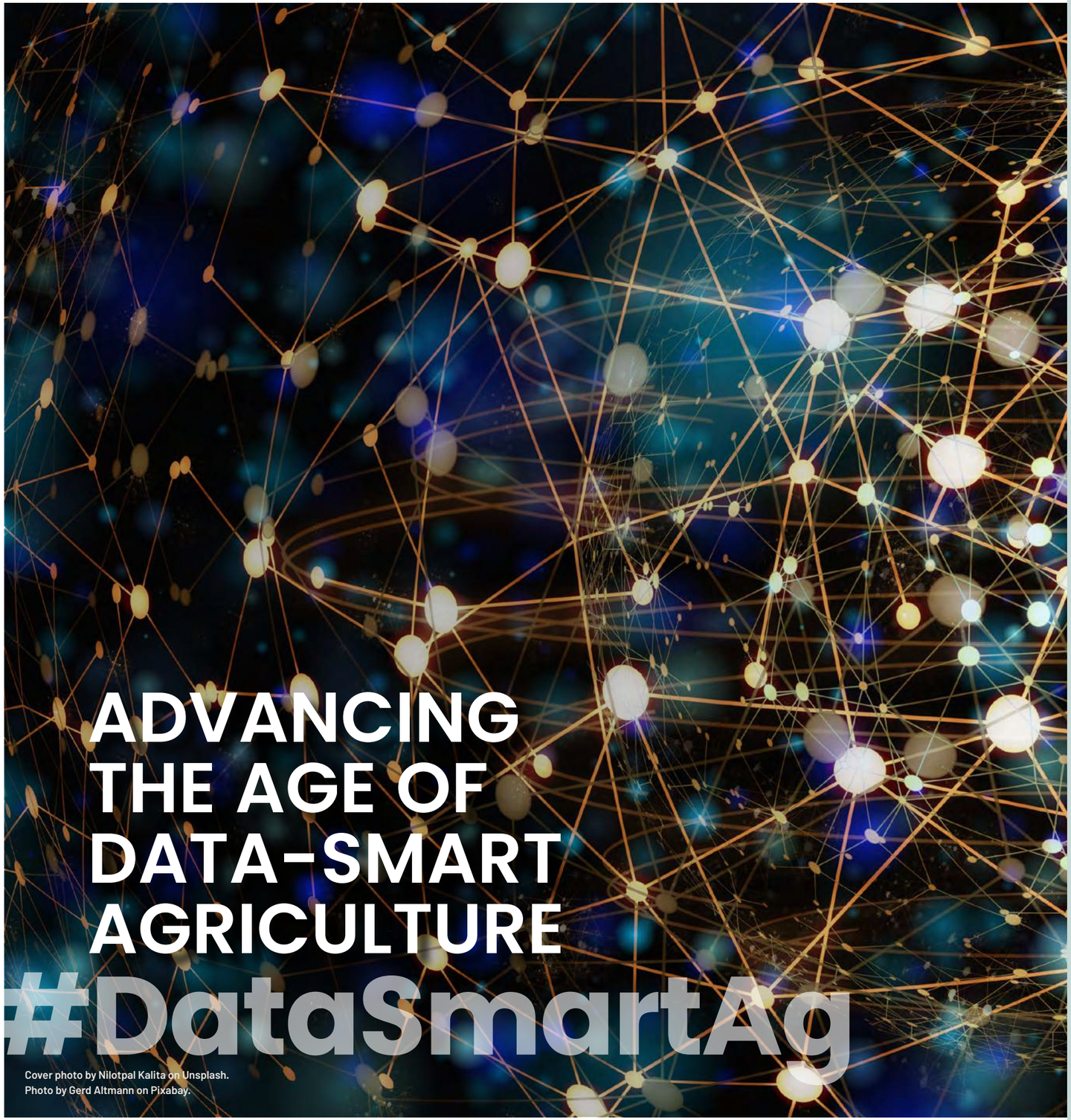
50x2030
DATA-SMART AGRICULTURE

DELIVERING

IN UNCERTAIN AND DEMANDING TIMES

50x2030 ANNUAL REPORT

JULY 2020 TO JUNE 2021



Cover photo by Nilotpal Kalita on Unsplash.
Photo by Gerd Altmann on Pixabay.

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SECTION 1

OVERVIEW

DELIVERING IN UNCERTAIN AND DEMANDING TIMES

For the 50x2030 Initiative to Close the Agricultural Data Gap, fiscal year (FY) 2021 was a year of establishing the foundations of the Initiative, and instituting the processes, governance structures, operational systems and technical outputs upon which the integrity and efficacy of the program now depend.

The year saw the induction of new partner countries and support provided to existing ones in delivering on survey implementation, strengthening their capacity to build strong national agricultural data systems, as well as in sharing data with the public in a timely manner. There were also flexible new tools developed for data collection, new partnerships and expanded outreach and advocacy.

But the year was not without its challenges. The spread of COVID-19 had a significant impact on activities. Restrictions on movement posed challenges to technical and planning work, while some national statistical offices faced funding constraints as a result of the pandemic. Our Program Management Team —which experienced leadership change— was challenged to maintain the momentum of establishing a well-functioning program. Navigating such challenges was no small feat.

Nonetheless we have much to celebrate. This annual report details the accomplishments and milestones reached by the program and partner countries over the past fiscal year. It also presents the challenges the Initiative could face moving forward, how we intend to respond, and the goals we aim to reach as we continue to deliver in uncertain and demanding times.

OUR OPERATING CONTEXT

A snapshot of the agricultural sector in which we have been working, and the impact COVID-19 has had on our partner countries — including how they have mitigated that impact.

95%

of the world's farms are operated by small-scale farmers working on less than 5 hectares of land. This equates to **20%** of global farmland[1]

2.27 BILLION people in Asia, Africa and Latin America and the Caribbean faced moderate or severe food insecurity in 2020[2]

7%

of countries in Africa, Asia and Latin America have sex disaggregated data relating to ownership of, or secure rights to, agricultural land[3]

60%

of employed women in sub-Saharan Africa work in the agricultural sector[4]

COVID-19 AND STATISTICAL SYSTEMS

9.9%

of the world population was undernourished in 2020 amid COVID-19, representing an increase of 1.5% on 2019 after being virtually unchanged for 5 years[5]

44%

of NSOs globally had resumed face-to-face data collection activities as of May 2021, compared to only 4 percent a year earlier[6]

33%

of NSOs remained closed (as of May 2021) to either all staff or non-essential staff[7]

~50%

of NSOs reported that government funding has decreased since the beginning of the pandemic[8]

- **US$10 billion** of climate finance was provided to small-scale agriculture per year in 2017 and 2018[9]
- **US$957 billion** is the average total annual amount invested in agriculture by low- and lower-middle income countries[10]
- **An additional US$14 billion** on average must be spent by donor governments annually until 2030 to end hunger, double the incomes of 545 million small-scale farmers, and limit agricultural emissions in line with the Paris Agreement on climate change[11]

2020/2021 MILESTONES

A snapshot of the milestones reached in the past fiscal year.

23

countries engaged, either implementing activities, planning their 50x2030 program or initiating formal partnership

50+ country consultations

3

full assessments of national data dissemination policies conducted:

- Armenia
- Georgia
- Nepal

5

countries released microdata:

- Cambodia
- Ethiopia
- Malawi
- Senegal
- Uganda

7

countries in which data collection was undertaken in 2020-2021:

- Malawi
- Cambodia
- Ethiopia
- Uganda
- Senegal
- Georgia
- Nepal

US$40.2 million

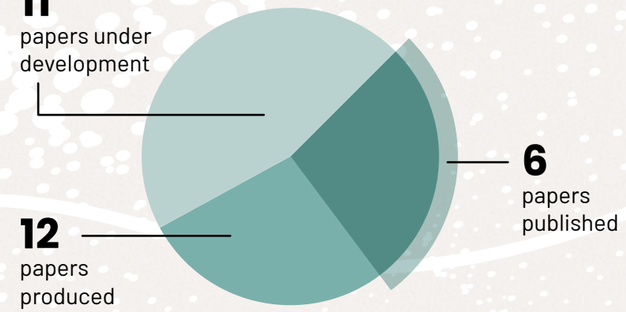
total donor funds so far raised or committed

18

research grants issued for projects using CIAS2019 data and 50x2030 data to generate practical research that can be applied to national policy making, program design or investment decisions

23

research papers and technical documents either produced (12, with 6 published) or under development (11). This brings the total number of published research papers and technical documents from July 2019 to June 2021 to 15



10x

increase in the number of Twitter followers as of 30 June 2021

30k

total page views of the 50x2030 website

8,200

total number of new website visitors

50x2030.org

SECTION 2

OUR PROGRAM

OUR MISSION

is to empower and support 50 low- and lower-middle income countries to build strong national data systems that produce and use high-quality and timely agricultural data through survey programs.

WE ENVISION

a future in which low and lower middle-income countries have high-quality, timely agricultural data to effectively plan, finance, and implement agricultural development strategies.

OUR REACH & RELEVANCE

333 MILLION

people in rural areas potentially reached by our programs in FY 2021[13]

PARTNER COUNTRIES

23

ACTIVE

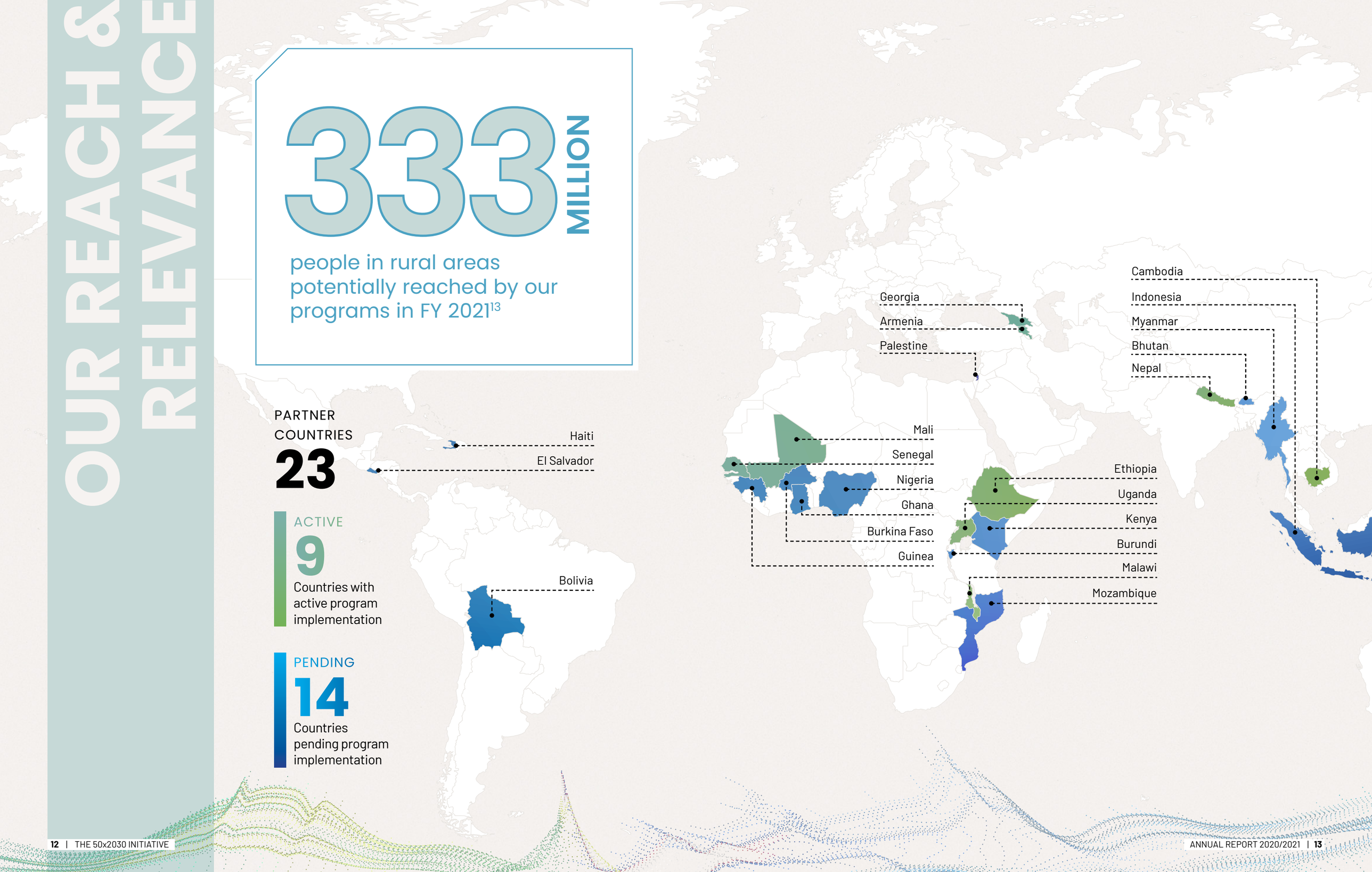
9

Countries with active program implementation

PENDING

14

Countries pending program implementation



MESSAGE FROM OUR PROGRAM MANAGER

The past year marked a critical juncture for the 50x2030 Initiative to Close the Agricultural Data Gap. It saw us develop tools, integrate approaches and facilitate coordination that allowed us to fully operationalize the ambition set forth for the Initiative in partner countries. That has brought us to where we are today: ready to rapidly scale as we head into the next phase of work.

But it is first worth reflecting on what we have accomplished to date, and how this has prepared us to meet our goal of bridging the global agricultural data gap by transforming data systems in 50 countries around the world.

The past year was again marked by the COVID-19 pandemic, with the corresponding uncertainties and restrictions. Discussions shifted from immediate response to planning, mitigation and "building back better," in order to have more resilient, climate-smart and advanced agricultural systems once the pandemic abates. We kept pace, continuing with data production, dissemination and data use activities in nine countries. In short, the pandemic posed operational challenges, but it did not slow us down, thanks to the team's swift actions, mitigation plans and strong coordination with partner countries. We found ways to support countries remotely as they collect data and draft their Program Implementation Plans. In this challenging time, we managed to learn and adapt.

We were further motivated by the fact that the pandemic highlighted the acute need for credible and timely data, accelerating innovation, digitalization and new collaborations. To recover from COVID-19 and promote resilience in the agricultural sector, we supported countries to produce and use comprehensive and inclusive data. This will enable partners to better understand the challenges and opportunities facing different groups, and to deliver targeted solutions.

