

COUNTRY PARTICIPATION IN THE PROGRAMMES FOR THE WORLD CENSUS OF AGRICULTURE

Note by FAO

Introduction

The first Programme for the World Census of Agriculture (WCA) was launched in 1930 by the International Institute of Agriculture (IIA). It was the intention of the Institute that the 1930 national agricultural census should be the first of a series of censuses to be undertaken at intervals of ten years. The second Programme of the WCA, was planned for 1940. Preparations were made, but the Second World War impeded with the full implementation of the programme.

In 1945 the Food and Agricultural Organization of the United Nations (FAO) was founded and took over the activities of the IIA on the Programme for the WCA. Since then, FAO has promoted national censuses of agriculture through the 1950, 1960, 1970, 1980 and 1990 Programmes for the WCA. And currently, the Programme for the WCA 2000 round is being implemented.

The definition of each round of the WCA changed over the years. The first round of the WCA, that is, the Programme for the WCA 1930, requested countries to carry out their national censuses of agriculture during 1929 if located in the northern hemisphere and during 1930 if located in the southern hemisphere. The objective was to obtain global data referring to the same time period. However, because of differences in country statistical commitments, this request was later relaxed. For the Programme for the WCA 1950, the period was from 1948 to 1955. The Programme for the WCA 1960 corresponded to national agricultural censuses conducted from 1958 to 1964, the Programme for the WCA 1970 corresponded to the period 1966 to 1975, the Programme for the WCA 1980 covered the period from 1976 to 1985, and the Programme for the WCA 1990 covered the period 1986 to 1995. The present Programme for the WCA 2000 corresponds to the national agricultural censuses conducted or to be conducted during the decade 1996 to 2005.

Scope of National Agricultural Censuses in the different WCA rounds

Periodic agricultural censuses supply basic quantitative information on the structure of agriculture that is needed in development planning, socio-economic policy formulation on the agricultural sector. The agricultural censuses also serve for the development of comprehensive and integrated national statistical programmes on food and agriculture.

The Programme for the WCA 1930 was promoted at a time where reliable agricultural information was generally lacking, and national agricultural statistics were not well organized. Harmonized national agricultural censuses was expected to help improving the situation. However, due to its wide scope, most countries experienced difficulties in taking their first national agricultural census. Adequate resources for maintaining a large field staff were not easily obtained, their recruitment and training were major concerns when professional staff were limited in number, and completing long questionnaires fatigued both enumerators and

respondents affecting data reliability. Ensuring data quality was a major problem and data processing in the pre-computer era was very time-consuming leading to belated release of results. All-in-all the whole operation proved to be beyond many countries' capacities.

Taking these experiences into account, the FAO Programme for the WCA 1950 proposed a more restricted agricultural census scope, concentrating on the structural aspects of agriculture. In that first FAO Programme for the WCA, emphasis was given to methodological and operational aspects adequate to national conditions. Another new emphasis in the Programme for the WCA 1950 was the existence of both a short list of essential census information proposed to be collected by all countries and an extended list of items considered complementary. The Programme also gave increased attention to the definitions of census items.

The 1960 to 2000 Programmes for the WCA have all brought refinements to the 1950 Programme and gradually expanded the census scope while keeping agricultural structure as the principal theme. A number of countries, however, again experienced difficulties as the scope expanded although others conducted agricultural censuses with an even wider scope.

The Programme of the WCA 1960 was more focused on census methodology by introducing the use of sampling methods in census taking, including post-enumeration sample surveys. It should be noted that the use of sampling methods made it possible for many countries to conduct their first census. For the 1960 round, in addition to the Programme for the WCA 1960, Regional Programmes were also published. The Regional Programmes considered specific problems of the region, which involve both the statistical methods and the items to be included in the census questionnaires. These were efforts to present more efficient and more suitable to the conditions of the countries involved.

Whilst keeping the same content as the 1960 Programme, the Programme for the WCA 1970 elaborated on the use of sampling methods as a contribution to the development of flexible census methodology including their use in pretesting surveys, pilot censuses and surveys for checking the quality of data. The Programme also had a new section dealing with association of agricultural holdings with other industries. For the first time, the 1970 Programme explicitly defined the place of the agricultural census in the overall national agricultural statistics system.

