Structural data from agricultural censuses

Country trends

1990–2010
STRUCTURAL DATA FROM AGRICULTURAL CENSUSES

BACKGROUND

A census of agriculture is a large scale statistical operation for collecting, processing and disseminating data on the structure of agriculture of a country. The census of agriculture collects data on agricultural holdings¹ (often called farms) at the lowest geographical level. Typical structural data collected include the size and number of agricultural holdings, the holder’s gender, the type of land tenure, the legal status of holders, as well as information on land use, crop area and farm labour. The Food and Agriculture

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¹ An agricultural holding is “an economic unit of agricultural production under single management comprising all livestock kept and all land used wholly or partly for agricultural production purposes, without regard to title, legal form or size” (FAO, 2015). One household may have more than one agricultural holding (i.e. two household members managing each different agricultural activities), but normally there is only one agricultural holding in a household, i.e. one-to-one correspondence.
Organization of the United Nations’ (FAO) World Programme for the Census of Agriculture (WCA) is the framework under which national censuses are conducted at least once every ten years according to common international guidelines. The ten-year frequency is used because censuses measure structural aspects of agriculture that do not change much within this time frame.

At the end of each decennial census round, FAO’s Statistics Division reviews the national census practices and publishes countries’ methodologies and data on the structure of agriculture under the Statistical Development Series (SDS). For the first time, a FAOSTAT domain has been set up to disseminate structural data gathered from the last three completed rounds (1990, 2000 and 2010) published in SDS 9/9a, 13 and 18, respectively (FAO, 1997, 2001, 2010 and 2021). Some of the data, such as the size and number of agricultural holdings, are available over longer time series, starting as early as from the WCA 1930 round. The domain is a one-stop shop for agricultural structural data not available elsewhere.

In contrast to other FAOSTAT domains, for which data are available annually, census data are available decennially by virtue of the frequency of the WCA mentioned above. Table 1 below shows the data availability and the global and regional participation of countries and territories by WCA round. The table shows an upward trend in country participation since the WCA 1930. Few countries have participated in all rounds, and most countries have had an irregular participation. Furthermore, due to the varying scope and coverage of national censuses, no country reports all the structural agricultural variables covered in the FAOSTAT domain.

Table 1: Number of countries and territories participating in the WCA rounds

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Note: The WCA 1940 round could not be completed due to the onset of the Second World War.


The following sections present country trends for some structural agricultural variables with complete data. Global and regional comparisons are not presented here as the countries participating in each census round are not the same. In the next sections, data refer to the WCA 2010 unless otherwise specified.

COUNTRY

Six out of the eight countries with the largest number of holdings were in Asia in the WCA 2010 round (Figure 1). China (200.5 million), India (138.4 million), Indonesia (26.1 million), the Russian Federation

2 The area of the holding is area managed by the holder and includes: land used for growing crops (temporary and permanent); meadows and pastures, and fallow land; unutilized agricultural land; forest and other wooded land; bodies of water; farmyards and land occupied by farm buildings; and land for which a holding does not have any rights to agricultural use, except for the products of the trees grown on it (FAO, 2015).

3 China conducted its first national census in 1997 (WCA 2000 round).
(23.3 million), Bangladesh (15.2 million), Ethiopia (10.8 million of holdings in the WCA 2000), Viet Nam (10.4 million), and Pakistan (8.3 million) accounted for the bulk of holdings reported in the WCA 2010 round. Furthermore, the number of holdings increased in China, India and Indonesia since the WCA 1990 round. For countries where the total holding’s area has remained fairly stable, this suggests that holdings are becoming smaller in size.

**Figure 1: Countries with the largest number of holdings**

![Figure 1](image)


Figure 2 shows that by dividing the number of holdings of the above countries by their population, Russia takes the lead in number of holdings per 1,000 people (162 holdings), followed by China (147), Viet Nam (117) and India (111) in the 2010 census round.