The pandemic has also accelerated the adoption and use by National Statistical Offices (NSOs) of new data sources, including remote sensing data such as Earth Observation, which brought about greater demand for innovative tools and methods. We responded with methodological research, 12 research papers and guidance notes to, among other objectives, use survey data for better and easier integration with spatial data, in addition to "ground-truthing" new data sources and innovations.

We also worked to put agricultural data at the center of global development conversations. We launched a seminar series to gather experts for debate and learning based on data, tools and knowledge emerging from the 50x2030 Initiative and its partners. We published a major opinion editorial with the UN Secretary-General's Special Envoy to the 2021 UN Food Systems Summit, Dr. Agnes Kalibata. And we grew: In February, we launched our first call for proposals from new countries looking to partner with us, which led to the approval in June, of nine countries by our Partnership Council.

It has been an exciting ride since I joined the Initiative at the beginning of 2021. The data our partner countries are producing is at the heart of the answers to both emerging and entrenched challenges — from post-pandemic recovery to food insecurity, climate change and inequality. We are committed to their resilience and sustainability, to define the data systems that make the most sense for them and to do so in a way that guarantees their ability to walk that path again and again without our support. If this past year is any indication, we are well placed to deliver on this core promise.

The data our partner countries are producing is at the heart of the answers to both emerging and entrenched challenges —from post-pandemic recovery to food insecurity, climate change and inequality

MASAKO HIRAGA

SECTION 3

KEY DEVELOPMENTS IN 2020/2021

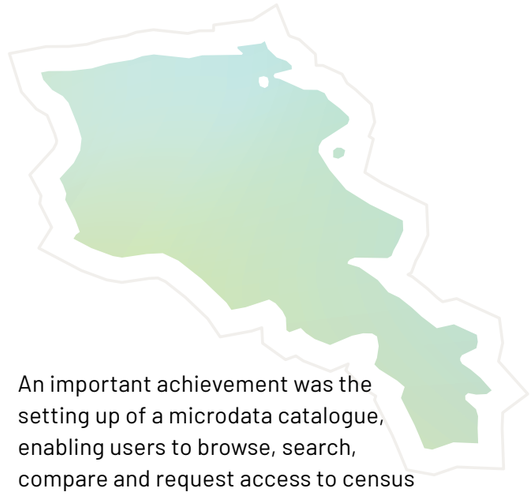
COUNTRY WORK

Between July 2020 and June 2021, the Initiative deepened its engagement with nine partner countries and planned for engagement with two more. In addition, 50x2030 opened its first call for expression of interest from countries wishing to join. The overwhelming response to the process has prepared the Initiative to work with 34 partner countries over the next three fiscal years.

For now, however, we can look back at FY2021 and recognize that much has already been achieved across the active country portfolio: The complete 50x2030 survey package and other data collection tools were improved and expanded, data collection was carried out in seven countries and disseminated in five, five 50x2030 countries are now able to compute SDGs with 50x2030 survey data, research grants were issued to five countries and we started mapping data use ecosystems in four countries, identifying bottlenecks to the improved use of data in decision making.

The following pages catalogue these successes by country. To follow country progress between annual reports and access emerging data sets, consult the Countries page of our website (50x2030.org/countries).

ARMENIA



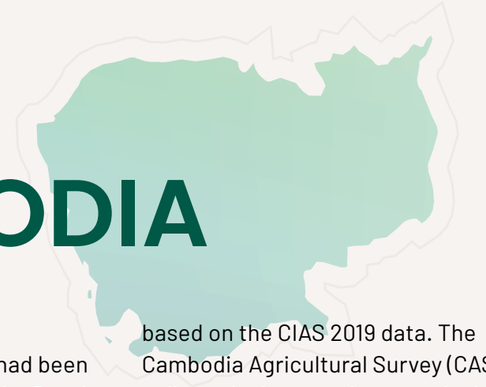
During FY2021, Armenia successfully implemented its farm-based survey, using the Computer-Assisted Personal Interview (CAPI) data collection method for the first time in the country. Despite COVID-19 movement restrictions, FAO and Armstat (Statistical Office of Armenia) managed to re-organize the survey calendar. Thus, the first and the second quarterly rounds were merged into one semi-annual round (August 2020), as were the third and fourth rounds (January 2021). As a consequence, additional efforts have been made to adjust the survey tools and the training schedule for enumerators. Due to COVID-19 restrictions there was a delay in data collection that affected the process of data cleaning and editing. However, the datasets were cleaned, and final processing is ongoing.

Despite the challenges posed by the pandemic, advancements were made in capacity development in the areas of data analysis and data tabulation. In terms of data analysis, training sessions on data cleaning and editing were delivered to Armstat by national consultants, allowing staff to be directly involved in this technical work. Training sessions on data tabulation using Stata software have been organized as well, using the data collected during the surveys.

An important achievement was the setting up of a microdata catalogue, enabling users to browse, search, compare and request access to census and survey microdata. It features a special Agriculture Survey collection that Armstat staff will populate with data from future surveys supported by the Initiative, using the skills acquired during dissemination training.

In addition, and with the support of FAO, Armenia completed the Assessment of the National Data Dissemination Programme. This reviewed the state of data dissemination in the country, with a special focus on agricultural statistics, and proposed a list of recommendations and actions to improve and strengthen Armstat's data dissemination policy. The report is useful for designing the technical assistance required by the country's National Statistical System. It is also a very useful tool to raise awareness and discuss areas for improvement with Armstat management. In the coming years, FAO will continue supporting Armstat to increase the range of statistics generated with Initiative support that are available to the public at large, and to improving protocols and practices around microdata dissemination.

CAMBODIA



As of June 2021, the Cambodia Program Implementation Plan had been finalized but not yet signed by the Royal Government of Cambodia (RGC). (The Plan was signed in November 2021.) The main achievements of the Plan include the strong commitment to build national statistical capacity, as well as the inclusion of the system of rotating modules which will establish a growing repository of diverse agricultural data.

Despite the challenges of the COVID-19 pandemic, advancements were made in capacity development in areas of data analysis and data dissemination. In terms of data analysis, training sessions on data cleaning and editing were delivered remotely, allowing more staff from the National Institute of Statistics (NIS) and the Ministry of Agriculture, Forestry and Fisheries (MAFF) to be directly involved. The training sessions and subsequent remote on-the-job coaching enhanced the country's capacity to complete many steps of data analysis more independently than in the previous survey cycle. Additionally, in terms of the data dissemination work, a range of statistical resources were released from the Cambodia Inter-Censal Agriculture Survey (CIAS) 2019, unmatched by any other statistical program within the NIS.

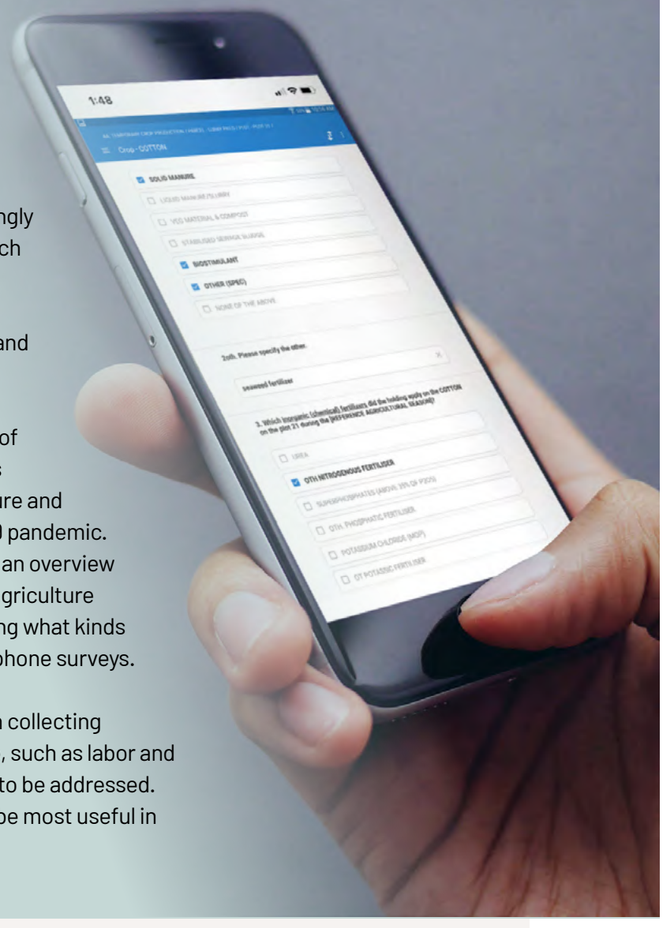
Additional successes for FY2021 include the first ever calculation and publication of SDG Indicator 2.3.1 for Cambodia, based on the CIAS 2019 data. The Cambodia Agricultural Survey (CAS) 2020 collected adequate data to calculate SDG Indicator 5.a.1, in addition to again calculating SDG Indicator 2.3.1, to be undertaken in FY2022. For the CAS 2021, NIS and MAFF have prioritized collecting economic data, leading to the use of the Income, Labor and Productivity module which will allow for calculation of SDG Indicators 2.3.1, 2.3.2, and 2.4.1. The questionnaire will again assess the impact of the ongoing COVID-19 pandemic on the country's agriculture sector. While the country has had delays due to lockdowns and travel bans, plans are on track for field testing the CAS 2021 questionnaire with enumerator training activities and data collection planned for the third quarter of 2021.

IFAD completed the Data Ecosystem Mapping and Assessment, presenting the main constraints to data use in accordance with the 50x2030 Data Use Framework. Twenty-five key informant interviews were conducted and 50 online responses were received from representatives of different sectors. The Assessment identified access, awareness, trust and utility as the main constraints on data use in Cambodia. Under the 50x2030 Initiative and the new CAS program, many actions have already been taken to address constraints identified in the Assessment, most notably the decision of the NIS to

release microdata sets of the CIAS 2019 program in April 2021. IFAD issued grants for three research proposals in Cambodia for projects using the CIAS 2019 data to generate practical research that can be applied to national policy making, program design or investment decisions. Based on the findings of the Assessment Report, a multi-year intervention plan for increasing data use for informed decision-making is being finalized with the full commitment of participating Cambodian institutions.

INNOVATION HIGHLIGHT

PHONE SURVEYS FOR AGRICULTURAL DATA COLLECTION



In the face of travel restrictions imposed due to COVID-19, the use of innovative methods of data collection became increasingly important. This, coupled with previous methodological research using phone-based interviews to complement and validate traditional face-to-face interviews, has created a wealth of experience that could lead to improvements in the efficiency and efficacy of survey-based data collection more generally.

As a result, the 50x2030 Initiative is conducting a desk review of the experiences of national and international survey programs in implementing phone surveys for data collection on agriculture and food security specifically, both before and during the COVID-19 pandemic. The findings will be summarized in a report, which will provide an overview of the possibilities and limitations of using phone surveys for agriculture and food security data collection, with a focus on understanding what kinds of data can be reliably and cost-effectively collected through phone surveys.

The results so far suggest that phone surveys can be helpful in collecting information on agricultural activities that are spread over time, such as labor and other inputs used, but limitations in phone coverage will need to be addressed. The report is likely to conclude that phone-based surveys will be most useful in combination with face-to-face interviews.

ETHIOPIA

The country's Program Implementation Plan was drafted during the reporting period; only the finalization and sign-off are pending. This process also offered the opportunity to prepare the work plan for the entire period of collaboration (FY2022-FY2026) and establish the expected outputs. For instance, at a technical level, Ethiopia will report on three of the four key SDG Indicators fully contributed to by the Initiative (i.e., SDG 2.3.1, 2.3.2, and 5.a.1) and on some sub-dimensions of indicator 2.4.1, with the intention of generating at least six data points during the period of collaboration (two data points per Indicator). In addition, the country will address all nine of the Comprehensive Africa Agriculture Development Initiative (CAADP) Indicators that can be potentially covered through an agricultural survey program.

In summary, the country demonstrated full commitment to fulfil the international and regional agendas. Moreover, the country will address some critical topics for the national agricultural sector, such as post-harvest losses, cost of production, and the complex interaction between agriculture and the environment in the context of climate change. The Government of Ethiopia will provide a strong contribution to 50x2030 implementation, funding more than 85 percent of the survey program cost.

With respect to data production, the commercial farm survey was completed and disseminated, with the survey report published online in May 2021. Technical assistance for the next round of the survey, particularly on questionnaire review, has been provided and will continue during the next fiscal year. Using the revised survey instruments, the country will be well-positioned to report the cost of production statistics for its most important agricultural commodities for the first time. Outreach and dissemination activities related to the fourth Ethiopia Socioeconomic Survey (ESS4) were held, with official dissemination in July 2021 at the 18th International Conference on the Ethiopian Economy. Finally, the team prepared for the ESS5 survey, with training undertaken between August and October 2021 (timing dependent on region). Given the implementation of both the commercial farm survey and the ESS, Ethiopia is positioned to report on two of the key SDG Indicators: 2.3.1 and 2.3.2.

IFAD is conducting a Data Ecosystem Mapping and Assessment in Ethiopia. Key informants are being interviewed and others are participating in an online survey. The Assessment enables IFAD to map the ways in which stakeholders interact with agricultural and rural data in Ethiopia and identify possible constraints on data use. Immediately after the Assessment, IFAD will work with the institutions in Ethiopia to develop an implementation plan for targeted interventions in the country, to increase and strengthen data use. IFAD also issued grants to three research proposals in Ethiopia for projects using 50x2030 data to generate practical research that can be applied to national policy making, program design or investment decisions. The results will be promoted at the 50x2030 Global Data Use Conference 2021.

GEORGIA

During the reporting period, the Program Implementation Plan was finalized and is awaiting final approval by the Country Coordination Group before being submitted for official signature. The main achievements of the Plan include the strong commitment to build national statistical capacities; the inclusion of the system of rotating modules to establish a growing repository of diverse agricultural data; and computing five of the eight SDG Indicators either partially or completely supported by the Initiative.

In spite of the challenges caused by the COVID-19 pandemic, data collection for the Annual Agricultural Production survey and regular data dissemination continued according to plan. In terms of data collection, an important achievement was the change in the data collection mode from face-to-face to telephone interviews due to restrictions linked to COVID-19. Georgia was the only 50x2030 country that was able to shift to telephone interviews. Despite some difficulties, collection of good quality data was successful.

