



35 per cent of all farms are in China.
Photo: FAO/F. Botts

The evolution of global farmland distribution

Land plays a crucial role in rural transformation. However, information allowing a comparison of number, size and distribution of farms and farmland throughout the world and, above all, showing how these factors are changing over time is difficult to come by. FAO researchers evaluated agricultural census reports from 167 countries and have arrived at some interesting results.

In order to better understand rural transformation, it is important to know how average farm size and farmland distribution have changed over time in each region of the world. This is above all also interesting with regard to what might be expected when countries move to higher levels of economic development. First of all, however, we have to define more precisely what we mean by “farm”. In our work, we used the agricultural holding as defined in the World Census

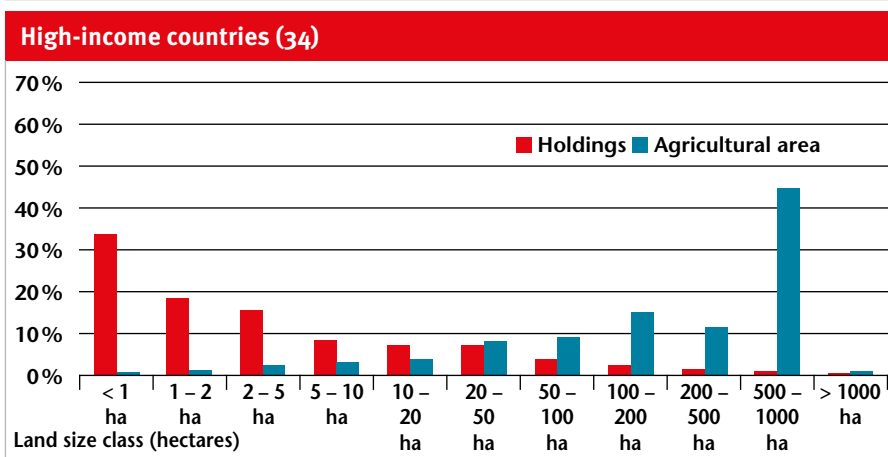
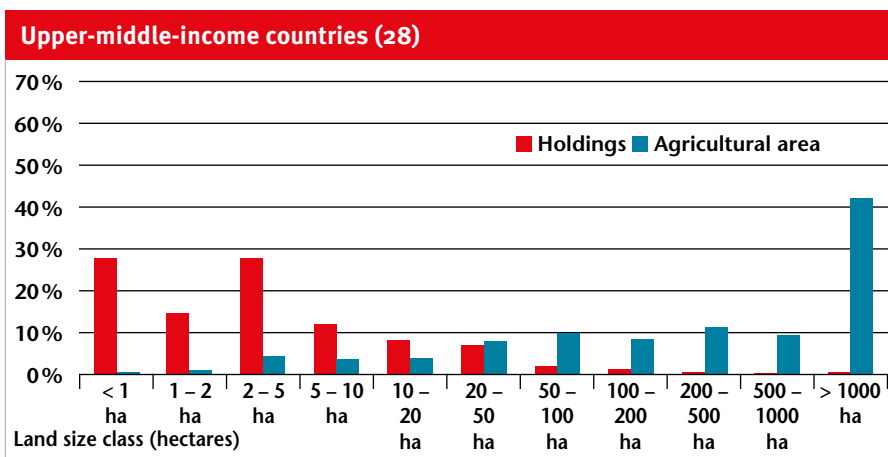
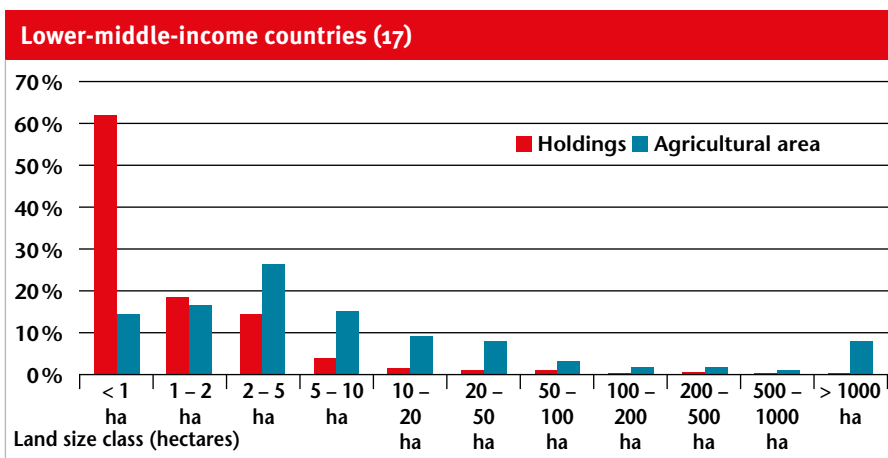
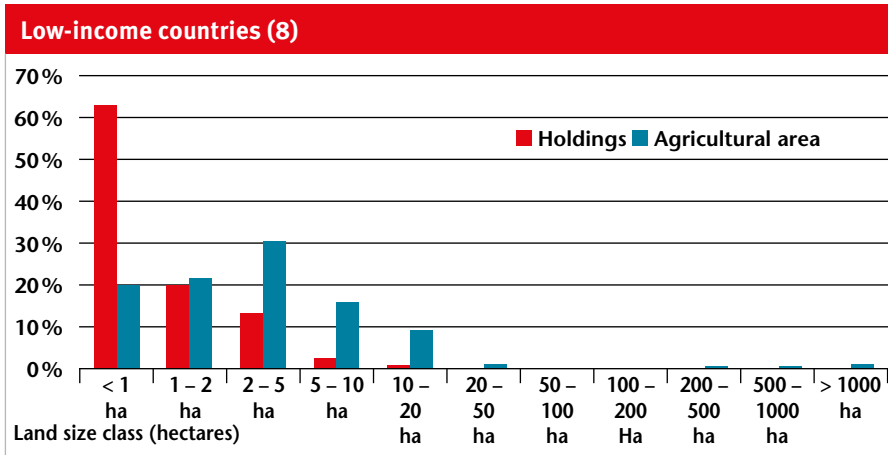
of Agriculture (WCA) guidelines, according to which an agricultural holding comprises the “units of crop and livestock production which are under single management (regardless of ownership) by either an individual or group of individuals, a household or several households, clan or tribe, corporation, cooperative or government entity” (FAO, 2005). We defined the farmer as the agricultural holder, that is, the person who makes strategic decisions regarding use of the farm resources and who bears all risks associated with the farm, but who may not necessarily assume day-to-day work management responsibilities.