The Programme for the WCA 1980 retained the previous census programmes and introduced a greater flexibility in census methodology, considering agricultural censuses conducted by complete enumeration of holdings, censuses conducted only on a sample basis, or censuses using a combination of both, in order to better suit the census data collection methods to the conditions and requirements in the different countries. Countries were urged, however, to undertake the necessary research and preparatory studies for deciding on the most appropriate census methodology. The Programme for the WCA 1980 also proposed a much wider range of tabulations than previous WCA programmes and stressed the need for an integrated system of food and agricultural statistics, taking into account various data sources in addition to the census of agriculture.

The Programmes for the WCA 1990 and 2000 recognized the wide range in the current status of economic and statistical development in different countries, and encourage countries to develop and implement an agricultural census tailored to their unique situation. Nevertheless, the Programmes encourage standardization of a minimum core programme for the agricultural census and a complementary relationship between the agricultural census and more frequent food and agricultural sample surveys, all of which should have a recognized role within the overall national survey programme.

The Programmes for the WCA 1990 and 2000 paid special attention to uniformity in concepts, definitions and classifications with those from other data sources. To the extent possible, the criteria used in the census are compatible with those recommended by other UN organizations. For example, the definitions of household and occupation adopted in these documents follow those recommended by the UN Statistics Division. The data coverage in these Programmes for the WCA is more limited than in previous Programmes. Given the scale, resource requirement and enumeration skills and data processing implications this limitation is essential if the success of the census is to be ensured.

The Programme for the WCA 1990, following the approach adopted in the 1980 Programme, recommended extensive cross-tabulations of census data. Such extensive cross-tabulations lay the groundwork for census data to play a more analytically-oriented role in a comprehensive food and agricultural statistical data base.

The Programme for the WCA 2000 takes into special consideration the importance of continuity and comparability with the previous programmes, as well as taking into account the new developments in agriculture, statistical methodology and data processing. In relation to the previous WCA Programmes, changes were kept to a minimum. Some changes, however, were made to reflect current statistical needs. The Programme of the WCA 2000 include gender and environmental issues and reference to the need for geo-referencing data.

The FAO Statistics Division in collaboration with a large number of experts from countries around the world already started the review of the present Programme for the WCA in order to prepare the next Programme for the WCA.

FAO Publications on Statistical Methods for Agricultural Censuses and Sample Surveys

The FAO Statistics Division has a series of publications on statistical methods for agricultural Censuses and Sample Surveys which support, in particular, the planning and conducting the national agricultural census and therefore the implementation of the Programme for the WCA.

FAO Workshops, Training Courses and Meetings on Agricultural Censuses and Surveys

The FAO conducts workshops, training courses and other meetings on planning, conducting national Agricultural Censuses usually on a sub-regional basis, in order to collaborate with member countries in developing and implementing their agricultural census according to the recommendations of the Programme and tailored to the countries' unique situations.

FAO direct technical assistance to conduct National Agricultural Censuses and Surveys

Along the years, another main contribution of FAO to the Programmes of the WCA have been the direct technical assistance provided to countries through projects. The provision of technical assistance, involving statistical advise, qualified consultants with different specialties, materials and equipment, have been focused on planning and conducting an Agricultural Census, statistical cartography, census data processing, as well as analysis and dissemination of the census data.

Countries undertaking Agricultural Censuses

Table 1 provides information on the number of countries in each round of the Programme for the WCA. In the case of 1990 WCA round, the figures presented in Table 1 indicate the number of countries that have conducted their agricultural censuses during the period 1986-1995 and that made their census results available to be included in the FAO reports. It is likely, however, that more than 100 countries have undertaken an agricultural census in this decade but FAO has not received the official information.

It should be noted that the number of countries undertaking agricultural censuses (as shown in Table 1) is just one indicator of the development of the WCA Programmes over the years, by no means the most important. For example indicators like the number of agricultural holdings covered and the agricultural area covered worldwide are most important.