Advancements were made in capacity building in relation to data analysis and data dissemination. Training was delivered on data cleaning and editing, enhancing the capacity of the country's NSO, Geostat, to clean and analyze datasets using statistical software. In terms of data dissemination, an important achievement was the wider range of aggregated tables that were released from the 2019 and 2020 Annual Agricultural Production surveys. The new tables covered topics related to the use of the agricultural commodities and storage facilities. Labor input data is being processed and prepared for tabulation.

Concerning the SDG agenda, the main achievement was the development of the methodology for calculating SDG Indicators 2.3.1 and 2.3.2, using the Annual Agricultural Production Survey datasets. The methodology was tested with the 2019 dataset; work is ongoing to calculate and prepare for the dissemination the 2020 dataset. For the 2021 survey, Geostat has prioritized the Production Methods and Environment (PME) rotating module. This will allow the collection of data on production methods and calculation of SDG Indicator 2.4.1. The PME questionnaire is being developed, and the test of survey tools is under preparation, despite delays due to lockdowns and travel bans.

In addition to the above, during the reporting period, the country worked on the Assessment of the National Data Dissemination Programme with the support of FAO. One conclusion was that, generally speaking, Geostat has a modern and comprehensive statistical dissemination program in place, based on solid legal and policy frameworks, with the main issue being microdata dissemination. FAO and Geostat will work together on institutional and technical solutions to ensure the accessibility of survey microdata generated with the support of the Initiative. Due to the COVID-19 restrictions and travel bans, technical training on Data Documentation Initiative (DDI) metadata has been postponed to FY2022.

IFAD is making good progress with its Data Ecosystem Mapping and Assessment in Georgia. Key informants are being interviewed and others are participating in an online survey. The Assessment enables IFAD to map the ways in which stakeholders interact with agricultural and rural data in Georgia and identify possible constraints on data use in the country. Immediately after the Assessment, IFAD will work with institutions in Georgia to develop an implementation plan for targeted interventions in the country, to increase and strengthen data use. IFAD also issued grants to three research proposals in Georgia for projects using 50x2030 data to generate practical research that can be applied to national policy making, program design or investment decisions. The results will be promoted at the 50x2030 Global Data Use Conference 2021.

MALAWI

The microdata, related documentation and survey report for the country's Fifth Integrated Household Survey (IHS5) 2019/20 and the Integrated Household Panel Survey (IHPS) 2019 were disseminated through an online event and via the World Bank Microdata Library, generating combined views of over 87,000 (September 15, 2021). The IHS5 2019/20 serves as a sampling frame for the Women's Empowerment Metric for National Systems (WEMNS) phone survey, while the IHPS 2019 serves as a sampling frame for the ongoing high-frequency phone survey on COVID-19. The IHS5 and IHPS 2019 data, along with the data from the past rounds of the IHS and the IHPS, form the foundation of the country's ongoing Poverty and Vulnerability Assessment, which will be completed in FY2022.

NEPAL

The launch of the Commercial Livestock Integrated Survey (CLIS) 2020/21 was postponed to August 2021, due to movement restrictions related to the COVID-19 pandemic.

The delay in data collection had a cascading effect on data processing, the dissemination of results and the release of microdata files. Nevertheless, recognizing the importance of strengthening national capacity in relation to microdata release, FAO and the Central Bureau of Statistics (CBS) agreed to prepare microdata files for dissemination using the pilot survey conducted in the Chitwan district in 2019 (a new activity in the work plan). During the reporting period, FAO conducted training and technical sessions on four aspects of microdata dissemination (data anonymization; documentation and the Data Documentation Initiative (DDI) standard; and the microdata catalogue and access policy). As a result, the Pilot Survey data was anonymized, the DDI-metadata was prepared, and the microdata will be catalogued soon. In addition, the NADA catalogue has been upgraded to NADA 5.0 and now features an Agriculture Statistics collection (https://microdata.cbs.gov.np/index.php/home). This was the first time that most agricultural statisticians at the CBS had been exposed to the process of releasing agricultural microdata. Even though the team worked with pilot survey data, it was a remarkable experience that will pave the way for a smooth release of the CLIS 2021 data.

In addition to the above, the country completed the Assessment of the National Data Dissemination Programme with the support of FAO. The Assessment identified the need for reforms that will be supported by the 50x2030 Data Production module in the coming years. These are: i) at the institutional level, greater coordination between CBS and the Ministry of Agriculture and Livestock Development (MOALD) for greater data availability and accessibility of all agricultural statistics generated across the National Statistical System (NSS); ii) at the technical level, transition from traditional statistical dissemination practices to modern, digital, centralized, user-friendly and accessible web-based formats, and iii) at the policy level, adoption of open data policies that can unlock the full value of the data collected through statistical operations by CBS, MOALD and other NSS bodies.

NIGERIA

The Program Implementation Plan has not yet been developed. However, it will include a medium-term plan for agricultural statistics, elaborated and endorsed by the national authorities. The establishment of the Country Coordination Group is ongoing.

Preparations began for the National Agricultural Sample Census (NASC) in 2022. Since it is a sample survey, World Bank and FAO took the opportunity of this sample census to propose implementation of the main structure of 50x2030 instruments. The main achievements at this stage are the clarification of the NASC model and sampling strategy, and the development of the listing questionnaire. Preparation of the budget is ongoing. The National Population Commission has been involved in preparations for the NASC, and its input will be crucial for the selection of the primary sampling units.

Portrait of a woman spelling peppers in Lagos, Nigeria. Photo by Omotayo Tajudeen on Unsplash.

A cattle herd moves across the savanna in Senegal.
Photo by DEZALB on Pixabay .

SENEGAL

During FY2021, DAPSA, the Ministry of Agriculture and FAO worked jointly on the development of the Program Implementation Plan of the Data Production component. The Plan is currently going through the review process. The exercise turned out to be very useful for medium-term planning, with the identification of clear objectives in terms of future data production and sequencing, including for SDG Indicators 2.3.1, 2.3.2, 2.4.1, and 5.a.1. The result was the development of a detailed three-year work plan (FY2022-FY2024) and a clear understanding of the budgetary requirements of the new survey program, which will be discussed with the technical and financial partners at the national level. The objective of these discussions will be to receive guarantees of an increased contribution from the Government of Senegal above the 50 percent share expected by the end of FY2024.

Some key outcomes for the data production component include the integration of the Production Methods and Environment (PME) module in the 2020-2021 survey, leading to an abundant dataset. Additionally, the enlargement of the survey's sampling design to cover non-rainfed activities such as horticulture and livestock led to the collection of more representative data on permanent crops and livestock production. Another achievement was the listing operation carried out on the non-household sector, an important step towards the integration of household and non-household holdings. This aims to generate a more representative picture of agricultural production in the country, which is one key recommendation of the Initiative.

Concerning the dissemination of statistical resources for the Annual Agricultural Survey (EAA) 2019-2020, the report was finalized and shared with users in late 2020. The multidimensional tables and anonymized microdata files are ready for dissemination with their online release planned for September 2021. A new capacity-building model is being tested, organized around small teams made up of DAPSA staff specializing in certain aspects of the survey work (e.g., data editing, processing, questionnaire design and Survey Solutions (SuSo) software, analysis, and dissemination). This model, which sees different tasks undertaken by groups of two or three people, is supported by coaching from FAO experts and has led, to an extent, to a slowdown of some other activities. The capacity development model will be continued with the aim of providing DAPSA experts with greater autonomy over the management of the entire survey cycle. Finally, in preparation for the EAA 2021-2022, technical work to integrate questions relating to SDG 5.a.1 into the questionnaire used during the first visit was completed. This will enable more accurate calculation of the indicator in FY2022.

On data use, FAO supported the organization of a national stakeholder workshop in June 2021. This aimed to raise awareness of the potential uses of the EAA survey data and enhance its use in national policy design and monitoring processes. This activity followed a series of on-the-job training sessions provided to agricultural policy analysts at DAPSA, on applying agriculture survey data to policy analysis, and using statistical and econometric methods. One outcome was the production, in partnership with DAPSA, of three thematic policy notes on issues such as access to finance by household holdings or access to agricultural land by young people and women. These policy notes were presented and validated during the national stakeholder workshop, thereby directly contributing to the national policy debate on specific issues in the agricultural sector. The notes were due to be released on the DAPSA website by September 2021. IFAD also issued grants to three research proposals in Senegal for projects using 50x2030 data to generate practical research that can be applied to national policy making, program design or investment decisions. The results will be promoted at the 50x2030 Global Data Use Conference 2021.

EARLY EVIDENCE OF DATA-SMART AGRICULTURE IN SENEGAL

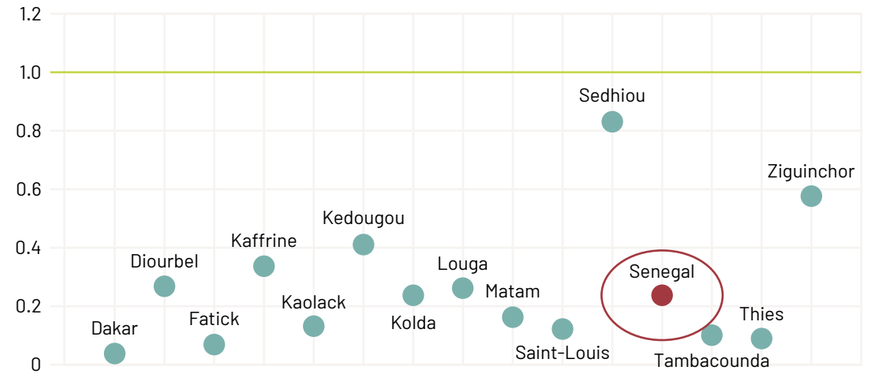
OUTCOMES, OUTPUTS AND POTENTIAL LINKS TO POLICY NEEDS

Senegal is classified as a low-income food-deficit country.[A] This, according to the World Health Organization, suggests that it is not only food insecure but also vulnerable to shocks, which can have a disproportionate effect on those who are food insecure.[B] In its 2015-2035 strategy for achieving food security and resilience, the Senegalese government noted the importance of diversifying food production as a way of improving food availability, and is supporting women and youth to have access to productive resources such as land, credit and farming inputs so they can participate more in agricultural, livestock and fishing value chains.[C] For the success of any national policy, the country recognizes the importance of reliable, relevant and timely data. Since 2017, the Directorate of Agricultural Statistics of the Ministry of Agriculture (DAPSA), has been receiving technical and financial support from FAO's AGRISurvey with the aim of promoting an integrated and modular approach to collecting and producing agricultural and rural data. Through Senegal's partnership with the 50x2030 Initiative, the goal is to make more strides in generating credible, comprehensive data as well as advance the dissemination and use of data to inform national policies and programs.

To date, DAPSA has completed three annual agriculture survey cycles (EAA2018/19 to EAA2020/21) using the modular approach. This has resulted in a rich amount of newly available data covering all agricultural activities throughout the country's 45 departments.[D] The EAA explores important aspects of farming, such as those related to gender. It has produced information on the percentage of women with access to agricultural land, the ratio of female-to-male plot managers (see figure) and land tenure or ownership by gender.

A FAO, Low-Income Food-Deficit Countries - List updated June 2021, http://www.fao.org/countryprofiles/lifdc/en/.
B World Health Organization, Low-Income Food-Deficit Country, https://www.who.int/data/nutrition/nlis/info/low-income-food-deficit-country.
C Senegalese government, Strategie Nationale De Securite Alimentaire Et De Resilience (Snsar) 2015-2035, http://www.maer.gouv.sn/wp-content/uploads/2017/11/STRATEGIE-NATIONALE-DE-SECURITE-ALIMENTAIRE-ET-DE-RESILLIENCE-2015-2035.pdf.
D DAPSA, Enquête agricole annuelle (2019-2020), http://anads.ansd.sn/index.php/catalog/234/study-description.

THE RATIO OF FEMALE-TO-MALE PLOT MANAGERS IN SENEGAL



Source: EAA 2018/2019

In Senegal, it is estimated that, out of seven women, only one has the responsibility of managing an agricultural parcel (15.2%). With a nation-wide value of 0.23 (well below the parity value of 1), the ratio of female-to-male plot managers points to the prevailing gender gap in terms of responsibility over agriculture parcels. This data is both critical to gauging the performance of the country in delivering food security policy objectives and calculating SDG Indicator 5.a.1 on women's ownership of agricultural land and equal rights to land ownership. The SDG Indicator directly relates to food security: it is estimated that women have responsibility for as much as 80 percent of food production in the developing world, but they mostly do not have ownership or hold rights over the land they operate on.[E]

As part of the 50x2030 Initiative, FAO supported DAPSA in drafting a series of thematic papers using EAA data, including the paper L'accès au foncier agricole par les jeunes et les femmes au Sénégal, which seeks to inform policies that can promote greater access to land among women and youth and, in turn, help the country achieve its objectives under the national food security and resilience strategy. It highlights the challenge of implementing land tenure laws amid the predominant practice of managing land based on customary law with transfers made via inheritance. It recommends promoting women's access to land, strengthening the technical capacity of women already working in the agricultural sector and establishing agricultural training for new entrants to the sector. FAO and DAPSA presented this paper and other thematic papers to stakeholders in a national workshop in July 2021, thereby contributing to the national debate on policies relating to specific issues in the agricultural sector. To follow the progress of Senegal and other 50x2030 partner countries toward data-smart agriculture, visit www.50x2030.org/countries.

E Sida, Quick Guide to What and How: increasing women's access to land, https://www.oecd.org/dac/gender-development/47566053.pdf

UGANDA

The Program Implementation Plan was drafted and finalized during the reporting period; only the final sign-off is pending. The Plan stipulates that during FY2022-FY2025 the Uganda Integrated Household Survey program will generate at least two data points for each of the SDG Indicators 2.3.1, 2.3.2 and 5.a.1, and will cover sub-dimensions of SDG Indicator 2.4.1 and nine CAADP Indicators. This represents significant alignment with the SDG and CAADP monitoring aspirations of the Initiative.