The surveys in 167 countries have revealed that there are more than 570 million farms in the world. Only 4 per cent of them are located in high-income countries, while the vast majority (74 per cent) are in Asia (see Figure on page 15). China alone represents 35 per cent and India 24 per cent of

the world’s farms. Nine per cent are found in sub-Saharan Africa and 7 per cent in Europe and Central Asia. Farms in Latin America and the Caribbean represent 4 per cent of farm holdings world-wide. Only 3 per cent are located in the Middle East and North Africa.

Many countries have only conducted a single agricultural census or their agricultural census reports lack information on farmland distribution, so we cannot consider the change in farmland distribution over time at global level. We were however able to analyse data from a sample of 106 countries (which represents a large share of the world’s agricultural Gross Domestic Product [GDP] and population) and for which data on farm size and farmland distribution are available to provide estimates for the world and by region and income levels. This allows inferences to be made regarding what might be expected as incomes

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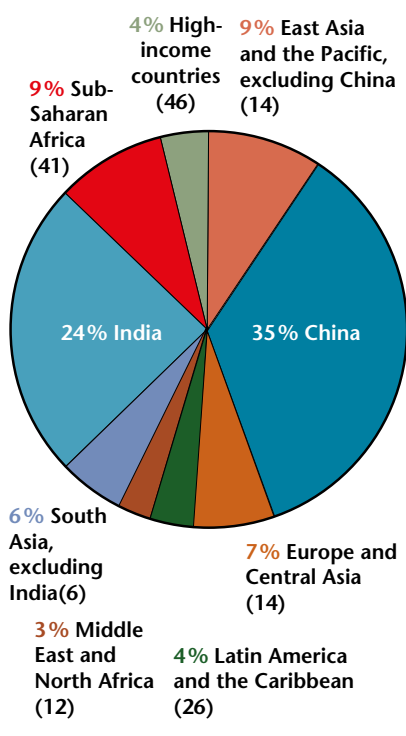
Notes: Country groupings are the same as those used by the World Bank (2012). Number of countries shown in parentheses.

grow and countries move to higher levels of economic development.

Globally, about 84 per cent of farms are smaller than two hectares, and these farms operate around twelve per cent of farmland (see Figure on page 15, top). In other words, only 16 per cent of the world's farms are larger than two hectares, but they represent 88 per cent of the world's farmland. Considering farmland distribution by income group, we see that smaller farms operate a far greater share of farmland in **lower-income countries** and regions than in higher-income countries and regions (note that this includes 87 countries for which we have tabulations of the number of farms as well as farmland distribution by farm size; as a result, China is among those countries excluded from the Figure on the left). 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 per cent of farms are smaller than two hectares, similar to the global average, but they operate a much larger share of land, about 40 per cent. 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 per cent of farms are smaller than two hectares in size, and they operate less than five per cent of farmland. This pattern suggests that the share of farmland managed by small farms decreases as average income levels rise. That is, it suggests that farms consolidate as economies develop.

