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Farms, family farms, farmland distribution and farm labour: What do we know today?

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Farms, family farms, farmland distribution and farm labour: What do we know today?

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Abstract

A better and more complete understanding of family farms is urgently needed to guide policy makers' efforts towards achieving a number of Sustainable Development Goals (SDGs). This paper takes stock of the number of farms worldwide, and their distribution and that of farmland, on the basis of agricultural censuses and survey data. Thus, it shows that there are more than 608 million farms in the world. Rough estimates also indicate that more than 90 percent of these farms are family farms (by our definition) occupying around 70–80 percent of farmland and producing about 80 percent of the world's food in value terms. We underscore the importance of not referring to family farms and small farms (i.e., those of less than 2 hectares) interchangeably: the latter account for 84 percent of all farms worldwide, but operate only around 12 percent of all agricultural land, and produce roughly 36 percent of the world's food. The largest 1 percent of farms in the world operate more than 70 percent of the world's farmland. The stark differences between family farms, in terms of size, their share in farmland distribution, and their patterns across income groups and regions, make clear the importance of properly defining different types of farms and distinguishing their differences when engaging in policy discourse and decision making towards the SDGs. The paper also considers evidence on labour and age provided by the censuses. There is a need to improve agricultural censuses if we want to deepen our understanding of farms. Support from countries is needed so that a larger number of them supply FAO with microdata, not just tabulated results. Moreover, additional surveys or survey modules that cover non-household farms would be extremely useful. For this to happen additional funding is necessary and FAO's uniform methodology must be followed.

Keywords: family farm, small farm, farm size, smallholder, farmland distribution, farm labour and youth in farming

JEL codes: O13, Q10, Q12, Q15, Q24

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1 Introduction

Family farms at all scales are critical actors in achieving the Sustainable Development Goals (SDGs). In low- and middle-income countries, poverty among small farmers, in particular, is widespread and in many countries it is much higher than the national poverty headcount rate (Rapsomanikis, 2015). Hence, getting small-family farms out of poverty and ensuring their access to basic services, ownership and control over land and other forms of property, can be key to achieving the goals of ending poverty (SDG 1), hunger (SDG 2), and inequality (SDG 10). Ensuring conditions for family farms more generally, so they can achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors, will also be critical not only for the aforementioned SDGs but also, *inter alia*, to achieve economic growth (SDG 8) and more sustainable production patterns (SDG 12).

The United Nations General Assembly recognized the importance of family farms by designating 2019–2028 as the UN Decade of Family Farming and entrusted the Food and Agriculture Organization of the United Nations (FAO) and the International Fund for Agricultural Development (IFAD) with the implementation of the decade. This paper was developed in preparation for the global launch of the decade on 27–29 May 2019, at the FAO headquarters in Rome, Italy, specifically to update estimates of, and inform on the number of family farms in the world. In addition to taking stock on the number of family farms worldwide as well as the distribution of farms and farmland throughout the world, which is itself an important contribution, the paper unveils the stark difference between family farms and small farms, and also provides policy implications and recommendations.

The paper is organized as follows. Section 2 describes the data sources used and provides key definitions and concepts followed. Section 3 presents the updated estimates of the number farms and their location, while section 4 describes farm sizes and farmland distribution worldwide and by region and income grouping. Section 5 provides information on family farms and clarifies the difference between family and small farms. Section 6 considers changes in farmland distribution and average farm size over time. Section 7 briefly considers information on labour and age to provide a snapshot on who works on farms. Conclusions are presented in Section 8; they include policy implications and improvements to be made to the World Program for the Census of Agriculture in order to maximize its usefulness to international organizations, policymakers and researchers in the SDG era.

2 Data sources and definitions

This paper relies mostly on data from agricultural censuses to update the number of farms in the world and explore patterns around farms size and farmland distribution. FAO has promoted the Programme for the World Census of Agriculture (WCA) since 1950, by providing governments with guidance on standard methodology and contents for their agricultural census. In order to update the number of farms in the world and explore patterns, we used information from agricultural census reports from 6 different WCA rounds dating back to 1960 and up to the most recent, 2010 round. Rather than analysing raw agricultural census data, which are generally stored at the country level, we rely on the tabulated data as provided to FAO via agricultural census reports. We recorded the most recent estimate of the number of farms, farmland distribution, and information on labour and age for each country or territory for which an agricultural census has been carried out and for which a report was available. By mostly using agricultural censuses, we ensure the broadest coverage of farms and farmland worldwide (see Table A1 in the Annex for more details).

Agricultural holdings and agricultural area reported by the censuses generally include crop and livestock production only; holdings engaged in forestry or fisheries are only included if they are also engaged in crop and livestock production. Communal lands are generally not included in the agricultural census. The exclusion of forests and communal lands means that the farm sizes are smaller than they would be were forests and communal lands included.

We use FAO's definition of an agricultural holding or farms, namely: "an economic unit of agricultural production under single management comprising all livestock kept and all land used fully or partly for agricultural production purposes, without regard to title, legal form, or size. Single management may be exercised by an individual or household, jointly by two or more individuals or households, by a clan or tribe, or by a juridical person such as a corporation, cooperative or government agency" (FAO, 2005).

We use the terms agricultural holding and farm interchangeably – mostly making use of the latter in this paper. The agricultural holder or farmer is the person who makes strategic decisions regarding the use of the farm resources and who bears all risks associated with the farm. The agricultural holder may undertake all management responsibilities or delegate day-to-day work management responsibilities to a hired manager. The difference between the hired manager and the agricultural holder (the manager of the holding) is that the former is a hired employee who implements the decisions of the agricultural holder, whereas the latter makes all strategic decisions, takes all economic risks and has control over all production resulting from the agricultural holding or farm (FAO, 2005).

As with any source of information, agricultural census reports and the censuses themselves present limitations. By relying on agricultural census reports rather than raw agricultural census data, we are limited to considering only the information that is presented in the report and we may only consider it as it has been tabulated by the authors of the report. Furthermore, the censuses themselves present limitations. For instance, FAO recommends that censuses should consider farms of all types throughout a country and be conducted by using complete enumeration and/or sampling methods. Despite this recommendation, some agricultural censuses survey farms that are associated with a household (household farms) rather than all farms, thus excluding corporate entities and government holdings. This is true, for instance, in the 2010 round for many African countries, including the Federal Democratic Republic of

Ethiopia, the Republic of Malawi and the Republic of Rwanda (Lowder, Scoet and Raney, 2016). To the extent that this is the case, our estimates of average farm size are biased downward.

A few African countries have not conducted an agricultural census since the 1980 round or earlier. In these cases, we also used data from Living Standards Measurement Study (LSMS) surveys and Demographic Household Surveys (DHS) in order to have a more recent estimate of the number of farms. The limitation in this case is that this estimate includes farms associated with a household only – such that our estimates of average farm size are, as in the case of the census-based estimates, also biased downward.

LSMS surveys are the result of a decades-long collaboration between the World Bank and National Governments. A comprehensive description of LSMS data and survey design is beyond the scope of this paper.¹ For the Federal Republic of Nigeria, LSMS estimates of agricultural households are used as a proxy for the number of agricultural holdings or farms in those countries. For Nigeria, we also used LSMS data to estimate agricultural land distribution among households. The land variable is a self-reported estimate of agricultural land cultivated for crops or livestock use. Agricultural land is land cultivated and owned, excluding land rented out but including land rented or sharecropped in. Fallow land is included. For the Republic of Kenya a household survey is likewise used.

For the Republic of Burundi, the Republic of Ghana and the Republic of Zimbabwe, we use Demographic and Health Surveys (DHS) administered by the United States Agency for International Development (USAID) and its partner organizations, in order to obtain the number of agricultural households as a proxy to estimate the number of farms in those countries. Since 1984, USAID has implemented the DHS which are nationally representative household surveys on various health-related concerns in over 70 developing countries throughout the world (USAID, 2006). In the mid-2000s, questions on ownership of agricultural land were introduced in some of these surveys to understand if any member of the household owned agricultural land and by how many hectares.² Moreover, the DHS data are useful for compiling the share of the population that is involved in agriculture as well as average household size or the number of members of the household. By combining this information with population statistics from FAOSTAT database, we created rough expansion factors that allowed us to estimate the number of households owning agricultural land as well as the total agricultural land in the three countries.

¹ For more detailed information about LSMS surveys readers are referred to World Bank (2019).

² In this case, agricultural land refers to what the DHS interviewer's manual stipulates: "Agricultural land refers to land that is used for growing crops (the crops may be food for people, food for animals, or other non-food crops), raising animals, and grazing animals. In answering this question, common land used to graze animals but not owned by the household should not be included" (USAID, 2012).

3 Number of farms and their location

Nagayets (2005) used agricultural census data from FAO to estimate that there are about 525 million farms of all sizes in the world. Hazell *et al.* (2010) and IFAD (2011) used similar data to maintain that there are about 500 million small farms (those with less than 2 hectares). The latest estimate by FAO (2014) points to more than 570 million farms worldwide.³ From a methodological point of view, our updated estimate can be compared with the 2014 FAO estimate. It is likely the number of farms has increased, but our updated estimate also reflects a more comprehensive review and use of information.

3.1 Number of farms in the world

We estimate that the total number of farms in the world is 608 million, which is above previous estimates (Table A1 in the Annex). For numerous reasons, we may expect that the actual number of farms in the world is larger than our 608 million estimate. We report estimates of the number of farms in 179 countries and territories; about 30 countries or territories were lacking an agricultural census that reports the number of farms; including estimates from those countries would, of course, increase the total. Secondly, many of the estimates of number of farms for low- and middle-income countries are from outdated agricultural census rounds. For example, the last census for Brunei Darussalam was conducted in the 1960 round and for the Republic of Angola, the Republic of Cameroon, the Republic of Chad, the Dominican Republic, the Gabonese Republic, the Republic of Iraq, the Republic of Liberia and the Republic of Singapore the most recent census was conducted with the 1970 round. Thirdly, as further explained below, average farm size has shrunk while the number of farms worldwide has moved in the opposite direction from 1961 to 2010, largely due to increases in the number of farms in low- and middle-income countries, which represent the vast majority of farms worldwide. Lastly, as noted, for many countries, the estimated number of holdings is limited to the number of household farms, with non-household farms being outside of the sample frame; again, this means that our estimate is biased downward. For these reasons we may conclude that there are now more than 608 million farms worldwide.

Farm sizes and the total number of farms change greatly over time as a result of population growth, agricultural development, land policies and other socio-economic and climatic factors. We might expect that in some countries the number of farms in past decades has little bearing on the current number of farms in those countries. Regardless, this is the most complete estimate available, and the vast majority of farms were reported from more recent agricultural census rounds (1990, 2000 or 2010).

3.2 Where are the farms?

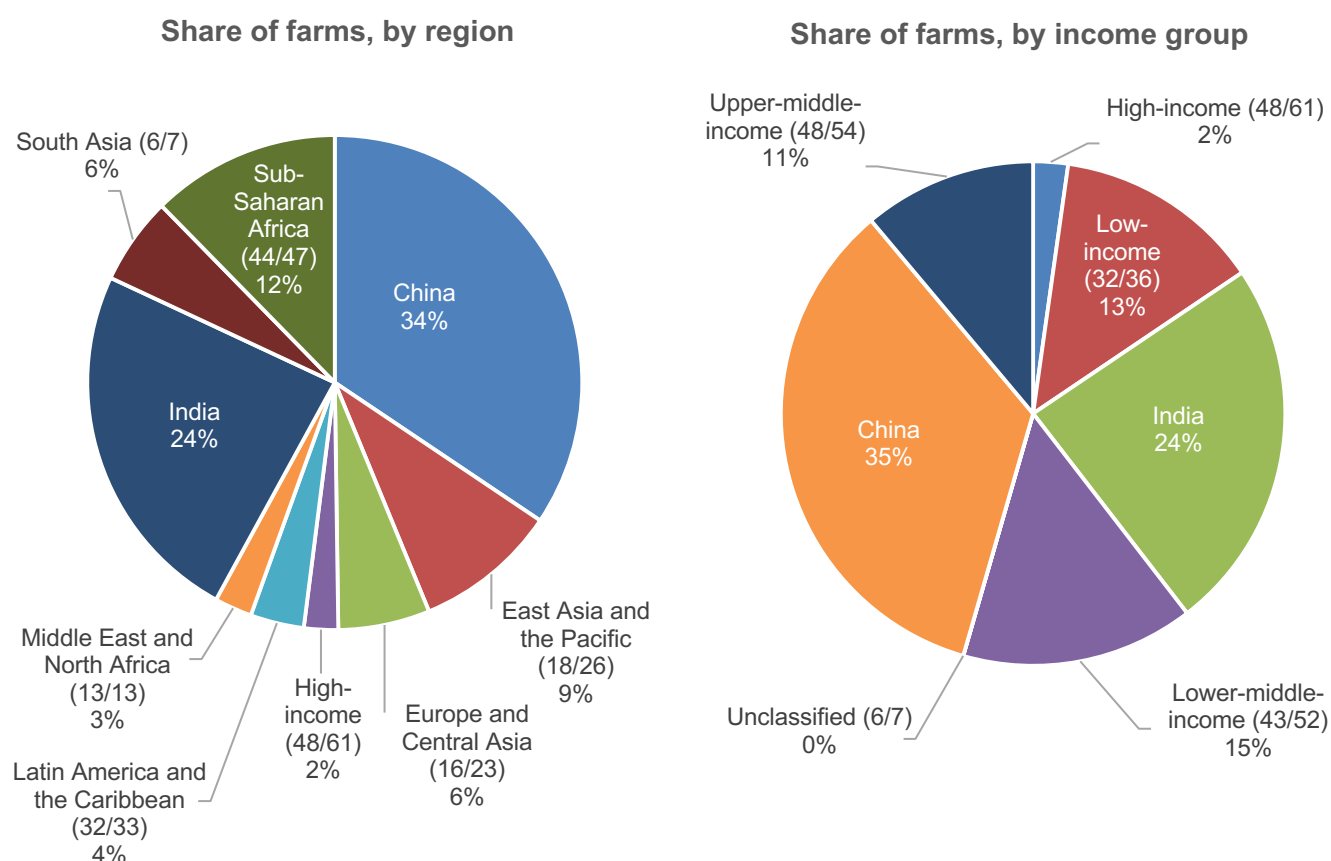
Of the 608 million farms, 43 percent are located in East Asia and the Pacific, including the People's Republic of China, and 30 percent in South Asia, including the Republic of India (Figure 1). Many of these farms are in China and India – and this is the reason why they are presented separately in Figure 1. China alone represents 34 percent and India 24 percent of the 608 million farms. Twelve percent of the farms are located in sub-Saharan Africa and

³ This same estimate was subsequently reported in Lowder, Scoet and Raney (2016).

6 percent in Europe and Central Asia. Only 3 percent of the world's farms are located in the Middle East and North Africa.⁴ Farms in Latin America and the Caribbean represent only 4 percent of farms worldwide.

The majority of farms are located in lower- or upper-middle-income countries, representing, respectively, 39 and 46 percent of the 608 million figure; this largely results from the classification of India as belonging to the former group and China to the latter (Figure 1). Thirteen percent of farms are located in low-income countries. Farms in high-income countries represent 2 percent of the world's farms.

Figure 1. Share of farms worldwide, by country group, most recent observation



Notes: Number of countries included/number of countries in country grouping is shown in parentheses. Country income groupings are the same as those used by World Bank, 2011. Seven countries are not classified by the World Bank income groupings.

Sources: Various from the World Programme for the Census of Agriculture. For Nigeria and Kenya, data are taken from the World Bank LSMS and a government administered household survey, respectively. For Burundi, Ghana and Zimbabwe estimates are made using data from DHS surveys. For details see Table A1 in the Annex.

⁴ For comparative purposes with the estimate in FAO (2014), we used the World Bank classification of countries by region, hence the use of Middle East and North Africa (MENA).

4 Distribution of farms and farmland area by land size class

Estimates of farms by farm size class are useful because they give us an idea of the average size of farms operated by most farmers, while the share of agricultural land by farm size class gives us an idea of the size of farms upon which the majority of farmland is found. Estimates of the number of farms by farm size class are fairly widespread, since many countries provide that information in their agricultural census. It is more difficult to estimate how farmland is distributed among farms of different sizes, since fewer countries report information on agricultural area by land size class.

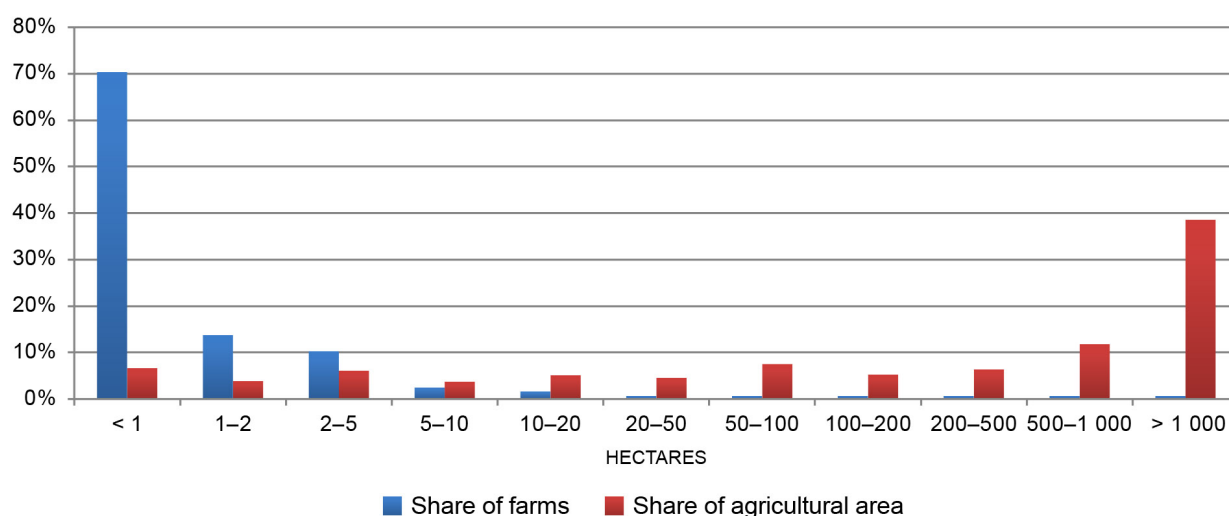
4.1 Distribution worldwide

Here we present the most comprehensive estimate possible of the distribution of farms and farmland by land size class. We have data on the number of farms by land size class for 129 countries and territories. For all but 15 of these, we also have information on total agricultural area and agricultural area by land size class. For the 15 countries with missing information, FAOSTAT estimates of arable land and permanent crops were used to fill the gap on agricultural area. For those countries, we estimated agricultural area by land size class cohort by computing the product of the midpoint of that land size class cohort (i.e., 0.5 hectare for the 0 to 1 hectare cohort) and the number of farms in that cohort – ensuring that the resulting total agricultural area did not exceed total agricultural area in the country.⁵

The results show that, worldwide, farms of less than 1 hectare account for 70 percent of all farms, but operate only 7 percent of all agricultural land (Figure 2). Slightly larger farms between 1 and 2 hectares account for 14 percent of all farms and control 4 percent of the land. Together, farms of less than 2 hectares account for 84 percent of all farms, but operate only around 12 percent of all agricultural land. Farms in the range of 2 to 5 hectares account for 10 percent of all farms and control 6 percent of the land. Interestingly, the largest 1 percent of farms in the world (those larger than 50 hectares) operate more than 70 percent of the world's farmland.

⁵ In some cases, the total agricultural area resulting from such estimates exceeded the total agricultural area in the country. To eliminate such discrepancy, we uniformly reduced the amount of agricultural land in each land size class cohort until the amount in the largest cohort divided by the number of farms in that cohort was roughly equal to the midpoint of the largest cohort.

Figure 2. Worldwide distribution of farms and farmland, by land size class



Note: Estimates for 129 countries and territories in the world. For details see Tables A2 and A3 in the Annex.

Sources: Authors' compilation using FAO, 2001; FAO, 2013 and agricultural census reports from the 2010 round (see "Agricultural census reports and information consulted" in the References section).

Much work by international organizations focuses on increasing the productivity of smallholders, often defined as those agricultural holders operating areas smaller than 2 hectares. Indeed, to reduce poverty it is important to improve the productivity of smallholders – or to increase their income earning, whether on or off-farm. However, to the extent that international organizations focus on what is happening at the lower end of the distribution, their attention is diverted away from the state of medium and large scale farms which represent the vast majority of agricultural land. It would be difficult, if not impossible, to have an unbiased picture of the state of large scale and corporate agriculture if international organizations continue to focus only on smallholders and small farms. This would hide important information on all types of farms, which will also be critical to achieve zero hunger (SDG 2), expose different inequalities to tackle them (SDG 10), and inform interventions to create a better enabling environment to achieve higher levels of economic productivity to achieve economic growth (SDG 8) and more sustainable production patterns (SDG 12).

