

DATA – A LETHAL WEAPON AGAINST HUNGER

Agriculture can only reach its full potential to feed the masses, drive growth, and reduce poverty if decision-makers – including governments, private sector, and development organisations – have accurate data to make smart decisions. The new ‘50x2030 Initiative to Close the Agricultural Data Gap’ aims to bridge the global agricultural data gap by supporting 50 low and lower-middle income countries in building agricultural survey programmes by 2030.

By Emily Hogue

Samphy owns a 1.5-hectare farm in Western Cambodia. She grows vegetables and fruit trees on a half-hectare plot behind the family’s home and rice on another one-hectare plot a kilometre down the road. With the help of her twelve-year-old son and nine-year-old daughter, she also raises chickens. Production on the farm has had its ups and downs from year to year due to weather conditions and Samphy’s ability to access resources, like improved seed varieties, extension advice, veterinary services, and credit to purchase inputs.

While Cambodia has experienced unprecedented economic growth in recent years, the country’s rising tide has not lifted the boats of all its citizens. In particular, the rural and agricultural sectors have fallen behind, severely outpaced by growth in more industrial sectors and urban environments. Incomes, consumption, and food security lag behind in rural areas such as the one where Samphy lives. Like her neighbours, Samphy’s livelihood options are limited within agriculture, and she faces constraints that hinder her productivity on the farm and opportunities off-farm. She struggles to keep food on the table and her children in school.

Samphy’s story is an important one, and the details within it typify the situation of millions of smallholder farmers in her country. Their stories are critical inputs to the Government of Cambodia and development partners as they work to make the agricultural sector reach its full potential and to end cycles of rural poverty. Yet these stories – which convey valuable information about what farmers are growing, how they grow it, and their welfare – remain largely undiscovered because Cambodia does not yet have tools in place to gather data as routinely and systematically as needed. Without these data, Cambodian ministries and development partners struggle to set up effective policies and programmes that support small farmers and make the agricultural sector reach its potential as an engine of growth and means of poverty reduction.



Field testing of the Inter-Censal Agriculture Survey 2019 questionnaires in Cambodia.

Photo: FAO/K. Koudelka

CLOSING CAMBODIA’S DATA GAP

Yet, Cambodia has ambition and a plan. In 2018, Cambodia’s National Institute of Statistics (NIS) and its Ministry of Agriculture, Fisheries, and Forestry (MAFF) began a partnership with the Food and Agriculture Organization of the United Nations (FAO) to develop an annual agricultural survey programme. This programme, which is based on a new agricultural survey model that FAO launched in 2016, provides complete, fully representative data on agriculture from both household and non-household (commercial) farms using a modular approach that combines an annual core module on production and several periodic rotating modules on key socio-economic and environmental variables.

Planning for the survey has been fast and furious, and collection of the first survey of the programme is set to begin in June 2019. NIS and MAFF plan that the data from the survey – both micro and meta – will be made pub-

licly available by early 2020. Cambodia’s new annual agricultural survey is an answer to the country’s agricultural data gap, and many other countries are following suit. A new initiative aims to help close the global agricultural data gap by supporting 50 low and lower-middle income countries (L/LMICs) to build agricultural survey programmes by 2030.

50x2030 – DATA-SMART AGRICULTURE

To support countries like Cambodia, the ‘50x2030 Initiative to Close the Agricultural Data Gap’ was launched in September 2018 by a group of donors – including the US Agency for International Development, the Bill and Melinda Gates Foundation, Germany’s Federal Ministry for Economic Cooperation and Development, the Italian Agency for Development Cooperation, and Australia’s Department for Foreign Affairs and Trade – and multilateral organisations – including FAO,

the World Bank, and the International Fund for Agricultural Development (IFAD). The initiative seeks to transform country data systems across 50 countries in Africa, Asia, the Middle East, and Latin America and make evidence-informed decision-making in agriculture the norm in L/LMICs by 2030. The idea behind 50x2030 is that Sustainable Development Goal 2 – to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture – will not be reached without accurate and timely data to help decision-makers from governments, civil society, the private sector and development organisations strategically plan and gainfully choose their best options. The data gaps in agriculture are widespread, affecting countries that include 800 million or 78 per cent of the world's poorest. Furthermore, most L/LMICs currently cannot produce three critical SDG2 indicators that should be collected through an agricultural survey: 2.3.1 labour productivity, 2.3.2 smallholder income and 2.4.1 land under sustainable production. The Initiative will enable at least 50 of the L/LMICs to report on these key SDG2 indicators by 2030.