As noted above, many countries only have one agricultural census, or their agricultural census reports lack information on farmland distribution, but considering average farm sizes for countries for which estimates of average farm size are available for at least two of the census periods from 1960 to 2000, we see clear patterns according to income group (see Table). In most low- and lower-middle-income countries, average farm sizes have decreased. A slightly larger share of upper-middle-income countries have

Share of farms worldwide, by region or country group*



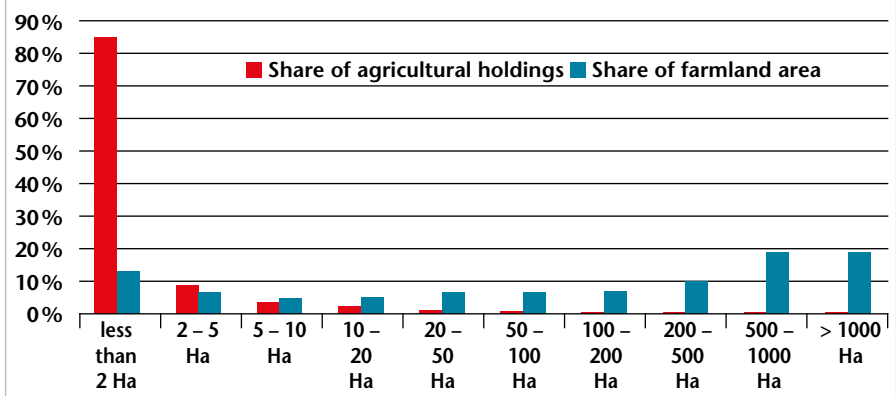
* 570 million farms in 161 countries; number of countries shown in parenthesis.
Sources: Authors' compilation using FAO (2013) and FAO (2001); see also Lowder, Scoet and Raney (2016), Web Appendix Table 1

exhibited increasing average farm size, and the majority of high-income countries have seen a clear increase. Patterns according to regional groupings of low- and middle-income countries show that an increase in average farm size has occurred in some (mostly upper-middle-income) countries in Latin America and the Caribbean, but in few countries in other regions.

In summary, the following key findings can be deduced from this data:

- There are more than 570 million farms in the world.
- 84 per cent of the world's farms are smaller than two hectares and they operate only 12 per cent of world farmland.
- In countries at lower levels of income, smaller farms operate a far greater share of farmland than in the higher-income countries.
- Average farm size has decreased in most low and lower-middle income countries and increased in some upper-middle income and in most high-income countries.

Distribution of farms and farmland area by land size classes, 106 country sample



Sources: Authors' compilation using FAO (2013) and FAO (2001); see also Lowder, Scoet and Raney (2016), Web Appendix Table 3

Number of countries exhibiting a decrease or increase in the average size of agricultural holdings, 1960 – 2000

	Decrease	Increase	Neither clear increase nor decrease
High-income countries	7	26	4
Low- and middle-income countries, by income group			
Low-income countries	12	2	1
Lower-middle-income countries	24	2	0
Upper-middle-income countries	19	5	1
Low- and middle-income countries, by regional grouping			
East Asia and the Pacific	8	2	0
Latin America and the Caribbean	18	7	2
Middle East and North Africa	10	0	0
South Asia	5	0	0
Sub-Saharan Africa	15	3	1

Sources: Authors' compilation using FAO (2013); see also Lowder, Scoet and Raney (2016), Web Appendix Table 2

- The trends in average farm size as well as the distribution of farmland by farm size for countries at varying levels of development are both suggestive of farm consolidation as economies grow and of fragmentation in low-income slow-growth countries.

Furthermore, the surveys indicate that there is room to improve data. Continued efforts to enhance the collection of up-to date, comprehensive and more standardised agricultural census data are essential to having a more representative picture of the agricultural sector world-wide. It would seem appropriate to redouble efforts to make farm-level agricultural census data more easily accessible to re-

searchers as well as to encourage all countries to conduct comprehensive agricultural censuses which either sample or enumerate all types of farms throughout a country. For countries that limit agricultural censuses to a survey of household farms only, the international community might consider conducting supplementary surveys to consider corporate and government owned enterprises as well as household farms.

The views expressed in this publication are those of the authors and do not necessarily reflect the views or policies of FAO.

For the survey background and references, see: > www.rural21.com