4.2 Distribution by income level and region

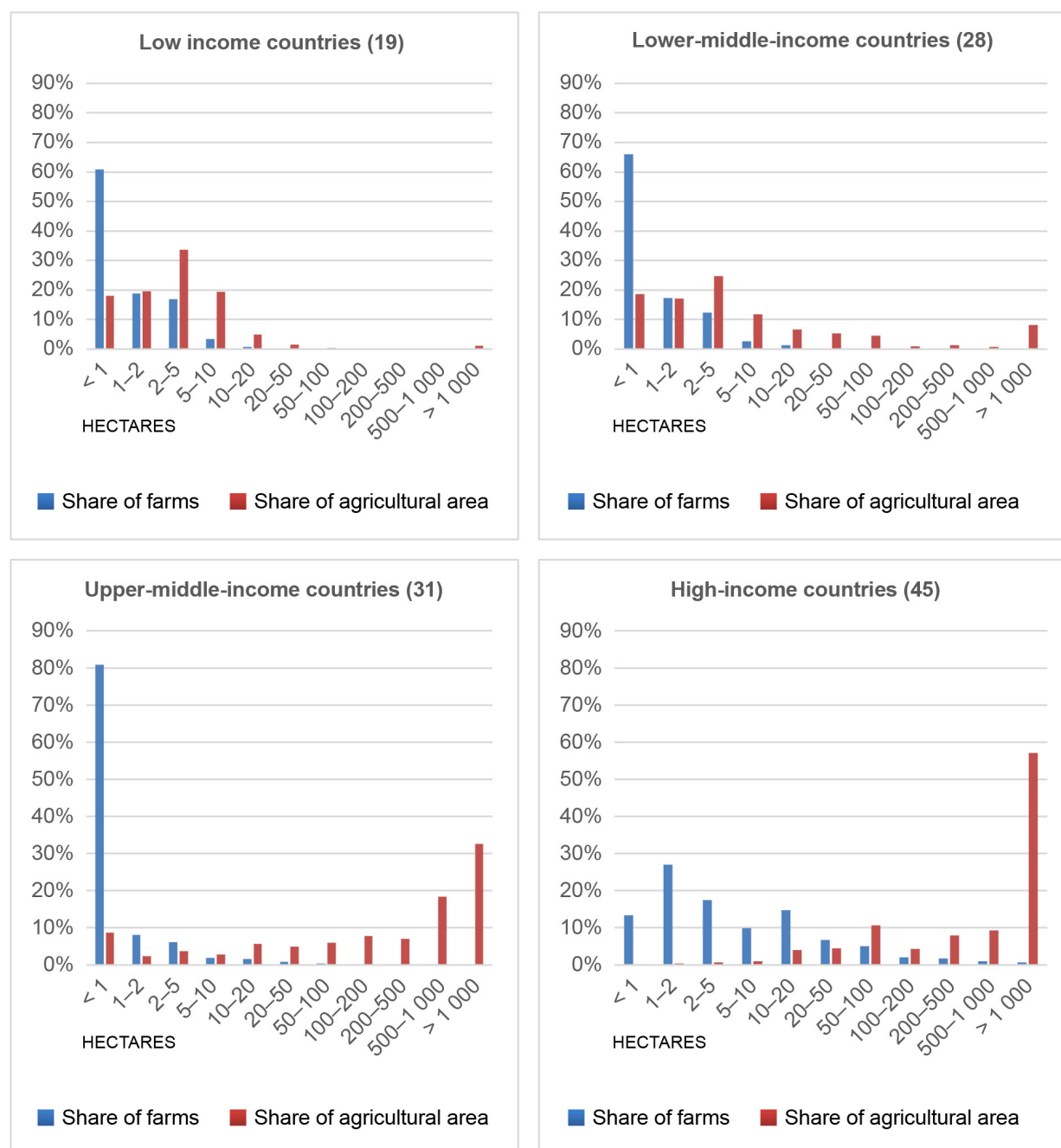
To draw the big picture, we look at farmland distribution based on the income level of 123 countries (Figure 3). For nearly all income levels, on average, a large share of farms (between 40 and 85 percent) are smaller than 2 hectares; they control anywhere from a few percent to nearly 40 percent of farmland. The farmland share represented by the larger cohorts would seem to increase with each income category. For example, farms greater than 5 hectares in size cover 28 percent of the farmland in low-income countries, nearly 40 percent in the lower-middle-income countries, 85 percent in the upper-middle-income countries and nearly 99 percent in the high-income countries. In short, it would appear that the share of farmland controlled by larger farms is higher in countries with larger average incomes.

We also see that smaller farms operate a far greater share of farmland in lower-income countries and regions than in higher income countries and regions. In the low- and lower-middle income countries (which are located primarily in East Asia and the Pacific, South Asia and sub-Saharan Africa), about 80 percent of farms on average are smaller than 2 hectares, similar to the global average, and they operate about 30 to 40 percent of land, a much larger share of land than in other regions. In upper-middle-income countries, which are primarily located in Latin America and the Caribbean and the Middle East and North Africa, and in high-income countries, only about 40 to 50 percent of farms are smaller than 2 hectares in size, and they operate less than 5 percent of farmland. This pattern suggests that the share of farmland managed by small farms decreases as average income levels rise.

The finding that the share of farmland operated by larger farms is larger and that of smaller farms smaller where average incomes are higher suggests that farmland becomes more concentrated among larger farms as economies develop.

We now examine regional patterns for all countries other than those classified as high income. This leaves 84 countries for which we perform regional analysis (Figure 4). In all regions, except Latin America and the Caribbean, the majority of farms are smaller than 2 hectares. The distribution of farms and farmland according to farm size seen for the 23 countries located in sub-Saharan Africa is similar to that of South Asia and East Asia and the Pacific, where about 85 to 95 percent of farms are smaller than 2 hectares and operate 45 to 60 percent of the farmland; in those regions, few farms reach a size larger than 50 hectares and, the few that do, comprise only a small share of total farmland. In Latin America and the Caribbean, the pattern is radically different. Farms smaller than 2 hectares represent only about 35 percent of holdings and much of the land (about 90 percent) is operated by the 8 percent of farms that are larger than 50 hectares. In the Middle East and North Africa as well as in Europe and Central Asia, 60 to 70 percent of all farms are smaller than 2 hectares, but more than 50 percent of the land is farmed by holdings larger than 10 hectares in size. This suggests that farmland seems to be more unequally distributed in favour of the larger farms in regions of higher per capita income such as Latin America and the Caribbean, but also Middle East and North Africa, compared with other regions of low- and middle-income countries. The share of agricultural area farmed by a clear minority of large farms is increasing over time in some countries, as shall be seen below.

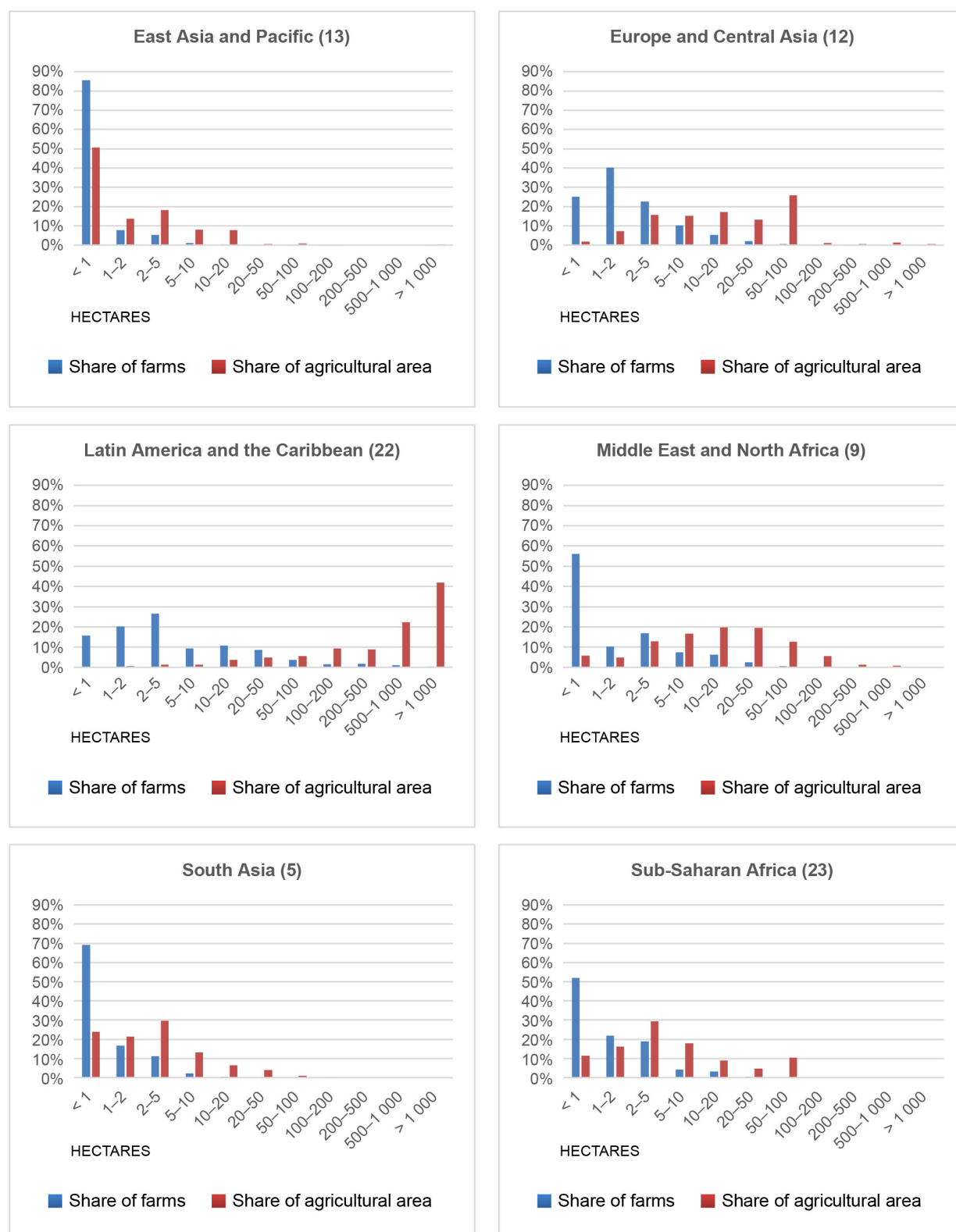
Figure 3. Average distribution of farms and farmland area by land size class and income group



Note: For details see Tables A2 and A3 in the Annex.

Sources: Authors' compilation using FAO, 2001; FAO, 2013 and agricultural census reports from the 2010 round (see "Agricultural census reports and information consulted" in the References section).

Figure 4. Average distribution of farms and farmland area by land size class and by region



Note: For details see Tables A2 and A3 in the Annex.

Sources: Authors' compilation using FAO, 2001; FAO, 2013 and agricultural census reports from the 2010 round (see "Agricultural census reports and information consulted" in the References section).

5 Getting concepts and accounting on family vs. small farms right

Family farms are an important part of the farms analysed above. They figure prominently in the discourse about agricultural development, and the international community has paid more attention to them both through the SDGs and the UN Decade of Family Farming. However, definitions of family farms are still often unclear. At the same time, we often see the mistaken substitution of the term small farm for family farm which generally leads to the incorrect suggestion that the majority of the world's food is produced by small farms. This section intends to shed light on these concepts and having done that, it provides estimates of farms in their different dimensions.

5.1 Number of family farms and the land they operate

While definitions of what a farm is are well established (see, e.g. FAO, 2015), there is no universally agreed definition of family farms, given the enormous diversity of this group and depending on the country context. Indeed, every country may have its own definition of what a family farm is. Various stakeholders have established definitions either for purely analytical purposes or for the implementation of government programmes, though. The *United Nations Decade of Family Farming 2019-2028. Global Action Plan*, developed by FAO and IFAD, applies the 'notion of family farming' referring to all types of family-based production models in agriculture, fishery forestry, pastoral and aquaculture, and include peasants, indigenous peoples, traditional communities, fisher folks, mountain farmers, forest users and pastoralists (FAO and IFAD, 2019).

Despite wide variation among definitions of family farms, there are some commonalities. A survey of 36 definitions of family farms found that the most common aspect of such definitions is the use of family labour and that many of the definitions also specify that the farm is managed by the family (Garner and de la O Campos, 2014). Some definitions limit the size of the farm explicitly by establishing a maximum land area for the farm, beyond which the farm is no longer considered a family farm. Finally, a definition may require that the share of household income from non-farm activities not exceed a certain level.

This paper uses evidence from the 2010 round of agricultural censuses to update estimates made by FAO (2014) – subsequently reported in Lowder, Scoet and Raney (2016) – of the number of family farms as well as the share of agricultural land they operate, with the resulting implications for their contribution to total food and agricultural production. The need to take stock of the number of family farms at global level by means of a cross country analysis calls for a single definition. We first consider whether the farm is owned or operated by a family and next whether the labour is supplied by the family or by hired workers. Some censuses report on the legal status of the holder of the farm, but the censuses generally do not report on ownership of the farm. In most of the 49 countries⁶ for which we have information (FAO, 2013), more than 90 percent of farms (and often close to 100 percent) are held by a single individual, a group of individuals or a household, either with or without a formal contract; only a very small share of farms are held by a corporation, cooperative, governmental institution, religious institution, or an unknown arrangement (Table A4 in the Annex).

⁶ These countries represent all regions as well as high-income countries; India is included, but China is not and countries in sub-Saharan Africa are under-represented. Details can be found in Table A4 in the Annex.

Several definitions of family farms also require the family to supply the majority of the labour used on the farm. Data on the use of family and hired labour are quite limited in the censuses. Sixty countries⁷ report data on the number of permanent hired workers; for nearly all of these, the average is very small, far less than 1 hired worker per farm (Table A6 in the Annex). Fourty five countries⁸ report data on both family and permanent hired labour; for which the total number of family members engaged in agriculture exceeded the total number of permanent hired workers by a median ratio of 10 to 1. In many contexts, seasonal hired workers provide an important source of labour for farms, but data on seasonal hired workers are available only from very few agricultural censuses.

Therefore, in the absence of more information for such a type of cross country analysis, we conclude that family labour exceeds hired labour on the vast majority of farms (Table A4 in the Annex). We use this information (that most labour is provided by the family in most countries), together with our estimate of the total number of farms worldwide, to provide a rough estimate of the total number of family farms worldwide. We assume that, as was the case for our 49 country sample (for which there is report on ownership of the farm), at least 90 percent of the world's more than 608 million farms are held by an individual, small group of individuals, or a household. This leads us to estimate that, considering our sample of 45 countries (whose reports include data on both family and permanent hired labour), there are more than 550 million family farms worldwide. Due to data limitations, the estimate of more than 550 million family farms worldwide should be considered a rough approximation.

Information on how farmland is distributed among family and non-family farms is limited. However, for a subset of 53 countries for which data are available, the unweighted average share of total agricultural land operated by farms which we have classified as family farms is 73 percent. Calculating a weighted average (using the amount of agricultural land in each of the 53 countries as a weight), we find that 78 percent of the land is actually operated by family farms.

5.2 Family farms vs small farms: a distinction that must not be ignored

One of the key contributions of this paper is the distinction we are able to make between family farms and small farms, and the clarity this lends to our understanding of how much each may contribute to the world's food production. Most small farms are family farms, but not all family farms are small.

We have already defined family farms. Following a convention used by many researchers (see, for example, Hazell *et al.*, 2010; HLPE, 2013; IFAD, 2011; Wiggins, Kirsten and Lambi, 2010), we define small farms as those agricultural holdings that encompass fewer than 2 hectares of farmland.

FAO (2014) showed that family farms (not small farms) produce more than 80 percent of food in the world. Graeub *et al.* (2016) provide an estimate that 53 percent of the world's food is produced by family farms, with family farms being defined on a country-specific basis, with country-specific size limitations imposed. Herrero *et al.* (2017) combined farmland distribution data from Lowder, Scoet and Raney (2016) with crowd sourcing and satellite imagery to show

⁷ These countries include many high-income countries as well as most of East Asia; they are under-representative of South Asia and sub-Saharan Africa. Details can be found in Table A6 in the Annex.

⁸ Countries from all regions are represented, with the exception of South Asia and only two countries in sub-Saharan Africa are represented. See Table A6 in the Annex for details.

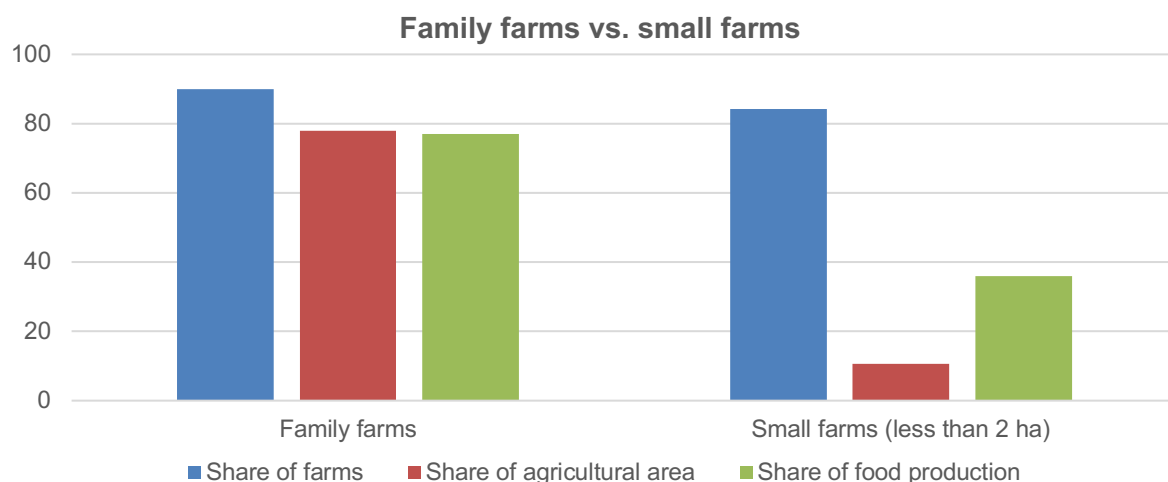
that farms smaller than 2 hectares produce about 30 percent of most food commodities in sub-Saharan Africa, Southeast Asia and South Asia. At the global level, between 10 and 35 percent of food categories (these include vegetables, sugar crops, roots and tubers, pulses, oil crops, livestock, fruit, fibre and cereals) are produced by farms smaller than 2 hectares.

As has been noted, we estimate that more than 90 percent of farms are run by an individual or a family and rely primarily on family labour, and they are regarded as family farms (Figure 5). Such family farms occupy around 70–80 percent of farmland. Here we estimate the share of food produced by family farms using the approach taken in FAO (2014). In order to approximate the share of food produced by family farms irrespective of their size, we use the share of land they operate as a rough proxy for their share of the value of food production. Land is, of course, not the only determinant of agricultural production, but it is an important one of many others, including capital, labour, and research and development. In Latin America, for instance, agricultural research and development has been a big determinant of productivity gains and therefore gains in agricultural production (OECD and FAO, 2019).

Using the value of food production in 2015 at the country level, and multiplying this by the share of land operated by family farms, we find that the weighted average across countries is 77 percent (out of a sample of 53 countries). Based on this, we conclude that family farms produce about 80 percent of the world's food in value terms (Figure 5). This would imply that family farms, as defined here, are likely to be responsible for the majority of the world's agricultural and food production. However, family farms, as defined in this paper, are a diverse group which includes farms of all sizes. In designing policies for agricultural development, it is necessary to distinguish among different types of family farms.

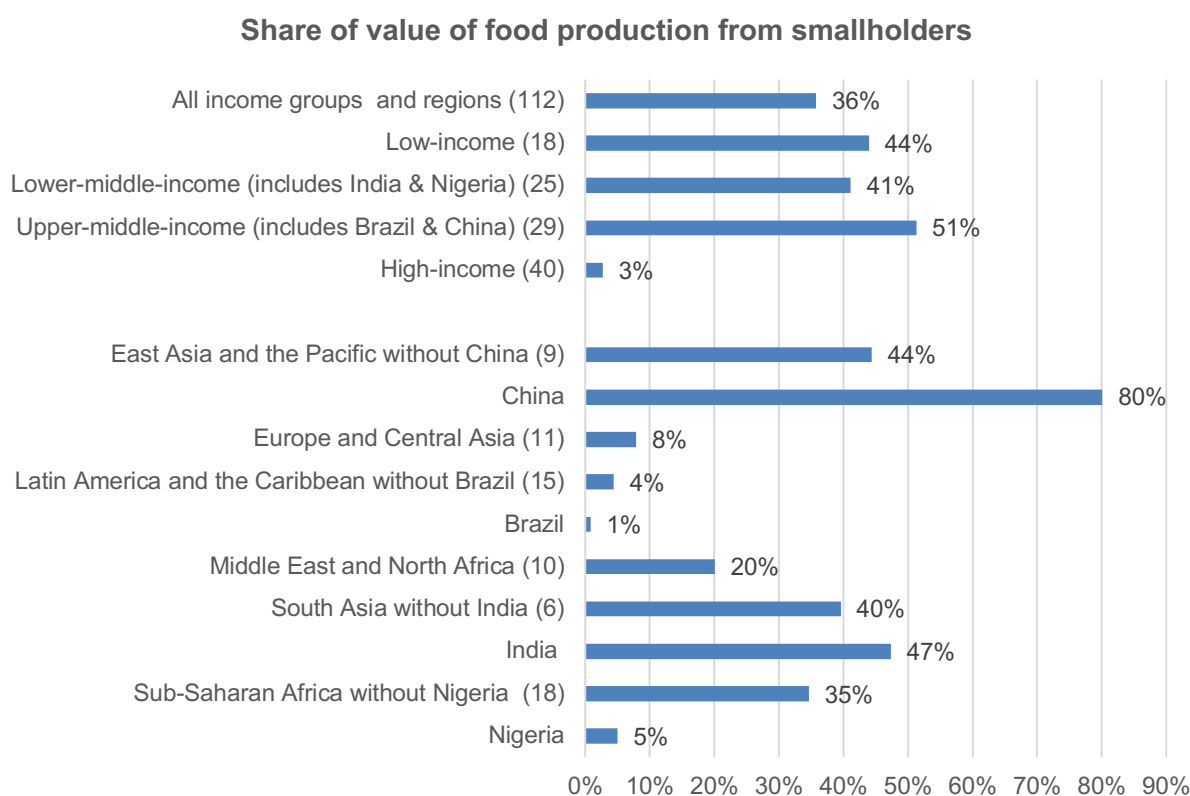
We also saw that worldwide, farms of less than 2 hectares account for approximately 84 percent of all farms and operate about 12 percent of all agricultural land (Figure 2). To make a rough estimate of the share of food produced by farms smaller than 2 hectares, or small farms, for each country (out of a sample of 112 countries), we multiplied the share of land operated by these farms by the value of food production in 2015. We then looked at the sum across countries to obtain the worldwide average (weighted by the value of food production), which points to roughly 36 percent of the world's food being produced by small farms. Considering this estimate and that suggesting that small farms use only 12 percent of the world's agricultural land may be indication of how very productive they are – but generating more concrete evidence on this goes beyond the scope of this paper. We also see that the share of food produced by small farms varies widely across and within income and regional groupings (Figure 6); it is larger in developing regions than in high-income countries. It is the largest in East Asia and the Pacific, South Asia and sub-Saharan Africa without Nigeria.

Figure 5. Family farms and small farms – share of holdings and share of agricultural area



Sources: Authors' compilation using FAO, 2001; FAO, 2013 and agricultural census reports from the 2010 round (see "Agricultural census reports and information consulted" in the References section). Value of food production is from FAO, 2019a.

Figure 6. Share of value of food production from smallholders, by region and income grouping



Sources: Authors' compilation using FAO, 2001; FAO, 2013 and agricultural census reports from the 2010 round (see "Agricultural census reports and information consulted" in the References section). Value of food production is from FAO, 2019a.

