Food and Agriculture Organization of the United Nations

14 April 2020

# The coronavirus and the potential blackout of national statistics:

## Reorganizing national statistical systems in the context of COVID-19

### INTRODUCTION

The COVID-19 pandemic's impact goes beyond the health crisis: many countries have limited the movement of people and most goods to halt the spread of the pandemic. Lockdowns decided by governments will cause inevitably a contraction of economic outputs with strong consequences in terms of employment and daily life of citizens. In the agricultural and food sector, "a move towards protectionism – tariffs and export bans – mean problems could quickly appear in the coming weeks … We need to have policies in place so the labour force can keep doing their job".[1]

In the context of this rapidly evolving situation, National Statistical Services (NSS) at country level remain committed to providing their policymakers, their economy and society with the information they require. In many countries, mitigation plans and decisions related to programmes that are "mission-critical" for the functioning of governments[2] were put in place in the second half of March 2020. Nevertheless, as the situation continues to deteriorate in low-income countries there is a risk that it could lead to a partial or total blackout of national statistical systems, leaving countries and their international communities blind for data needed for policy-making and the monitoring of national and international development agendas.

### WHAT IS HAPPENING

On the basis of information collected on approximately 30 countries (via direct contacts with statistical services at country level, review of official statistical webpages and the website of United Nations Statistical Division), it has been observed that there is considerable disequilibrium between low-income and developed countries. As of the end of March 2020, many developing countries – for the moment less affected by the crisis – had not established specific measures or had not yet posted them through their usual channels of communication. A rapid assessment[3] of most sub-Saharan or southern and southeastern Asian countries' websites confirms that contingency plans have not yet been established or communicated. Even if it is true that developing countries are currently much less affected by the virus than developed countries, this is an evolving situation that demands proper planning and the design

[1] The Guardian interview with FAO Chief Economist on 26 March 2020. https://www.theguardian.com/global-development/2020/mar/26/coronavirus-measures-could-cause-global-food-shortage-un-warns

[2] Statistics Canada.

[3] Research made on webpages of national statistical offices (30 countries in Africa and 15 countries in Asia).

of contingency plans. The opposite situation may be found at the level of almost all OECD countries, where contingency plans and new data release plans have been provided to users.

As a general rule, it is widely recognized that challenges are immense. All NSS communicating on this issue mention that challenges being faced by respondents are enormous and that the "priority for all at this time is to stay safe and healthy".[4] The main decision taken in almost all the countries is to stop all face-to-face interviews to ensure the good health of enumerators and respondents.[5] In Cambodia, Ecuador,[6] Italy[7] and Mexico[8] for example, face-to-face interviews have been suspended due to the risk that they entail. The stop to "traditional" face-to-face interview affects important surveys such as labour market surveys, consumer prices surveys, consumer trust surveys and agricultural surveys. The effect is so ample in scope that it has impacted the planning and implementation of population and agricultural censuses. In Mexico, the stage of verification of the population census data has been postponed. In the Philippines, the population census operation has also been postponed[9] and in Costa Rica, the agricultural and forestry census has been postponed to later this year.[10]

At the same time, many countries insist that, despite difficulties now being faced by respondents, filling in survey forms would "contribute to understand the impact of COVID-19 on the economy and the society",[11] and would "help governments and communities make informed decisions around countries' response to the pandemic."[12] In Finland, some questions assessing the effects of the coronavirus epidemic on society have already been added to Statistics Finland's interview data collections in April, with results to be published in mid-April 2020.[13]

It is also largely recognized that this situation will probably impact the quality and the timeliness of the data provided: "the changes to our work could affect the quality of some of our statistics, such as lower accuracy, or it could mean there is less detail available, such as fewer local and regional breakdowns. In some cases, the production of some data series may need to be suspended."[14]

## HOW COUNTRIES' NATIONAL STATISTICAL SERVICES ARE RESPONDING

Conscious that official statistics are fundamental for measuring the evolution of the economy and society, and even more during this emergency situation, NSS offices are taking measures to ensure continuity and quality of statistical production. The measures taken depend on the current statistical arrangements for data collection as well as on their institutional, financial, technological and digital capacities to innovate and adapt to the challenges of this difficult

[4] CSO Ireland.
[5] In Cambodia, for example, farmers would refuse to talk with enumerators during the quarantine period.
[6] INEC. [online]. Quito. [Last accessed: April 6th 2020] https://twitter.com/ecuadorencifras?lang=en
[7] Italian National Institute of Statistics. [online]. Rome. [Last accessed: April 6th 2020] https://www.istat.it/en/archivio/240812
[8] https://www.jornada.com.mx/ultimas/economia/2020/03/31/inegi-cancela-todas-las-encuestas-presenciales-9229.html ù [Last accessed: April 6th 2020]
[9] Philippine Statistical Authority. [online]. Quezon City. [Last accessed: April 6th 2020] https://psa.gov.ph/content/advisory-0
[10] Instituto Nacional de Estadísticas. [online]. Santiago. [Last accessed: April 6th 2020] https://www.ine.cl/prensa/2020/03/19/instituto-nacional-de-estad%C3%ADsticas-adopta-medidas-de-resguardo-ante-coronavirus
[11] South Africa Statistics.
[12] Australia Bureau of Statistics.
[13] Statistics Finland.
[14] United Kingdom of Great Britain and Northern Ireland Office of National Statistics.