The Initiative's vision is to make data-smart agriculture the sector's newest revolution. Cambodia is just part of the starting line-up of twelve countries, with 38 more countries still to come on board (see Figure 3 for an illustrative timeline).

A herculean effort like 50x2030, which is costed at more than 500 million US dollars, requires a herculean-size team to pull it off. As such, the Initiative brings together the persistence and hard work of committed partner countries with the technical and operational capabilities of three multilateral implementers – the FAO, World Bank, and IFAD.

Countries' national statistical offices (NSOs) and Ministries of Agriculture (MoA) are at the centre of the solution and provide leadership to develop and execute the programme to suit their needs. Together with other relevant agencies, they lead the design and implementation of their survey programmes with technical support from the three multilateral implementers.

FAO leads all data-production activities, providing technical assistance and planning support. IFAD heads all data-use activities, working with NSOs, MoAs and others to strengthen the skills, practices, and processes needed for the data to be effectively used in decision-making. The World Bank has a dual role, leading a methodological research

Figure 1 – An example of an Agricultural Survey Programme

		Years	1	2	3	4	5	6	7	8	9	10
Core modules	Agricultural holding roster											
	Crop production											
	Livestock production											
Rotating modules	Agricultural economy											
	Agricultural labour											
	Production methods and the environment											
	Machinery, equipment and assets											

Figure 2 – An example of an Integrated Agricultural and Rural Survey Programme

		Years	1	2	3	4	5	6	7	8	9	10
Agricultural modules	Agricultural holding roster											
	Crop and livestock production											
	Rotating module											
Rural socio-economic module	Socio-economic (income, labour, etc.) for agricultural households											
	Socio-economic (income, labour, etc.) for non-agricultural households											

Figure 3 – Illustrative country roll-out

	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
12 existing countries												
+ 2 to 3 new												
+ 4 to 5 new countries												
+ 4 to 5 new countries												
+ 4 to 5 new countries												
+ 4 to 5 new countries												
+ 4 to 5 new countries												
+ 4 to 5 new countries												

and tool-development component as well as housing the Initiative's Program Management Center, which provides planning, oversight, and administrative functions.

At the country level, the three implementing agencies work with national staff from the NSO and MoA to prioritise data needs, design survey questionnaires and the sampling approach, and put all administrative pieces in place. National research institutions, universities, civil society and the private sector are also engaged in the data discussion. The Initiative supports long-term capacity-building for agricultural data systems. Working with both data producers and users enhances opportunities for meaningful engagement with data, providing an active pathway for evidence-informed decision-making.

ONE APPROACH, TWO BLUEPRINTS, FIFTY REALITIES

Like any development initiative, 50x2030 provides blueprints that can be adapted as work proceeds. Yet, the Initiative's country-led approach means that countries are the true archi-

itects, engineers, and builders of their survey programmes. The NSOs, MoAs, and Ministries of Finance are always key players. In most countries, the NSO will oversee survey implementation and data management; although, in some countries, the MoA has the mandate to conduct agricultural surveys and will be in the lead. The Initiative will build into countries' governance structures and operations, while championing good practices that can enhance how relevant agencies interact.

Countries can choose from two flexible survey models designed by FAO and the World Bank and offered by the Initiative – a stand-alone agricultural survey model and an integrated agricultural and rural survey model. The first is the type that Cambodia is implementing. The second (integrated) model combines the farm-based agricultural survey model with a household-based rural survey that collects data on a variety of social and economic topics (see Figures 1 and 2 for examples of the two models).

Each country's reality is unique in terms of its agricultural system, rural sector, and data needs, which is why the Initiative uses adaptable, semi-standardised models. If a country is

already implementing some type of agricultural survey, the programme builds on it. In every case, the survey programme is developed around the country's needs, which will result in 50 unique but comparable and harmonised survey programmes.

BUILDING THE SURVEY PROGRAMME STEP-BY-STEP

Once a country has chosen its basic model and established the roles across its agencies, the next step is to bring all national stakeholders together to discuss data needs in a data user-producer workshop. Since the ultimate goal is to have the data used for informed decision-making, the engagement of data users from the outset is paramount. What data are most needed and how and when they will be used are questions that drive survey design. Operationalising the answers to those questions can be tricky and takes time. In particular, agricultural production, practices, and systems vary so much across geographic and cultural contexts that customisation can be highly complex and requires many rounds of testing.