It is worth acknowledging that these estimates of about 84 percent and 36 percent of the world's food being produced by family and small farms, respectively, rely on the oversimplification that the share of land farmed by a type of farmer in a country determines the share of the food produced by that farmer type. Regardless of the actual share of food produced by smallholders and that produced by family farms, we can be relatively confident that smallholders are responsible for a small share of the world's food production and family farms are responsible for much of the world's food production. This is due to the fact that the majority of land is operated by family farms of all sizes and a minority of agricultural land is operated by small farms.

This stark contrast makes clear the importance of how we are defining terms and our distinguishing among the different types of farms when engaging in policy discourse. The policies needed for the largest farms in the world are most certainly different from those needed for resource poor and land scarce farms in the developing world. It is imperative that we avoid the use of the terms family farms and small farms interchangeably. It would be helpful to distinguish among family farms by farm size.

6 Farmland distribution and farm size over time: is farmland becoming increasingly concentrated among large farms?

By considering farmland distribution, we learn about the welfare of farmers as well as the makeup of our food system. In a country where a large share of GDP comes from agriculture (as opposed to industry or services), and where a large number of very small farms are in operation, we might imagine that there is a large share of the population engaged in subsistence agriculture. In such an agricultural economy, an increase in the number of small farms over time may raise concerns regarding the well-being of smallholder farmers. In countries where large shares of farmland are found on large farms (on the order of 50 hectares and larger), we might expect to see more industrial agriculture. An increase in the share of land farmed on large farms might raise concerns that the food system is becoming increasingly industrial. Numerous factors underlie such changes and are beyond the scope of this paper. These include land tenure policy, population density and population growth, the availability of arable land and off farm employment opportunities, among others (see, for example, Tan *et al.*, 2013; Jayne, Chamberlin and Headey, 2014; Sitko and Jayne, 2014; Dawe, 2015 and Van Vliet *et al.*, 2015). Changes in methodology and definitions used from one agricultural census to the next also affect the trends observed over time. However, our analysis of farmland distribution and farm size over time, based on the census data, sheds lights on possible transformations of agriculture and food systems in the world.

6.1 What the literature tells us

Lowder, Scoet and Raney (2016) review recent literature (2010–2014) on changes in average farm size over time (see Table 1) as well as farmland distribution. They summarize the findings as average farm sizes having increased in the developed world and decreased in the developing world. Exceptions to this include findings by Jayne, Chamberlin and Headey (2014) that in some land abundant countries in Africa average farm sizes have increased in recent years, while in land constrained contexts average farm sizes have decreased. Masters *et al.* (2013) point to recent increases in average farm sizes for parts of Asia.

Through their own examination of agricultural census reports, Lowder, Scoet and Raney (2016) likewise stress the need to nuance the finding of decreasing average farm size in the developing world. Using data on average farm size for 107 countries, they show that from 1960 to 2000, average farm size decreased in most low- and lower-middle-income countries and in South Asia as a whole. Average farm sizes increased from 1960 to 2000 in some upper-middle-income countries and in nearly all high-income countries considered. They also acknowledge that although trends in average farm size are unknown for China, recent land policies suggest that average farm sizes may increase in that country which would certainly affect the regional average for East Asia and the Pacific.

Table 1. Published literature on the change in average or median farm size and farmland distribution worldwide, 2010–2014

Author, year of publication	Data used	Geographical coverage	Sample size	Time period	Findings
Eastwood, Lipton and Newell, 2010	Agricultural censuses	Global	—	1930 to 1990 rounds	The log of average farm size increased from 1950 to 1990 in North America and Europe. It decreased from 1950 to 1990 in Asia and from 1970 to 1990 in Africa. There was no clear long-run trend for South America.
Hazell <i>et al.</i> , 2010	Agricultural censuses	Africa, Asia and Latin America	16 countries	1970 to 2000 rounds	Median farm size decreased in most countries considered.
Deininger and Byerlee, 2012	Literature review	Selected land abundant countries in Latin America, Eastern Europe and Central Asia, Southeast Asia and sub-Saharan Africa	—	1970s to 2000s	Farmland distribution: In land abundant countries of Latin America and Eastern Europe and Central Asia there has been an increase in large scale farming. In Southeast Asia the palm oil industry has seen an increase in the number of larger plantations or large firms contracting with outgrowers, but rubber production has shifted from being cultivated mainly by large plantations to production by smallholders. In countries of sub-Saharan Africa efforts to move toward large scale agriculture in the 1970s and '80s largely failed and small farming operations have persisted, with an increase in large scale investments in more recent years.
FAO, 2013	Agricultural censuses	Global	114 countries	1930 to 2000 rounds	Average farm size: At the global level (106 country sample, with the number of countries varying from year to year) the pooled average of mean farm size and the median of mean farm sizes decreased from 1930 to 2000. This reflects a decrease in average farm size for most regions except Europe. For the African region a decrease in average farm size was registered from 1960 to 1980 followed by a slight increase from 1980 onwards. Countries where an increase rather than decrease was observed included Australia, New Zealand, the United States of America, Canada, Argentina and Uruguay.
HLPE, 2013	Agricultural censuses	Global	81 countries	1930 to 2000 rounds	Average farm size has decreased for the African region as a whole and it has also decreased in China.
Masters <i>et al.</i> , 2013	Rural and urban population data	Africa and Asia	—	1950 to 2050	Since 1950 average farm sizes have been decreasing for Africa and Asia as a whole, but in recent years they have begun increasing for Asia as a whole, while they will continue to decrease in Africa for quite some time.
Adamopoulos and Restuccia, 2014	Agricultural censuses	Global	63 countries	1990 round	Average farm size is larger in countries with higher average per capita GDP. Farmland distribution: In countries with high average incomes farms larger than 20 ha operate 70 percent of land, while in the poorest countries 70 percent of land is operated by farms smaller than 5 hectares.
Jayne, Chamberlin and Headey, 2014	Agricultural censuses/surveys	Africa	12 countries	1980–2010 round	Africa is typically characterized as land abundant, but the majority of the region's uncultivated arable land is concentrated in a few countries. In all land-constrained countries for which data are available, average farm size has decreased. Most but not all land abundant African countries have shown an increase in average farm size.

Notes: "—" indicates data not available.

Source: Adapted from Lowder, Skoet and Raney, 2016.

We review additional and more recent literature on changes in farm size (Table 2). The review points to evidence of an increase in recent years in the number of medium-sized farms (5–100 hectares) as well as in the share of land they operate in Ghana, the United Republic of Tanzania and the Republic of Zambia, but not in Kenya (Jayne *et al.*, 2016). Increases in the number of medium-scale farms in Zambia are attributed to salaried urbanites and relatively well-off rural inhabitants, rather than by increased farm size by smallholders who began farming areas smaller than 5 hectares. The change is attributed to land administration and agricultural spending policies (Sitko and Jayne, 2014). The literature reviewed also confirms an increase in average farm size in China (from 1996 to 2006) (Tan *et al.*, 2013).

Table 2. Additional literature on average or median farm size, 2013–2016

Author, year of publication	Data used	Geographical coverage	Sample size	Time period	Findings
Tan <i>et al.</i>, 2013	Agricultural census	China	1 country	1996–2006	There has been an increase in average farm size in China from 1996 to 2006 as a result of an increase in the number of larger farms (more than 0.6 ha) concurrent with an increase in the number of very small farms (less than 0.2 ha).
Dawe, 2015	Agricultural censuses	East Asia	3 countries	1960–2000 or 2010 round	Average farm size has decreased in Indonesia, Philippines and Thailand.
van Vliet <i>et al.</i>, 2015	Agricultural censuses	Global	Select countries	1930 or earliest to 2000	From 1970 to 2000 average farm size increased in Australia, the Netherlands and the United States of America. It was largely unchanged in Brazil and it decreased in Bangladesh, Botswana and India. Changes in farmland distribution in Brazil, the United States of America, China, Netherlands and Brazil points to the decreased prevalence of middle-sized farms resulting from an increase in the number of small and large farms (definition of farm size is country specific). In Ethiopia and India there has been an increase in the number of smaller farms concurrent with a decrease in the number of larger farms.
European Union, 2015	Agricultural censuses	Europe	European Union (EU) 27 and EU 15	2005 to 2010 and 2000 to 2010	From 2005 to 2010 in the EU 27, average farm size increased from 11.9 to 14.5 hectares; this was a result of an increase in the number of farms larger than 100 ha. From 2000 to 2010 average farm size for the EU 15 increased from 5.4 to 24.1 hectares.
Jayne <i>et al.</i>, 2016	Population and/ or area based surveys	Africa	4 countries	Exact years vary, but mostly cover a recent ten year period	There has been an increase in the number of medium-sized farms (5–100 ha) as well as share of land they operate in Ghana, Tanzania and Zambia, but not in Kenya.

Notes: "—" indicates data not available.

Source: Authors' own literature review.

Our literature review found no work that considers evidence worldwide from the 2010 round of agricultural censuses. In this paper we extend the analysis of farmland distribution and average farm size undertaken by Lowder, Skoet and Raney (2016). We consider changes in farmland distribution and average farm size over time for select countries and we cover the 2010 round of the agricultural census as well as increase the number of countries covered. Future work might consider how land concentration changes over time using an indicator of inequality, such as, for example, the Gini coefficient.

6.2 Change in farmland distribution over time for selected countries

Available data allow us to look at farmland distribution over time for a select number of countries that have reported such information for multiple time periods.

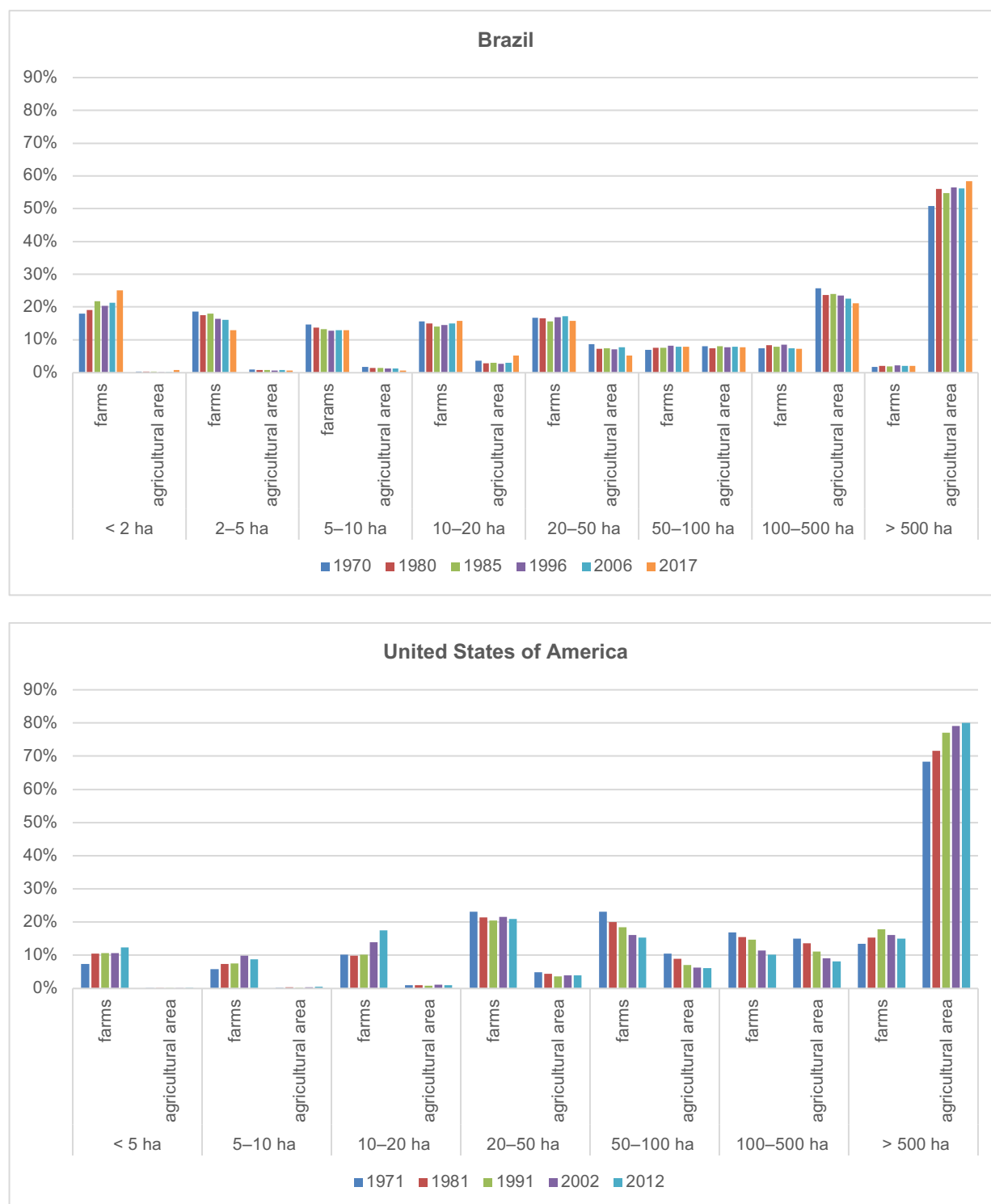
First, we see the case of the Federative Republic of Brazil and the United States of America, two countries that are among five that represent the largest share of the world's agricultural area – 5 and 8 percent, respectively, in 2010 (FAO, 2019a). Both countries may also be characterized as having a large share of their agricultural area being found on large farms (Figure 7). In Brazil, the share of holdings that are small (less than 2 hectares) has increased from 1970 to 2017. At the same time, the share of agricultural area farmed by the 2 percent of farms that are larger than 500 hectares went up to about 58 percent in 2017, from 51 percent in 1970. In the United States of America, on the other hand, there has also likewise been an increase in the share of farms that are smaller than 5 hectares, as well as those smaller than 20 hectares. The share of area farmed by farms in the largest category (greater than 500 hectares) has also increased.

For both of these countries to exhibit an increase in the share of farms that are of the smallest size and an increase in the share of farmland farmed on the largest holdings has implications for equity and the food system. In addition to suggesting increased inequality, there may be a rise in small-scale farms producing food that is consumed close to the source as well as an increasingly important role being played by large scale corporate farming. Within the United States of America context, one might imagine largescale agribusiness playing an increasingly important role in feeding the general population alongside an increased role of local farmer's markets in supplying the urban elite. This may be reflective of the widening income inequality seen in the country (Alvaredo *et al.*, 2018). The issue of the emergence of small farms in countries such as Brazil and the United States of America, among other possible countries, goes beyond the scope of this paper but deserves more research.

We also looked at the change in farmland distribution over time from 2005 to 2013 in the European countries with the largest agricultural area. None of the European countries considered show an increase in the share of farms that are smaller than 2 hectares. However, for the French Republic, the Federal Republic of Germany and the United Kingdom of Great Britain and Northern Ireland we see that the share of agricultural area operated by farms larger than 100 hectares has increased (Figure 8) – which is one pattern shown in the cases of Brazil and United States of America. The Kingdom of Spain has not exhibited such an increase. Future work might also consider looking at the evolution in farmland distribution in those countries prior to 2005.

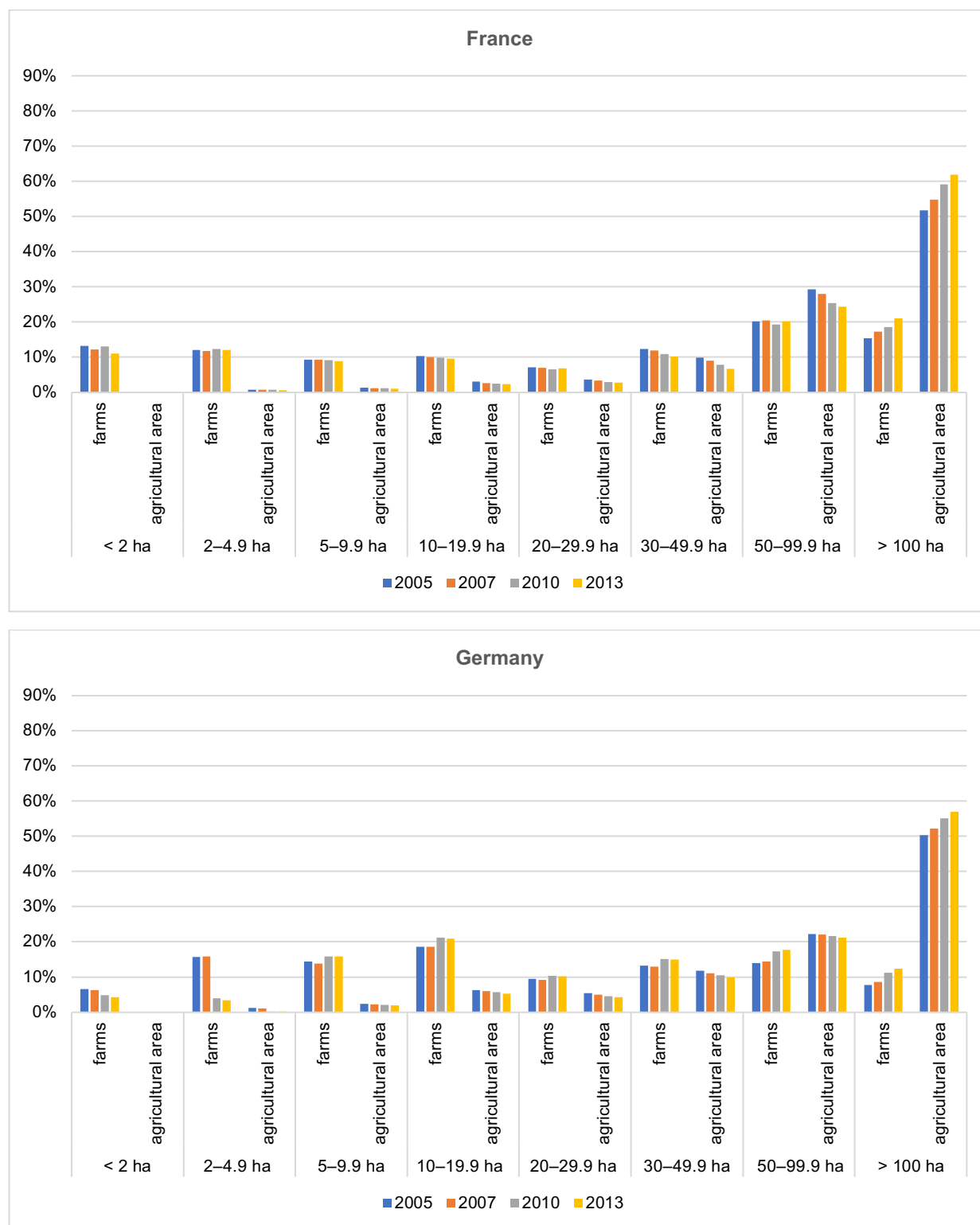
Looking at other countries, Figure 9 shows the evolution of farmland distribution in Ethiopia, India and the Republic of the Philippines from the 1970s until more recent times. Unlike the other countries described above, whose per capita incomes are by and large relatively higher, the share of farmland operated by larger farms has decidedly decreased over the period in both the Philippines and India. In Ethiopia, a similar decrease in the share of farmland operated by larger farms was observed until the year 2000, after which time the trend seems to have reversed and an increasing share of farmland in that country has been operated by farms larger than 2 hectares.

Figure 7. Farmland distribution over time in Brazil and the United States of America from the 1970s

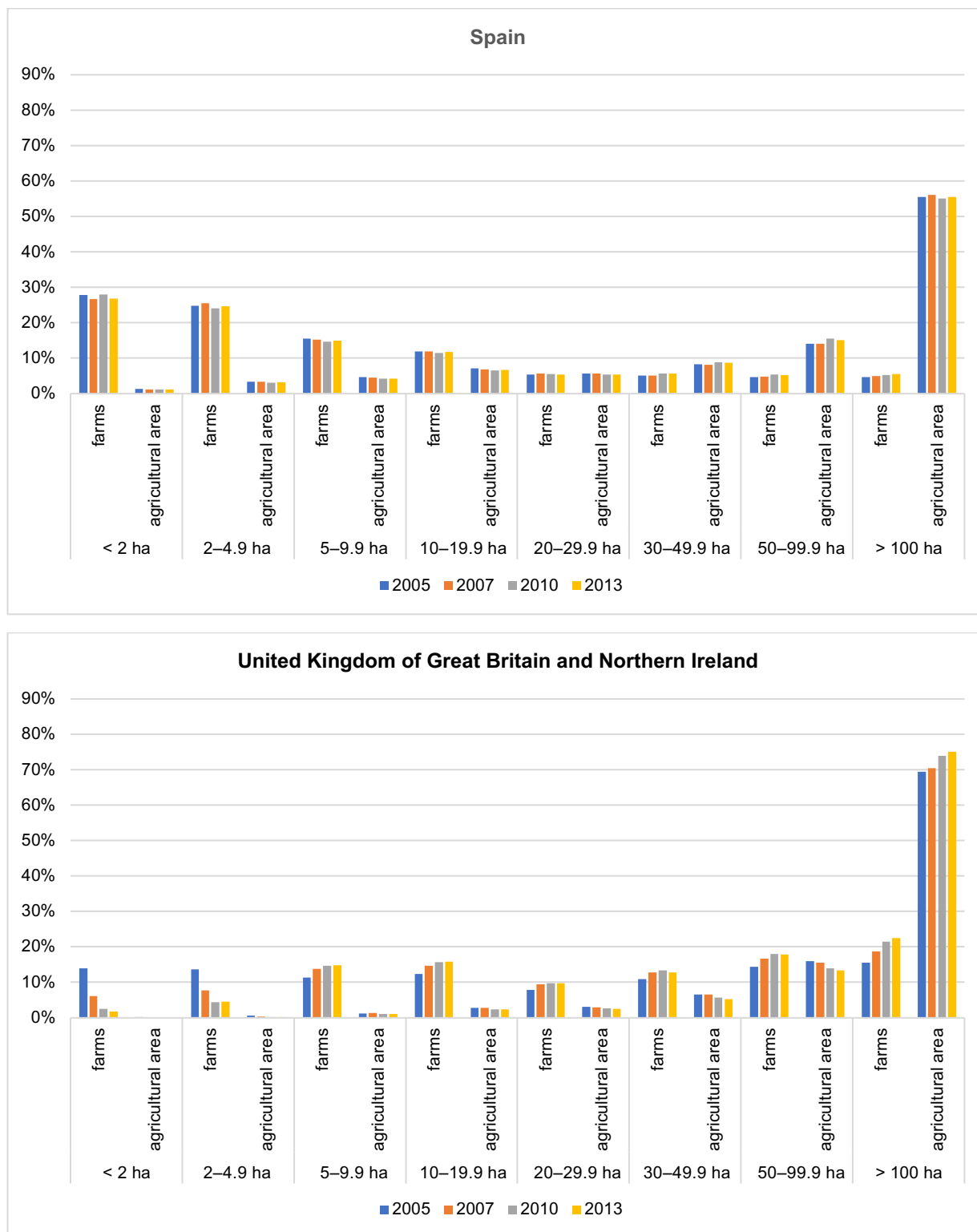


Sources: FAO, 2013; Government of the Federative Republic of Brazil, 2009, 2018; USDA, 2014.