During the reporting period, the Uganda National Panel Survey (UNPS) 2019/20 was also made publicly available on the World Bank Microdata Library and served as the sampling frame for the ongoing high-frequency phone survey on COVID-19, which started in June 2020. During the first half of FY2021, the work relating to the dissemination program for the Annual Agricultural Survey (AAS) 2018 was completed with a wide range of products released in recognition of users' profiles and needs. In addition to the AAS 2018 full report, statistical resources included a statistical brief; statistical tables, associated documentation and visualizations (available on the UBOS Open Data platform), and the AAS 2018 Anonymized Microdata File and associated documentation (catalogued on the UBOS Microdata Archive). While the AAS 2019/20 results were not disseminated during the reporting period, the dissemination of the key findings and full report are expected to take place in October 2021 and October/November 2021 respectively. In spite of the slight delay, this proved to be a valuable exercise because the National Statistical Office took a very active role in processing and analyzing the data, and in the writing the report, demonstrating increased analytical capacity, high commitment and ownership.

FAO will continue working with UBOS towards improved dissemination practices, reduction in time lapses between data collection and data release, and increased capacity to prepare these outputs, some of which are highly technical (e.g., anonymization). An additional area for improvement relates to the management of user requests to access the anonymized microdata files. An internal protocol for the management and authorization process will be developed with a clear and transparent chain of roles and responsibilities within UBOS.

The launch of the Uganda Harmonized and Integrated Survey Programme (UHIS), referred to as the Integrated Survey Programme (ISP) in the work plan, has been postponed to September 2021 due to the implementation of the Livestock Census and the COVID-19 lockdowns. Nevertheless, the survey methodology and the survey instruments were duly finalized during the reporting period. The UHIS aims to increase the accuracy, cost efficiency and policy relevance of agricultural survey data by relying on partially overlapping samples for the UNPS (with annual frequency) and the AAS (with biennial frequency) and by integrating field staff training for and management of both surveys. Integrated survey management will also allow for cross-fertilization of skills and expertise between different departments within UBOS. The UHIS will also serve as the platform for the implementation of the Uganda National Study on Objective Measurement in Agriculture (UNOMA), with support from the Methods and Tools Component of the Initiative.

UNOMA will implement objective methods for crop yield estimation (based on crop cutting, but limited to maize) and crop variety identification (based on DNA fingerprinting, but limited to maize, sweet potato, bean, banana, cassava, and groundnut) for a national sub-sample of UHIS households. It will also provide the required data for the ongoing Initiative-supported research on the integration of survey and satellite data for high-resolution crop type mapping and crop yield estimation. UNOMA will build on the UBOS experience with previous methodological experiments on crop production, soil fertility, and crop variety, which were supported by the World Bank LSMS-ISA program.

During the reporting period, FAO – in collaboration with IFAD – continued efforts to increase awareness of the potential of AAS survey data among stakeholders, with the aim of strengthening capacity in data analysis, increasing data use, and promoting an evidence-based culture. They included:

- A one-week virtual online training course, "Survey data management, processes and agricultural policies," organized in partnership with the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF), FAO-Uganda and IFAD to build capacity. It was attended by 35 trainees representing various institutions, including MAAIF; the country's National Agricultural Research Organisation (NARO), National Planning Authority and National Union of Coffee Agribusinesses (NUCAFE); and the Bank of Uganda.

- The high-level stakeholder workshop, "Collaborating to accelerate food systems transformation in Uganda" in Kampala in April 2021, which aimed at encouraging policy dialogue and enhancing collaboration and cohesion among institutions implementing food security and food systems transformation programs. It brought together major national stakeholders, including the Office of the Prime Minister (OPM) and MAAIF, as well as representatives from private sector associations, producer organizations, civil society and NGOs, including

the Development Partners Group. FAO provided technical inputs to the concept note prepared for the workshop, contributed to various organizational meetings, and provided key statistical indicators for the analysis of the agricultural sector.

IFAD completed the data collection phase of the Data Ecosystem Assessment. Twenty-five key informants were interviewed and 100 online responses were submitted by individuals from government, academia, development, the media and the private sector. The results will enable IFAD to map the ways in which stakeholders interact with agricultural and rural data in Uganda, and identify possible constraints on data use in the country. IFAD also issued grants to six research proposals in Uganda for projects using 50x2030 data to generate practical research that can be applied to national policy making, program design or investment decisions. The results will be promoted at the 50x2030 Global Data Use Conference 2021.

NEW COUNTRIES: BURUNDI & HAITI

The planned formal onboarding of two new countries, Burundi and Haiti, did not take place during the reporting period. The political situation in Haiti necessitated a postponement of the onboarding process, while in Burundi, the Program Management Team (PMT) initiated pre-onboarding activities such as discussions with the World Bank Global Practices to explore possibility of International Development Association (IDA) funding. The Initiative plans to bring both countries onboard in FY2022. It should be noted, however, that the PMT is implementing reforms to the onboarding process to take into account the lessons learned from FY2020. As such, a pre-onboarding step is now included, aimed at establishing stronger coordination at the country level, exploring possible IDA collaboration, and ensuring countries are well-informed and ready to commit to and engage with the 50x2030 Initiative.

RESEARCH GRANT COMPETITION OUTCOMES

IFAD organized a competition for novel research projects that apply 50x2030 data to national policymaking, program design or redesign, or investment decisions. The Research Grant Competition received 37 proposals from Cambodia, Ethiopia, Georgia, Senegal and Uganda. Eighteen were awarded: six from Uganda and three from each of the other countries, with grants ranging from US$4,300-9,500.

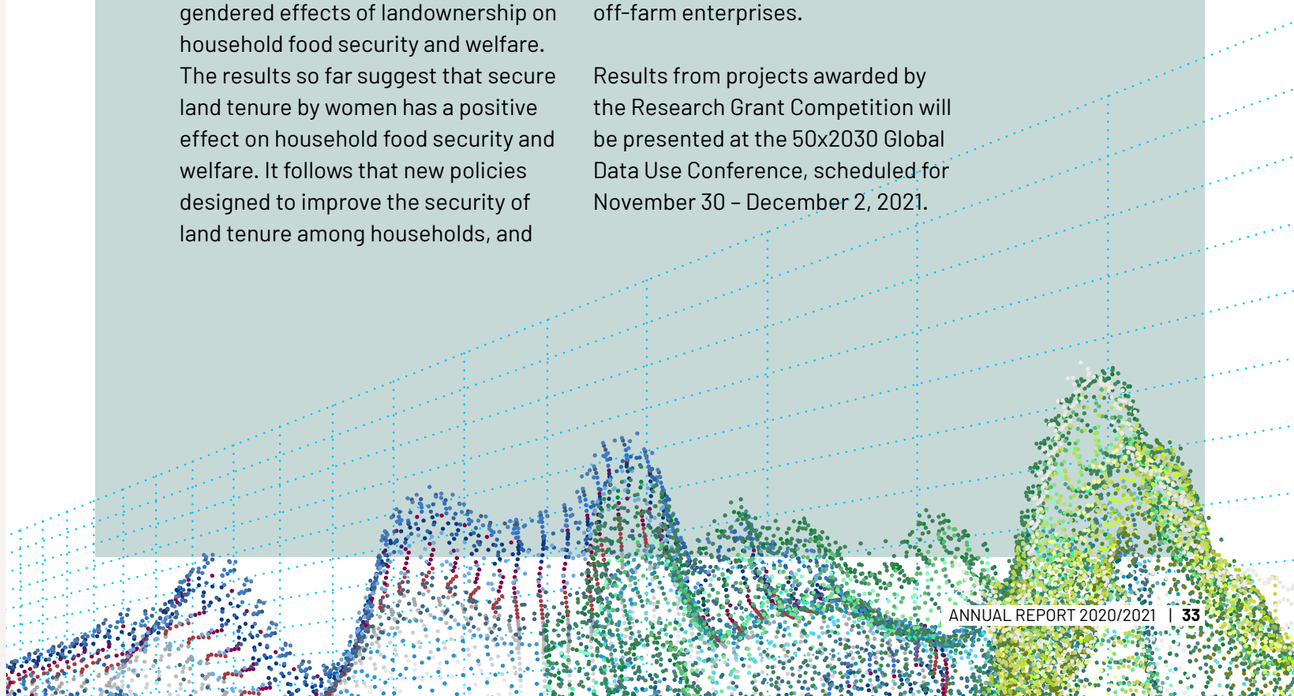
The proposals covered a range of thematic areas, such as agricultural productivity, agricultural financing, gender and land rights, climate-smart agriculture, and food security. One from Uganda proposed examining the gendered effects of landownership on household food security and welfare. The results so far suggest that secure land tenure by women has a positive effect on household food security and welfare. It follows that new policies designed to improve the security of land tenure among households, and particularly for women, could enhance food security and welfare in Uganda.

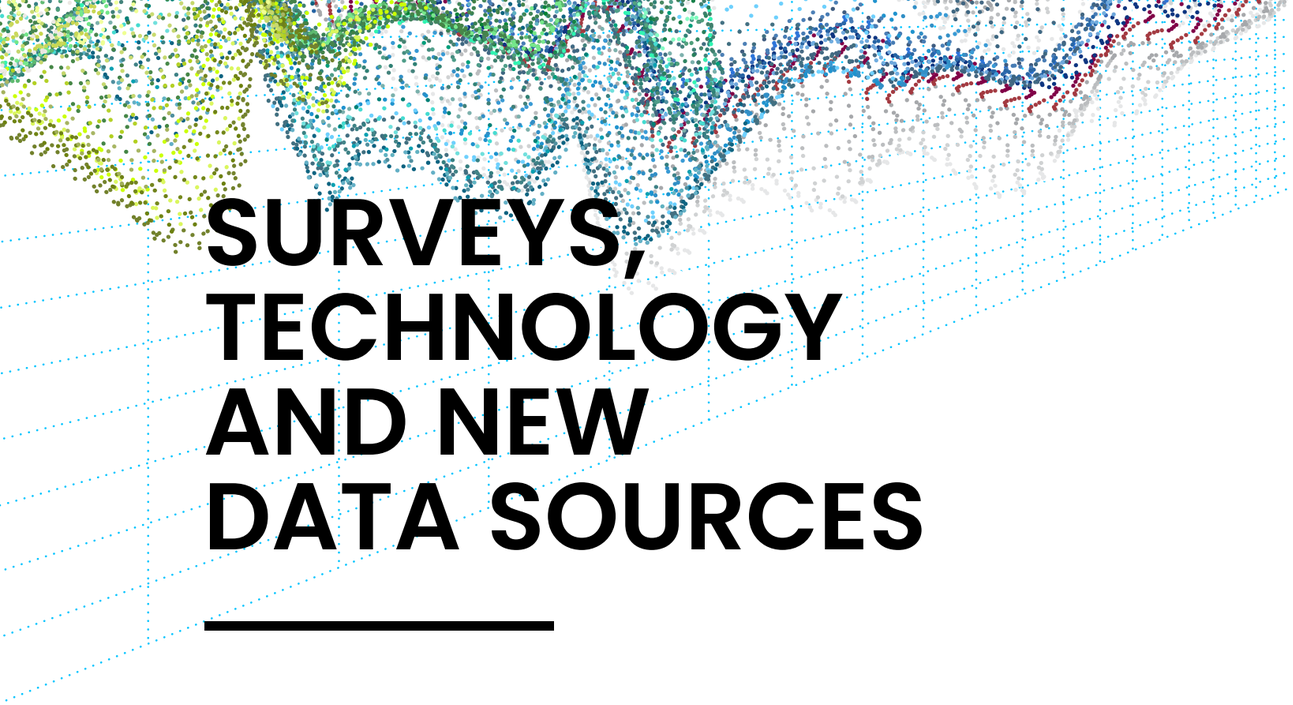
Another project examines the effects of migration and remittances on agricultural productivity and technology adoption using data from the Ethiopian Socioeconomic Survey. Early results show a positive correlation between outward migration on household well-being. If these results are confirmed in the final paper, Ethiopian decision makers will be encouraged to devise new policies to facilitate outward migration and more efficient procedures submitting migrant remittances, thereby providing a framework for remitters to invest their income in farm and off-farm enterprises.

Results from projects awarded by the Research Grant Competition will be presented at the 50x2030 Global Data Use Conference, scheduled for November 30 – December 2, 2021.

37
proposals submitted from Cambodia, Ethiopia, Georgia, Senegal and Uganda

18
proposals were awarded funding





SURVEYS, TECHNOLOGY AND NEW DATA SOURCES

The 50x2030 Initiative strives for continual improvement of data quality. This is achieved through the validation of new technologies, exploration of ways to integrate survey data with alternative data sources, and improved questionnaire design. Improved methods are subsequently scaled through the Initiative's national data collection efforts.

In this second year of implementation, processes and ways of working are being refined to ensure that they can best serve the objectives of the Initiative and the needs of participating countries. To ensure that methodological development is practical and relevant, bi-monthly Methods & Tools coordination meetings are held with participation from all implementing agencies. This helps ensure the connection between the three components of the Initiative remains front and center in the design and implementation of any methodological work. Similarly, the Initiative has been consolidating workstreams into "macro-areas" for greater impact (as discussed in the Annual Work Plan), while pursuing partnerships and consultations with key players in the relevant technical domains to ensure the solutions being developed or tested align with the latest developments in science and technology. The Initiative will also perform and release updates to the key survey tools in the public domain twice a year to ensure they reflect methodological improvements and feedback from users. Despite limitations on the implementation of ground-based methodological validation studies due to COVID-19, the research and related activities of the Methods & Tools Development component mean the Initiative should be able to collect better quality data imminently.

The Initiative's research into the integration of satellite and survey data advanced significantly during the reporting period. Activities focused on identifying the optimal protocols for the collection of survey data to improve satellite-based crop type mapping models. This research, published in the paper *Understanding the Requirements for Surveys to Support Satellite-Based Crop Type Mapping: Evidence from Sub-Saharan Africa*, concludes that the protocol for georeferencing agricultural plots has significant implications for the resulting crop type mapping exercises. The optimal protocol, i.e., the collection of full plot boundaries or each corner point, has been incorporated in the upcoming Uganda Harmonized and Integrated Survey Program. Adoption of this georeferencing protocol will also be encouraged in other upcoming 50x2030 survey programs. Following the expansion of this line of research to include additional crops and countries outside Africa, best practice guidelines will be prepared for use globally.