circumstance. Measures taken at country level can be broadly classified into five main categories as follows:[15]

- Statistical operations are maintained

This is typically the case of developed economies, particularly in the case of Northern European countries where most of the statistical operations are based on registers. For example, in Lithuania, the planned population census has to take place on 1 January 2021 on the basis of registers with no field work foreseen.[16] In Bulgaria, all surveys on processed agricultural products (for example, monthly surveys on milk and milk products or meat) are already collected by telephone and will not be affected.[17] In Ireland, business surveys will be conducted insofar as possible to provide statistics that show the changing situation from March 2020 onwards.[18]

In the specific case of administrative data and reporting systems, a recent UNESCAP statistical brief[19] states that "the impact of COVID-19 on the production of administrative data should be relatively limited. However, under-reporting and misclassification are more likely to occur when both government services and mobility of people are restricted." For agricultural statistics in developing countries and particularly in sub-sectors such as livestock – mostly relying on administrative data – the impact will depend on the quarantine measures imposed at country level in rural areas.

- Statistical operations are maintained but require alternative data collection tools

When face-to-face interviews or collecting data in markets or shops are, in general, not possible anymore, countries are proposing the use of alternative data collection approaches: telephone, Internet applications, or use of big data (webscraping or the use of satellite imagery).

Conducting interviews over the telephone is the most important alternative proposed for household surveys. Such is the case for the quarterly labour force surveys in Belgium, France and Ireland.[20] In Bulgaria, the list of agricultural holdings for the next census of agriculture (September 2020) will be finalized by telephone, e-mail or surface mail for the 20 percent remaining holdings to be listed.[21] In Brazil the Annual Sample Survey of Households 2020 (PNAD), used mainly for measuring unemployment, will be finalized by telephone.[22]Other examples are the permanent survey on employment in Peru, which was finalized by telephone in March 2020;[23] in Georgia, it was also decided that the quarterly agricultural survey would be undertaken by telephone, with enumerators to receive training via Skype and written instructions.[24]

However, France and Ireland already highlight the fact that surveys conducted by telephone may have an impact on comparability with previous periods, data quality and the timeliness of results – this will need to be carefully analysed. In developing countries there is evidence that telephone interviews may work quite well.[25] However there are important barriers to highlight

[15] Countries may combine measures mixing some of the categories.
[16] United Nations Statistics Division (UNSD).
[17] FAO contacts with Bulgarian Ministry of Agriculture.
[18] CSO Ireland.
[19] UNESCAP Stats Brief, February 2020 (Issue no. 23): Surveys Under Lockdown; a pandemic lesson.
[20] CSO Ireland, Stabel Belgium, INSEE France.
[21] FAO contacts with Bulgarian Ministry of Agriculture.
[22] FAO contacts with IBGE Brazil.
[23] INEI Peru.
[24] FAO contacts with Geostat.
[25] The World Bank. Open Knowledge Repository. [online]. Washington. [[Last accessed: April 2nd 2020] https://openknowledge.worldbank.org/handle/10986/24595

in developing countries: i) the telephone approach may have an impact on the representativeness of the results, since mobile phones are not as spread as they are in developed countries (in Uganda, for instance, only about 65 percent of the population has a telephone); and ii) the questionnaires will need to be reviewed, adapted and simplified; and enumerators will have to be trained with new tools, requiring lengthy and heavy processes. In addition, the need for mobilizing additional resources towards this objective will create difficult situations in many countries already suffering from shortages.

For collecting prices[26](CPI), Internet-based solutions will be used in Ireland, webscraping techniques in Belgium and cash data from shops in France.

Other alternative techniques proposed in the field of agricultural statistics are related to the possible use of remote sensing information: for example, the use of satellite images for rice production in Cambodia[27] and for wheat and barley yield forecast annual surveys and the 2020 Land Cover-Land Use survey of Bulgaria (satellite images and ortho-photos).

- Statistical operations are to be postponed/suspended/rescheduled

This will be probably the main form of adaptation, particularly for big statistical operations such as population and housing censuses or agricultural censuses, but also for many household or agricultural surveys where telephones cannot be used due to the length and complexity of questionnaires.

There are several examples of censuses that have been postponed to a later period. This is the case for the Population and Housing Census of the Philippines[28] where preparatory activities such as recruitment and hiring, training of trainers/supervisors/enumerators and delivery of questionnaires for PAPI (Paper and Pencil Interviewing) has been suspended. For the moment, the enumeration period has been rescheduled for mid-May. This is also the case for the 1st Census of Agriculture of Angola planned this year[29] and for the Education Census of Uganda. Many other countries, particularly in Africa, are still waiting for governmental decisions (see next item: No decisions yet taken).