Figure 8. Farmland distribution over time in select European countries, 2005–2013

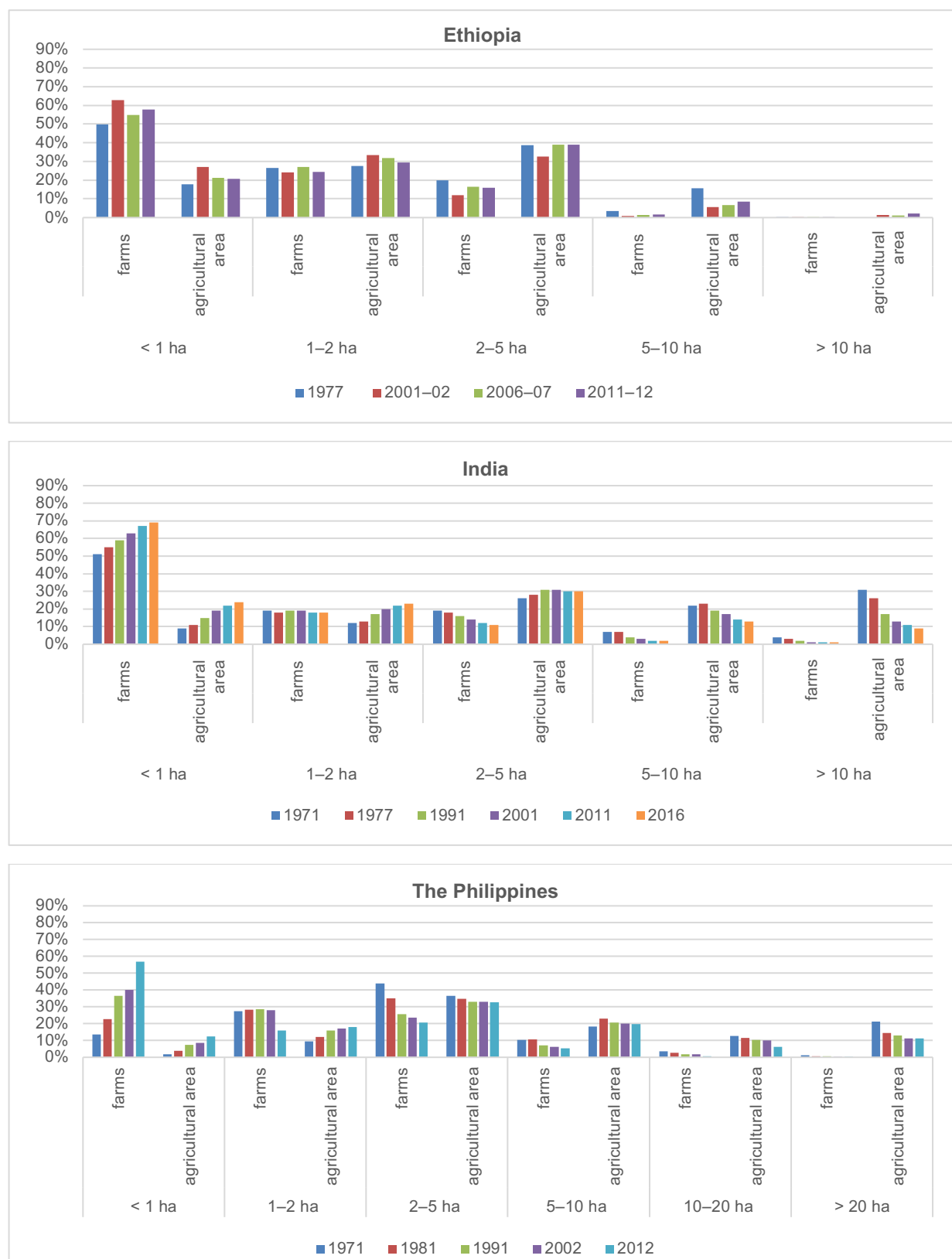


► Figure 8. Farmland distribution over time in select European countries, 2005–2013 (cont.)



Source: European Commission, 2019.

Figure 9. Farmland distribution over time in Ethiopia, India and the Philippines from the 1970s



Sources: FAO, 2013, The Federal Democratic Republic of Ethiopia, 2007, 2012; Government of the Republic of India, 2012, 2019; Government of the Republic of the Philippines, 2015.

6.3 Trends in average farm size

International comparison tables from the 2000 census round combined with results in agricultural census reports from the 2010 census round allow us to consider trends in average farm sizes for a sample of 129 countries for which estimates of average farm size are available for at least two of the census periods from 1960 to 2010. We first do a linear interpolation and extrapolation to estimate average farm size for all countries and periods for which that information is missing. We then note whether the slope of the best-fit line indicates that average farm size has increased (slope equals or exceeds .005), decreased (slope equals or is smaller than -.005) or neither (slope is between -.005 and .005).

We see clear patterns according to income group (Table 3). In most low- and lower-middle-income countries, farm sizes have decreased. Increases in average farm size have been seen for nearly 1/3 of the upper-middle-income countries. And, in three out of four high-income countries, average farm sizes have increased. Patterns according to regional groupings of low- and middle-income countries show that farm sizes have decreased in most countries of every region, except Europe and Central Asia. These trends are, of course, merely indicative of broad trends and the reader is cautioned from taking them too literally given many of the data points (about 40 percent) were interpolated. Furthermore, agricultural census data have their own set of limitations (see Lowder, Scoet and Raney, 2016 for a detailed discussion) and some of the variation over time may be attributed to a change in methodology or sample, rather than actual changes in farmland distribution.

Table 3. Trends in average farm size by income and regional group, 1960–2010

	Decrease	Increase	Neither clear increase nor decrease
Low and middle-income countries, by region	62	20	4
East Asia and the Pacific, excluding China	8	3	0
Europe and Central Asia	1	4	0
Latin America and the Caribbean	21	6	1
Middle East and North Africa	9	1	1
South Asia	4	1	0
Sub-Saharan Africa	19	6	2
Low and middle-income countries, by income group	59	17	4
Low-income countries	15	3	1
Lower-middle-income countries	21	2	2
Upper-middle-income countries	23	12	1
High-income countries, by region	10	31	2
Europe	5	23	0
Other	5	8	2

Source: FAO, 2013 and numerous agricultural census reports from the 2010 round (see "Agricultural census reports and information consulted" in the References section).

For another indication of what trends are evident in the evolution of average farm size, we examine the evolution of weighted average farm size at the regional and income group level, using the same interpolations as were used for Table 3. To calculate the weighted average farm size by income or regional group, we used the number of agricultural holdings reported in the corresponding agricultural census. Where number of holdings was not available, interpolations and extrapolations were likewise used.

We caution that our sample is not globally representative, nor is it representative of many regions, but it does allow us to consider representative trends for high-income countries, and most regions, except East Asia and the Pacific (estimates are not available for China) and Europe and Central Asia (estimates are not available for the Russian Federation).

We find that average farm size is largest for high-income countries other than Europe, followed by Latin America and the Caribbean, Europe and Central Asia, and high-income European countries. Average farm size increased for the high-income countries in Europe from about 12 hectares in the 1960s to 21 hectares in the 2010 round. It also increased from 33 hectares in 1960 to 41.5 hectares in the 2010 round in Europe and Central Asia. It decreased in Latin America and the Caribbean from about 70 hectares per farm in 1960 to about 40 hectares in the 2010 round. The average for high-income countries outside of Europe increased from 86 hectares in 1960 to 115 hectares in 1990 before decreasing to 78 hectares in the 2010 round (Table 4 and Figure 10); this trend reflects the data for Australia which can be seen in Table A5 in the Annex.

Average farm size is smallest in South Asia, followed by East Asia and the Pacific, sub-Saharan Africa and the Middle East and North Africa. Average farm size has decreased over the period for East Asia and the Pacific. The trend in South Asia is a clear decrease in average farm size from about 2.6 hectares per farm in 1960 to 1.2 hectares in 2000, followed by a slight increase to 1.4 hectares, which largely reflects the situation in India. The average size of farms in countries of the Middle East and North Africa decreased from 1960 to 2000, before increasing slightly in the 2010 round. A similar pattern is seen for sub-Saharan Africa where the decrease in average farm size is evident from 1960 to 1990, after which point average farm size has slightly increased.

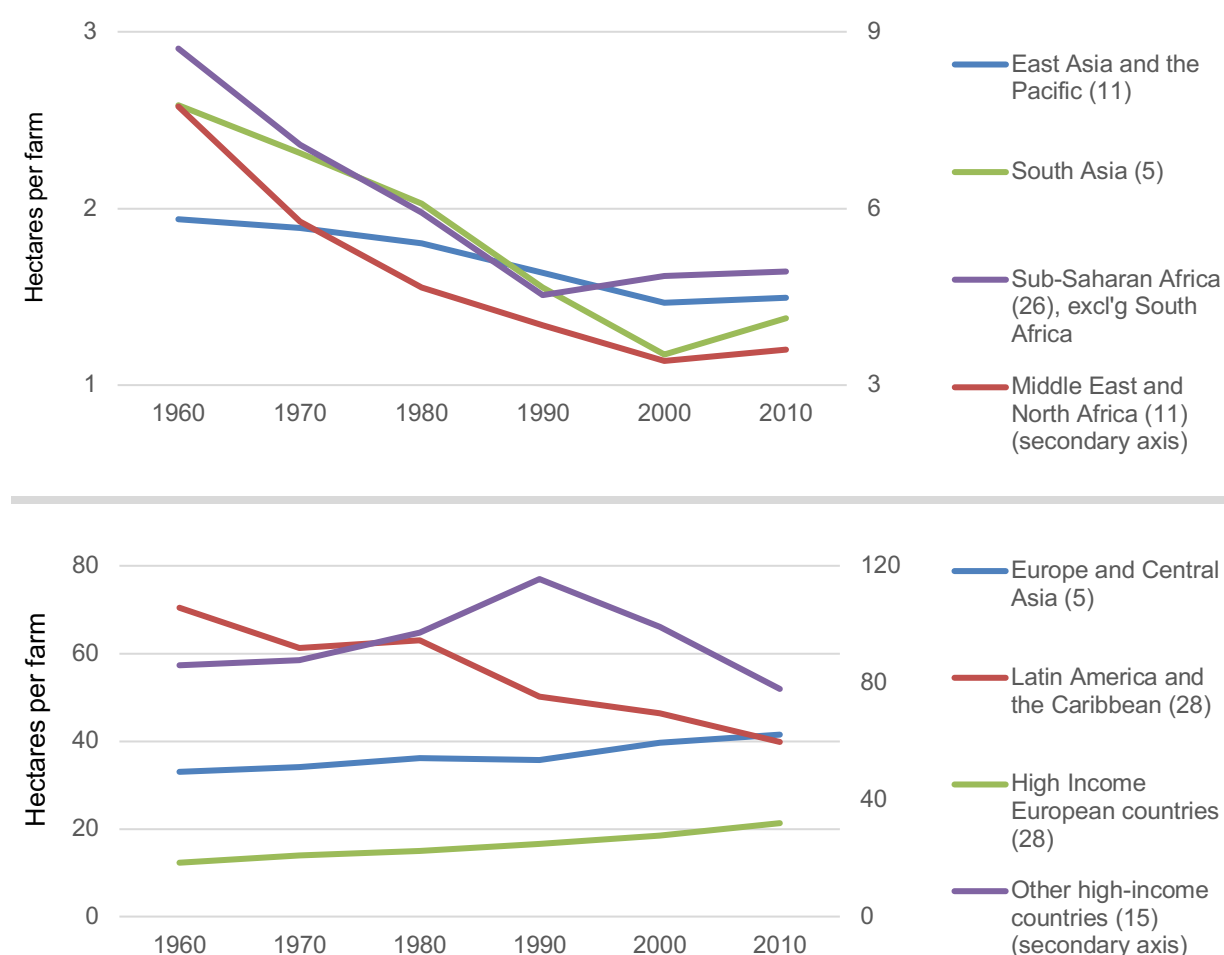
Considering average farm size by income group we also see that, over much of the period, the average farm size is largest in high-income countries, followed by upper-middle income, then lower-middle income and lastly low-income countries (Table 5 and Figure 11). This is suggestive of increased concentration of farmland as economies grow, an observation that is consistent with theories of structural transformation. For low- and middle-income countries, average farm size has steadily decreased from 1970 to 2010, with the exception of the most recent period (2000 to 2010) over which time the average for low-income and lower-middle income countries increased slightly. Examining the country level estimates (Table A5 in the Annex), we see that from 2000 to 2010, average farm size indeed increased in some of the low-income countries for which we had information; these include the People's Republic of Bangladesh, Ethiopia, Malawi, the Republic of Mozambique, Tanzania and the Togolese Republic.

Table 4. Average farm size by region, 1960–2010

	1960	1970	1980	1990	2000	2010
East Asia and the Pacific (11)	1.9	1.9	1.8	1.6	1.5	1.5
Middle East and North Africa (11)	7.7	5.8	4.7	4.0	3.4	3.6
South Asia (5)	2.6	2.3	2.0	1.6	1.2	1.4
Sub-Saharan Africa (26), excluding South Africa	2.9	2.4	2.0	1.5	1.6	1.6
Europe and Central Asia (5)	33.0	34.1	36.1	35.7	39.7	41.5
Latin America and the Caribbean (28)	70.4	61.3	63.0	50.2	46.4	39.8
High-income European countries (28)	12.3	13.9	15.0	16.5	18.4	21.3
Other high-income countries (15)	86.0	87.8	97.0	115.5	99.1	77.9

Source: FAO, 2013 and agricultural census reports from the 2010 round (see "Agricultural census reports and information consulted" in the References section).

Figure 10. Average farm size over time, by region 1960–2010



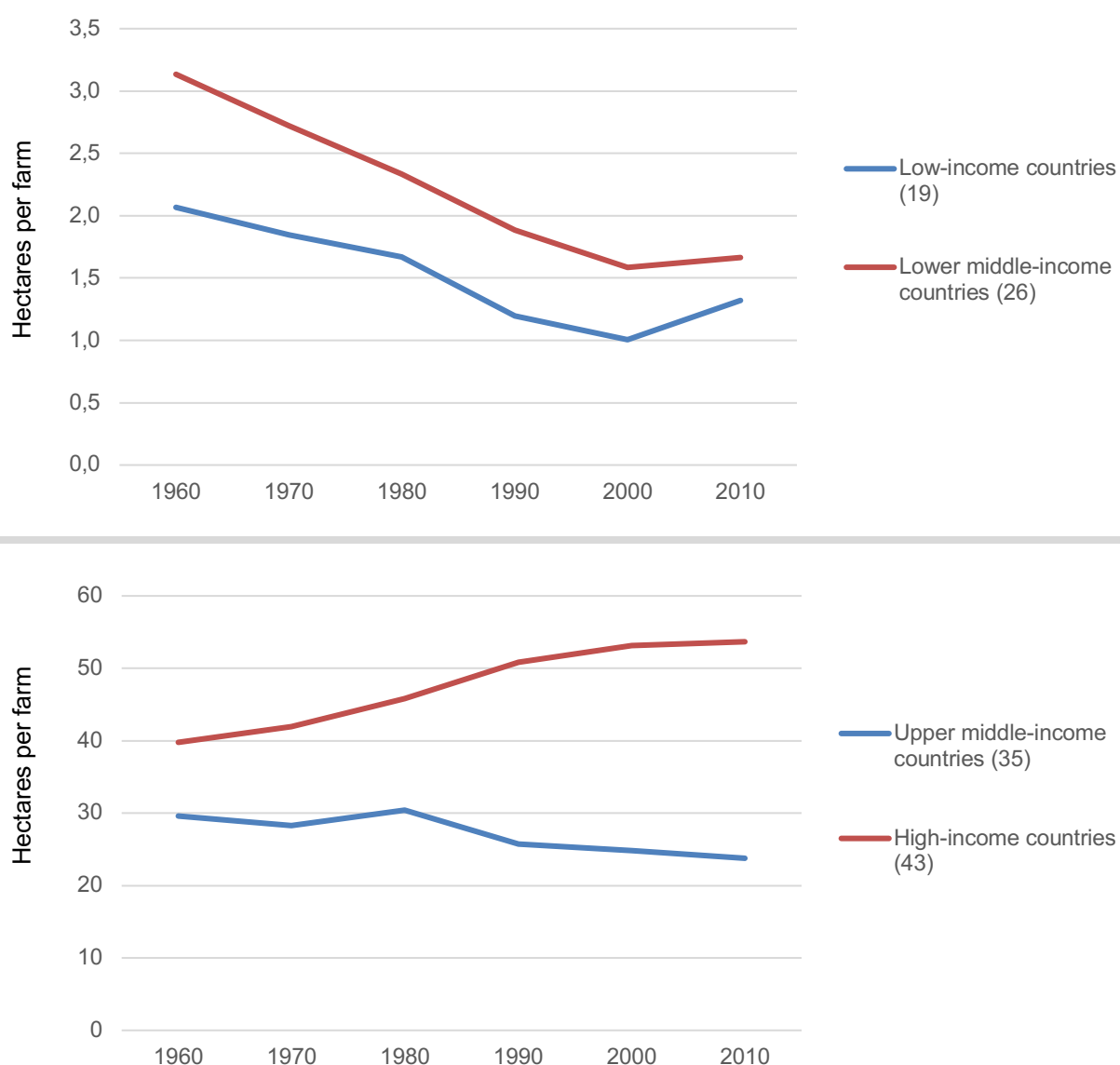
Source: FAO, 2013 and agricultural census reports from the 2010 round (see "Agricultural census reports and information consulted" in the References section).

Table 5. Average farm size by income group, 1960–2010

	1960	1970	1980	1990	2000	2010
Low-income countries (19)	2.1	1.8	1.7	1.2	1.0	1.3
Lower middle-income countries (26)	3.1	2.7	2.3	1.9	1.6	1.7
Upper middle-income countries (35)	29.6	28.3	30.4	25.7	24.8	23.8
High-income countries (43)	39.8	41.9	45.8	50.8	53.1	53.7
World (129)	15.7	12.9	12.2	9.4	8.1	7.3

Source: FAO, 2013 and agricultural census reports from the 2010 round (see "Agricultural census reports and information consulted" in the References section).

Figure 11. Average farm size over time, by income group 1960–2010



Source: FAO, 2013 and agricultural census reports from the 2010 round (see "Agricultural census reports and information consulted" in the References section).

To summarize, our examination of trends in farmland distribution and average farm size provides some evidence of increased concentration of farmland among larger farms especially as economies grow. These trends include:

- Increased concentration of farmland among larger farms is evident in most of the larger European countries (with the exception of Spain) as well as in Brazil and the United States of America. There has been a decreased concentration of farmland among large farms in India and the Philippines.
- Farm sizes are, on average, larger in countries with higher income levels. For the 2010 round average farm size was 1.3 hectares in low-income countries, 17 hectares in lower-middle income countries, 23.8 hectares in upper-middle income countries (excluding China) and 53.7 hectares in high-income countries.
- From 1960 to 2010, average farm size decreased in nearly all low and lower-middle income countries for which we have estimates, while it increased in 1/3 of the middle income countries and in nearly all of the high-income countries.
- From 2000 to 2010, low-income countries have, on average, shown a slight increase in average farm size.

7 Snapshot of who works on farms

Having taken a thorough accounting of farms, their average size and farmland distribution, we were also wondering who is working on those farms. Information on labour is presented in various ways in agricultural censuses depending on the nature of the survey. Some censuses, especially those surveying household farms only, do not report any information on the labour dimension but only more general data on the number of members of agricultural households. Several dimensions are used by those surveys that report information on labour. These are: (i) family workers working on the farm; (ii) whether workers are permanently or temporarily/seasonally employed at the farm; (iii) the age of the farm holder; and, (iv) the age of farm workers. In some cases, however, the seasonal versus permanent conditions of agricultural workers are not clearly defined. Furthermore, the seasonal and thus temporary characteristic of workers is obviously a more or less relevant consideration depending on the characteristics of the agricultural sectors in the country.

7.1 Family labour and hired labour (permanent and temporary)

Considering the available data (for 45 countries),⁹ the number of household members per farm is larger than the number of permanent workers per farm (Table A6 in the Annex). These shares are higher in developing countries than in developed countries, in the range of 0.7 to 33.8 (with a median of 10.3) and 1.9 to 17 (with a median of 5.4), respectively. The number of hired permanent workers is lower than one per farm in nearly all countries.

As stated above, data on temporary workers are not frequently available and when they are, they are not always clearly defined. The available data (for six countries) show that the share of hired workers who are temporary is generally more than 50 percent (see Table A6 in the Annex).

7.2 Age of agricultural holder

Much discourse surrounds the importance of engaging youth in agriculture. A number of reasons justify our attention to youth in agriculture. The majority of the world's population aged between 15 and 24 years old live in developing countries. The rate of growth in that population is rapid and is concentrated in the world's poorest countries (IFAD, 2019). Work using Living Standards Measurement Surveys from the World Bank shows that agriculture is an important sector for youth in sub-Saharan Africa (see, for example, Fox *et al.*, 2013 and Maïga, Christiaensen and Palacios-Lopez, 2015). IFAD (2019) shows that sole ownership of land is more prevalent among adults than it is among youth in 42 countries for which DHS data are available. The LSMS and DHS surveys are rich sources of information for many, but not all countries.

For countries where neither LSMS or DHS data are available, agricultural census reports can be useful supplementary information. Agricultural census reports allow us to examine the change over time in the age of the population engaged in agriculture for select countries.

⁹ Countries from all regions are represented, with the exception of South Asia and only two countries in sub-Saharan Africa are represented. See Table A6 in the Annex for details.