The development of public goods such as open-access research papers throughout the year also facilitates the collection of higher quality data via 50x2030 Initiative survey programs and beyond. Twelve research papers and technical documents were produced over the course of the reporting period, with 11 additional pieces under development (see detailed list in Annex 2). In addition to the publication of technical documents on sampling and the collection of data for SDG Indicator 5.a.1, a new series of *Technical Notes for Country Teams* was launched. These provide concise, implementation-focused guidance for data production teams on specific aspects of agricultural data collection. The initial notes in the series, on the measurement of post-harvest losses and use of non-standard units, have been published, with additional notes in the pipeline.

Findings from several desk reviews conducted during the period, including on damages and losses, post-harvest losses, survey methods for commercial farms, and the use of phone surveys for agricultural data collection will soon be published on the 50x2030 website and used to inform future data collection efforts (for the recent work on post-harvest losses, see the 50x2030 working paper *Minimum Losses by Commodity and Region: Insights from the Literature*). These desk reviews, as well as collaboration with Program Implementing Partners, have resulted in the development and improvement of the 50x2030 questionnaire package, with, for example, a revised Production Methods and Environment questionnaire and an optional expanded questionnaire for the measurement of post-harvest losses released on the 50x2030 website.

During the reporting period, the ability to conduct primary data collection for new methodological fieldwork was severely curtailed due to COVID-19, and a decision was made to focus on preparing methodological studies for future implementation and move ahead with the analysis of existing data. Desk research and communication with a variety of stakeholders and experts informed the general design of studies on climate, land tenure, and land area measurement, for example.

Despite the limitations on the implementation of ground-based methodological validation studies due to COVID-19, research and related activities have led to improvements in the quality of data to be collected

For research on the measurement of soil health, the Initiative is preparing for a series of stakeholder meetings aimed at improving the design of methodological studies on soil health and identifying the data gaps most crucial for agricultural policy development. The design of a methodological study on the impact of recall periods in surveys on fisheries has been completed and is in the final stages of preparation for the launch of the year-long fieldwork in Cambodia. Methodological validation of the measurement of damages and losses and crop variety identification have been integrated into the Uganda National Study on Objective Measurement in Agriculture (UNOMA), originally designed for research on the integration of surveys and satellites, which will be launched in September 2021 as part of the Uganda Harmonized and Integrated Survey Programs.

Finally, cognitive interviewing (first stage), piloting (second stage) and validation (third stage) in relation to the Women's Empowerment Metric for National Systems (WEMNS) questionnaire are taking place through phone surveys in Bangladesh, Malawi and Nepal. The approach to sampling design, respondent selection protocols and timing of implementation are harmonized across the three countries. During the reporting period, cognitive interviewing activities were finalized in these three countries, leading to revisions to the questionnaire instruments that were, in turn, piloted successfully in August 2021. The validation stage and large-scale data collection will be implemented in each country starting in October 2021. As part of the validation exercise, there will be a second, follow-up round of phone-based large-scale data collection in each country, within approximately one month of completion of the first interview with each sampled respondent. As COVID-19 travel restrictions are eased and supervision missions can be fielded, large-scale face-to-face data collection will eventually take place using a refined version of the questionnaire used for the phone interviews.

To date, the Methods & Tools Development component has focused on the priority topics identified in the Governance and Operations Framework of the Initiative. As the Initiative evolves, the priority research topics and/or specific activities will also evolve. As the previously agreed research topics are sufficiently tackled and space for new topics is made, an internal process will see Program Implementing Agencies submit proposals for new activities and topics to the Methods & Tools team. These proposals will first be discussed amongst the Methods & Tools coordination group and relevant technical partners, and subsequently with the Technical Advisory Group. Finally, the proposal will be submitted to the Partnership Council as part of the work plan process. This approach should ensure the Initiative is focused on topics that are relevant to its partners, while staying on the cutting edge of methodological research.

For a complete list of activities undertaken by the Methods & Tools Development component, see Annex 1.

LINKING SURVEYS AND SATELLITES FOR IMPROVED CROP TYPE MAPPING

Research undertaken by the Methods & Tools Development component, which was published in the recent working paper, Understanding the Requirements for Surveys to Support Satellite-Based Crop Type Mapping: Evidence from Sub-Saharan Africa, explores the potential for the integration of ground-based surveys and increasingly available high-resolution satellite imagery to improve satellite-based crop type mapping models. Thus far, research has focused on maize cultivation in Malawi and Ethiopia, leveraging rich, georeferenced plot-level data from national household surveys that are integrated with Sentinel-2 satellite imagery and complementary geospatial data. To identify the approach to survey data collection that yields optimal data for training remote sensing models, thousands of experiments are simulated within a machine learning framework. The best model is then applied to map seasonal maize cultivation at 10-meter resolution in both countries.

The analysis reveals that smallholder maize plots can be identified with up to 75 percent accuracy. However, the predictive accuracy varies with the approach to georeferencing plot locations and the number of observations in the training data. Collecting full plot boundaries or complete plot corner points provides the best quality information for model training, as opposed to the collection of a single corner point or the center point, which is often the protocol in surveys. Less preferable approaches to georeferencing plots results in the total area under maize cultivation being overestimated by 8-24 percent in Malawi, emphasizing the importance of survey methods. The findings from this line of research, particularly those related to optimal plot georeferencing protocols, will be put to use in Uganda's upcoming integrated survey.

The paper has been downloaded nearly 800 times since April 2021. It will ultimately feed into interim guidelines for designing and implementing large-scale household and farm surveys in a way that provides the required data for calibrating and validating satellite-based methods for high-resolution crop type mapping and crop yield estimation, with a focus on cereal crops. While this research is currently focused on sub-Saharan Africa, utilizing the existing georeferenced LSMS-ISA data, the geographic scope of the research will be expanded beyond Africa as COVID-19 travel restrictions are eased and supervised methodological validation exercises can be fielded. In the future, the guidelines are expected to be updated based on additional research that will be extended to non-cereal crops.

Photo by NASA on Unsplash.

50x2030 ON THE ROAD

The following is a timeline of major international conferences at which 50x2030 staff made presentations about the work of the Initiative.

NOV
2020

Atelier de partage et d'information sur les indicateurs et données des Enquêtes Agricoles Annuelles (EAA) de 2017 à 2020 au Sénégal.
Workshop organized by DAPSA.

FEB
2021

***Second Arab Land Conference*: Monitoring land governance and land tenure security.**
Masterclass, with presentation by 50x2030 and collaborators from FAO and UN-Habitat/GLII.

The 50x2030 Initiative to Close the Agricultural Data Gap: Learning from partner country implementation.
Side event at the 52nd session of the UN Statistical Commission.

Cambodia Inter-Censal Agriculture Survey 2019: Survey report dissemination.

APR
2021

50x2030 Seminar: Integrating Surveys and Satellites for Agricultural Monitoring in Smallholder Farming Systems.

Series of SDG Webinars for the Arab Region: An Interagency and Experts Collaboration to Improve the Production and Dissemination of SDG Indicators from Official National Sources. SDG 1.4.2 and SDG 5.a.1
The Initiative made a presentation at the webinar along with partners from FAO and UN-Habitat/GLII.

MAY
MAY/JUNE 2021

Vers une utilisation renforcée de données probantes pour éclairer le processus de suivi de la RSCA au Sénégal.
Workshop organized by FAO in partnership with DAPSA, the Ministry of Agriculture and FAO-Senegal to identify new indicators that could be generated from the new EAA model to feed into Senegal's agricultural policy monitoring process.

JUL
2021

Survey Data Management, Processes and Agricultural Policies.
Training organized by FAO in partnership with Uganda's Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) and FAO Uganda.

Atelier de validation des notes politiques pour éclairer les décideurs politiques au Sénégal.
Workshop organized by FAO in partnership with Senegal's Direction de l'Analyse, de la Prévision et des Statistiques Agricoles (DAPSA) and FAO Senegal.

RESOURCE MOBILIZATION

The fiscal year 2021 saw the 50x2030 Initiative making headway in its resource mobilization efforts, thanks foremost to the generosity of our donor partners. In addition, our PMT and PIA persisted in mobilizing resources despite the vacancy of the position of Program Officer-Partnerships and Resource Mobilization for the better part of the year.

Through June 2021, the Initiative secured **US$40 million** in contributions from the following sources:

- **US$18.8 million** committed by the Initiative's key initial donor partners, the Australian Department of Foreign Affairs and Trade, the Bill & Melinda Gates Foundation and the German Federal Ministry for Economic Cooperation and Development. Of this, US$16.2 million has been received and US$12 million has been allocated and committed. The fund is managed in the Multi-Donor Trust Fund.

- **EUR€5 million** (US$6 million) committed by the European Commission Directorate-General for International Cooperation and Development and channeled through the Food Systems 2030 Multi-Donor Trust Fund. The Initiative received the first installment of US$2.5 million in December 2020.

- **US$15.3 million** received from the Bill & Melinda Gates Foundation, Italy's Ministry of Foreign Affairs and International Cooperation (MAECI) and the US Agency for International Development (USAID), and managed by the Food and Agriculture Organization (FAO) and the World Bank. The Initiative has received US$13.8 million.

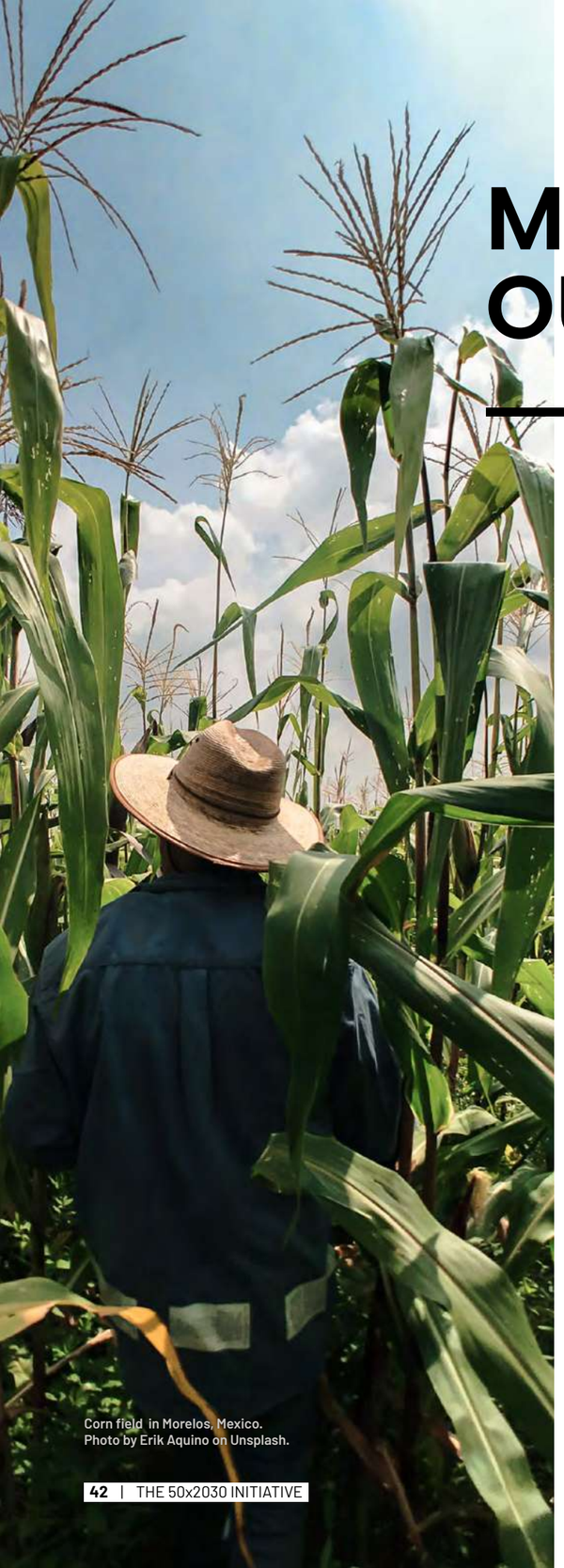
The Initiative has also been receiving in-kind contributions from partner implementing agencies, namely the World Bank, FAO and IFAD.

Discussions are underway in a bid to guarantee financing of the 50x2030 Initiative, including:

- **US$3 million** contribution from USAID. At the end of the reporting period, the PMT was working on the details to be included in an amended administration agreement.

- **Mobilizing the World Bank's International Development Association (IDA)** as an additional funding source for countries, where relevant. The Initiative has been working with World Bank country teams in the Poverty and Equity Global Practice, and with the Agriculture and Food Global Practice, to discuss opportunities to jointly provide financial and technical support to current and upcoming IDA countries in producing and using high-quality agriculture and rural data. Most IDA projects are still in the conception stage, but a strong foundation is being built to secure collaboration when the IDA projects are active.

The 50x2030 Initiative has an ambitious vision, the achievement of which necessitates a strong financial base. With that in mind, PMT has drafted a strategic resource mobilization plan, which is expected to be finalized in FY2022. The plan will guide in sustaining our collaboration with current donors and attracting new ones, with a focus on those from the philanthropic and private sectors as well as on IDA resources.



Corn field in Morelos, Mexico.
Photo by Erik Aquino on Unsplash.

