

CHAPTER 9

PROGRAMME OF AGRICULTURAL SURVEYS

WCA 2010 envisages the census of agriculture being the central component of the system of integrated agricultural censuses and surveys. Previous chapters have focused on the core and supplementary modules of the census of agriculture. This chapter presents a broad overview of the programme of agricultural surveys to be developed based on the census of agriculture. Some possible topics for the programme of agricultural surveys are identified and a brief description of the content of each survey is provided.

Introduction

9.1. Throughout this publication, emphasis has been given to the census of agriculture as a part of the system of integrated agricultural censuses and surveys. The census of agriculture provides structural data on agriculture, with the key data collected in the core module, and more detailed items collected in the sample-based supplementary module(s). Under the integrated system, a programme of agricultural surveys should also be carried out, based on the census of agriculture, to provide current operational and performance data required to complement the structural data from the census of agriculture. Previous chapters have focused on the census of agriculture; in this chapter, the programme of agricultural surveys is examined.

9.2. Agricultural censuses involve the collection of data from agricultural holdings, which can provide the basis for establishing sampling frames for agricultural sample surveys. For example, the agricultural census could provide a frame of holdings growing cassava for use in a cassava production survey, or a frame of holdings with pigs for a survey of pig breeding. In the context of the agricultural census, the programme of agricultural surveys refers to surveys of agricultural holdings based on the agricultural census. For more information on using the agricultural census to establish sampling frames for the programme of agricultural surveys, see paragraphs 10.16–10.37.

9.3. Other types of agriculture-related surveys, not based on the agricultural holding unit, are not considered in this chapter. Surveys on food consumption, income and expenditure, rural labour force, and household food security provide important agriculture-related data, but usually have a wider scope than just agricultural holdings. Often, they cover all rural households. Some agriculture-related surveys cover other types of units altogether – for example, a survey of agricultural service establishments – and these are also not discussed here.

9.4. The programme of agricultural surveys outlined in this chapter is wide-ranging, and includes periodic agricultural production surveys, as well as in-depth surveys such as cost of production and time use. It is not possible in this volume to give a detailed description of all possible agricultural surveys. Instead, the most important types of agricultural surveys are highlighted.

9.5. The intention is not to recommend the surveys each country should carry out. Each country has its own way of organizing the national survey programme for agricultural and other statistics. Most countries conduct periodic agricultural production surveys, but other agricultural surveys are conducted according to national priorities and data requirements, taking into consideration cost and other constraints. Countries are encouraged to plan the programme of agricultural surveys prior to the agricultural census, to ensure that the census is integrated into the agricultural statistics system and that the census meets the needs of the programme of agricultural surveys.

9.6. Some survey topics shown in this chapter are also given as themes for the census supplementary modules in Chapter 4. Here, the agricultural surveys provide current data or more in-depth data than is possible in a census supplementary module. For “livestock”, for example, the

agricultural census provides data on the structure and population dynamics of livestock herds, whereas the programme of agricultural surveys includes data on livestock production and sales, as well as detailed data on feed and livestock breeds. Other agricultural survey topics, such as “time use” and “cost of production”, are not covered by the agricultural census.

9.7. The boundary between a “census supplementary module” and an “agricultural survey” is often blurred. A country may not be able to do a particular census supplementary module in conjunction with the core census module, but may include the data from that module in a survey carried out some time after the agricultural census. Also, a survey done a few months after the agricultural census could be considered as a census supplementary module or part of the programme of agricultural surveys.

9.8. Data under the different headings are inter-related and a specific agricultural survey will normally collect a variety of data on related topics. For example, in an aquacultural survey, there would be interest in relating aquacultural data with data on land, crops and livestock, as well as studying labour inputs and other agricultural practices. Some issues, such as gender, are of interest to most surveys. Household food security elements may also be important for some surveys. Sometimes, a particular survey topic can be attached to an existing survey; for example, a survey of post-harvest losses could be undertaken as a supplement to an annual production survey every few years.

Inter-censal structural survey

9.9. Agricultural censuses are normally carried out every ten years, covering those aspects of agriculture that change slowly over time: the so-called “structural” data. Countries undergoing rapid agricultural development may find that structural changes happen quickly, and structural data may be needed more frequently than every ten years.

9.10. Some countries may wish to conduct an agricultural census every five years, based on the modular approach described in this publication. Sometimes, a “mini-census” is conducted in the middle of the decennial inter-censal period to provide certain key structural data. A modular approach could be used: for example, if cropping patterns were changing rapidly, the core module of the mini-census could focus on land use and crops, with sample-based supplementary modules on crops and agricultural practices undertaken to provide more detailed data.

9.11. Usually, countries do not have enough resources for a five-yearly agricultural census, and need to collect additional structural data between censuses through sample surveys. The type of data collected in an inter-censal structural survey depends on the nature of agricultural development in the country. For example, if the livestock industry was developing rapidly, the inter-censal structural survey could repeat the census supplementary module on livestock. Elements from other modules related to livestock, such as household food security and farm labour, could also be included. Sometimes, the main interest in an inter-censal structural survey is on changes for particular crop or livestock types, and the inter-censal survey could focus on those.