Some census reports have tabulated the age of agricultural holders by age class. We consider information available for the Republic of Botswana, the Republic of Panama, the Republic of Peru, the Republic of the Union of Myanmar and the Philippines. In all of these countries, the majority of agricultural holders are older than 40 years of age. For select countries, including Botswana (Table 6), as well as Panama and Peru (Table 7), we have this information for two periods in time. In Botswana and Peru, we see a clear increase in the share of agricultural holders who are in the older cohorts (aged older than 50 and 45, respectively). For Panama there is little change in the distribution of ages. We were unable to locate information for two periods of time in any Asian country, although in Myanmar and the Philippines we have information for one period in time (Table 8). Future work might do well to examine the age of farm workers (rather than agricultural holders) over time.

Table 6. Age of agricultural holder in Botswana

Botswana		
	2004	2015
Under 20 years	0%	0%
20 to 24 years	0%	1%
25 to 29 years	1%	2%
30 to 34 years	2%	4%
35 to 39 years	4%	6%
40 to 49 years	50%	17%
50 to 59 years	15%	24%
60 to 64 years	7%	12%
65 years and over	20%	34%

Sources: Government of the Republic of Botswana, 2007, 2018.

Table 7. Age of agricultural holder in Panama and Peru

Panama			Peru		
	1990	2001		1994	2012
Under 25 years of age	4%	4%	Under 30 years of age	15%	12%
25 to 34 years of age	19%	17%	30 to 44 years of age	32%	29%
35 to 44 years of age	24%	24%	45 to 64 years of age	37%	38%
45 to 54 years of age	22%	21%	65 years of age and over	16%	21%
55 to 64 years of age	16%	17%			
65 years of age and over	16%	17%			

Sources: FAO, 2010 and FAO, 2019c.

Table 8. Age of agricultural holder in Myanmar and the Philippines

Myanmar		Philippines	
	1993		2002
Under 25 years of age	4%	Under 25 years of age	3%
25 to 34 years of age	19%	25–29	7%
35 to 44 years of age	25%	30–34	11%
45 to 54 years of age	21%	35–39	13%
55 to 64 years of age	19%	40–44	13%
65 years of age and over	12%	45–49	12%
		50–59	20%
		60–64	8%
		65 and over	13%
		Of age not reported	1%

Sources: FAO, 2010 and FAO, 2019c.

For these countries the share of agricultural holders who are aged between 15 and 24 years old is marginal and is decreasing in some countries. Future work could examine whether the pattern holds in other countries and how that compares to the distribution of ages and change in distribution of ages of agricultural holders in the developed world.

8 Conclusion, policy implications and recommendations

After a thorough analysis of agricultural census reports, and keeping in mind important data limitations and how these bias our estimates, our review of the number of farms and family farms worldwide, as well as trends in farmland distribution and average farms size, leaves us with a number of interesting findings. There are more than 608 million farms in the world and more than 90 percent of them (more than 550 million) can be considered family farms as they are run by an individual or a family and rely primarily on family labour. Estimates suggest that family farms occupy around 70–80 percent of farm land and produce about 80 percent of the world's food in value terms. These family farms must not be confused with small farms (those smaller than 2 hectares), which, according to our estimates, account for 84 percent of all farms worldwide, but operate only around 12 percent of all agricultural land and produce roughly 36 percent of the world's food. At the other extreme, the largest one percent of farms in the world (those larger than 50 hectares) operate more than 70 percent of the world's farmland; this is indicative of significant concentration of farmland among larger farms.

Our findings also show that, by and large, there has been a reduction in average farm size in low- and middle-income countries and the opposite is seen for high-income countries over the period 1960–2010. In recent years (from the 2000 to 2010 round), average farm size has increased in East Asia and the Pacific, the Middle East and North Africa, sub-Saharan Africa and South Asia. It has increased for the low-income country group as well as the lower-middle-income country group.

We find evidence of increased concentration of farmland among large farms as economies grow. First, for most of the period 1960–2010, average farm size was largest in high-income countries, followed by upper-middle income, then lower-middle income and lastly low-income countries. Second, the share of farmland controlled by larger farms is higher in countries with larger average incomes. Indeed, we find evidence that farmland is more unequally distributed in favour of the larger farms in regions of higher per capita income such as Latin America and the Caribbean, but also Middle East and North Africa, compared to other regions of low- and middle-income countries. Thirdly, we also see that smaller farms operate a far greater share of farmland in lower income regions than in higher income countries, suggesting the share of farmland managed by small farms diminishes as average income levels rise. Fourthly, low-income countries have, on average, shown a slight increase in average farm size (from 2000 to 2010).

We also see an apparent “reemergence” of small farms in countries whose share of the world's agricultural area is significant and where land is highly concentrated among large farms (e.g. Brazil and the United States of America). This happens at the same time that the share of farmland farmed on the largest holdings has increased. In addition to suggesting increased inequality in land distribution across farms, this finding may be explained by a transformation of the food systems in such type of countries. A hypothesis – not subjected to test here – is that there may be a rise in small-scale farms producing food that is consumed close to the source; for example, the role of local farmer's markets in supplying the urban elite may be increasing.

Our analysis is not only exposing the inequality in farmland distribution in the world. For developing countries, it also shows who is working on the farms. Agricultural censuses might be further examined to identify trends regarding the engagement of youth in agriculture.

The evidence presented bears important policy implications. The stark differences between family farms and small farms makes clear the importance of how we are defining different types

of farms and our distinguishing among the different types of farms when engaging in policy discourse and decision making. The policies needed for the largest farms in the world are most certainly different from those needed for resource poor and land-scarce farms in the developing world. It is imperative that we refrain from interchangeably using the terms family farms and small farms. It would be helpful to distinguish among different types of family farms, including distinguishing among family farms of different sizes.

Looking at all types of farms will be critical to achieving not only poverty eradication (SDG 1), but also zero hunger (SDG 2), expose stark inequalities across farms so that they can be tackled (SDG 10), and inform interventions to create a better enabling environment to achieve higher levels of economic productivity and economic growth (SDG 8) as well as more sustainable production patterns (SDG 12). Needless to say, in efforts towards achieving more sustainable production patterns, it will be difficult, if not impossible, to hold large scale and corporate agriculture accountable for the negative externalities of their production (for example on the environment), if international organizations continue to focus exclusively on smallholders and small-family farms. On the other hand, should national governments that often focus on large scale farms aim at addressing poverty, they would do well to consider smaller farms as well.

Moreover, improvements to agricultural censuses are also necessary in order to take better stock of all types of farms and their socioeconomic characteristics, and thus generate key evidence for policy making. As noted in the introduction, FAO has promoted the World Programme for the Census of Agriculture since 1950, by providing governments with guidance on standard methodology and contents for their agricultural census. As part of such work, governments have provided FAO with census reports and tabulated results from their agricultural censuses. In addition to tabulated results, countries have started providing FAO with farm level data (also referred to as microdata) and it will be a significant contribution if more countries follow suit. In an effort to collect and disseminate such data, FAO has recently launched the Food and Agriculture Microdata (FAM) Catalogue; a platform designed for the cataloging and release of census and survey microdata (FAO, 2019b). With the growth of this catalogue, FAO may become a repository of agricultural census data throughout the world, eventually offering a public good analogous to that of the World Bank's Living Standard Measurement Surveys.

Agricultural censuses themselves can also be improved in many ways and many of these are suggested in the guidance FAO has provided for the 2020 round of the agricultural census (FAO, 2015). For this paper, we also intended to provide further characterization of farms focusing on the labour dimension, but the information found was limited. It could be useful for more agricultural censuses to provide estimates of the ages of farm workers and agricultural holders. Furthermore, information on farm labour tends to be limited to permanent workers and household members such that more surveys should include information on seasonal or temporary hired labour.

Survey modules that cover non-household farms need to be carried out in countries where the agricultural census has been limited to household farms only. For this to happen, additional funding is necessary and FAO's uniform methodology (FAO, 2015, 2018) must be followed. It would be useful to consider ways in which data from agricultural censuses might be used to improve existing FAOSTAT data series and public goods that FAO produces.

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Annex

Table A1. Number of farms, by country, most recent census

Country	Census year	Total number of farms	Region/group	Income group
World total		608 683 241		
Afghanistan	2002	3 044 670	South Asia	Low-income
Albania	2012	324 013	Europe and Central Asia	Upper-middle-income
Algeria	2001	1 023 799	Middle East and North Africa	Upper-middle-income
American Samoa	2007	5 840	East Asia and the Pacific	Upper-middle-income
Andorra	—	—	High-income	High-income
Angola	1970	1 067 230	Sub-Saharan Africa	Upper-middle-income
Antigua and Barbuda	2007	1 226	unclassified	unclassified
Argentina	2008	276 581	Latin America and the Caribbean	Upper-middle-income
Armenia	2014	360 611	Europe and Central Asia	Lower-middle-income
Aruba	—	—	High-income	High-income
Australia	2010	120 806	High-income	High-income
Austria	2010	150 170	High-income	High-income
Azerbaijan	2004–2005	1 287 385	Europe and Central Asia	Upper-middle-income
Bahamas	1994	1 760	High-income	High-income
Bahrain	1980	806	High-income	High-income
Bangladesh	2008	15 183 183	South Asia	Low-income
Barbados	1989	17 178	High-income	High-income
Belarus	—	—	Europe and Central Asia	Upper-middle-income
Belgium	2010	42 854	High-income	High-income
Belize	1980	11 011	Latin America and the Caribbean	Lower-middle-income
Benin	1990	408 020	Sub-Saharan Africa	Low-income
Bermuda	—	—	High-income	High-income
Bhutan	2009	61 578	South Asia	Lower-middle-income
Bolivia (Plurinational State of)	2013	86 377	Latin America and the Caribbean	Lower-middle-income
Bosnia and Herzegovina	—	—	Europe and Central Asia	Upper-middle-income
Botswana	2015	41 348	Sub-Saharan Africa	Upper-middle-income
Brazil	2017	5 072 152	Latin America and the Caribbean	Upper-middle-income
Brunei Darussalam	1960	6 306	High-income	High-income
Bulgaria	2010	370 490	Europe and Central Asia	Upper-middle-income
Burkina Faso	2006–2010	1 424 909	Sub-Saharan Africa	Low-income
Burundi	2010	1 639 178	Sub-Saharan Africa	Low-income
Cabo Verde	2004	44 506	Sub-Saharan Africa	Lower-middle-income
Cambodia	2013	2 129 250	East Asia and the Pacific	Low-income
Cameroon	1970	925 895	Sub-Saharan Africa	Lower-middle-income
Canada	2011	205 730	High-income	High-income
Cayman Islands	—	—	High-income	High-income
Central African Republic	1980	303 901	Sub-Saharan Africa	Low-income
Chad	1970	366 475	Sub-Saharan Africa	Low-income
Chile	2007	301 254	Latin America and the Caribbean	Upper-middle-income
China	2016	209 470 000	East Asia and the Pacific	Upper-middle-income
Colombia	2013	2 370 099	Latin America and the Caribbean	Upper-middle-income
Comoros	2004	52 464	Sub-Saharan Africa	Low-income
Congo	2014–2015	267 419	Sub-Saharan Africa	Lower-middle-income
Cook Islands	2011	1 269	unclassified	unclassified

Country	Census year	Total number of farms	Region/group	Income group
Costa Rica	2014	93 017	Latin America and the Caribbean	Upper-middle-income
Côte d'Ivoire	2015	1 559 629	Sub-Saharan Africa	Lower-middle-income
Croatia	2010	233 280	High-income	High-income
Cuba	—	—	Latin America and the Caribbean	Upper-middle-income
Cyprus	2010	38 859	High-income	High-income
Czechia	2010	22 864	High-income	High-income
Democratic People's Republic of Korea	—	—	East Asia and the Pacific	Low-income
Democratic Republic of the Congo	1990	4 479 600	Sub-Saharan Africa	Low-income
Denmark	2010	42 100	High-income	High-income
Djibouti	1995	1 135	Middle East and North Africa	Lower-middle-income
Dominica	1995	9 026	Latin America and the Caribbean	Upper-middle-income
Dominican Republic	1970	304 820	Latin America and the Caribbean	Upper-middle-income
Ecuador	1999-2000	842 882	Latin America and the Caribbean	Upper-middle-income
Egypt	2009-2010	5 404 395	Middle East and North Africa	Lower-middle-income
El Salvador	2008	397 433	Latin America and the Caribbean	Lower-middle-income
Equatorial Guinea	2 015	22 000	High-income	High-income
Eritrea	—	—	Sub-Saharan Africa	Low-income
Estonia	2010	19 610	High-income	High-income
Eswatini	1990	73 745	Sub-Saharan Africa	Lower-middle-income
Ethiopia	2001–2002	10 758 597	Sub-Saharan Africa	Low-income
Fiji	2009	65 033	East Asia and the Pacific	Lower-middle-income
Finland	2010	63 870	High-income	High-income
France	2010	516 100	High-income	High-income
French Guyana	2010	5 983	unclassified	unclassified
Gabon	1970	71 074	Sub-Saharan Africa	Upper-middle-income
Gambia	2011–2012	82 027	Sub-Saharan Africa	Low-income
Georgia	2013–2014	642 209	Europe and Central Asia	Lower-middle-income
Germany	2010	299 130	High-income	High-income
Ghana	2011	1 849 800	Sub-Saharan Africa	Lower-middle-income
Greece	2010	723 010	High-income	High-income
Greenland	—	—	High-income	High-income
Grenada	2012	9 345	Latin America and the Caribbean	Upper-middle-income
Guadeloupe	2010	7 852	unclassified	unclassified
Guam	2007	104	High-income	High-income
Guatemala	2003	830 684	Latin America and the Caribbean	Lower-middle-income
Guinea	2000–2001	840 454	Sub-Saharan Africa	Low-income
Guinea-Bissau	1988	84 221	Sub-Saharan Africa	Low-income
Guyana	2010	5983	Latin America and the Caribbean	Lower-middle-income
Haiti	2008	1 018 951	Latin America and the Caribbean	Low-income
Honduras	1993	325 750	Latin America and the Caribbean	Lower-middle-income
Hungary	2010	576 810	High-income	High-income
Iceland	2010	2 590	High-income	High-income
India	2015–2016	146 000 000	South Asia	Lower-middle-income
Indonesia	2013	25 751 267	East Asia and the Pacific	Lower-middle-income
Iran (Islamic Republic of)	2014	3 359 409	Middle East and North Africa	Upper-middle-income
Iraq	1970	591 178	Middle East and North Africa	Lower-middle-income
Ireland	2010	139 890	High-income	High-income
Israel	—	—	High-income	High-income

Country	Census year	Total number of farms	Region/group	Income group
Italy	2010	1 620 880	High-income	High-income
Jamaica	2007	228 683	Latin America and the Caribbean	Upper-middle-income
Japan	2010	1 679 000	High-income	High-income
Jordan	2017	107 707	Middle East and North Africa	Upper-middle-income
Kazakhstan	2006–2007	—	Europe and Central Asia	Upper-middle-income
Kenya	2005	4 322 409	Sub-Saharan Africa	Low-income
Kiribati	—	—	East Asia and the Pacific	Lower-middle-income
Kuwait	—	—	High-income	High-income
Kyrgyzstan	2002	1 130 855	Europe and Central Asia	Low-income
Lao People's Democratic Republic	2010–2011	783 000	East Asia and the Pacific	Lower-middle-income
Latvia	2010	83 390	Europe and Central Asia	Upper-middle-income
Lebanon	2010	169 512	Middle East and North Africa	Upper-middle-income
Lesotho	2009–2010	217 748	Sub-Saharan Africa	Lower-middle-income
Liberia	1970	121 745	Sub-Saharan Africa	Low-income
Libya	1987	175 528	Middle East and North Africa	Upper-middle-income
Liechtenstein	—	—	High-income	High-income
Lithuania	2010	199 910	Europe and Central Asia	Upper-middle-income
Luxembourg	2010	2 200	High-income	High-income
Madagascar	2004–2005	2 428 492	Sub-Saharan Africa	Low-income
Malawi	2006–2007	2 665 565	Sub-Saharan Africa	Low-income
Malaysia	2005	526 265	East Asia and the Pacific	Upper-middle-income
Maldives	—	—	South Asia	Upper-middle-income
Mali	2004–2005	805 194	Sub-Saharan Africa	Low-income
Malta	2010	12 529	High-income	High-income
Marshall Islands	—	—	East Asia and the Pacific	Lower-middle-income
Martinique	2010	3307	unclassified	unclassified
Mauritania	1980	99 644	Sub-Saharan Africa	Low-income
Mauritius	2014	23 456	Sub-Saharan Africa	Upper-middle-income
Mexico	2007	5 548 845	Latin America and the Caribbean	Upper-middle-income
Micronesia (Federated States of)	—	—	East Asia and the Pacific	Lower-middle-income
Monaco	—	—	High-income	High-income
Mongolia	2011	236 312	East Asia and the Pacific	Lower-middle-income
Montenegro	2010	48 824	Europe and Central Asia	Upper-middle-income
Morocco	1996	1 496 349	Middle East and North Africa	Lower-middle-income
Mozambique	2009–2010	3 827 797	Sub-Saharan Africa	Low-income
Myanmar	2010	5 426 083	East Asia and the Pacific	Low-income
Namibia	2013–2014	176 674	Sub-Saharan Africa	Upper-middle-income
Nauru	—	—	unclassified	unclassified
Nepal	2011/12	3 831 093	South Asia	Low-income
Netherlands	2010	73 320	High-income	High-income
New Caledonia	2002	5 574	High-income	High-income
New Zealand	2012	58 068	High-income	High-income
Nicaragua	2011	268 527	Latin America and the Caribbean	Lower-middle-income
Niger	2005–2007	1 627 294	Sub-Saharan Africa	Low-income
Nigeria	2010	14 216 700	Sub-Saharan Africa	Lower-middle-income
Niue	2009	429	unclassified	unclassified
Northern Mariana Islands	2007	256	High-income	High-income
North Macedonia	2007	192 675	Europe and Central Asia	Upper-middle-income

Country	Census year	Total number of farms	Region/group	Income group
Norway	2010	46 620	High-income	High-income
Oman	—	—	High-income	High-income
Pakistan	2010	8 260 000	South Asia	Lower-middle-income
Palau	2015	1 179	East Asia and the Pacific	Upper-middle-income
Palestine	2010	111 310	Middle East and North Africa	Lower-middle-income
Panama	2011	248 560	Latin America and the Caribbean	Upper-middle-income
Papua New Guinea	—	—	East Asia and the Pacific	Lower-middle-income
Paraguay	2008	289 649	Latin America and the Caribbean	Lower-middle-income
Peru	2012	2 292 772	Latin America and the Caribbean	Upper-middle-income
Philippines	2012	5 563 000	East Asia and the Pacific	Lower-middle-income
Poland	2010	1 506 620	High-income	High-income
Portugal	2010	305 270	High-income	High-income
Puerto Rico	2012	13 159	High-income	High-income
Qatar	2000–2001	3 553	High-income	High-income
Republic of Korea	2010	1 177 000	High-income	High-income
Republic of Moldova	2011	902 463	Europe and Central Asia	Lower-middle-income
Réunion	2010	7 623	unclassified	unclassified
Romania	2010	3 859 040	Europe and Central Asia	Upper-middle-income
Russian Federation	2006	23 224 000	Europe and Central Asia	Upper-middle-income
Rwanda	2013	16 003	Sub-Saharan Africa	Low-income
Saint Kitts and Nevis	2000	3 066	High-income	High-income
Saint Lucia	2007	9 448	Latin America and the Caribbean	Upper-middle-income
Saint Vincent and the Grenadines	2000	7 380	Latin America and the Caribbean	Upper-middle-income
Samoa	2009	15 793	East Asia and the Pacific	Lower-middle-income
San Marino	—	—	High-income	High-income
Sao Tome and Principe	1990	13 882	Sub-Saharan Africa	Lower-middle-income
Saudi Arabia	2015	285 166	High-income	High-income
Senegal	2013	755 532	Sub-Saharan Africa	Lower-middle-income
Serbia	2012	631 552	Europe and Central Asia	Upper-middle-income
Seychelles	2011	17 380	Sub-Saharan Africa	Upper-middle-income
Sierra Leone	2015	732 461	Sub-Saharan Africa	Low-income
Singapore	1970	15 741	High-income	High-income
Slovakia	2010	24 460	High-income	High-income
Slovenia	2010	74 650	High-income	High-income
Solomon Islands	—	—	East Asia and the Pacific	Lower-middle-income
Somalia	—	—	Sub-Saharan Africa	Low-income
South Africa	2011	2 919 604	Sub-Saharan Africa	Upper-middle-income
Spain	2010	989 800	High-income	High-income
Sri Lanka	2013–2014	4 353 121	South Asia	Lower-middle-income
Sudan	—	—	Sub-Saharan Africa	Lower-middle-income
Suriname	2009	10 234	Latin America and the Caribbean	Upper-middle-income
Sweden	2010	71 090	High-income	High-income
Switzerland	2010	59 070	High-income	High-income
Syrian Arab Republic	1980	485 691	Middle East and North Africa	Lower-middle-income
Tajikistan	—	—	Europe and Central Asia	Low-income
Thailand	2013	5 914 045	East Asia and the Pacific	Upper-middle-income
Timor-Leste	2015	183 633	East Asia and the Pacific	Lower-middle-income
Togo	2011–2014	508 599	Sub-Saharan Africa	Low-income

Country	Census year	Total number of farms	Region/group	Income group
Tonga	2015	13 944	East Asia and the Pacific	Lower-middle-income
Trinidad and Tobago	2004	19 111	High-income	High-income
Tunisia	2004	515 850	Middle East and North Africa	Upper-middle-income
Turkey	2001	3 076 649	Europe and Central Asia	Upper-middle-income
Turkmenistan	—	—	Europe and Central Asia	Lower-middle-income
Turks and Caicos Islands	—	—	High-income	High-income
Tuvalu	—	—	East Asia and the Pacific	Upper-middle-income
Uganda	2008	3 950 000	Sub-Saharan Africa	Low-income
Ukraine	—	—	Europe and Central Asia	Lower-middle-income
United Arab Emirates	—	—	High-income	High-income
United Kingdom of Great Britain and Northern Ireland	2010	186 800	High-income	High-income
United Republic of Tanzania	2007–2008	5 838 523	Sub-Saharan Africa	Low-income
United States of America	2012	2 109 303	High-income	High-income
United States Virgin Islands	2007	219	High-income	High-income
Uruguay	2011	44 890	Latin America and the Caribbean	Upper-middle-income
Uzbekistan	—	—	Europe and Central Asia	Lower-middle-income
Vanuatu	2007	38 929	East Asia and the Pacific	Lower-middle-income
Venezuela (Bolivarian Republic of)	2007–2008	424 256	Latin America and the Caribbean	Upper-middle-income
Viet Nam	2011	10 376 981	East Asia and the Pacific	Lower-middle-income
Yemen	2002	1 488 406	Middle East and North Africa	Lower-middle-income
Zambia	2010	1 540 390	Sub-Saharan Africa	Lower-middle-income
Zimbabwe	2010	1 939 935	Sub-Saharan Africa	Low-income

Note: "—" indicates data not available.