MONITORING OUR IMPACT

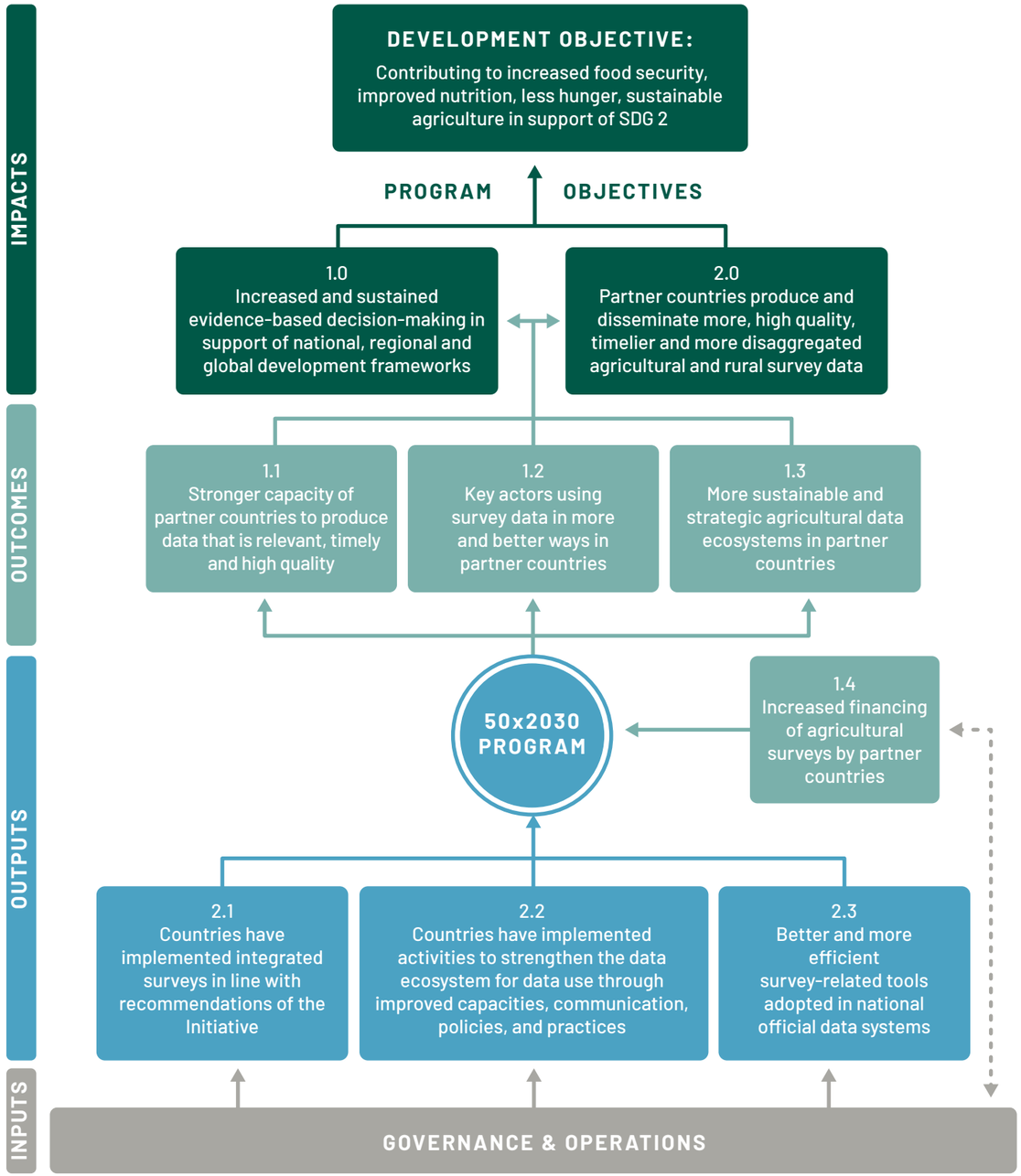
The Initiative finalized and adopted a results framework (see diagram at right) and a framework for monitoring and evaluating the impact the program. The framework has 27 indicators, six of which will be shared on a dashboard to be integrated into the 50x2030 website in an effort to be transparent about delivery.

The indicators under the monitoring framework were defined with the two primary project outcomes:

- Partner countries produce and disseminate more, high quality, timelier, open and more disaggregated agricultural and rural survey data
- Increased and sustained evidence-based decision making in support of national, regional and global development frameworks.

The M&E framework will be operationalized in 2022 and an online tracking system will be developed to facilitate the reporting process.

RESULTS FRAMEWORK CONCEPTUAL OVERVIEW



OUTREACH AND ADVOCACY

This past year the Initiative built out its reach, influence and engagement to keep pace with the expanding program and deliver against the first strategic communications plan, which was approved by the Partnership Council in early 2021. This was made possible by work during the reporting period to revisit the brand and brand assets, develop core collateral, hold messaging workshops at the PMT level and put in place the infrastructure necessary to build a global presence.

Knowledge generation and dissemination were key areas of growth. The 50x2030 program manager published a blog, "Where are the women? Filling the gap in sex-disaggregated data in agriculture" with Data2X in December 2020, which showcased the gender disaggregated data that the program will produce. She also published an important opinion editorial with Dr. Agnes Kalibata, the UN Secretary-General's Special Envoy to the 2021 UN Food Systems Summit, on the importance of agricultural data to improve food systems and eliminate food insecurity. In the context of the greater Summit process, arguably the most important moment in agriculture in 2021, the Initiative was involved in the Digital and Data working group of the Innovation Lever of Change and the OneMap initiative thereunder, as well as in early discussions with the Food Systems Summit Scientific Committee, both in an effort to bring greater attention to the agricultural data gap.

Building on this experience, food systems and agricultural data will be the focus of the next 50x2030 seminar under the new program of work. The 50x2030 Seminar Series was launched in April 2021 with an event on "Integrating Surveys and Satellites for Agricultural Monitoring in Smallholder Farming Systems," which attracted more than 350 participants.

Last year, 50x2030 was present at major statistical fora to share some of the learnings and tools developed under the Initiative with expert practitioners of official statistics. The Initiative hosted a session, "Learning from partner country implementation to date," in February, on the sidelines of the 52nd session of the UN Statistical Commission, and a session on "Measurement Matters and Agricultural Economists Should Care: How the 50x2030 Initiative Can Make a Difference," at the 31st International Conference of Agricultural Economists, which was held virtually.

Digitally, the Initiative increased its footprint and reach considerably. In September 2020, it established its presence on major social media platforms (Twitter, Facebook, and LinkedIn), with its presence on Twitter alone growing ten-fold in the first eight months. The website architecture was enhanced to accommodate new content and serve broader audiences. It included sections for: country activity reporting, with links to 50x2030 datasets; a series of new technical notes for free download, with some also in French and Spanish; and increased country engagement, for example, through the Country Expression of Interest window. These upgrades to the website led to increases in visitors. For example, in July 2020 it received only 156 visitors, hitting an annual high in March 2021 with 1,800 visitors.

Knowledge generation and dissemination were key areas of growth, and digitally, the Initiative increased its footprint and reach considerably

Running on a field in Armenia.
Photo by Vazgen Harutyunyan on Unsplash.

A group of women in Oudomxay province, Laos, cleaning fresh home-harvested greens, that they contribute to a community feeding program for primary school students. Photo by Bart Verweij / World Bank.

SPOTLIGHT ON GENDER

The 50x2030 Initiative promotes sex-disaggregated and gender-relevant indicators for agricultural statistics, and several activities undertaken in FY2021 reflect this priority. This is especially evident in the case of land tenure and women's empowerment. A questionnaire module designed by the World Bank, FAO, and UN-Habitat to collect the data necessary for SDG Indicators 5.a.1 and 1.4.2 on gender-specific land tenure security has been integrated into the Initiative's reference questionnaires.[A] To facilitate the collection of data for Indicator 5.a.1 in particular, and to support the estimation of the Indicator itself, the Initiative published a guidance note on SDG 5.a.1, including step-by-step guidance for computation using the Initiative's questionnaires.

The Methods & Tools Development component has also been conducting analysis on the Armenia Land Tenure and Area study, in which both gender-focused cognitive interviewing and methodological validation of the questionnaire module were conducted. Findings in relation to the gender-differentiated implications of survey design on the measurement of land tenure security are to be published in early FY2022.

Work is also underway with the International Food Policy Research Institute (IFPRI) and Emory University on the Women's Empowerment Metric for National Systems (WEMNS) project to devise and validate a measure of women's empowerment that could be integrated in 50x2030 questionnaires going forward. Cognitive interviewing for understanding gender-specific interpretations of key survey questions was undertaken, ahead of piloting the questionnaire in Bangladesh, Malawi, and Nepal, leading to improvements in the questionnaire instrument. Large-scale data collection of the WEMNS survey in each of these three countries will be implemented initially via phone-based interviewing, beginning in October 2021.

A Collection of data for SDG Indicator 1.4.2 is integrated into the 50x2030 questionnaires, but the Indicator may only be estimated for the rural population unless the sample is expanded to be inclusive of urban populations. Indicator 5.a.1 can be estimated in full with the 50x2030 questionnaires.

SECTION 4

CHALLENGES & MITIGATION

For a large portion of the reporting period, the already nimble PMT experienced unexpected turnover of personnel, leaving it understaffed. Nonetheless, the team continued to keep pace with the program of work, delaying slightly the engagement of two new countries at the end of the fiscal year to the start of the next. By June 2021, plans were underway to hire consultants as recruitment for vacant staff positions began running their course.

Unsurprisingly, and for the first half of the reporting period in particular, COVID-19 posed challenges to field travel to partner countries and in-person meetings in general, which led to delays in some activities. The Initiative responded through a combination of measures that had already been established in the previous work program, such as phone surveys for data collection, web-based trainings, the remote onboarding of countries, and the building of country coordination groups.

As restrictions eased, precautions were taken to keep national staff safe during data collection and much ground was recovered by the end of the reporting period, as evidenced by the data produced and disseminated. Moving forward, the trajectory of the pandemic will require the continued agility of implementing agencies and partner country teams alike. But the experience to date has proven that this is feasible and ultimately has very little impact on overall delivery.

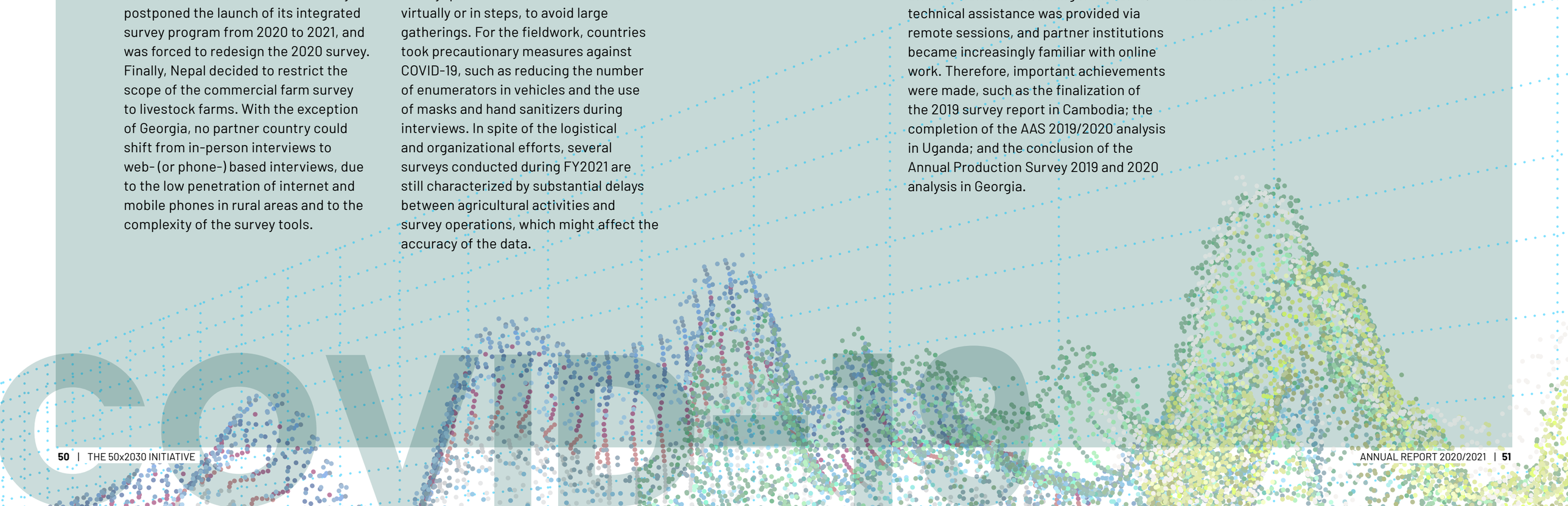
COLLECTING DATA DESPITE COVID-19

The pandemic had a strong bearing on the work plans of partner countries during FY2020-FY2021, particularly on data collection operations. For example, immediately after the outbreak in March 2020, Cambodia was obliged to reschedule fieldwork for the agricultural year 2020. Armenia had to combine two quarterly rounds into one semi-annual round, which was launched with some delay. Uganda suspended data collection for its 2019/20 survey, postponed the launch of its integrated survey program from 2020 to 2021, and was forced to redesign the 2020 survey. Finally, Nepal decided to restrict the scope of the commercial farm survey to livestock farms. With the exception of Georgia, no partner country could shift from in-person interviews to web- (or phone-) based interviews, due to the low penetration of internet and mobile phones in rural areas and to the complexity of the survey tools.

During FY2020, as pandemic-related restrictions were eased or lifted, partner institutions pushed to resume 'normal' activities. Countries began fieldwork again and tried to make up for time lost during the lockdown. In an effort to speed-up data collection, while being mindful of the health of enumerators, countries resorted to web-based activities. For instance, in Armenia and Uganda, trainings on the survey questionnaires were undertaken virtually or in steps, to avoid large gatherings. For the fieldwork, countries took precautionary measures against COVID-19, such as reducing the number of enumerators in vehicles and the use of masks and hand sanitizers during interviews. In spite of the logistical and organizational efforts, several surveys conducted during FY2021 are still characterized by substantial delays between agricultural activities and survey operations, which might affect the accuracy of the data.

Given restrictions on local and international travel and on the size of gatherings, desk-based activities were also affected, particularly those requiring close coaching by international experts on capacity building (e.g., data processing and analysis, report writing, and data anonymization/dissemination) and data production. However, desk-based activities were less affected than fieldwork operations, as national officials continued working from home, technical assistance was provided via remote sessions, and partner institutions became increasingly familiar with online work. Therefore, important achievements were made, such as the finalization of the 2019 survey report in Cambodia; the completion of the AAS 2019/2020 analysis in Uganda; and the conclusion of the Annual Production Survey 2019 and 2020 analysis in Georgia.

Restrictions on international and local travel and on the size of gatherings due to COVID-19 also affected Data Use activities. The implementation of restrictions, their easing, and subsequent re-implementation caused delays in conducting key meetings, especially in Cambodia. Most key-Informant interviews for the Data Assessment Survey were conducted remotely, which may have reduced the quality of the information obtained.



SECTION 5

LOOKING AHEAD

This second full year of operations has generated lessons that the 50x2030 Initiative will draw from to enable the recalibration of its strategy and operations in the coming years. Although we acknowledge the enduring uncertainties that the COVID-19 pandemic brings, we remain cautiously ambitious: From now through 2024, we aim to significantly expand our country engagement, moving towards achieving the Initiative's target of engaging 50 countries by 2030, while at the same time improving its governance, operational framework and financing mechanisms. Our success will also depend upon expanding our technical and financial partnerships, and our advocacy efforts at both the global and national levels. Our program is nimble by design and amplifying our work through linkages with others is a core aspect of our operating model.