Crops

9.12. The agricultural census provides data on the presence of each temporary and permanent crop (core module), and the area and production of each crop, use of fertilizer, and source and type of seed inputs (supplementary module). A variety of crop surveys are usually needed to complement these data.

9.13. The key requirement is for annual or seasonal data on the production of major crops. This could require a single crop production survey or, more commonly, a series of surveys. For example, a country may need to carry out a semi-annual rice production survey, as well as annual cassava and coffee production surveys, with each survey timed to coincide with the crop harvest. A particular crop production survey could have several elements: for example, an interview with producers to collect information such as area planted, varieties used and inputs, and a crop-cutting component to estimate the yield based on sample plots.

9.14. Crop production surveys may be a part of a comprehensive crop forecasting system. This could involve, for example: (i) a survey of planting intentions conducted just before planting; (ii) a survey of crop plantings taken just after planting is finished; (iii) a survey of crop conditions carried out sometime before the harvest, and (iv) a crop production survey undertaken after the harvest.

9.15. Other types of crop surveys, based on agricultural holdings, may be required from time to time:

- Survey of post-harvest losses. A survey of post-harvest losses for rice producers, for example, measures the losses during harvesting, on-farm processing, transportation and storage. Such surveys are important to measure the effect of post-harvest losses on food supplies.
- Survey of farm food stocks. This looks at the quantity of, for example, maize held in stock by maize producers, and is important for assessing household food security in countries where farmers produce mainly for their own consumption.
- Survey of crop marketing. A survey of wheat producers, for example, could be run to understand how farmers market their surpluses.
- Special survey of a specific crop. An in-depth survey of, for example, fruit growers could highlight the problems faced in further developing the fruit production industry.

Livestock

9.16. In the agricultural census, the core module provides data on the number of animals by livestock type, while the livestock supplementary module includes data on the structure of livestock herds (age, sex and purpose), livestock population dynamics (births, deaths, etc.), and types of feed.

9.17. The key requirement for additional livestock data is for periodic livestock production surveys. Usually, a series of specific surveys is needed. For example, quarterly surveys of holdings with cattle may provide data on cow milk production, while annual surveys of holdings with sheep may provide data on wool production. Often, data from these surveys are supplemented by information from other sources – such as livestock marketing boards, or surveys of abattoirs, meat packing plants, butchers or dairies – to provide a comprehensive picture of livestock production.

9.18. Regular surveys may be needed for feed statistics to measure the quantity and composition of feed for different livestock types, and the seasonality of feed availability. Surveys can also be used to estimate the production of fodder crops, often using crop cutting experiments to measure nutritive values. Data on stocking rates are also often collected as a way of assessing fodder utilization.

9.19. Other types of in-depth surveys of livestock include: surveys on the structure of livestock herds, especially specific breeds of animals; and surveys of the value of sales for each type of livestock product.

Aquaculture

9.20. In the agricultural census, data are limited to aquacultural activities carried out in association with agriculture. If aquaculture is important in a country, an aquacultural census should be undertaken in conjunction with the agricultural census, to provide structural data on the type of production facility, type of water, sources of water, type of organism, and aquacultural machinery (see Chapter 7). This can provide the basis for further aquacultural surveys.

9.21. Periodic surveys of aquacultural producers may be needed to provide aquacultural production data. An in-depth aquacultural survey could also be conducted to further explore the topics covered in the aquacultural census. Items collected could include:

- specific species of aquatic organisms cultivated;
- identification of pens, cages, hapas and floating rafts, and measurement of the number of units, area and depth;

- more information on tanks and raceways, including the number of units and the volume of water;
- seed and juvenile production of the aquatic organisms;
- type and source of aquafeeds, use of fertilizers, and use of biocides;
- cost of production of aquacultural products;
- more information on the integration between agriculture and aquaculture, such as sharing inputs and the use of agricultural products as inputs to aquaculture.

Farm management and cost of production

9.22. Farm management surveys provide detailed data on all aspects of decision-making on holdings. Data related to investments, assets, organizational structure and allocation of resources are usually collected. Farm management surveys are often carried out in conjunction with cost of production surveys.

9.23. Cost of production surveys measure the cost structures of specific agricultural activities, and provide key data for compiling the production accounts for agriculture and for assessing the competitiveness of particular agricultural industries. Cost of production surveys are usually specific to particular agricultural activities, such as tobacco production or goat meat production. Costs of production include operational costs – such as inputs, fuel, transport, interest, taxes and labour – as well as fixed costs such as land and equipment.

Time use

9.24. Time use surveys provide information on how people spend their time. Time use data show the time spent on different types of activities, such as working, education, home-making and recreation. Time use surveys have many uses, including assessing paid and unpaid work and analysing social issues.

9.25. Time use surveys normally have a full national coverage, but a time use survey specific to agricultural holdings could be useful in countries where it is difficult to measure the contribution of household members to work on the holding. A time use survey could collect data on the time spent by each household member on activities such as: land preparation; planting, maintaining or harvesting crops; post-harvest crop activities; feeding animals; and providing support services to agricultural workers. This would be especially useful for measuring the role of women in agriculture.