Sources: FAO, 2001; FAO, 2013; Eurostat, 2013 and numerous agricultural census reports (see "Agricultural census reports and information consulted" in the References section).

Table A2. Number and area of farms by land size class, worldwide, regionally and by income group

Regional or income group aggregate	Number or share of farms/ agricultural area	All sizes	< 1 ha	1 - 2 ha	2 - 5 ha	5 - 10 ha	10 - 20 ha	20 - 50 ha	50 - 100 ha	100 - 200 ha	200 - 500 ha	500 - 1000 ha	> 1000 ha
World (129)	number of farms	531 948 887	374 334 594	73 487 662	55 144 663	13 834 195	9 052 751	3 650 121	1 752 672	619 836	586 432	335 506	162 693
	agricultural area in hectares	–	165 638 796	98 038 676	152 108 687	92 502 849	126 849 672	115 173 884	187 164 214	130 569 539	160 592 283	293 203 269	956 709 893
	share of farms (%)	100	70.4	13.8	10.4	2.6	1.7	0.7	0.3	0.1	0.1	0.1	0
	share of agricultural area (%)	100	6.7	4	6.1	3.7	5.1	4.6	7.5	5.3	6.5	11.8	38.6
Low income countries (19)	number of farms	65 314 960	39 772 360	12 319 258	10 994 146	2 205 374	457 635	54 231	3 255	304	231	171	246
	agricultural area in hectares	89 071 926	16 052 482	17 499 593	29 927 374	17 352 665	4 427 064	1 279 642	302 883	42 044	76 349	120 652	1 066 010
	share of farms (%)	100	60.9	18.9	16.8	3.4	0.7	0.1	0	0	0	0	0
	share of agricultural area (%)	100	18	19.6	33.6	19.5	5	1.4	0.3	0	0.1	0.1	1.2
Lower-middle-income countries (28)	number of farms	223 387 770	147 426 288	38 658 749	27 745 103	5 859 464	2 800 485	587 373	240 319	19 493	11 375	3 199	4 767
	agricultural area in hectares	302 420 025	56 553 040	51 583 186	74 665 751	35 698 311	20 364 702	15 845 847	13 530 643	3 079 094	3 912 042	2 470 715	24 716 181
	share of farms (%)	100	66	17.3	12.4	2.6	1.3	0.3	0.1	0	0	0	0
	share of agricultural area (%)	100	18.7	17.1	24.7	11.8	6.7	5.2	4.5	1	1.3	0.8	8.2
Upper-middle-income countries (29)	number of farms	229 213 267	185 260 747	18 728 937	13 940 222	4 375 716	3 724 886	2 057 216	790 339	303 819	322 158	201 398	57 740
	agricultural area in hectares	–	92 074 442	25 364 066	39 813 133	29 022 246	60 642 509	52 844 123	64 065 441	82 776 704	75 012 064	194 368 408	345 355 096
	share of farms (%)	100	80.8	8.2	6.1	1.9	1.6	0.9	0.3	0.1	0.1	0.1	0
	share of agricultural area (%)	100	8.7	2.4	3.8	2.7	5.7	5	6	7.8	7.1	18.3	32.5
High income countries (43)	number of farms	14 002 831	1 867 878	3 773 389	2 455 871	1 389 748	2 068 791	950 601	718 759	296 220	252 667	130 739	99 940
	agricultural area in hectares	–	951 441	3 576 357	7 671 636	10 406 151	41 403 220	45 166 223	109 265 247	44 671 698	81 591 828	96 243 494	585 572 606
	share of farms (%)	100	13.3	26.9	17.5	9.9	14.8	6.8	5.1	2.1	1.8	0.9	0.7
	share of agricultural area (%)	100	0.1	0.3	0.7	1	4	4.4	10.6	4.4	7.9	9.4	57
East Asia and Pacific (13)	number of farms	247 250 732	211 306 958	19 262 132	13 190 870	2 528 925	875 615	77 592	8 841	126	0	0	101
	agricultural area in hectares	206 910 783	104 635 142	28 329 011	37 873 154	16 406 418	15 858 014	1 449 013	1 512 792	40 567	0	0	806 628
	share of farms (%)	100	85.5	7.8	5.3	1	0.4	0	0	0	0	0	0
	share of agricultural area (%)	100	50.6	13.7	18.3	7.9	7.7	0.7	0.7	0	0	0	0.4

Regional or income group aggregate	Number or share of farms/ agricultural area	All sizes	< 1 ha	1 - 2 ha	2 - 5 ha	5 - 10 ha	10 - 20 ha	20 - 50 ha	50 - 100 ha	100 - 200 ha	200 - 500 ha	500 - 1000 ha	> 1000 ha
Europe and Central Asia (12)	number of farms	10 109 747	2 542 684	4 059 725	2 284 262	1 030 161	524 840	211 657	51 742	4 549	994	306	145
	agricultural area in hectares	46 517 515	847 945	3 353 127	7 301 515	7 040 174	8 025 719	6 197 199	12 047 772	538 410	336 826	569 448	259 382
	share of farms (%)	100	25.2	40.2	22.6	10.2	5.2	2.1	0.5	0	0	0	0
	share of agricultural area (%)	100	1.8	7.2	15.7	15.1	17.3	13.3	25.9	1.2	0.7	1.2	0.6
Latin America and the Caribbean (22)	number of farms	19 511 816	3 084 948	3 928 846	5 197 808	1 816 767	2 082 163	1 664 458	707 148	308 961	331 217	204 249	62 507
	agricultural area in hectares	881 055 763	1 478 022	6 058 986	11 059 197	11 426 004	33 232 680	42 700 080	48 188 903	82 687 003	78 084 634	196 073 833	370 071 277
	share of farms (%)	100	15.8	20.1	26.6	9.3	10.7	8.5	3.6	1.6	1.7	1	0.3
	share of agricultural area (%)	100	0.2	0.7	1.3	1.3	3.8	4.8	5.5	9.4	8.9	22.3	42
Middle East and North Africa (9)	number of farms	12 063 251	6 759 342	1 241 905	2 027 118	906 595	765 756	288 850	59 534	9 316	1 554	213	
	agricultural area in hectares	42 493 391	2 452 233	2 036 216	5 474 507	7 085 354	8 423 081	8 323 483	5 415 271	2 387 755	578 996	316 494	
	share of farms (%)	100	56	10.3	16.8	7.5	6.3	2.4	0.5	0.1	0	0	
	share of agricultural area (%)	100	5.8	4.8	12.9	16.7	19.8	19.6	12.7	5.6	1.4	0.7	
Southern Asia (5)	number of farms	173 680 120	119 986 790	29 105 984	19 588 871	3 794 028	953 785	229 843	20 156	664			
	agricultural area in hectares	191 020 925	45 631 678	41 060 790	56 756 667	25 322 682	12 468 470	7 522 559	2 013 973	244 106			
	share of farms (%)	100	69.1	16.8	11.3	2.2	0.5	0.1	0	0			
	share of agricultural area (%)	100	23.9	21.5	29.7	13.3	6.5	3.9	1.1	0.1			
Sub-Saharan Africa (23)	number of farms	54 863 581	28 506 200	11 975 303	10 353 225	2 367 971	1 781 800	227 120	186 492				
	agricultural area in hectares	83 064 810	9 513 827	13 425 268	24 409 942	14 816 067	7 438 489	3 815 327	8 720 256				
	share of farms (%)	100	52	21.8	18.9	4.3	3.2	0.4	0.3				
	share of agricultural area (%)	100	11.5	16.2	29.4	17.8	9	4.6	10.5				

Sources: FAO, 2001; FAO, 2013; Eurostat, 2013 and numerous agricultural census reports (see "Agricultural census reports and information consulted" in the References section).

Table A3. Number and area of farms by land size class, 1990, 2000 or 2010 round

Income group	Country	Census year	F / A	Total	Land size class										
					< 1 ha	1–2 ha	2–5 ha	5–10 ha	10–20 ha	20–50 ha	50–100 ha	100–200 ha	200–500 ha	500–1000 ha	> 1000 ha
Upper-middle-income	Albania	1998	F	466 809	279 793	140 377	46 639								
			A	1 889 498	128 508	198 921	1 562 069								
Upper-middle-income	Algeria	2001	F	1 023 799	223 115	128 864	239 844	181 267	142 980	88 130	14 294	4 063	1 242		
			A	8 458 680	70 516	162 315	722 275	1 200 598	1 896 466	2 484 971	930 765	532 146	458 628		
Upper-middle-income	American Samoa	2008	F	5 840	3 872	858	802	241	52	15					
			A	7 691	1 827	1 176	1 906	1 096	531	1 155					
Upper-middle-income	Argentina	2008	F	256 773			34 046	17 022	24 487	41 264	30 281	29 991	34 916	18 560	26 206
			A	159 284 428			85 356	133 891	407 977	1 311 317	2 313 110	4 465 609	11 412 600	13 303 978	125 855 296
Lower-middle-income	Armenia	2014	F	220 074	120 420	52 961	35 923	8 366	1 821	490	56	29	7		
			A	534 399	75 217	106 806	169 450	84 788	38 337	23 379	11 015	7 034	18 373		
High-income	Australia	2010	F	135 447						48 700	13 578	17 540	17 540	12 938	25 151
			A	409 673 000						1 217 500	1 018 350	5 262 000	5 262 000	9 703 500	387 209 650
High-income	Austria	2010	F	150 180		17 240	30 220	26 590	64 850	8 430	2 850				
			A	2 878 160		19 060	98 840	194 040	1 469 450	568 470	528 300				
High-income	Bahamas	1994	F	1 760	639	437	360	140	78	50	56				
			A	20 336	290	584	1 025	872	966	1 456	15 143				
Low-income	Bangladesh	2008	F	15 183 183	12 812 372	1 068 208	1 302 604								
			A	8 922 004	4 534 734	1 646 835	2 740 435								
High-income	Barbados	1989	F	17 178	16 315	485	190	44	27	23	26	33	34	1	
			A	21 560	2 146	660	552	294	366	669	1 938	4 680	9 605	650	
High-income	Belgium	2010	F	42 854		5 212	4 449	5 188	18 966	6 778	2 261				
			A	1 358 019		4 293	14 870	37 625	500 159	466 910	334 161				
Lower-middle-income	Bhutan	2009	F	61 578	28 203	17 303	12 531	3 541							
			A	94 902	13 998	22 824	35 304	22 776							
Upper-middle-income	Brazil	2017	F	5 072 152	606 823	645 280	645 280	645 280	792 983	792 983	393 949	182 727	182 727	103 148	2 400
			A	350 253 239	277 594	2 570 527	2 570 527	2 570 527	18 427 103	18 427 103	26 929 140	37 082 315	37 082 315	152 492 821	51 823 420
High-income	Bulgaria	2010	F	370 490		308 810	30 390	10 730	12 890	2 930	5 490				
			A	4 475 530		144 180	90 450	72 700	278 670	201 670	3 687 860				

Income group	Country	Census year	F / A	Total	Land size class										
					< 1 ha	1–2 ha	2–5 ha	5–10 ha	10–20 ha	20–50 ha	50–100 ha	100–200 ha	200–500 ha	500–1000 ha	> 1000 ha
Low-income	Burkina Faso	1993	F	886 638	114 377	172 894	365 295	186 194	47 878						
			A	3 472 480	62 504	256 963	1 201 476	1 274 404	677 133						
Low-income	Cambodia	2013	F	1 875 813	869 493	212 523	637 568	133 407	18 200	3 681	840				101
			A	3 878 012	395 290	369 962	1 109 886	718 515	219 428	98 307	159 995				806 628
High-income	Canada	1991	F	280 043		6 911	9 250	10 039	14 030	38 329	55 843	51 621	58 577	35 443	
			A	67 753 700		10 367	32 375	75 293	210 450	1 341 515	4 188 225	7 743 150	20 501 950	33 650 376	
Upper-middle-income	Chile	2007	F	278 660	34 699	21 244	63 731	46 139	42 611	36 965	14 911	8 149	5 677	2 056	2 478
			A	29 781 691	17 924	52 450	157 349	325 200	595 899	1 145 153	1 028 222	1 125 248	1 736 509	1 414 035	22 183 702
Upper-middle-income	China	1997	F	193 446 000	179 897 000	9 497 000	3 353 000	313 000	386 000						
			A	130 039 200	89 948 500	14 245 500	11 735 500	2 347 500	11 762 200						
Upper-middle-income	Colombia	2013–2014	F	2 370 099			1 669 287	253 349	82 038	246 114	60 394	11 907	35 720	5 448	5 842
			A	108 993 335			2 160 347	1 801 601	1 789 241	5 367 724	4 217 217	2 357 419	7 072 256	3 794 994	80 432 535
Lower-middle-income	Congo	2011–2014	F	267 419	145 268	63 257	45 715	7 080	3 454						
			A	422 431	46 486	94 886	160 003	53 100	67 957						
No income classification	Cook Islands	2000	F	1 721	1 403	236	82								
			A	1 029	445	301	283								
Lower-middle-income	Côte d'Ivoire	2001	F	1 117 667	470 433	158 933	215 974	148 516	91 416	32 395					
			A	4 351 663	202 483	235 993	672 454	967 115	1 178 444	1 095 174					
High-income	Croatia	2010	F	233 280		122 790	55 430	30 240	21 680	2 290	850				
			A	1 316 000		100 680	177 470	208 860	423 970	154 230	250 790				
High-income	Cyprus	2010	F	38 860		29 200	5 620	2 030	1 670	220	120				
			A	118 400		18 980	17 390	13 890	33 800	14 570	19 770				
High-income	Czechia	2010	F	22 864		2 268	1 263	4 183	8 320	2 421	4 416				
			A	3 483 500		1 825	3 988	29 391	193 770	169 358	3 085 160				
Low-income	Democratic Republic of the Congo	1990	F	4 479 600	3 882 900	468 100	128 600								
			A	2 387 700	1 500 400	552 500	334 800								
High-income	Denmark	2010	F	42 100		2 110	950	8 050	17 000	5 920	8 079				
			A	2 646 860		350	3 410	57 640	408 630	426 090	1 750 750				
Lower-middle-income	Djibouti	1995	F	1 135	944	191									
			A	1 000	472	528									

Income group	Country	Census year	F / A	Total	Land size class										
					< 1 ha	1–2 ha	2–5 ha	5–10 ha	10–20 ha	20–50 ha	50–100 ha	100–200 ha	200–500 ha	500–1000 ha	> 1000 ha
Upper-middle-income	Dominica	1995	F	9 026	4 800	1 922	1 654	443	89	69	30	14	5		
			A	21 146	1 783	3 196	4 618	2 942	1 181	2 119	2 112	1 902	1 293		
Lower-middle-income	Egypt	2010	F	4 439 532	3 743 977	329 661	231 329	114 226	12 027	5 425	1 228	1 228	218	213	
			A	4 086 927	1 437 929	484 339	591 433	705 054	180 457	139 458	86 854	86 854	58 054	316 494	
Lower-middle-income	El Salvador	2007	F	390 476	268 055	66 964	31 921	10 110	6 295	4 954	1 435	741			
			A	929 310	134 028	100 446	111 724	75 825	94 425	173 390	107 625	131 848			
High-income	Estonia	2010	F	19 610		2 360	4 250	4 070	6 120	1 090	1 720				
			A	940 930		2 920	14 100	29 300	129 710	76 210	688 710				
Low-income	Ethiopia	2011–2012	F	14 747 439	8 519 785	3 609 997	2 362 049	228 527	27 080						
			A	17 508 079	3 637 165	5 171 190	6 813 924	1 483 956	401 845						
Lower-middle-income	Fiji	2009	F	65 033	28 564	17 203	7 910	6 915	3 040	990	285	126			
			A	251 859	11 820	29 495	31 104	46 866	41 491	29 118	21 397	40 567			
High-income	Finland	2010	F	63 874		1 835	4 328	7 974	35 070	10 846	3 821				
			A	2 290 980		990	16 410	59 550	903 530	746 910	563 590				
High-income	France	2010	F	516 100		76 070	62 690	46 640	138 670	97 780	94 250				
			A	27 837 300		62 450	204 860	332 500	3 723 560	7 059 970	16 453 960				
No income classification	French Guyana	2010	F	5 983	479	2 573	2 333	359	90	150					
			A	25 133	251	3 519	6 535	2 513	1 257	11 059					
High-income	French Polynesia	1995	F	6 223	4 789	733	388	139	64	110					
			A	18 534	1 561	1 003	1 097	898	857	13 118					
Lower-middle-income	Georgia	2003–2004	F	729 542	512 445	167 656	37 872	6 541	2 685	1 217	497	315	236	78	
			A	886 766	213 266	207 570	108 584	42 663	35 453	35 833	33 029	42 393	71 796	96 179	
High-income	Germany	2010	F	299 130		15 670	11 690	47 310	139 230	51 620	33 620				
			A	16 704 040		14 250	39 750	343 950	3 480 820	3 628 400	9 196 880				
High-income	Greece	2010	F	723 010		373 340	183 820	87 770	71 100	5 480	1 500				
			A	3 477 930		309 510	575 890	603 720	1 381 250	356 960	250 600				
Upper-middle-income	Grenada	1995	F	18 277	15 534	1 372	978	243	74	76					
			A	14 164	2 583	1 950	2 791	1 598	980	4 262					
No income classification	Guadeloupe	2009	F	7 852	1 884	2 081	2 630	982	157	118					
			A	31 768	5 401	8 577	11 119	4 448	1 588	635					

Income group	Country	Census year	F / A	Total	Land size class										
					< 1 ha	1–2 ha	2–5 ha	5–10 ha	10–20 ha	20–50 ha	50–100 ha	100–200 ha	200–500 ha	500–1000 ha	> 1000 ha
High-income	Guam	2007	F	104	40	13	19	15	17						
			A	405	21	18	46	84	236						
Lower-middle-income	Guatemala	2003	F	830 684	651 874	86 759	49 570	19 833	6 243	15 569	245	177	203	171	40
			A	3 750 855	435 318	251 735	359 828	345 045	200 284	1 353 840	121 327	109 198	167 520	247 923	158 837
Low-income	Guinea	1995	F	442 168	150 950	137 247	123 732	30 239							
			A	895 620	87 884	200 059	375 193	232 484							
Low-income	Guinea-Bissau	1988	F	84 221	59 120	14 809	8 531	1 590	171						
			A	96 375	29 560	22 214	29 859	11 925	2 818						
Low income	Haiti	2008	F	1 018 951	753 086	168 832	44 875	7 581	408						
			A	949 752	443 722	294 737	150 312	52 910	8 071						
High-income	Hungary	2010	F	576 810		455 530	46 060	26 540	34 820	6 410	7 450				
			A	4 686 340		138 000	142 670	183 910	741 820	445 860	3 034 080				
High-income	Iceland	2010	F	2 600		80	20	20	160	230	2 090				
			A	1 595 680		30	50	110	4 800	16 770	1 573 920				
Lower-middle-income	India	2016	F	145 727 000	99 858 000	25 777 000	16 099 000	3 162 000	690 000	141 000					
			A	157 143 000	37 961 000	36 435 000	47 430 000	21 105 000	9 092 000	5 120 000					
Lower-middle-income	Indonesia	2013	F	26 135 469	19 177 464	3 725 849	3 232 156								
			A	22 426 846	9 588 732	5 588 774	7 249 340								
Upper-middle-income	Iran (Islamic Republic of)	2014	F	3 359 409	1 238 159	319 055	957 166	226 877	453 754	129 265	35 065				
			A	16 476 609	403 061	703 351	2 110 052	1 995 912	3 991 824	3 548 277	3 724 131				
High-income	Ireland	2010	F	139 890		2 340	7 380	15 750	88 940	20 760	4 720				
			A	4 991 350		2 520	26 620	119 420	2 303 390	1 389 390	1 150 010				
High-income	Italy	2010	F	1 620 900		824 650	357 670	186 150	207 730	29 210	15 490				
			A	12 856 050		726 990	1 119 850	1 295 300	4 349 380	1 994 070	3 370 460				
Upper-middle-income	Jamaica	2007	F	200 253	151 929	10 843	32 528	505	1 010	3 029	90	180	140		
			A	325 809	47 712	21 503	64 508	5 643	11 285	33 855	8 483	16 966	115 854		
High-income	Japan	2010	F	1 679 084	932 674	277 100	367 580	52 188	23 682	18 783	5 857	1 220			
			A	3 631 585	523 353	450 954	790 549	352 478	326 249	577 543	387 500	222 958			
Upper-middle-income	Jordan	2017	F	107 707	80 455	10 175	10 107	3 484	1 575	1 223	437	157	94		
			A	281 860	23 491	16 003	34 261	26 279	23 952	40 914	32 103	22 543	62 314		