Annual surveys in the agricultural sector are also strongly affected by the situation. This is particularly exacerbated in agriculture where production surveys need to be aligned with agricultural seasons, thus creating difficult issues if surveys need to be postponed. It is the case in several countries receiving FAO support on the implementation of annual integrated agricultural surveys. In Senegal, the field work (training of enumerators and data collection) for the 2nd round of Annual Agricultural Survey 2019–2020 is for the moment postponed until May-June. In Uganda, the Post-harvest Season 2 visits for the agricultural year 2019 have been suspended; visits to non-household sector holdings have been completely interrupted; and field operations for the agricultural year 2020 delayed at least until July 2020. In Cambodia, annual agricultural surveys would need to be organized before August when the rainy season begins. In Armenia, the two quarterly surveys (April and July) will probably merge into a single operation in July. In some cases, it will be necessary to reconsider the level of representativeness of the results, reduce the sample and accept release of data at the national level only on an exceptional basis. Postponed agricultural surveys will also increase recall lengths, and objective measurements (e.g. crop cutting) may no longer be feasible due to the need for enumerators going in person to the field.

[26] CSO Ireland, Stabel Belgium, INSEE France.
[27] FAO representation Cambodia.
[28] United Nations Statistics Division (UNSD).
[29] INE Angola.

Household surveys have also been postponed in other countries. For example, in Angola (Labour Force Survey, MICS and the Business Survey); in Belgium, the Poverty and Social Exclusion Survey; and in Mexico, the national crime victimization survey has been suspended. In Ireland, the Household Budget Survey taking place every five years has been suspended – no data on household expenditure patterns will be available for 2020; patterns would have been in any case atypical in 2020, thus making a strong case for a rescheduling.

- Statistical operations cancelled

There are very few cases of statistical operations that have been cancelled at the beginning of April 2020. One known case is the Ireland Programme for International Assessment of Adult Competencies (PIAAC) – an OECD-led project which was due to take place in April. Owing to this cancellation, the overall timetable for Ireland's participation in the 2021–2022 round of PIAAC will be reviewed.

- No decision taken

Many developing countries have not yet taken decisions for contingency plans, in particular regarding big census operations: for example, Liberia[30] is still considering the possibility to postpone its pilot for the Census of Population, where preparation work has been completely halted; Côte d'Ivoire[31] was planning to implement its 5th Census starting 20 April and the NSO is waiting for a decision of the National Council of Statistics; and Burkina Faso[32] is also waiting for a decision of the Government for the organization of its Census of Agriculture during the second half of 2020.

## CONCLUSIONS

In a normal year, the world needs statistics to shed light on the progress of the economy and the society towards the global, regional and national objectives. Official statistics are recognized as a fundamental tool for policy planning, implementation and evaluation. This is even truer in a crisis scenario such as the one presented by COVID-19 where the need for data and statistics could support the efforts of estimating its effect and its mitigation.

Nevertheless, COVID-19 poses challenges to the National Statistical Systems that put under stress the offices in charge of running statistical operations. These challenges are not homogeneous as there are national systems that are better prepared, equipped and skilled to create innovative solutions to cope with the stress. Traditional ways to collect data face to face, which are the rule in developing countries, are no longer valid under this context and require an evolution of the processes and practices. The evolution necessarily means that countries must embrace new ways of collecting data, but this will depend on their institutional, financial, technological and digital capacities. The use of alternative data collection approaches such as telephone (crowdsourcing), Internet applications, or use of big data (webscraping or the use of satellite imagery) are being currently proposed and implemented. Nevertheless, this transition may have an effect on the quality and comparability of the data that needs to be carefully analysed. For countries that have not started to prepare for the effects of COVID-19, there is an urgent need to develop contingency plans for every statistical operation. In this context, there is also the need to prioritize, channeling resources and innovation efforts to the most needed operations at this time.

[30] United Nations Statistics Division (UNSD).
[31] United Nations Statistics Division (UNSD).
[32] FAO contacts with Burkina Faso.

If measures are not taken during this challenging period, the alternative is to stop operations, which entails an enormous cost for the economy and society, and will also negatively affect monitoring of international agendas as organizations will be lacking information from their main sources of data, which draw on official statistics. This scenario is not acceptable and international organizations must work together to ease the transition process at country level from traditional data collection mechanisms to more innovative and effective mechanisms. To do this, organizations are urged to transfer immediately their know-how and develop creative solutions to share with countries.

## ACKNOWLEDGMENTS

This brief was developed by Christophe Duhamel, leader of the Survey Team and José Rosero Moncayo, Director of the FAO's Statistics Division.



Recommended citation: FAO. 2020. *The coronavirus and the potential blackout of national statistics: Reorganizing national statistical systems in the context of COVID-19.* Rome. https://doi.org/10.4060/ca8614en