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The Number, Size, and Distribution of Farms, Smallholder Farms, and Family Farms Worldwide[☆]

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Summary. — Numerous sources provide evidence of trends and patterns in average farm size and farmland distribution worldwide, but they often lack documentation, are in some cases out of date, and do not provide comprehensive global and comparative regional estimates. This article uses agricultural census data (provided at the country level in Web Appendix) to show that there are more than 570 million farms worldwide, most of which are small and family-operated. It shows that small farms (less than 2 ha) operate about 12% and family farms about 75% of the world's agricultural land. It shows that average farm size decreased in most low- and lower-middle-income countries for which data are available from 1960 to 2000, whereas average farm sizes increased from 1960 to 2000 in some upper-middle-income countries and in nearly all high-income countries for which we have information.

Such estimates help inform agricultural development strategies, although the estimates are limited by the data available. Continued efforts to enhance the collection and dissemination of up-to date, comprehensive, and more standardized agricultural census data, including at the farm and national level, are essential to having a more representative picture of the number of farms, small farms, and family farms as well as changes in farm size and farmland distribution worldwide.

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Key words — family farm, small farm, farm size, smallholder, farmland distribution

1. INTRODUCTION

Agricultural economists and other development specialists generally agree that investing in agriculture is an effective strategy for reducing poverty, inequality and hunger, especially in countries where the sector employs a large share of the population (FAO, 2012; World Bank, 2007). There is considerable debate regarding what type or scale of agriculture should be promoted in order to most effectively achieve these goals (Larson, Otsuka, Matsumoto, & Kilic, 2014). Many advocates emphasize the importance of “smallholder farming” or “family farming”, with claims often made that smallholders or family farms are responsible for a large share of the world's food production (e.g., Fairtrade International, 2013)—or that a large share of the food consumed in Africa and Asia is produced by smallholders in those regions (HLPE, 2013; IFAD & UNEP, 2013). The terms smallholder and family farm are often used interchangeably or in combination without clear definitions. Lack of clarity regarding terminology as well as the basic composition and diversity of the agricultural sector is a serious barrier to effective policy dialog.

A 2010 special issue of World Development, devoted to small farms,¹ classified the agricultural development literature on farm size according to one or more of the following topics: scale and efficiency; small farms, and poverty; and changing agrarian structure and the future of small farms (Wiggins, Kirsten, & Lambi, 2010). A number of sources, including articles from the special issue of World Development, state that there are about 500 million farms smaller than 2 ha worldwide, but mostly without providing documentation for the claim. Other work provides evidence of trends and patterns in average or median farm size and/or farmland distribution (see Table 1), but it is often lacking documentation, is in some cases out of date, and does not provide comprehensive global and comparative regional estimates. This article makes use of agricultural census data from 167 countries and territories to

provide comprehensive and well-documented estimates for the number of farms worldwide. It also considers data for more than 100 countries to assess the evolution of average farm size as well as distribution of farms, small farms, and family farms at global and regional levels and by country income groups. All country-level data are provided in Web Appendix. These estimates can inform agricultural development strategies and policy decisions on a wide range of issues.

This article proceeds as follows. Section 2 reviews the available literature on the number of farms, average farm size, and farmland distribution. Section 3 describes the data used for the analysis. Section 4 presents estimates of the total number of farms in the world, as well as by region and income group classification. Section 5 presents trends in average farm size by region and income grouping. Section 6 examines the distribution of farms and farmland at the global and regional level as well as for country income groups. Section 7 presents an estimate of the number of family farms worldwide as well as the

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* This paper was prepared as background research for *The State of Food and Agriculture 2014*, available at <http://www.fao.org/publications/sofa/en>. The authors are grateful for the provision of agricultural census reports by the Statistics Division of FAO (ESS) and helpful research assistance from Saumya Singh and Raffaele Bertini. Feedback was received from numerous colleagues in FAO; in particular, the authors wish to thank Jairo Castano, Giorgi Kvinikadze, Adriana Neciu, André Croppenstedt, Cheng Fang, Panagiotis Karfakis, Michelle Kendrick, George Rapsomanikis, Kostas Stamoulis, and Dominique Van Der Mensbrugge. Any errors and omissions are those of the authors. The views expressed in this publication are those of the author(s) and do not necessarily reflect the views or policies of FAO.

Table 1. *Published literature on average or median farm size and farmland distribution worldwide, 2010–14*

Author, year of publication	Data used	Geographical Coverage	Sample size	Time period	Findings:
Eastwood <i>et al.</i> (2010)	Agricultural censuses	Global	–	1930–90 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	1970–2000 rounds	Median farm size decreased in most countries considered
Deininger & Byerlee (2012)	Literature review	Selected land abundant countries in Latin America, Eastern Europe and Central Asia, Southeast Asia and Sub-Saharan Africa	–	1970–2000s	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 South East 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	1930–2000 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 onward. Countries where an increase rather than decrease was observed included Australia, New Zealand, the United States, Canada, Argentina, and Uruguay
HLPE (2013)	Agricultural censuses	Global	81 countries	1930–2000 rounds	Average farm size has decreased for the African region as a whole and it has also decreased in China. Farmland distribution: For a sample of 81 countries, using data from the 2000 round, the HLPE report found that 73% of farms are smaller than 1 ha and 85% are smaller than 2 ha. On average for 14 African countries 80% of holdings are smaller than 2 ha in size; they operate about 25% of the agricultural land. In the European Union 50% of farms are smaller than 2 ha in size and operate only about 2% of the agricultural land
Masters <i>et al.</i> (2013)	Rural and urban population data	Africa and Asia	–	1950–2050	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 & 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% of land, while in the poorest countries 70% of land is operated by farms smaller than 5 ha
Jayne <i>et al.</i> (2014)	Agricultural censuses/surveys	Africa	12 countries	1980–2010 round	Africa is typically characterized as land abundant (Deininger <i>et al.</i> , 2011), 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

Note: “–” indicates data not available.

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