Income group	Country	Census year	F / A	Total	Land size class										
					< 1 ha	1–2 ha	2–5 ha	5–10 ha	10–20 ha	20–50 ha	50–100 ha	100–200 ha	200–500 ha	500–1000 ha	> 1000 ha
Low-income	Kyrgyzstan	2002	F	1 130 855	964 130	78 314	56 409	18 577	7 715	4 119	740	304	231	171	145
			A	1 306 787	107 686	99 503	202 144	124 305	104 293	120 590	49 839	42 044	76 349	120 652	259 382
Lower-middle-income	Lao People's Democratic Republic	2010–2011	F	782 800	177 900	245 600	254 900	104 400							
			A	1 870 000	97 500	334 100	894 400	544 000							
Upper-middle-income	Latvia	2010	F	83 380		9 910	18 390	22 660	27 110	2 740	2 570				
			A	1 796 270		9 410	63 030	161 620	530 740	187 680	843 790				
Upper-middle-income	Lebanon	2010	F	169 512	118 865	26 269	16 183	5 106	1 966	835	288				
			A	230 994	42 117	34 149	46 754	31 534	25 635	24 020	26 786				
Lower-middle-income	Lesotho	1989–1990	F	229 300	107 400	67 000	46 800	8 100							
			A	331 000	53 700	100 500	163 800	13 000							
Upper-middle-income	Libya	1987	F	175 528	25 213	17 654	43 904	40 406	28 285	15 987	393	686			
			A	2 495 906	12 607	26 481	153 664	303 045	424 275	559 545	29 475	986 815			
Upper-middle-income	Lithuania	2010	F	199 910		32 570	84 830	39 900	33 980	4 830	3 800				
			A	2 742 560		46 590	266 010	276 810	684 700	328 410	1 140 040				
High-income	Luxembourg	2010	F	2 210		220	160	220	530	640	440				
			A	131 110		120	570	1 560	15 290	47 540	66 030				
Low-income	Malawi	2006–2007	F	2 665 565	1 919 207	506 457	213 245								
			A	2 569 605	959 603	759 686	850 315								
Low-income	Mali	2004–2005	F	805 194	255 596	108 998	189 636	142 932	79 065	28 967					
			A	5 152 000	127 798	163 497	663 726	1 071 990	1 185 975	1 013 845					
High-income	Malta	2010	F	12 535		11 130	1 120	232	43	10	0				
			A	11 419		5 972	3 287	1 540	620	0	0				
No income classification	Martinique	2009	F	3 307	393	577	1 376	526	222	213					
			A	24 975	163	751	4 138	3 473	2 973	13 478					
Low-income	Mauritius	2010	F	23 456	19 412	4 044									
			A	66 450	9 706	56 744									
Upper-middle-income	Mexico	2007	F	5 548 845		2 415 716	1 270 515	432 659	865 319	319 627	120 722	12 420	37 259	62 098	12 511
			A	112 299 999		2 500 000	4 500 000	4 466 666	8 933 332	10 100 000	8 700 000	3 255 556	9 766 667	16 277 778	43 800 000
Upper-middle-income	Montenegro	2010	F	48 870		35 860	7 630	2 710	1 800	440	430				
			A	221 300		23 000	23 500	18 540	35 710	31 650	88 900				

Income group	Country	Census year	F / A	Total	Land size class										
					< 1 ha	1–2 ha	2–5 ha	5–10 ha	10–20 ha	20–50 ha	50–100 ha	100–200 ha	200–500 ha	500–1000 ha	> 1000 ha
Lower-middle-income	Morocco	1996	F	1 496 349	380 039	272 412	411 967	247 766	125 169	47 985	7 829	3 182			
			A	8 732 223	170 361	420 577	1 495 239	1 894 722	1 880 472	1 526 298	585 157	759 397			
Low-income	Mozambique	2009–2010	F	3 677 540	1 264 929	1 369 801	927 455	99 630	5 317						
			A	5 413 339	505 972	1 643 761	2 596 874	597 780	68 952						
Low-income	Myanmar	2010	F	4 739 087	1 008 768	1 438 619	1 518 087	580 965	176 859	15 789					
			A	12 018 325	489 252	2 093 191	5 153 904	4 226 523	55 455						
Upper-middle-income	Namibia	2013–2014	F	209 413	53 116	42 710	72 304	27 929	13 354						
			A	867 577	16 913	64 065	230 650	186 845	369 105						
Low-income	Nepal	2011– 2012	F	3 831 093	3 086 569	548 974	183 752	10 744	1 054						
			A	2 525 639	1 183 139	749 810	508 286	69 177	15 227						
High-income	Netherlands	2010	F	72 000		10 000	11 000	10 000	30 000	9 000	2 000				
			A	1 872 350		8 500	37 130	73 990	801 660	607 980	343 090				
High-income	New Zealand	2012	F	58 071			9 006	5 760	5 958	7 554	7 029	8 304	8 771	3 419	2 268
			A	14 393 802			31 521	43 200	89 370	264 390	527 175	1 245 600	3 069 675	2 563 875	6 558 996
Lower-middle-income	Nicaragua	2011	F	262 546	58 034	33 757	45 013	32 055	26 435	38 699	15 295	7 797	5 460		
			A	6 049 714	27 429	49 312	157 550	236 431	402 269	1 211 642	1 010 878	958 439	1 995 763		
Lower-middle-income	Nigeria	2010	F	14 216 700	7 406 901	2 573 223	1 976 121	568 668	1 364 803	142 167	184 817				
			A	11 396 574	273 518	284 914	512 846	284 914	968 709	444 466	8 627 207				
No income classification	Niue	2009	F	1 809	915	183	131	38							
			A	762	311	153	182	115							
High-income	Northern Mariana Islands	2007	F	256	74	58	49	38	17	20					
			A	1 624	35	66	119	198	230	975					
High-income	Norway	2010	F	46 624		2 839	3 407	8 112	28 742	3 020	504				
			A	1 005 936		1 000	12 386	60 470	662 620	199 800	69 660				
Lower-middle-income	Pakistan	2000	F	6 620 054	2 389 423	1 425 370	1 857 166	580 200	260 791	87 408	19 696				
			A	20 406 782	1 183 789	1 981 277	5 699 287	3 891 228	3 324 310	2 355 906	1 970 985				
Lower-middle-income	Palestine	2010	F	111 310	83 786	13 763	9 448	4 313							
			A	120 706	41 893	20 645	33 068	25 101							

Income group	Country	Census year	F / A	Total	Land size class										
					< 1 ha	1–2 ha	2–5 ha	5–10 ha	10–20 ha	20–50 ha	50–100 ha	100–200 ha	200–500 ha	500–1000 ha	> 1000 ha
Upper-middle-income	Panama	2011	F	248 560	120 375	27 484	34 546	20 095	17 757	16 289	7 184	3 051	1 369	294	117
			A	2 698 836	14 318	31 312	96 543	130 761	232 959	485 639	474 736	396 349	377 283	189 563	269 373
Lower-middle-income	Paraguay	2008	F	289 649	16 360	25 411	76 232	66 218	57 735	22 865	6 879	5 234	5 251	2 737	4 727
			A	31 086 894	6 894	57 780	173 339	416 702	685 381	619 986	459 555	699 257	1 600 537	1 810 119	24 557 344
Upper-middle-income	Peru	2008	F	2 213 506	362 192	362 192	1 086 577	195 652	99 872	65 249	20 754	21 017			
			A	31 086 893	47 602	47 602	142 807	416 702	685 381	619 986	459 555	28 667 257			
Lower-middle-income	Philippines	2012	F	5 562 577	3 164 596	890 351	1 149 374	303 125	33 104	20 429	1 597				
			A	7 190 087	886 865	1 297 407	2 353 523	1 419 318	436 712	343 590	452 626				
High-income	Poland	2010	F	1 506 610		363 180	468 200	334 950	313 790	16 840	9 650				
			A	14 447 300		474 910	1 529 270	2 387 340	5 789 870	1 145 010	3 120 900				
High-income	Portugal	2010	F	305 266		153 861	77 064	33 168	30 713	4 355	6 105				
			A	3 668 144		157 431	239 596	230 337	620 020	303 090	2 117 670				
High-income	Puerto Rico	2012	F	13 159	5 129	2 859	2 872	940	964	395					
			A	229 901	8 254	15 360	33 414	25 069	60 715	87 089					
High-income	Qatar	2000–2001	F	3 553	2 444	189	212	148	157	211	113	79			
			A	42 328	547	246	671	1 047	2 276	6 750	7 680	23 111			
High-income	Republic of Korea	2010	F	1 177 000	735 000	256 000	187 000								
			A	1 483 000	367 500	384 000	731 500								
No income classification	Réunion	2000	F	9 387	2 246	1 679	2 769	1 988	485	220					
			A	43 691	820	2 172	8 536	12 927	6 359	12 877					
Upper-middle-income	Romania	2010	F	3 859 030		2 866 440	727 390	182 440	61 550	7 480	13 730				
			A	13 306 130		1 718 360	2 229 930	1 210 510	1 120 640	518 300	6 508 390				
Low-income	Rwanda	2008	F	1 674 687	1 339 750	234 456	90 433	8 373	1 675	1 675	1 675				
			A	1 280 750	535 900	281 347	253 213	50 241	20 100	46 900	93 049				
High-income	Saint Kitts and Nevis	1987	F	3 269		3 148	87	11	23						
			A	8 870		4 722	305	83	3 761						
Upper-middle-income	Saint Lucia	2007	F	9 800	6 323	1 838	1 243	338	39	19					
			A	9 448	1 743	2 094	3 028	1 334	397	852					

Income group	Country	Census year	F / A	Total	Land size class										
					< 1 ha	1–2 ha	2–5 ha	5–10 ha	10–20 ha	20–50 ha	50–100 ha	100–200 ha	200–500 ha	500–1000 ha	> 1000 ha
Upper-middle-income	Saint Vincent and the Grenadines	2000	F	7 380	5 375	1 102	712	121	42	28					
			A	7 199	1 335	1 477	1 816	711	530	1 330					
High-income	Saudi Arabia	2015	F	285 166	163 994	28 616	34 694	24 455	12 523	9 771	4 548	3 408	2 363	794	
			A	3 421 854	44 888	37 688	105 019	155 173	165 085	273 500	303 077	404 315	630 404	1 302 706	
Lower-middle-income	Senegal	2013	F	755 532	41 554	264 436	262 925	121 641	46 087	19 644					
			A	3 268 000	20 777	396 654	920 238	912 305	691 312	326 714					
Upper-middle-income	Serbia	2012	F	631 552	184 674	123 719	182 489	89 083	45 342		6 245				
			A	3 437 423	91 837	181 785	596 052	617 281	825 011		1 125 457				
Lower-middle-income	Seychelles	2011	F	530	396	86	48								
			A	466											
High-income	Slovakia	2010	F	24 460		9 460	6 290	2 660	3 060	780	2 210				
			A	1 895 510		9 270	19 120	18 150	67 050	55 430	1 726 490				
High-income	Slovenia	2010	F	74 650		20 470	24 920	17 440	11 340	380	100				
			A	482 660		21 900	82 460	122 320	197 750	25 350	32 880				
High-income	Spain	2010	F	989 796		292 775	232 800	141 862	218 706	52 465	51 188				
			A	23 752 690		297 220	736 800	995 440	4 950 010	3 683 770	13 089 450				
Lower-middle-income	Sri Lanka	2014	F	2 318 790	1 840 426	286 432	146 349	41 084	1 940	1 435	460	664			
			A	2 023 500	769 017	247 868	378 659	257 277	36 933	46 653	42 988	244 106			
High-income	Sweden	2010	F	71 100		1 300	7 630	15 820	29 350	9 070	7 930				
			A	3 066 320		340	29 310	112 930	691 010	643 730	1 589 000				
High-income	Switzerland	2010	F	59 070		5 180	4 880	9 330	37 730	1 830	120				
			A	1 047 800		3 980	17 230	70 570	824 030	115 320	16 670				
Upper-middle-income	Thailand	1993	F	5 647 490	1 114 038	1 272 048	2 102 358	912 378	203 861	36 688	6 119				
			A	19 002 071	574 967	1 721 244	6 403 613	5 926 035	2 520 596	976 842	878 774				
Low-income	Togo	2012	F	506 226	80 989	96 677	206 851	89 465	32 244						
			A	2 135 355	40 495	145 016	723 979	670 988	554 879						
High-income	Trinidad and Tobago	2004	F	19 111	6 780	3 448	6 445	1 683	478	220	31	14	9	3	
			A	84 990	2 847	4 632	18 361	11 643	4 949	6 526	2 150	2 003	2 857	29 022	

Income group	Country	Census year	F / A	Total	Land size class										
					< 1 ha	1–2 ha	2–5 ha	5–10 ha	10–20 ha	20–50 ha	50–100 ha	100–200 ha	200–500 ha	500–1000 ha	> 1000 ha
Upper-middle-income	Turkey	2001	F	3 076 650	522 990	539 816	950 840	560 049	327 363	153 685	17 429	3 901	520	57	
			A	18 434 822	243 446	737 802	2 953 162	3 812 703	4 388 440	4 207 550	1 121 855	446 939	170 308	352 617	
Low-income	Uganda	1991	F	1 704 721	839 369	411 810	296 560	97 013	59 969						
			A	3 683 288	404 609	581 608	913 153	671 031	1 112 887						
High-income	United Kingdom of Great Britain and Northern Ireland	2010	F	186 800		8 630	8 020	26 850	71 070	32 990	39 240				
			A	16 881 680		4 630	27 430	194 550	1 813 590	2 360 080	12 481 400				
Low-income	United Republic of Tanzania	2007–2008	F	5 838 523	1 831 559	1 668 498	2 338 464	570 136							
			A	14 810 368	997 063	2 410 972	5 305 896	6 096 438							
High-income	United States of America	2012	F	2 109 303		74 544	185 935	184 234	368 468	442 628	323 463	213 994	165 373	78 141	72 521
			A	365 811 063		132 909	643 497	1 888 391	3 776 782	14 472 253	22 221 768	29 762 796	52 115 337	48 993 365	191 803 960
High-income	United States Virgin Islands	2007	F	431		298	63	35	15	12	1	7			
			A	3 334		846	379	325	699	0	0	1 085			
Upper-middle-income	Uruguay	2011	F	44 781			3 020	4 225	4 844	6 893	5 720	5 569	6 496	3 847	4 167
			A	16 357 298			8 516	28 517	66 802	222 177	407 886	796 030	2 089 581	2 705 399	10 032 390
Upper-middle-income	Venezuela (Bolivarian Republic of)	2007–2008	F	424 256	26 733	52 900	99 740	63 032	53 414	53 287	29 259	19 988	15 994	5 890	4 019
			A	27 073 879	12 221	60 020	286 448	402 565	683 365	1 594 533	1 949 056	2 623 611	4 666 458	3 837 223	10 958 380
Lower-middle-income	Viet Nam	2011	F	8 925 515	5 834 743	1 944 359	921 971	170 915	54 499						
			A	10 130 000	2 625 634	2 624 884	2 904 209	1 153 674	821 599						
Lower-middle-income	Yemen	2002	F	1 180 105	865 733	124 052	107 170	83 150							
			A	1 609 486	250 259	168 357	287 761	903 109							
Lower-middle-income	Zambia	1990	F	520 520			479 717	29 950	8 801	2 052					
			A	2 911 000			1 679 010	224 625	132 015	875 351					

Note: F – Farms; A – Agricultural area (ha).

Sources: FAO, 2001; FAO, 2013; Eurostat, 2013 and numerous agricultural census reports (see "Agricultural census reports and information consulted" in the References section).

Table A4. Share of farms and farmland held by an individual or household and use of household and hired permanent workers on the farm

Country	Census year	Region/group	Income group	Share of		Labour			Value of net food production in 2015 (thousands of dollars)
				holdings held by an individual/ household	farmland held by an individual/ household	Average number of household members engaged in agriculture per holding (1)	Average number of hired permanent workers per agricultural holding	Average ratio of household members to hired permanent workers in agriculture	
				(%)					
Albania	1998	Europe and Central Asia	Upper-middle-income	100	24	—	—	—	1 348 491
American Samoa	2008	East Asia and the Pacific	Upper-middle-income	66	44	—	—	—	4 089
Armenia	2014	Europe and Central Asia	Lower-middle-income	100	96	—	—	—	1 312 030
Botswana	2015	Sub-Saharan Africa	Upper-middle-income	100	78	—	—	—	363 380
Brazil	1996	Latin America and the Caribbean	Upper-middle-income	97	83	2.8	0.9	3.1	143 635 988
Bulgaria	2010	Europe and Central Asia	Upper-middle-income	98	33	—	—	—	3 233 318
Cambodia	2013	East Asia and the Pacific	Low-income	100	80	—	—	—	4 314 964
Chile	1997	Latin America and the Caribbean	Upper-middle-income	97	62	—	1.6	—	8 014 176
Comoros	2004	Sub-Saharan Africa	Low-income	95	—	1.5	0.1	22.3	70 675
Costa Rica	2014	Latin America and the Caribbean	Upper-middle-income	91	55	—	—	—	2 986 609
Cyprus	2003	High-income	High-income	99	74	—	—	—	316 582
Czechia	2010	High-income	High-income	87	29	—	—	—	3 566 759
Ecuador	1999–2000	Latin America and the Caribbean	Upper-middle-income	99	86	—	0.3	—	6 186 609
Egypt	1999–2000	Middle East and North Africa	Lower-middle-income	100	94	—	0.0	—	22 197 212
Estonia	2010	High-income	High-income	91	48	—	—	—	629 714
Fiji	2009	East Asia and the Pacific	Lower-middle-income	99	98	—	—	—	194 413
France	2010	High-income	High-income	69	43	—	—	—	39 537 622
Germany	2010	High-income	High-income	90	92	—	—	—	33 656 731
Greece	2009	High-income	High-income	—	62	—	—	—	6 483 733
Grenada	2012	Latin America and the Caribbean	Upper-middle-income	100	91	—	—	—	18 890
Guatemala	2003	Latin America and the Caribbean	Lower-middle-income	98	86	—	—	—	4 970 296
Haiti	2008	Latin America and the Caribbean	Low-income	99	99	—	—	—	1 477 261

Country	Census year	Region/group	Income group	Share of		Labour			Value of net food production in 2015 (thousands of dollars)
				holdings held by an individual/ household	farmland held by an individual/ household	Average number of household members engaged in agriculture per holding (1)	Average number of hired permanent workers per agricultural holding	Average ratio of household members to hired permanent workers in agriculture	
				(%)					
India	2015–2016	South Asia	Lower-middle-income	100	99	—	—	—	240 763 762
Italy	2010	High-income	High-income	96	76	—	—	—	28 737 613
Jordan	1997	Middle East and North Africa	Upper-middle-income	100	87	—	0.2	—	1 457 270
Lebanon	1998	Middle East and North Africa	Upper-middle-income	—	85	1.0	0.1	8.2	1 089 923
Lithuania	2010	Europe and Central Asia	Upper-middle-income	100	87	—	—	—	2 096 585
Mauritius	2014	Sub-Saharan Africa	Upper-middle-income	100	20	—	—	—	239 881
Montenegro	2010	Europe and Central Asia	Upper-middle-income	100	95	—	—	—	104 004
Morocco	1996	Middle East and North Africa	Lower-middle-income	—	76	—	0.1	—	9 352 224
North Macedonia	2007	Europe and Central Asia	Upper-middle-income	100	81	—	—	—	801 815
Panama	2011	Latin America and the Caribbean	Upper-middle-income	95	81	—	—	—	949 596
Paraguay	2008	Latin America and the Caribbean	Lower-middle-income	69	86	—	—	—	5 649 495
Philippines	2002	East Asia and the Pacific	Lower-middle-income	99	96	—	—	—	20 027 122
Portugal	2009	High-income	High-income	97	68	—	—	—	4 669 892
Puerto Rico	2012	High-income	High-income	91	69	—	—	—	325 098
Republic of Moldova	2011	Europe and Central Asia	Lower-middle-income	100	43	—	—	—	1 116 242
Romania	2010	Europe and Central Asia	Upper-middle-income	99	54	—	—	—	9 245 336
Saint Kitts and Nevis	2000	High-income	High-income	96	23	—	—	—	2 323
Saint Lucia	2007	Latin America and the Caribbean	Upper-middle-income	—	94	—	—	—	14 568
Samoa	1999	East Asia and the Pacific	Lower-middle-income	100	100	—	—	—	57 340
Saudi Arabia	2015	High-income	High-income	98	88	—	—	—	3 280 177
Slovakia	2010	High-income	High-income	97	56	—	—	—	1 407 255
Spain	1999	High-income	High-income	96	54	0.4	0.1	3.5	31 081 005
Sri Lanka	2014	South Asia	Lower-middle-income	100	82	—	—	—	2 540 365
Sweden	2010	High-income	High-income	85	70	—	—	—	2 883 730
Tonga	2015	East Asia and the Pacific	Lower-middle-income	100	99	—	—	—	33 448
Trinidad and Tobago	2004	High-income	High-income	100	60	—	—	—	141 229

Country	Census year	Region/group	Income group	Share of		Labour			Value of net food production in 2015 (thousands of dollars)
				holdings held by an individual/ household	farmland held by an individual/ household	Average number of household members engaged in agriculture per holding (1)	Average number of hired permanent workers per agricultural holding	Average ratio of household members to hired permanent workers in agriculture	
				(%)					
Tunisia	2004	Middle East and North Africa	Upper-middle-income	100	93	0.9	0.1	9.3	4 713 065
United States of America	2002	High-income	High-income	90	66	–	1.4	–	221 489 388
Uruguay	2011	Latin America and the Caribbean	Upper-middle-income	86	63	—	—	—	4 059 654
Venezuela (Bolivarian Republic of)	1996–1997	Latin America and the Caribbean	Upper-middle-income	98	89	0.6	0.4	1.5	6 433 202
Viet Nam	2011	East Asia and the Pacific	Lower-middle-income	100	92	—	—	—	28 536 948
Yemen	2002	Middle East and North Africa	Lower-middle-income	—	88	2.3	0.2	10.6	1 715 175

Notes: "—" indicates data not available; (1) May include full time and/ or part time work by household members.

Sources: FAO, 2001; FAO, 2013 and numerous agricultural census reports (see "Agricultural census reports and information consulted" in the References section).

