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Using the Census of Agriculture for generating SDG indicators

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Pietro Gennari

Chief Statistician

The Census of Agriculture

- The Census of Agriculture is one of the key pillars of a national statistical system, and in many developing countries it is often the only means of producing statistical information on the structure and other relevant aspects of the agriculture sector.
- An agricultural census covers aspects of the structure of agriculture that change relatively slowly over time such as *size of holdings, land use, crop areas, livestock numbers* and *agricultural inputs* and are collected at the lowest geographical level
- Censuses of Agriculture are usually undertaken every ten years. In few countries where the ten-year interval is considered too long, more frequent censuses are carried out (e.g. with five-year intervals, for example Canada, India, Japan, the Republic of Korea, the United States of America and its territories, and Viet Nam).

Relevance of the Census of Agriculture to monitoring the SDGs

The low frequency of most Censuses of Agriculture is the key reason that they are not considered as a primary data source for monitoring the SDGs, which call for a more regular system of reporting.

Nonetheless, the Census of Agriculture has the potential to support SDG monitoring in a number of ways.

Relevance of the Census of Agriculture to monitoring the SDGs

- Firstly, the Census of Agriculture may be able to provide valuable **baseline data** for a number of SDG indicators, e.g. 2.1.2, 2.3.1, 2.3.2, 2.4.1, 5.a.1, particularly in the provisional absence of other data sources such as agricultural surveys.
- Such baseline data, in turn, can be used to **validate** and provide **quality assurance** over subsequent data derived from agricultural surveys.
- In practice, however, this potential has rarely materialized for most countries, since Censuses have not been appropriately upgraded (e.g. by the inclusion of the necessary modules) such as to collect all the necessary data items for a particular indicator.
- To generate SDG indicator 2.3.1 it is necessary to collect data on land area, livestock units, value of production and labour input of the farm; to compile 2.3.2 it is necessary to collect data on land area, livestock units, value of production and production costs of the farm. However, Censuses of Agriculture do not normally collect value of production and the production costs of the farm.
- To generate SDG indicators 2.1.2 and 5.a.1, it is necessary to introduce in the Census questionnaire the FIES module and the secure tenure rights module, respectively. Only few countries have introduced those modules

Relevance of the Census of Agriculture to monitoring the SDGs

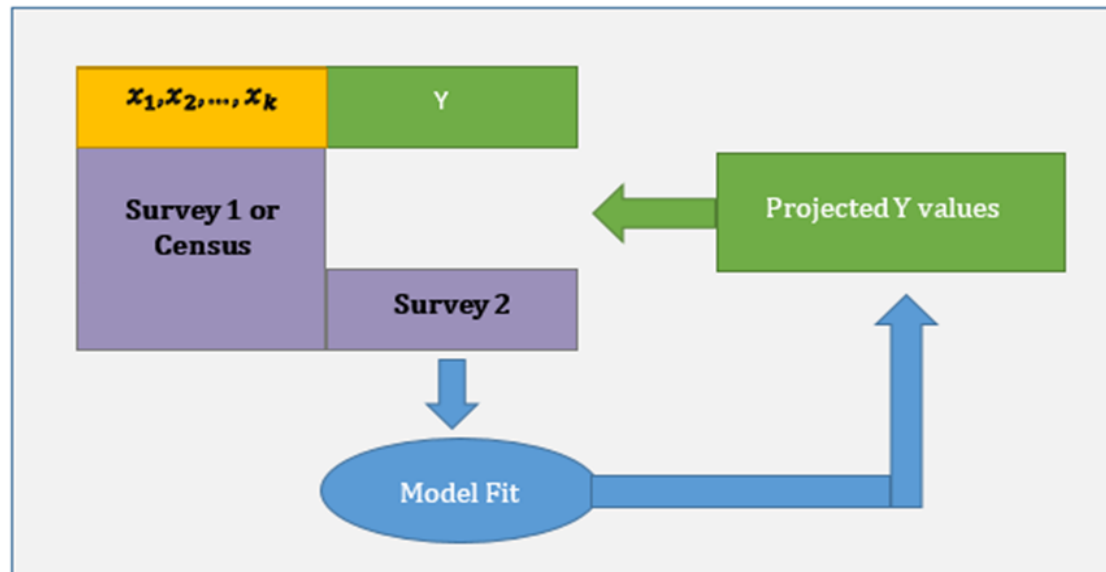
- ✓ Secondly, the Census of Agriculture underpins an important component of the statistical system that monitors many SDG, i.e. agricultural surveys, which due to their higher frequency and flexibility are the primary data source for many agriculture-related SDG indicators.
- ✓ By providing the **sampling frame** for the agricultural survey programme, the Census therefore ensures that the data collected are representative, reliable and therefore fit for purpose.

Relevance of the Census of Agriculture to monitoring the SDGs

- Thirdly, the Census of Agriculture supplies essential information for the disaggregation of SDG indicators.
- Even if the census of agriculture may not allow to directly estimate the target variable (not present in the questionnaire), the CA could still be very useful for generating estimates/projections for relevant disaggregation domains of the target variable through various direct or indirect estimation methods, such as *Small Area Estimation* and other model-based methods.
- Since CA provides an extensive coverage on many structural variables (e.g. demographic, social, economic, territorial, etc.) that can be highly correlated with the target variable, model-assisted approaches could be one of the solutions to obtain the desired disaggregation for the target variable

Use of census of agriculture for the disaggregation of SDGs

- According to Kim and Rao (2012), two datasets could be used in an integrated way to project target variables through a model-assisted approach:
 1. The first survey/census is characterized by a large sample, does not measure the target variable, but collects auxiliary information that can be highly correlated with the target variable.
 2. The second survey with a much smaller sample, cannot provide accurate estimate for small domains. However it allows to fit the model between the target variable and general-use variables to calculate the projections for small domains.



Relevance of the Census of Agriculture to monitoring the SDGs

Conclusion:

The Census of Agriculture remains a supplementary source for agriculture-related SDG indicators that underpins the quality and reliability of what should be the primary source, i.e. agriculture surveys.

Countries need to invest more efforts in implementing an **integrated census and agricultural survey programme**, appropriately designed to collect all the necessary data items, in order to generate the relevant SDG indicators.

This is the key objective of the **50by2030 initiative** and FAO's Agricultural Integrated Surveys (AGRIS) project, which proposes a set of integrated farm-level surveys, bridging the 10-year gap that normally exists between Agricultural Censuses.



Thank you

For more detailed information on the SDG indicators under FAO custodianship:

<http://www.fao.org/sustainable-development-goals/indicators>