Typically, countries collect their first survey within a year to 18 months from when support begins. The programme trains national staff to carry out rigorous data collection practices, like adhering to objective interviewing procedures and sample selection, without which data would be biased. The Initiative strongly encourages countries to collect their surveys through Computer Assisted Personal Interviewing (CAPI) using tablets or cell phones. This upgrade to a seemingly ubiquitous technology dramatically improves a country's ability to clean, store, and manage its data, and to do so more quickly. Surveys typically sample 6,000 to 12,000 farms and rural households, and automating the collection and curation processes greatly speeds up the overall survey timeline. Making the upgrade to CAPI can be a challenge, as it requires strengthening the skills of national staff, who are often in short supply, and purchasing and maintaining new equipment. The Initiative generally promotes the use of Survey Solutions, a CAPI software developed by the World Bank, because it is free, user-friendly, and designed to support complex surveys. In all cases to date, countries have been enthusiastic and committed to making the transition to CAPI.

The country's NSO (or MoA in some cases) manages the data generated through 50x2030-supported surveys. Herein lies another set of challenges as countries work to

OWNERS OF THEIR REALITY

Beyond designing and building their survey programmes, countries must own them, too, and owning means putting in the resources to make things happen. Partner countries commit to contributing financial and in-kind resources to their programmes from the start, increasing each year until they fund it independently.

The 50x2030 partners and donors will support the country to plan and mobilise resources, with the goal that the country will provide 100 per cent of funding within five to eight years. Notably, the World Bank is supporting countries to use loans from its International Development Association and International Bank for Reconstruction and Development as they begin to fund their programmes.

While data needs are the guiding light for survey development, resource availability ultimately sets parameters within which decisions must be made. Finding the right balance between producing all the data desired and what a country can afford is always a challenge. Countries are encouraged to think about the sustainability of the programme, targeting the balance between what is most needed and what they will be able to pay for independently some years out.

build their needed capabilities and knowledge while also keeping up with rapidly changing technologies and policies around data capture, storage, and protection. FAO staff support national staff to ensure the proper tools, capacities, processes, and systems are in place to capture, curate and safeguard the data.

Once a country has its data, analysis comes next and happens on many levels for many purposes. First, country staff will conduct basic analyses to tabulate indicators and prepare metadata for reports. These activities typically are conducted by the agency managing the survey, supported by guidance and training from FAO. Beyond these fundamental analyses, more complex analyses can and should be conducted to answer important questions for policy-making, research, market studies, investment decisions, development programme design, and more. This is where the field expands and other important players come on the scene.

DATA FOR EVERYONE AND EVERYONE USING IT

Beyond data availability, the Initiative aims to have various stakeholders – policy-makers, businesses, academics, development organisations, and more – use the data in diverse and strategic ways. Universal open data and microdata dissemination are requirements of all 50x2030-supported surveys, and data should be shared following international best practices on open data – typically within six to twelve months for microdata sets. With the understanding that these data are a public good, each country's NSO or MoA is responsible for sharing the data and also protecting it. FAO and IFAD will work with national staff to establish

the policies, practices, and capabilities needed for extensive, yet safe data sharing, to include removing personally identifiable information and off-setting geospatial coordinates.

The Initiative deems data use as much a priority as data generation, recognising that supply-side efforts alone are unlikely to increase the use of evidence in decision-making. Early in their programmes, partner countries will collaborate with IFAD to assess their current agricultural data ecosystem, the degree of data use and uptake of evidence by decision-makers within that system, and the barriers to data use. That assessment will inform a contextualised plan to strengthen the ecosystem, including the relationships, capacities, and tools within it. IFAD will help countries to strengthen the capacity of data producers to analyse, interpret and present data and the capacity of decision-makers to interpret data and apply it when solving problems and choosing between options.

At its core, 50x2030 is not a data initiative, but rather a development initiative built on data. Through it, countries will empower themselves to understand the risks and opportunities in their agricultural and rural sectors and turn that understanding into actions that will make agriculture reach its potential as an engine of growth and means of poverty reduction. This high-aiming, far-reaching endeavour will take the stories of Samphy and millions like her and turn them into the ammunition needed to hit the target of zero hunger worldwide.

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