Table A5. Average farm size and number of farms 1960–2010

Country	Average farm size						Slope of best fit line for average farm size	Number of farms					
	1960	1970	1980	1990	2000	2010		1960	1970	1980	1990	2000	2010
Algeria		6.2			8.3		0.070		899 545			1 000 000	
American Samoa	2.3	2.2	1.8	6.1	1.1	3.2	0.016		1 923	1 331	384	7 094	5 840
Angola		3.9				1.4	-0.063		1 100 000				
Antigua and Barbuda	2.4		0.4				-0.100	5 747		4 654			
Argentina	371.3			469.0	582.5	620.3	5.181	471 756			378 357	295 485	256 773
Australia	1 843.6	1 993.0	2 818.9	3 601.7	3 243.2		27.825		249 485	175 756	129 540	140 516	120 806
Austria	19.4	20.7	24.2	26.4	34.1	19.2	0.118	396 000	362 216	302 579	273 210	199 470	150 180
Bahamas			8.5	11.6			0.310			4 246	1 760		
Bahrain		4.3	4.4				0.010		855	806			
Bangladesh	1.4		1.3		0.3	0.6	-0.022	6 500 000		6 900 000		28 000 000	15 000 000
Barbados	1.2	1.1		1.3			0.007	27 912	26 052		17 178		
Belgium	6.6	8.7	12.4	16.1	23.1	31.7	0.493	268 000	184 005	119 277	87 180	61 710	42 854
Belize		23.2	23.0				-0.020		10 004	11 011			
Botswana		4.8	2.4	3.2	1.9		-0.117		48 014	84 660	101 434	51 264	41 348
Brazil	74.9	60.0	70.7	64.5	72.8	64.5	-0.057	3 300 000	4 900 000	5 200 000	5 800 000	4 900 000	5 200 000
Cabo Verde			1.5	1.3	1.0		-0.024			25 072	32 193	44 506	
Canada	145.2	187.5	207.0	241.9	273.4	314.8	3.259	481 000	366 128	318 361	280 043	246 923	205 730
Central African Republic	1.9	1.7	0.9				-0.062	231 500	283 450	303 901			
Chile	118.5		92.4		83.7	123.2	-0.132	258 657		311 324		316 492	301 254
Colombia	22.6	26.3		23.3	25.1		0.047	1 200 000	1 200 000		1 500 000	2 000 000	2 400 000
Congo		1.4	1.0			1.6	-0.003		143 485	143 235			332 148
Cook Islands				1.2	0.6	0.5	-0.053				2 188	1 721	1 269
Costa Rica	41.0	38.3					-0.270	65 000	81 562				93 017
Côte d'Ivoire		5.0			3.9		-0.037		549 708			1 100 000	1 400 000
Cyprus			4.5	3.4	4.4	3.0	-0.066			44 522	52 089	45 199	38 394
Czechia					99.3	152.4	5.310					56 487	22 864
Democratic Republic of the Congo		2.3		0.5			-0.090		2 500 000		4 500 000		
Denmark	15.9	21.0	26.4	37.8	49.8	62.9	0.951	195 000	140 197	122 722	81 267	57 830	42 100
Dominican Republic	5.1	9.0					0.390	447 000	304 820				
Ecuador		15.3			14.7		-0.020		519 111			842 882	
Egypt	1.6		1.0	0.9	0.8	1.7	-0.003	1 600 000		2 900 000	3 500 000	4 500 000	4 400 000
El Salvador	7.0	4.6				2.4	-0.081	224 000	318 041				390 476

Country	Average farm size						Slope of best fit line for average farm size	Number of farms					
	1960	1970	1980	1990	2000	2010		1960	1970	1980	1990	2000	2010
Estonia					20.3	48.0	2.770					83 808	19 610
Eswatini		19.5	11.8				-0.770		39 377	53 368	73 745		
Ethiopia			1.4	0.8	1.0	1.2	-0.030			4 800 000	6 100 000	11 000 000	11 000 000
Fiji		7.3	4.2	6.2		3.9	-0.106		33 521	66 376	95 400		65 033
Finland	41.2	51.0	57.0	61.9	72.2	35.9	0.120	387 000	297 257	224 721	199 385	81 190	63 900
France	18.8	22.1	26.6	31.5	45.0	53.9	0.712	1 900 000	1 600 000	1 300 000	1 000 000	663 810	516 100
French Guyana			3.3	9.3	4.4	4.2	-0.022			2 209	4 491	5 318	5 983
Germany	12.1	14.2	17.0	29.3	40.5	55.8	0.885	1 800 000	1 100 000	850 006	653 550	471 960	299 100
Greece	3.2	3.4		4.5	4.7	4.8	0.036	1 200 000	1 000 000	998 876	802 400	817 060	723 010
Grenada			1.7	0.8			-0.090			8 202	18 277		9 345
Guadeloupe		3.0	3.7	3.2	3.4	4.1	0.028		22 577	18 957	16 530	12 160	7 852
Guam	6.5	9.4	5.8	15.1	4.4	3.9	-0.053		1 121	1 999	351	153	104
Guatemala	8.3		7.8		4.5		-0.113	417 344		531 623		830 684	
Guinea-Bissau	3.0			1.1			-0.063	86 951			84 221		
Haiti		1.4				0.9	-0.013		616 710				1 000 000
Honduras		13.5		11.2			-0.115		195 341		325 750		
Hungary		9.3	11.7		6.7	4.6	-0.062		802 892	798 545		966 916	577 000
India	2.7	2.3	2.0	1.6	1.3	1.2	-0.031	49 000 000	70 000 000	82 000 000	110 000 000	120 000 000	140 000 000
Indonesia	1.2	1.1	1.1	0.9	0.8	0.9	-0.008	12 000 000	14 000 000	18 000 000	20 000 000	25 000 000	23 000 000
Iran (Islamic Republic of)	6.0			4.3	4.1	4.9	-0.029	1 900 000			3 600 000	4 300 000	3 400 000
Iraq	31.8	9.7					-2.210	253 000	591 178				
Ireland	16.1	20.2	26.1	26.0	33.3	35.7	0.392	360 113	279 450	263 558	170 578	141 530	139 890
Israel		13.4	11.3	14.2			0.104		40 210	51 654	25 448		
Italy	6.2	6.9	7.2	7.5	7.6	7.9	0.031	4 300 000	3 600 000	3 300 000	3 000 000	2 600 000	1 600 000
Jamaica	4.4	3.1	2.9		2.2	1.4	-0.052	159 000	193 359	183 988		187 791	228 683
Japan	1.2	1.0	1.0	1.2	1.2		0.002	6 100 000	5 400 000	4 700 000	3 500 000	3 100 000	
Jordan		7.0	5.9		3.3	3.3	-0.104		55 548	62 162		92 258	80 152
Kenya	11.7	4.1	2.5				-0.340	521 009	1 500 000	2 800 000			
Lao People's Democratic Republic					1.6	2.4	0.080					668 000	783 000
Latvia					19.9	21.5	0.160					180 263	83 000
Lebanon	2.4	4.3			1.9	1.4	-0.037	127 123	142 811			194 829	169 512
Lesotho	2.2	2.0		1.4		1.1	-0.023	161 000	187 421		229 300	337 795	217 748
Libya	26.6	13.0		14.2	10.2		-0.314	145 518	160 999		175 528	176 658	
Lithuania					9.3	13.8	0.450					272 110	199 910
Luxembourg		17.8	25.1	36.2	49.0	59.3	0.996		7 608	5 173	3 803	2 810	2 200

Country	Average farm size						Slope of best fit line for average farm size	Number of farms					
	1960	1970	1980	1990	2000	2010		1960	1970	1980	1990	2000	2010
Madagascar	1.0		1.3		0.9		-0.007	882 000		1 500 000		2 400 000	
Malawi		1.5	1.2	0.7		1.0	-0.018		885 000	1 100 000	1 600 000		2 500 000
Mali	4.4		3.3				-0.055	280 260		519 460		805 194	
Malta	1.5	1.5	1.2		1.0	0.9	-0.013	12 000	10 803	12 070		11 959	12 900
Martinique			3.1	3.1	4.0	7.6	0.072			19 573	16 038	8 039	3 307
Mexico	123.9	137.1		41.4		20.2	-2.529	1 400 000	1 000 000		4 400 000		5 500 000
Morocco	9.8				5.8		-0.100	1 100 000				1 500 000	
Mozambique					1.3	1.5	0.020					3 100 000	3 800 000
Myanmar				2.4	2.5	2.5	0.009				2 900 000	3 500 000	5 400 000
Namibia				2.6	2.9	4.1	0.043	5 358			113 616	102 357	169 984
Nepal		1.0	1.1	0.9	0.8	0.7	-0.005		1 700 000	2 200 000	2 700 000	3 400 000	3 800 000
Netherlands	8.8	11.6	15.0	17.0	22.1	26.0	0.341	300 702	184 613	148 674	127 367	101 550	72 000
New Caledonia				30.5	51.9		2.140				10 302	5 574	
New Zealand	231.3	303.1	297.0	216.2	223.4	247.9	-0.677		62 789	71 505	80 904	70 000	58 071
Nicaragua	37.3				31.3	24.3	-0.229	102 201				199 549	268 527
Niger			4.9			4.1	-0.027			699 332			1 600 000
Niue				6.1		1.8	-0.215				450		429
Northern Mariana Islands			16.5	49.0	4.4	6.4	-0.749			299	119	214	256
Norway					14.7	21.6	0.690	198 315	154 977	125 302	99 382	70 740	46 600
Pakistan	3.5	5.3	4.7	3.8	3.1	6.4	0.020	5 700 000	3 800 000	4 100 000	5 100 000	6 600 000	8 300 000
Panama	19.0	18.2	14.7	13.8	11.7	10.9	-0.174	95 000	115 364	153 194	213 895	236 794	248 560
Paraguay	108.7		88.1	77.5		107.3	-0.102	160 777		248 930	307 221		289 649
Peru	20.4	16.9		20.1		17.1	-0.028	870 000	1 400 000		1 800 000		2 300 000
Philippines	3.6	3.6	2.9	2.2	2.0	1.3	-0.049	2 200 000	2 400 000	3 400 000	4 600 000	4 800 000	5 600 000
Poland	6.4	4.8		8.3	6.6	9.4	0.063	3 600 000	3 400 000		3 800 000	2 900 000	1 500 000
Portugal		6.1	6.6	8.9	12.5	12.0	0.153		811 656	783 944	598 742	415 969	305 300
Puerto Rico	14.4	16.0	13.4	17.2	15.4	13.9	-0.001	46 000	32 687	31 837	20 245	17 659	15 745
Republic of Korea	2.1	0.9	0.9	1.1			-0.005	2 300 000	2 400 000	2 200 000	1 800 000	3 300 000	
Réunion		2.0	3.6	4.4	4.7	5.6	0.100		39 111	20 788	15 198	9 387	7 623
Romania					3.5	3.4	-0.010					4 500 000	3 900 000
Rwanda			1.2			0.8	-0.013			1 100 000			1 700 000
Saint Kitts and Nevis				2.6	2.1		-0.050				3 430	3 066	
Saint Lucia	2.7	2.7		2.0	1.6	1.3	-0.030	13 008	10 938		11 551	13 366	9 972
Saint Vincent and the Grenadines				1.4	1.0		-0.040				8 860	7 380	
Samoa				6.1	3.6	2.3	-0.233				11 099	14 734	15 793

Country	Average farm size						Slope of best fit line for average farm size	Number of farms					
	1960	1970	1980	1990	2000	2010		1960	1970	1980	1990	2000	2010
Saudi Arabia		6.7	10.1		16.7		0.334		180 670	212 157		242 267	285 166
Senegal	3.6				4.3		0.018	295 400				437 037	
Serbia					3.7	5.4	0.170					778 891	
Seychelles	22.4					0.9	-0.430	1 143				4 685	530
Sierra Leone		1.8	1.6				-0.020		286 137	223 265			
Slovakia					48.7	77.5	2.880					71 038	24 460
Slovenia				5.8	11.0	6.4	0.226	194 855	180 228	192 090	156 549	86 465	74 700
South Africa	960.0	987.6					2.760	110 362	90 422			1 100 000	
Spain	14.8	17.8	18.7	18.8	23.9	24.0	0.184	3 000 000	2 600 000	2 400 000	2 300 000	1 800 000	989 800
Sri Lanka	1.6	1.2	1.1		0.5	0.6	-0.021	1 200 000	1 600 000	1 800 000		3 300 000	
Suriname	6.6	5.8	7.5			6.3	0.002	16 000	16 078	22 103			10 234
Sweden		65.4	76.0		93.9	43.4	0.107	263 000	161 946	115 136		81 410	70 900
Switzerland		8.5	10.2	11.8			0.164		152 859	125 274	108 296		
Syrian Arab Republic		9.0	6.5				-0.250		524 133	485 691			
Tanzania United Republic of		1.3		2.8	2.4	2.5	0.039		2 400 000		3 900 000	4 900 000	5 800 000
Thailand	3.5		3.7	3.4	3.2	3.1	-0.010	3 200 000		4 000 000	5 600 000	5 800 000	5 900 000
Togo	2.6	1.4	1.5		2.0		0.001	217 000	232 657	262 504		429 534	
Tonga			3.3		2.6	3.2	-0.021			10 121		10 328	13 944
Trinidad and Tobago	6.0		4.3		4.4		-0.028	35 796		30 563		19 111	
Tunisia	15.4				10.5		-0.123	325 800				515 850	
Turkey	5.0		6.2	5.8	6.0		0.019	3 400 000		3 700 000	4 100 000	3 100 000	
Uganda	3.3			2.2		1.1	-0.043	1 200 000			1 700 000	3 800 000	3 900 000
United Kingdom of Great Britain and Northern Ireland	40.7	55.1	65.4	70.8	70.9	78.6	0.692	467 000	326 698	268 560	244 205	233 250	202 400
United States of America	122.6	157.6	168.1	187.0	178.4	175.6	0.989	3 700 000	2 700 000	2 500 000	2 100 000	2 100 000	2 100 000
United States Virgin Islands	35.6	39.1	26.1	27.0	19.4	10.9	-0.519	501	212	378	267	191	219
Uruguay	195.3	214.1	234.4	286.1	287.4	365.3	3.205	87 000	77 163	68 362	54 819	57 131	44 781
Venezuela (Bolivarian Republic of)	81.2	91.9	82.0		60.0		-0.765	320 094	287 919	381 276		500 979	
Yemen			2.0		1.1		-0.045			756 271		1 500 000	

Sources: FAO, 2001; FAO, 2013 and numerous agricultural census reports (see "Agricultural census reports and information consulted" in the References section).

Table A6. Use of household and hired (temporary and permanent) labour on the farm

Country	Region/group	Income group	Labour				
			Census year	Average number of household members engaged in agriculture per farm (1)	Average number of hired permanent workers per farm	Average ratio of household members to hired permanent workers in agriculture	Temporary share of hired workers
Algeria	Middle East and North Africa	Upper-middle-income	2001	3.3	0.1	30.9	—
Armenia	Europe and Central Asia	Lower-middle-income	2014	—	1.5	—	—
Austria	High-income	High-income	2010	6.1	0.4	15.3	—
Azerbaijan	Europe and Central Asia	Upper-middle-income	2004–2005	2.0	—	—	—
Bangladesh	South Asia	Low-income	2008	—	—	—	—
Belgium	High-income	High-income	2010	2.1	0.5	4.5	—
Botswana	Sub-Saharan Africa	Upper-middle-income	2015	—	—	—	—
Brazil	Latin America and the Caribbean	Upper-middle-income	1996	2.8	0.9	3.1	—
Cabo Verde	Sub-Saharan Africa	Lower-middle-income	2004	—	0.0	—	—
Cambodia	East Asia and the Pacific	Low-income	2013	—	—	—	—
Canada	High-income	High-income	2011	—	—	—	62.4
Chile	Latin America and the Caribbean	Upper-middle-income	1997	—	1.6	—	—
China	East Asia and the Pacific	Upper-middle-income	1997	2.7	0.0	—	—
China	East Asia and the Pacific	Upper-middle-income	2016	—	—	—	—
Colombia	Latin America and the Caribbean	Upper-middle-income	2013	—	—	—	98.7
Comoros	Sub-Saharan Africa	Low-income	2004	1.5	0.1	22.3	—
Costa Rica	Latin America and the Caribbean	Upper-middle-income	2014	—	—	—	—
Cyprus	High-income	High-income	2010	33.2	15.7	2.1	—
Czechia	High-income	High-income	2010	0.7	3.1	2.1	—
Denmark	High-income	High-income	2010	0.6	0.2	3.3	—
Ecuador	Latin America and the Caribbean	Upper-middle-income	1999–2000	—	0.3	—	—
Egypt	Middle East and North Africa	Lower-middle-income	1999–2000	—	0.0	—	—
Estonia	High-income	High-income	2010	2.3	0.3	8.7	—
Estonia	High-income	High-income	2001	—	0.2	—	—
Fiji	East Asia and the Pacific	Lower-middle-income	2009	—	—	—	—
Finland	High-income	High-income	2010	2.1	0.3	8.2	—
France	High-income	High-income	1999–2000	1.3	0.7	1.9	—
France	High-income	High-income	2010	0.6	0.3	2.1	—
French Guyana	unclassified	unclassified	2000	1.8	0.1	21.2	—
French Guyana	unclassified	unclassified	2010	1.0	0.0	32.9	58.9
Georgia	Europe and Central Asia	Lower-middle-income	2014	—	—	—	—
Germany	High-income	High-income	2010	1.7	0.3	5.2	—

Country	Region/group	Income group	Labour				
			Census year	Average number of household members engaged in agriculture per farm (1)	Average number of hired permanent workers per farm	Average ratio of household members to hired permanent workers in agriculture	Temporary share of hired workers
Greece	High-income	High-income	2010	9.0	0.8	10.8	—
Grenada	Latin America and the Caribbean	Upper-middle-income	2012	—	—	—	—
Guadeloupe	unclassified	unclassified	2010	0.7	0.2	2.8	—
Guadeloupe	unclassified	unclassified	2000	—	0.4	—	—
Guam	High-income	High-income	2002	0.9	0.6	1.4	—
Guinea	Sub-Saharan Africa	Low-income	2000–2001	—	0.1	—	—
Haiti	Latin America and the Caribbean	Low-income	2008–2009	—	—	—	—
Hungary	High-income	High-income	2010	10.4	0.9	11.5	—
Hungary	High-income	High-income	2000	2.1	—	—	—
India	South Asia	Lower-middle-income	2015–2016	—	—	—	—
Indonesia	East Asia and the Pacific	Lower-middle-income	2013	—	—	—	—
Ireland	High-income	High-income	2010	2.3	0.3	7.0	—
Italy	High-income	High-income	2010	12.6	0.7	17.0	—
Jamaica	Latin America and the Caribbean	Upper-middle-income	2007	—	—	—	—
Japan	High-income	High-income	2010	—	—	—	—
Jordan	Middle East and North Africa	Upper-middle-income	1997	—	0.2	—	—
Lao People's Democratic Republic	East Asia and the Pacific	Lower-middle-income	1998–1999	3.1	0.3	10.6	—
Latvia	Europe and Central Asia	Upper-middle-income	2010	4.5	0.5	9.5	—
Lebanon	Middle East and North Africa	Upper-middle-income	1998	1.0	0.1	8.2	—
Lesotho	Sub-Saharan Africa	Lower-middle-income	1999–2000	—	0.0	—	—
Luxembourg	High-income	High-income	2010	1.5	0.3	5.4	—
Madagascar	Sub-Saharan Africa	Low-income	2004–2005	1.0	—	—	—
Martinique	unclassified	unclassified	2010	0.9	1.2	0.7	—
Mauritius	Sub-Saharan Africa	Upper-middle-income	2014	—	—	—	—
Mexico	Latin America and the Caribbean	Upper-middle-income	2007	0.6	0.9	0.7	91.8
Mongolia	East Asia and the Pacific	Lower-middle-income	2011	—	—	—	—
Morocco	Middle East and North Africa	Lower-middle-income	1996	—	0.1	—	—
Myanmar	East Asia and the Pacific	Low-income	2003	—	—	—	—
Nepal	South Asia	Low-income	2002	—	0.1	—	—
Netherlands	High-income	High-income	2010	4.3	0.9	4.9	—
New Caledonia	High-income	High-income	2002	2.4	—	—	—
Nicaragua	Latin America and the Caribbean	Lower-middle-income	2001	3.1	0.6	4.9	—

Country	Region/group	Income group	Labour				
			Census year	Average number of household members engaged in agriculture per farm (1)	Average number of hired permanent workers per farm	Average ratio of household members to hired permanent workers in agriculture	Temporary share of hired workers
Northern Mariana Islands	High-income	High-income	2002	—	0.7	—	—
Norway	High-income	High-income	2010	6.1	0.5	13.3	—
Norway	High-income	High-income	1999	—	0.3	—	—
Pakistan	South Asia	Lower-middle-income	2010	—	—	—	—
Paraguay	Latin America and the Caribbean	Lower-middle-income	2008	1.5	0.1	10.3	—
Peru	Latin America and the Caribbean	Upper-middle-income	2013	2.5	0.2	13.0	7.7
Philippines	East Asia and the Pacific	Lower-middle-income	2002	—	—	—	—
Portugal	High-income	High-income	2010	9.8	1.0	9.9	—
Portugal	High-income	High-income	1999	1.2	0.1	10.5	—
Puerto Rico	High-income	High-income	2012	1.2	0.2	5.1	50.5
Puerto Rico	High-income	High-income	2002	—	1.8	—	—
Qatar	High-income	High-income	2000–2001	—	3.4	—	—
Romania	Europe and Central Asia	Upper-middle-income	2010	24.2	1.2	20.0	—
Saint Lucia	Latin America and the Caribbean	Upper-middle-income	1996	—	0.6	—	—
Saint Lucia	Latin America and the Caribbean	Upper-middle-income	2007	—	—	—	—
Saint Vincent and the Grenadines	Latin America and the Caribbean	Upper-middle-income	2000	—	0.2	—	—
Senegal	Sub-Saharan Africa	Lower-middle-income	1998–1999	7.1	0.2	33.8	—
Slovakia	High-income	High-income	2010	1.3	0.3	4.3	—
South Africa	Sub-Saharan Africa	Upper-middle-income	2007	—	—	—	—
Spain	High-income	High-income	2010	—	—	—	—
Sri Lanka	South Asia	Lower-middle-income	2014	—	—	—	—
Sweden	High-income	High-income	1999–2000	1.6	0.3	5.5	—
Sweden	High-income	High-income	2010	—	—	—	—
Thailand	East Asia and the Pacific	Upper-middle-income	2003	—	0.1	—	—
Trinidad and Tobago	High-income	High-income	2004	—	0.5	—	—
Tunisia	Middle East and North Africa	Upper-middle-income	2004	0.9	0.1	9.3	—
United Kingdom of Great Britain and Northern Ireland	High-income	High-income	2010	0.8	0.2	5.4	—
United States of America	High-income	High-income	2002	—	1.4	—	—
Uruguay	Latin America and the Caribbean	Upper-middle-income	2000	2.0	1.0	2.0	—

Country	Region/group	Income group	Labour				
			Census year	Average number of household members engaged in agriculture per farm (1)	Average number of hired permanent workers per farm	Average ratio of household members to hired permanent workers in agriculture	Temporary share of hired workers
Venezuela (Bolivarian Republic of)	Latin America and the Caribbean	Upper-middle-income	1996–1997	0.6	0.4	1.5	—
Viet Nam	East Asia and the Pacific	Lower-middle-income	2001	2.1	0.2	10.7	—
Yemen	Middle East and North Africa	Lower-middle-income	2002	2.3	0.2	10.6	—
Zambia	Sub-Saharan Africa	Lower-middle-income	2000	1.9	—	—	—

Notes: (1) May include full time and/or part time work by household members; "—" indicates data not available.

Sources: FAO, 2001; FAO, 2013 and numerous agricultural census reports (see "Agricultural census reports and information consulted" in the References section).

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