**Figure 2: Countries with the largest number of holdings per 1,000 people**

![Figure 2](image)

In terms of total holdings’ area, WCA data show that the Russian Federation (450.6 million ha), Australia (409.7 million ha), the United States of America (370.1 million ha), Brazil (333.7 million ha), Argentina (172.1 million ha in the WCA 2000 round), China (130 million ha in the WCA 2000 round), India (159.6 million ha) and Colombia (109 million ha) reported the largest holdings’ area in the WCA 2010 round (Figure 3). Argentina and China did not report holdings’ area in the 2010 census round. In these countries, except Colombia, the total holdings’ area has been declining since the WCA 1990 round.

**Figure 3: Countries with largest total holdings’ area**


Furthermore, the WCA data show that the largest average holdings’ area in the WCA 2010 round were observed in Australia (3 020 ha), Iceland (988 ha), Argentina (582 ha in the WCA 2000), Uruguay (365 ha), Canada (315 ha), New Zealand (248 ha), Czechia (222 ha), the United States of America (175 ha), Slovakia (125 ha), Chile (121 ha) and Paraguay (107 ha) (Figure 4 and Map 1). Argentina did not report area in the WCA 2010 round. While the average holding’s area declined in Australia and the United States of America, it increased in Argentina, Uruguay, Canada, and Chile, suggesting for the latter group a consolidation of holdings. In South America, the leading meat-producing countries, such as Argentina and Uruguay, have big holdings and display a growing trend in their sizes.7

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4 The agricultural holding’s area is the area managed or operated by the holder. Therefore, a country’s total holding’s area differs from the land area reported in the FAOSTAT Land Use domain, which includes area not operated by agricultural holders, such as some forest area, community land and other area.

5 The Russian Federation conducted its first census in 2006 (WCA 2010 round).

6 Data reported by Colombia in the WCA 1990 and 2000 rounds were sourced from national agricultural surveys.

7 In these countries, the number of holdings declined steadily while holding’s area remained relatively stable or increased since the WCA 1990 round. In fact, the number of holdings and holdings’ area declined by 22 percent and 3 percent, respectively, in Argentina, declined by 18 percent and increased by 4 percent in Uruguay, and declined by 5 percent and increased by 37 percent in Chile over the same period.
Map 1. Average holding area (WCA 2010 round)

The boundaries and names shown and the designations used on these maps do not imply the expression of any opinion whatsoever on the part of FAO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Delimited lines on maps represent approximate border lines for which there may not be legal agreement.


Map 2 shows that the highest proportion of small holdings (with less than 1 ha of land) in the WCA 2010 round is found in countries in Oceania, Asia and Africa. Countries in the Americas and Europe report larger holdings. The highest proportions of small farms (with less than 1 ha of land) were found in Palau (100 percent), Bangladesh (84 percent) and Egypt (81 percent) in the WCA 2010 round. In 20 Asian countries, 65 percent of agricultural holdings were smaller than 1 ha, while accounting for just 14 percent of the operated area. In six Pacific countries and territories (American Samoa, Cook Islands, Fiji, Guam, the Northern Marina Islands and Samoa), 28 percent of holdings with 1 ha and below accounted for only 5 percent of the total area. Uruguay and some European countries do not cover small holdings in their censuses because they are few and do not contribute significantly to the national agricultural output.
The WCA classifies land tenure as “legal ownership or legal owner-like possession”, “rented from others” and other types. Map 3 shows that ownership is the most common form of land tenure in the countries and territories that reported this variable in the WCA 2010.

**Map 2. Proportion of holdings with less than 1 ha of land (WCA 2010 round)**

![Map 2. Proportion of holdings with less than 1 ha of land (WCA 2010 round)](image)

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The share of female-headed holdings has been increasing over the last three census rounds in Thailand, Botswana, Lesotho, Austria, Georgia, and Italy.