We will also continue producing evidence to improve data collection methods through the implementation of methodological research studies, and support partner countries as they generate meaningful datasets that can inform national policies and track progress towards SDG 2. We recognize that some 50x2030 partner countries will be up against additional challenges given that the World Food Programme has identified them as hunger hotspots. Mitigating the crisis will mean collecting accurate information and instituting targeted policies and processes for which 50x2030 data will be critical.

Indeed, as production of 50x2030 data moves into an expanded set of countries and more data becomes available, the important work of ensuring that the data is applied becomes possible. On that issue, one event we especially look forward to is our first annual 50x2030 Global Data Use Conference in November 2021. The Conference aims to encourage and facilitate the better use of 50x2030 data and to showcase the importance of understanding policy and program needs so they can inform data collection.

We expect the conference to attract experts from government, civil society, media, foundations, international agencies, the private sector and academia. Discussions will focus on the current and potential use of the Initiative's survey data for informing research, policies and investments aimed at transforming food systems.

The nature and reach of the conference corresponds directly to the value placed on the use of data by the Initiative, which has a founding philosophy that supply-side efforts that only focus on data production miss the mark. What sets 50x2030 apart is our focus on sustainability, which hinges on the application of the data collected as well as on country ownership of the entire data development process. To this, we remain committed, year on year, as we march toward our goal of promoting data-smart agriculture in 50 countries by 2030.

ANNEXES

ANNEX 1

TABLE OF ACTIVITIES

PROGRAM MANAGEMENT ACTIVITIES

ACTIVITY	DELIVERABLES & OUTPUTS	2020 JUL	AUG	SEP	OCT	NOV	DEC	2021 JAN	FEB	MAR	APR	MAY	JUN	STATUS*
DEVELOPMENT OF DOCUMENTS AND PROTOCOLS														
	Country onboarding protocols (and updates)	●	●	●										●
	Work plans (Annual Work Plan, Multi-Year Work Plan)												●	●
	Mid-year (Apr) and Annual (Sep) reports			●							●			●
	Results Framework and M&E Plan		●	●	●	●								◔
	Country agreements	●	●	●	●	●	●	●	●	●	●	●	●	●
COORDINATION OF WORKING GROUPS ACTIVITIES														
	Relevant internal/external WG/task forces' activities reflected in the Initiative's work	●	●	●	●	●	●	●	●	●	●	●	●	◔
COORDINATION OF STRUCTURES (PARTNERSHIP COUNCIL, PROGRAM IMPLEMENTING AGENCIES, TAG, ETC.)														
	Identification of issues to be addressed, organization of meetings, consensus-building, preparation of materials, follow-up on decisions	●	●	●	●	●	●	●	●	●	●	●	●	●
DOCUMENTS (INTERNATIONAL DEVELOPMENT ASSOCIATION-IDA, ETC.)														
	Identification of joint country work with Agriculture and Food and Poverty and Equity Global Practices	●	●	●	●	●	●	●	●	●	●	●	●	◔

*STATUS: ● Completed ◔ Ongoing ● Postponed ● Delayed ● New

PROGRAM MANAGEMENT ACTIVITIES

ACTIVITY	DELIVERABLES & OUTPUTS	2020 JUL	AUG	SEP	OCT	NOV	DEC	2021 JAN	FEB	MAR	APR	MAY	JUN	STATUS*
OUTREACH / ADVOCACY ACTIVITIES														
	Advocacy materials	●	●	●	●	●	●	●	●	●	●	●	●	●
	Updated website	●	●	●	●	●	●	●	●	●	●	●	●	●
	Communication strategy				●	●	●							●
RESOURCE MOBILIZATION														
	Identification of new funding sources, negotiation of additional commitments by current donors	●	●	●	●	●	●	●	●	●	●	●	●	●
COUNTRY ONBOARDING														
	Onboarding	●	●	●	●	●	●	●	●	●	●	●	●	●
	Program Implementation Plans and country agreements	●	●	●	●	●	●	●	●	●	●	●	●	◔

COUNTRY-BASED ACTIVITIES

COUNTRY	DELIVERABLES & OUTPUTS	2020 JUL	AUG	SEP	OCT	NOV	DEC	2021 JAN	FEB	MAR	APR	MAY	JUN	STATUS*
ARMENIA	**DATA PRODUCTION ACTIVITIES**													
	Agricultural Production Survey 2020 (quarterly pilot survey in 4 regions) - Data collection	●						●	●	●				●
	Agricultural Production Survey 2020 - Data editing, imputation, analysis and tabulation									●	●	●	●	◔
	Technical training on DDI-metadata				●									●
	Assessment of Data Dissemination Programme					●								●

*STATUS: ● Completed ◔ Ongoing ● Postponed ● Delayed ● New

COUNTRY-BASED ACTIVITIES

COUNTRY | DELIVERABLES & OUTPUTS | 2020 (JUL AUG SEP OCT NOV DEC) | 2021 (JAN FEB MAR APR MAY JUN) | STATUS*

CAMBODIA

ONBOARDING ACTIVITIES

- Program Implementation Plan and country agreement

DATA PRODUCTION ACTIVITIES

- Cambodia InterCensual Agricultural Survey 2019 (CIAS 2019) - Publication of survey report
- CIAS 2019 - Preparation and release of multidimensional tables and microdata files
- Cambodia Agricultural Survey (CAS) 2020 - Data collection
- CAS 2020 - Data editing, imputation, analysis and tabulation
- CAS 2020 - Preparation and publication of survey report
- CAS 2021 - Survey preparation
- CAS 2021 - Data collection (including listing)
- Assessment of Data Dissemination Programme

DATA USE ACTIVITIES

- Data Ecosystem Mapping and Assessment
- Joint Multi-Year Implementation Plans

ETHIOPIA

ONBOARDING ACTIVITIES

- Program Implementation Plan and country agreement

(CONTINUES)

*STATUS: Completed | Ongoing | Postponed | Delayed | New

COUNTRY-BASED ACTIVITIES

COUNTRY | DELIVERABLES & OUTPUTS | 2020 (JUL AUG SEP OCT NOV DEC) | 2021 (JAN FEB MAR APR MAY JUN) | STATUS*

ETHIOPIA (CONTINUED)

DATA PRODUCTION ACTIVITIES

- Survey preparations
- Commercial farm survey fieldwork
- Ethiopia Socioeconomic Survey (ESS) 4 Dissemination
- Commercial farm survey dissemination
- Training on commercial farm survey

DATA USE ACTIVITIES

- Data Ecosystem Mapping and Assessment
- Joint Multi-Year Implementation Plans

GEORGIA

ONBOARDING ACTIVITIES

- Program Implementation Plan and country agreement

DATA PRODUCTION ACTIVITIES

- Annual Production Survey 2019 - Data analysis (calculation based of 2.3.1, 2.3.2)
- Annual Production survey 2020 - Data collection
- Rotating module on PME 2021: Development and testing of PME rotating questionnaire
- Assessment of Data Dissemination Programme
- Technical training on DDI-metadata

DATA USE ACTIVITIES

- Data Ecosystem Mapping and Assessment

*STATUS: Completed | Ongoing | Postponed | Delayed | New

COUNTRY-BASED ACTIVITIES

COUNTRY	DELIVERABLES & OUTPUTS	2020 JUL	AUG	SEP	OCT	NOV	DEC	2021 JAN	FEB	MAR	APR	MAY	JUN	STATUS*
MALAWI	**DATA PRODUCTION ACTIVITIES**													
	5th Integrated Household Survey (IHS5) 2019/20 and Integrated Household Panel Survey (IHPS) data dissemination					●								●
NEPAL	**DATA PRODUCTION ACTIVITIES**													
	Commercial Livestock Integrated Survey (CLIS) 2020/21 - Data collection							●	●	●				●
	CLIS 2020/21 - Data editing, imputation, processing and analysis										●	●		●
	CLIS 2020/21 - Preparation and release of microdata files										●			●
	2019 Pilot Survey - Preparation and release of microdata files and NADA upgrade													●
	Assessment of Data Dissemination Programme								●					●
NIGERIA	**ONBOARDING ACTIVITIES**													
	Program Implementation Plan and country agreement									●	●	●		●
	Nigeria Agricultural Sample Census (NASC) - Preparation							●	●	●	●	●		◔
	DATA USE ACTIVITIES													
	Data Ecosystem Mapping and Assessment													●

*STATUS: ● Completed ◔ Ongoing ● Postponed ● Delayed ● New

COUNTRY-BASED ACTIVITIES

COUNTRY	DELIVERABLES & OUTPUTS	2020 JUL	AUG	SEP	OCT	NOV	DEC	2021 JAN	FEB	MAR	APR	MAY	JUN	STATUS*
SENEGAL	**ONBOARDING ACTIVITIES**													
	Program Implementation Plan and country agreement					●	●	●	●	●	●	●		◔
	DATA PRODUCTION ACTIVITIES													
	Annual Agricultural Survey 2019-2020 (EAA2019/20) - Preparation and release of multidimensional tables and microdata files					●	●	●	●	●	●			●
	EAA 2020/21 -Survey preparation (including PME rotating questionnaire)	●												●
	EAA 2020/21 - Data collection (1st and 2nd round)					●	●	●	●		●	●		●
	EAA 2020/21 - Data editing, imputation, processing							●	●	●	●	●	●	●
	EAA 2020/21 - Data analysis, tabulation and preparation of the report												●	◔
	EAA 2020/21 - Dissemination of key survey results (workshop)												●	●
	EAA 2021/22 - Survey preparation, including Machinery/Labor rotating questionnaire (replaced by the Income, Labor and Productivity module)												●	◔
	Listing operations Non-household sector					●	●	●	●					●
	DATA USE ACTIVITIES													
	Data ecosystem report													●
	Workshop on applying agriculture survey data for policy analysis												●	●
	Hands-on statistical literacy training using EAA data for DAPSA												●	●

*STATUS: ● Completed ◔ Ongoing ● Postponed ● Delayed ● New

COUNTRY-BASED ACTIVITIES

UGANDA

COUNTRY	DELIVERABLES & OUTPUTS	2020 JUL AUG SEP OCT NOV DEC	2021 JAN FEB MAR APR MAY JUN	STATUS*
	ONBOARDING ACTIVITIES			
	Program Implementation Plan and country agreement			Ongoing
	DATA PRODUCTION ACTIVITIES			
	Annual Agricultural Survey (AAS) 2018/19 - Preparation, release of multidimensional tables and microdata files			Completed
	AAS 2019/20 - Data collection 2019-season 2			Completed
	AAS 2019/20 - Data editing and processing			Completed
	AAS 2019/20 - Dissemination of findings			Ongoing
	AAS 2019/20 - Report writing			Ongoing
	AAS 2019/20 - Preparation and release of multidimensional tables and microdata files			Postponed
	AAS 2020/21 - Data collection for household sector (1st and 2nd visits) findings			Completed
	Integrated Survey Programme (ISP) 2021/22 survey tools, enumerator manuals and data validation protocols			Completed
	ISP 2021/22 - Training for enumerators			Postponed
	ISP 2021/22 - Listing non-household sector			Postponed
	ISP 2021/22 - Data collection (including non-household sector)			Postponed
	Uganda National Panel Survey (UNPS) 2019/2020 data dissemination			Completed
	DATA USE ACTIVITIES			
	Data ecosystem Mapping and Assessment			Ongoing
	Training on applying agriculture survey data for policy analysis			New

*STATUS: Completed · Ongoing · Postponed · Delayed · New

METHODS AND TOOLS DEVELOPMENT

PILLAR 1 -INTEGRATION OF SURVEY APPROACHES

ACTIVITY, DELIVERABLES & OUTPUTS	2020 JUL AUG SEP OCT NOV DEC	2021 JAN FEB MAR APR MAY JUN	STATUS*
INTEGRATION OF SURVEY INSTRUMENTS			
Revised instrument on the Production Methods and the Environment (PME) and enumerator manuals			PME questionnaire revisions complete; PP manual drafted, PH manual under development
Revised generic commercial farm survey questionnaires, documentation, and published paper #1			Internal background document completed; paper for publication under development
Desk review on phone-based agricultural surveys			Full draft developed, undergoing revisions
Ongoing support to questionnaire harmonization			Ongoing
Design and preparation for an experiment on recall periods in fisheries data collection (led by FAO)			Design complete and implementation scheduled for early FY22 in Cambodia
Development of Technical Notes on the implementation of key survey topics & features (Titles: Technical Note on Post-Harvest Losses; Technical Note on Non-Standard Units)			First two documents completed (post-harvest losses and non-Standard units), more documents to follow in FY22
INTEGRATED SAMPLING			
Technical note on the Initiative's sampling approach and guidance document			Published on 50x2030 website
Paper #2 on the sample integration experience in Uganda and lessons learnt			Full draft completed and circulated for comments, revisions underway
INTEGRATED DATA ANALYSIS AND DISSEMINATION			
Paper initiated on the analysis of recall length on the measurement of key agricultural variables in Burkina Faso and potentially other West Africa Economic and Monetary Union (WAEMU) countries			After data exploration with a collaborator, it was decided to pause this analysis until a better data source becomes available
Paper on the value and modalities of integrating objective, crop cutting-based measurement of crop production and productivity in agricultural surveys			Ongoing