Table 1. Number of Countries in each WCA Round, by Regions

Region ⁽¹⁾	1930	1950	1960	1970	1980	1990
WORLD TOTAL	51	77	95	111	104	90
Africa	7	16	26	24	20	17
Asia	2	5	12	10	11	10
Europe	23	22	18	26	25	23
Latin America & the Caribbean	10	22	25	31	27	21
Near East	2	3	7	9	8	4
North America	2	2	2	2	2	2
Southwest Pacific	5	7	5	9	11	13

Note:

⁽¹⁾ Regional grouping for FAO Council election purposes

The Programme for the WCA 2000 is now being implemented. The Programme is intended to assist countries conducting censuses in the period 1996 to 2005. According to information available to date, 37 countries have conducted their national agricultural censuses and made the report of their censuses' results available to the FAO.

It should be noted that in 1997 China conducted its First National Agricultural Census, which was probably the largest agricultural statistical survey ever. The agricultural census of China was conducted by complete enumeration of all 214 million rural households and included also a census of 740 000 administrative villages, a census of 43 000 towns and townships, as well as a census of 1 400 000 town and township enterprises. The 1997 Agricultural Census of China implies a very significant increase in the total number of agricultural holdings and agricultural area covered by the 2000 WCA round in comparison with the 1990 WCA round.

Agricultural Census data published by the FAO

In support of the Programme for the WCA, FAO has historically published, for each WCA round, summary agricultural census data provided by member countries. The publications present both the primary results by country and international comparisons for a selected number of variables.

With the improvement in communications, a selected number of variables reported for each country in the 1990 WCA round are included in the FAO WAICENT data base that can be accessed on-line through Internet.

Enumeration methods of Agricultural Censuses

As implies by its name, a census is normally conducted by a complete enumeration of all agricultural holdings. Sample enumeration, however, have been used by some countries with a large enough sample to provide reliable sub-national data. Besides, a number of countries applied a combination of complete and sample enumeration. Table 3 presents methods of enumeration applied by countries, by region, in their agricultural census of the 1990 WCA round.

Table 3. Number of Countries by Region and by Method of Enumeration Applied in their Agricultural Census of the 1990 WCA

Region ⁽¹⁾	Method of Enumeration		
	Complete	Sample	Combination
WORLD TOTAL	57	20	13
Africa	1	11	5
Asia	2	4	4
Europe	19	3	1
Latin America & the Caribbean	19	1	1
Near East	2	0	0
North America	4	0	0
Southwest Pacific	10	1	2

Note:

⁽¹⁾ Regional grouping for FAO Council election purposes

Table 3 shows that the majority of countries have used complete enumeration, while sample enumeration was adopted largely in African countries, and the combination of both complete and sample enumeration was used in some other countries. Sample enumeration has been used in agricultural censuses as a response to limited financial resources and shortages of trained personnel. However, it should be noted that conducting census on a sample basis generally implies a much improved reliability of data. On the other hand, a census conducted on sample enumeration has clear disadvantages: for instance, a) it does not provide the necessary sampling frames for the current agricultural surveys and many other subsequent agricultural surveys of importance for the study of the agricultural sector; b) it does not generally provides data for any small geographic area. It should also be noted that in some countries a sample survey has been the only feasible alternative to conduct an agricultural census. According to information available, the most common sample design applied for sample enumeration is two-stage-stratified sample with primary units selected using probability proportional to size of holding.

Data collection methods in Agricultural Censuses

Regarding data collection methods for census data, personal interviews by enumerators was predominant. The advantage of this method is that the enumerators are in a position to explain to respondents which information is required and to ensure that an accurate information is obtained. In African countries, objective measurement of the area of the holdings have been used in addition to the personal interviews since the holders are often not able to provide the required information. On the other hand, some developed countries

use the mail to collect census data generally in combination with personal interviews. Information on data collection techniques applied by countries in their agricultural census of the 1990 WCA is presented in Table 4.

Table 4. Number of Countries by Region and by Data Collection Method Applied in their Agricultural Census of the 1990 WCA

Region ⁽¹⁾	Data Collection Technique			
	Direct Interview by Enumerators	Mail	Combination	No Information
WORLD TOTAL	59	4	7	20
Africa	8	0	2	7
Asia	4	0	0	6
Europe	15	1	3	4
Latin America & the Caribbean	18	0	1	2
Near East	0	2	0	0
North America	4	0	0	0
Southwest Pacific	10	1	1	1

Note:

⁽¹⁾ Regional grouping for FAO Council election purposes