**Figure 5: Countries with the largest share of holdings operated by female holders**

![Figure 5: Countries with the largest share of holdings operated by female holders](image)

Map 3. Proportion of holdings’ operated area owned by holders (WCA 2010)


Figure 6 shows countries and territories reporting 95 percent or more of the holdings’ area owned by holders in the WCA 2010 round. Three are in the Americas (Haiti, Nicaragua and Brazil) and three in Asia (India, Myanmar and Cambodia). The American Samoa and Brazil, which reported this variable for the last three WCA rounds, show an increasing or stable trend in land ownership.

**Figure 6: Countries and territories with the largest proportion of holdings’ area owned by holders**


Out of the eight countries and territories that reported 60 percent or more of the holdings’ area rented from others in the WCA 2010 round, seven are in Europe (Figure 7). The share of the holdings’ area rented has been rising or stable in France, Belgium and Germany since the WCA 1990 round.
In most countries and territories, holdings operated by juridical persons (such as corporations, cooperatives or government agencies) are fewer than 10 percent (Figure 8). Only nine countries and territories have 10 percent or more of the holdings operated by juridical holders: France (22 percent), Uruguay (17 percent), Guam (16 percent), South Africa, Czechia, Iceland (14 percent each), Costa Rica, the United States of America (12 percent each), and Switzerland (10 percent). France, Uruguay, Czechia, the United States of America and Switzerland, the countries that reported this data for at least two of the last three WCA rounds, show an upward trend in the share of holdings operated by juridical holders.

In some countries, juridical persons control considerable holdings’ area. Seven of countries that reported the largest share of land operated by juridical holders in the WCA 2010 have 60 percent or more of the holdings’ land operated by juridical persons, namely Namibia (95 percent), Slovakia (88 percent), Mauritius (80 percent), Czechia (79 percent), Bulgaria (66 percent), Peru (64 percent) and Hungary.
Notably, in some of these countries, a very small number of holdings operated by juridical holders controlled a sizeable holding area in the WCA 2010 round. This was the case of Namibia (two percent of the holdings managed 95 percent of the land), Mauritius (0.5 percent of the holdings with 80 percent of the land), Bulgaria (1.5 percent of the holdings with 66 percent of the land), Peru (0.6 percent of the holdings with 64 percent of the land), Hungary (2 percent of the holdings with 62 percent of the land), and Romania (0.8 percent of the holdings with 47 percent of the land). Czechia, Peru, Uruguay, Romania, Chile, and Estonia, which reported this data for at least two of the last three WCA rounds, show a growing trend in the share of holdings’ land operated by juridical holders.

Figure 9: Countries with the largest share of land operated by juridical holders


Five of the countries reporting at least 60 percent of household members engaged in agriculture in the WCA 2010 round are in Asia, and two each in Africa, the Americas and Oceania (Figure 10). The data show that household members have increased their involvement in agriculture in Brazil, Viet Nam, Uruguay, the Republic of Korea, Burkina Faso, Myanmar, and Japan since the WCA 1990 round.
Three of the countries reporting 35 percent or more of female household members engaged in agriculture in the WCA 2010 round are in Asia (Figure 11). In the Republic of Korea, female household members have increased their involvement in agriculture since the WCA 1990 round.

EXPLANATORY NOTES

The FAOSTAT domain *Structural data from agricultural censuses* has been set up to disseminate data collected in national censuses of agriculture at the agricultural holding level. An agricultural holding is an economic unit of agricultural production under single management and its size is the area managed or operated by the holder. Therefore, a country’s total holding’s area differs from land area reported in other FAOSTAT domains. The structural data in the domain includes the size and number of holdings, holder gender, land tenure, legal status of holders, and farm labour, among others. The censuses of agriculture are conducted under the FAO’s World Programme for the Census of Agriculture, which is a decennial programme.

The data in this FAOSTAT domain are not available annually, as census structural data are collected and reported on a decennial basis. It is important to note that most countries have had irregular participation in the WCA rounds. Furthermore, due to the varying scope and coverage of national censuses, not all countries report all the structural agricultural variables covered in this FAOSTAT domain. This irregularity in terms of country participation and reporting must be kept in mind when making regional and global comparisons across WCA rounds.

REFERENCES


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