*STATUS: Completed · Ongoing · Postponed · Delayed · New

METHODS AND TOOLS DEVELOPMENT

PILLAR 2 – USE OF TECHNOLOGY, UPDATING OF METHODOLOGIES FOR MEASUREMENT

ACTIVITY, DELIVERABLES & OUTPUTS	2020 JUL AUG SEP OCT NOV DEC	2021 JAN FEB MAR APR MAY JUN	STATUS*
LABOR INPUTS			
Design of validation study on phone survey			Ongoing
Paper #3 on time allocation to human activities predicted from physical activity sensor output (Title: *Making time count: A machine learning approach to predict time use from sensor data on physical activity*)			Results produced and presented at ESRA conference; first draft being finalized.
NON-LABOR INPUTS			
Desk review			Initiated early FY22
Design of methodological experiment			Postponed, pending results of desk review
Paper #4 on impact of ordering of non-labor input and production modules (Title: *Does sharing GPS-based area prior to the administration of a comprehensive agriculture questionnaire affects the farmer-reported data on agricultural inputs?*)			Early draft available
DAMAGE AND LOSSES			
Desk review			Desk review completed
Paper-based on findings of desk review (Title: *Measuring disaster crop production losses using survey microdata: Evidence from sub-Saharan Africa*)			New and completed. Full draft circulated for comments prior to submission for publication
Guidance on damages and losses included in the Guide to the 50x2030 Data Collection Approach: Questionnaire design			Guidance on D&L integrated into September version of the guidance document
Potential integration of methods experiment in Uganda National Study on Objective Measurement in Agriculture (UNOMA)			Concept note developed and design integrated into UNOMA, which will launch fieldwork in FY22
LAND AREA			
Paper #5 on land area measurement via satellite imagery (Title: Assessing land area from space: Are satellite methods a compliment to or substitute for GPS measurement?)			Early draft available

(CONTINUES)

*STATUS: Completed | Ongoing | Postponed | Delayed | New

METHODS AND TOOLS DEVELOPMENT

(CONTINUED) PILLAR 2 – USE OF TECHNOLOGY, UPDATING OF METHODOLOGIES FOR MEASUREMENT

ACTIVITY, DELIVERABLES & OUTPUTS	2020 JUL AUG SEP OCT NOV DEC	2021 JAN FEB MAR APR MAY JUN	STATUS*
LAND AREA (CONTINUED)			
Paper #6 on intercropping area from Malawi National Crop Cutting Study (Title: *The relative accuracy of intercropped area computation based on farmer-reported information vis-à-vis comprehensive objective measurements of crop area coverage on intercropped plots*)			Early draft available
Design of methodological experiment			General concept note developed; to be expanded upon country selection
LAND TENURE			
Paper #7 on the comparative assessment of the unified survey modules and gender-disaggregated dimensions of land tenure (Title: *Measuring land tenure at the individual level: Lessons from methodological research in Armenia*)			Full draft available
Additional paper on individual land tenure security (Title: *Land right holding and reporting: Evidence on biases from a randomized control trial in Armenia*)			New and onging. Work on the planned land tenure paper (in the row above) led to several findings and it was decided to split this into two separate papers.
Design of methodological experiment			General concept note developed; to be expanded upon country selection
CLIMATE			
Design of methodological experiment			Full draft concept note developed and circulated for comments
SOIL FERTILITY			
Paper #8 on crop-specific soil suitability (Title: *Linking Soil Suitability and Crop Productivity in Africa: Evidence from Maize Farmers in Uganda*)			Full draft available; final revisions underway
Paper #9 on integration of ground and geospatial based soil data (Title: *Unearthing the drivers of the gender gap in agricultural productivity: Longitudinal evidence from Malawi*)			Full draft available; final revisions underway

(CONTINUES)

*STATUS: Completed | Ongoing | Postponed | Delayed | New

METHODS AND TOOLS DEVELOPMENT

(CONTINUED) PILLAR 2 – USE OF TECHNOLOGY, UPDATING OF METHODOLOGIES FOR MEASUREMENT

ACTIVITY, DELIVERABLES & OUTPUTS	2020 JUL AUG SEP OCT NOV DEC	2021 JAN FEB MAR APR MAY JUN	STATUS*
SOIL FERTILITY (CONTINUED)			
Design of methodological experiment			Under development; to be informed by stakeholder meetings held in November 2021
CROP VARIETY			
Draft Guidelines #10 on crop variety identification			Ongoing
Methodological experiment included in Uganda National Study on Objective Measurement in Agriculture			Design integrated into UNOMA study
Paper #11 on measurement error in farmer-reported crop variety			Ongoing
POST-HARVEST LOSS			
Desk review and analysis			Completed
Paper #12 on measurement of post-harvest loss (Title: *Research on the measurement of post-harvest losses – minimum Losses by Commodity and Region: Insights from the literature*)			Published on 50x2030 and FAO websites
Additional paper on post-harvest loss (Title: *Combining food loss models with survey data to improve food loss estimates and reduce data collection costs*)			New and ongoing. Presented at the ICAE conference in August 2021
WOMEN'S EMPOWERMENT IN AGRICULTURE			
Engagement in Women's Empowerment Metric for National Statistical Systems (WEMNS) project			Ongoing
SURVEY MANAGEMENT SYSTEM			
Development of code and report templates			Draft interface and reporting abilities developed and reviewed internally

(CONTINUES)

*STATUS: Completed · Ongoing · Postponed · Delayed · New

METHODS AND TOOLS DEVELOPMENT

(CONTINUED) PILLAR 2 – USE OF TECHNOLOGY, UPDATING OF METHODOLOGIES FOR MEASUREMENT

ACTIVITY, DELIVERABLES & OUTPUTS	2020 JUL AUG SEP OCT NOV DEC	2021 JAN FEB MAR APR MAY JUN	STATUS*
SURVEY MANAGEMENT SYSTEM (CONTINUED)			
Guide #13 on survey management system			Documentation for functions has been developed in parallel with function development; extended guidance to be developed upon finalization of application.
Further development and assistance on implementation of survey management system			Ongoing

PILLAR 3 - INTEGRATION WITH OTHER DATA SOURCES

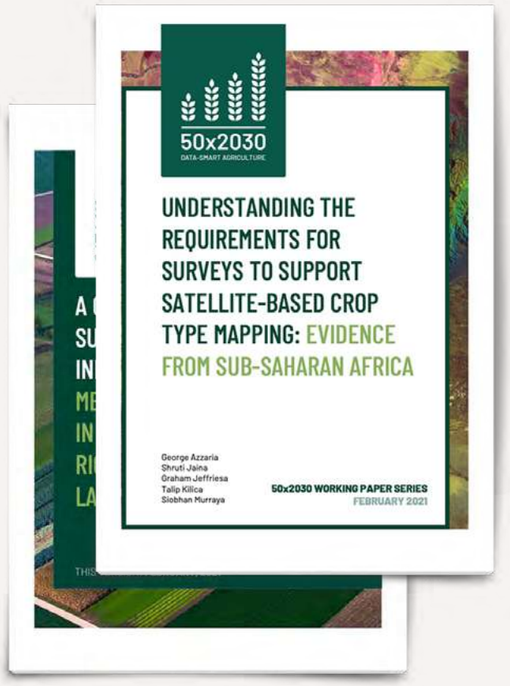
ACTIVITY, DELIVERABLES & OUTPUTS	2020 JUL AUG SEP OCT NOV DEC	2021 JAN FEB MAR APR MAY JUN	STATUS*
INTEGRATION OF SURVEYS WITH SATELLITES AND EARTH OBSERVATION DATA			
Analysis of data from Malawi, Mali, and Uganda			Ongoing
Paper #14 on integration of survey and satellite data (Title: *Understanding the requirements for surveys to support satellite-based crop type mapping: Evidence from sub-Saharan Africa*)			Published on 50x2030 and World Bank websites
Implementation of Uganda National Study on Objective Measurement in Agriculture (UNOMA)			Design complete; to be fielded in parallel with UHIS survey
INTEGRATION WITH OTHER DATA SOURCES			
Desk review and case study #15 on integration with administrative data			Potential case study identified in Uganda (livestock).

*STATUS: Completed · Ongoing · Postponed · Delayed · New

ANNEX 2

METHODOLOGY-RELATED RESEARCH PAPERS

The following research papers and technical documents have been developed under the Methods & Tools Development component during the reporting period (stage of development in parentheses).



PAPERS PRODUCED

1. Understanding the Requirements for Surveys to Support Satellite-Based Crop Type Mapping: Evidence from Sub-Saharan Africa (published on 50x2030 and World Bank websites)

2. Research on the measurement of Post-Harvest Losses – Minimum Losses by Commodity and Region: Insights from the Literature (published on 50x2030 and FAO websites)

3. Paper documenting the integration experience in Uganda (full draft circulated for comments, revisions underway)

4. Paper stemming from a desk review of phone-based agricultural surveys (full draft available, under revision)

5. Measuring disaster crop production losses using survey microdata: Evidence from Sub-Saharan Africa (full draft available, circulated for comments)

6. Measuring Land Tenure at the Individual Level: Lessons from Methodological Research in Armenia (full draft available, revisions underway)

7. Linking Soil Suitability and Crop Productivity in Africa: Evidence from Maize Farmers in Uganda (full draft available, revisions underway)

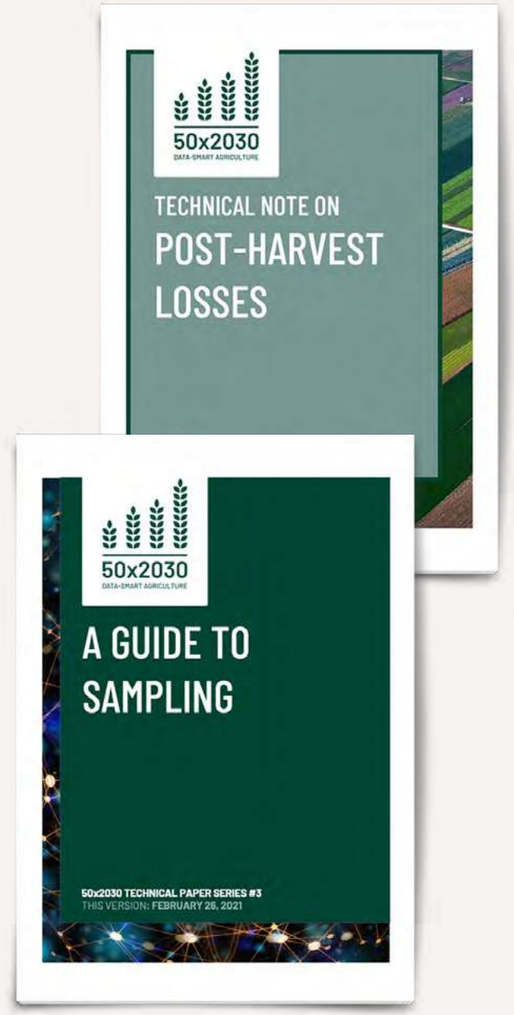
8. Unearthing the drivers of the gender gap in agricultural productivity: Longitudinal evidence from Malawi (full draft available, revisions underway)

9. Technical Note on Non-Standard Units (published on 50x2030 website in early FY2022)

10. Technical Note on Post-Harvest Losses (published on 50x2030 website in early FY2022)

11. A Guide to 50x2030 Survey Tools and SDG Indicator 5.A.1: Measuring Gender Parity in Ownership and Tenure Rights Over Agricultural Land (published on 50x2030 website)

12. A Guide to Sampling (published on 50x2030 website)



PAPERS UNDER DEVELOPMENT

1. Combining Food Loss Models with Survey Data to Improve Food Loss Estimates and Reduce Data Collection Costs (ongoing)

2. Desk review of commercial farm data collection methods and practices (internal background paper developed, to be further developed into publication)

3. Paper on the value and modalities of integrating objective, crop cutting-based measurement of crop production and productivity in agricultural surveys (ongoing)

4. Making Time Count: A Machine Learning Approach to Predict Time Use from Sensor Data on Physical Activity (early draft available)

5. Does sharing GPS-based area prior to the administration of a comprehensive agriculture questionnaire affect the farmer-reported data on agricultural inputs? (early draft available)

6. Assessing Land Area from Space: Are Satellite Methods a Compliment to or Substitute for GPS Measurement? (early draft available)

7. The relative accuracy of intercropped area computation based on farmer-reported information vis-à-vis comprehensive objective measurements of crop area coverage on intercropped plots (early draft available)

8. Land right holding and reporting: evidence on biases from a randomized control trial in Armenia (ongoing)

9. Paper on measurement error in farmer-reported information on cultivated crop varieties and attributes vis-à-vis objective identification (ongoing)

10. Guidelines for the implementation of the developed survey management system (early draft available, estimated full draft in October 2021)

11. Draft guidelines for the integration of DNA fingerprinting into national surveys (under development)

LIST OF ABBREVIATIONS

AAS	Annual Agricultural Survey
Armstat	Statistical Committee of the Republic of Armenia
AWP	Annual Work Plan
BMGF	Bill & Melinda Gates Foundation
BMZ	Federal Ministry for Economic Cooperation and Development, Germany
CAADP	Comprehensive Africa Agriculture Development Programme
CIAS	Cambodia Inter-Censal Agriculture Survey
CSA	Ethiopia Central Statistical Agency
DAPSA	Direction de l'Analyse, de la Prévision et des Statistiques Agricoles, Senegal
DDI	Data Documentation Initiative
DFAT	Department of Foreign Affairs and Trade, Australia
EAA	Enquête Annuelle Agricole
ESS	Ethiopia Socioeconomic Survey
FAO	Food and Agriculture Organization of the United Nations
IFAD	International Fund for Agricultural Development
LSMS-ISA	Living Standards Measurement Study - Integrated Survey on Agriculture
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries of Uganda
MAFF	Ministry of Agriculture, Forestry and Fisheries of Cambodia
MDTF	Multi-Donor Trust Fund
NADA	National Data Archive
NIS	National Institute of Statistics of Cambodia
NSO	National Statistical Office
NSS	National Statistical System
PME	Production Methods and Environment
PIA	Program Implementing Agencies
PMT	Program Management Team
SDG	Sustainable Development Goal
UBOS	Uganda Bureau of Statistics
UNPS	Uganda National Panel Survey
USAID	United States Agency for International Development
WB	World Bank

ENDNOTES

1 Climate Policy Initiative, Examining the Climate Finance Gap for Small-Scale Agriculture, 2020, https://www.climatepolicyinitiative.org/wp-content/uploads/2020/11/Examining-the-Climate-Finance-Gap-in-Small-Scale-Agriculture.pdf

2 FAO, The State of Food Security and Nutrition in the World 2021, 2021, https://www.fao.org/publications/sofi/2021/en/

3 Ibid.

4 FAO. Sustainable Development Goals http://www.fao.org/sustainable-development-goals/indicators/5a1/en/ (Calculating 10 countries out of 135— There are 54 in Africa, 33 in LA and 48 in Asia.)

5 https://www.project-syndicate.org/commentary/women-farmers-africa-gender-equality-agriculture-by-ruth-meinzen-dick-2019-10

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