SMALL FARMS: CURRENT STATUS AND KEY TRENDS

Information Brief

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Prepared for the Future of Small Farms
Research Workshop
Wye College, June 26–29, 2005

The question of the future viability of small farms is the subject of academic and political debates that have gained particular attention in recent years. Such debates are driven, in part, by renewed commitment by many countries and donors to explore the role of agricultural development for growth and poverty reduction. At the same time, increasingly integrated, globalized, and consumer-driven agricultural and food markets require smallholders to adapt to a new environment. Small farmers face the challenge of integration and competitiveness in new markets, but at the same time they are constrained by drastic reductions in the provision of basic public services as a result of recent policy reform, market liberalization, as well as budgetary and capacity limitations.

Definition of Small Farms

The concept of small farms can be approached from a variety of angles. Small-scale agriculture is often, albeit not always appropriately, used interchangeably with smallholder, family, subsistence, resource-poor, low-income, low-input, or low-technology farming (Heidhues and Brüntrup 2003). The following examples of definitions illustrate the diversity of conceptual approaches to the term:

- Lipton defines family farms as "operated units in which most labor and enterprise come from the farm family, which puts much of its working time into the farm" (2005);
- The World Bank's Rural Strategy defines smallholders as those with a low asset base, operating less than 2 hectares of cropland (World Bank 2003);
- A recent FAO study defines smallholders as farmers with "limited resource endowments, relative to other farmers in the sector" (Dixon, Taniguchi, and Wattenbach 2003);
- Narayanan and Gulati characterize a smallholder "as a farmer (crop or livestock) practicing a mix of commercial and subsistence production or either, where the family provides the majority of labour and the farm provides the principal source of income" (2002).

The sole consensus on small farms may be the lack of a sole definition. As a result, the issue spans "a widely diversified group from middle class family businesses well-integrated into the market economy to subsistence farmers, who constitute almost 75 percent of the world's poor" (Huvio, Kola, and Lundström, eds. 2005). To underscore this point, consider that various agencies in the United States categorize small farms using agricultural sales cutoffs of $50,000, $250,000, or even $500,000 (Economic Research Service, Small Business Administration, and National Commission on Small Farms, respectively [ERS 2005]). According to the $500,000 threshold, 97 percent of U.S. farms fall into the small farm category. most

The most common approach—adopted in this paper and driven by availability of internationally comparable empirical data—is to define small farms on the basis of the size of landholding (or livestock numbers). It is important, however, to recognize the limitations of this measure, given that it fails to properly account for the quality of resources, the types of crops grown, or disparities across regions. For example, a small farm in Latin America that produces high-value crops in an irrigated area is hardly comparable with a small farm in South Asia producing a staple crop in a marginal or rainfed area. The size-based definition also precludes analysis or comparison of institutional and market arrangements available to farmers, which play a critical role in determining their income opportunities as well as their access to key social services, such as health and education. Further, the

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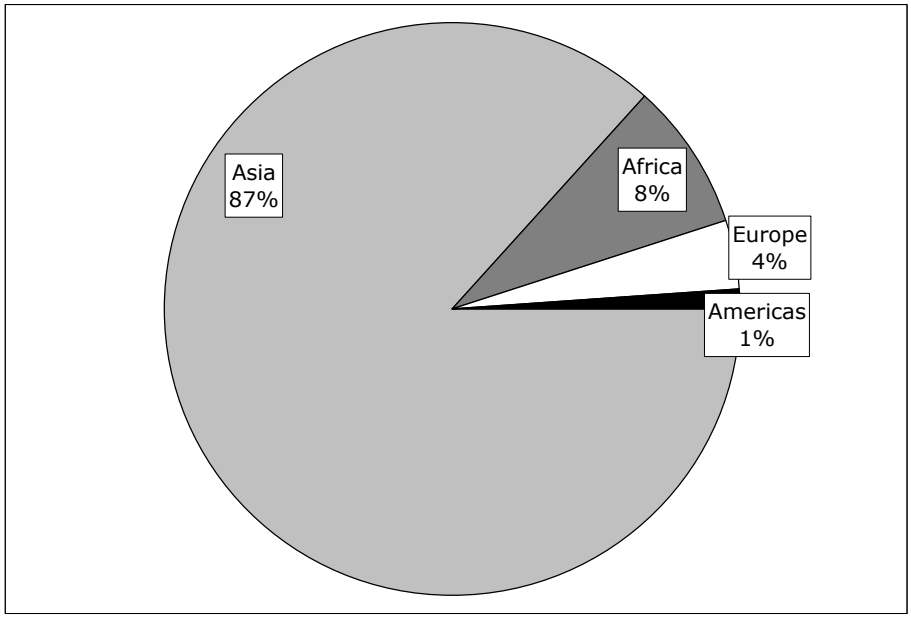
size-based definition does not shed light on a farm's labor arrangements, such as relative shares of family and hired labor, which can also have substantial implications for the farm's efficiency and productivity. With these criticisms in mind, in this paper the terms *small farms* and *smallholders* are confined to farms of less than 2 hectares of owned or rented land. This definition also assumes that the farm family provides the primary source of labor and that farming constitutes a principal source of income for the family.

Number of Small Farms

There are approximately 525 million farms worldwide, though small farm data are only available for 470 million. Of these, smallholders who operate plots of land of less than 2 hectares currently constitute 85 percent. The overwhelming majority of these farms are located in Asia (87 percent), while Africa is home to another 8 percent, and Europe to approximately 4 percent (Figure 1). In Asia, China alone accounts for almost half the world's small farms (193 million), followed by India with 23 percent. Other leaders in the region, in descending order, include Indonesia, Bangladesh, and Viet Nam (Table 1).

Figure 1. Regional distribution of small farms



Sources: Calculated by author based on FAO (2001, 2004) and data from national statistical agencies (details of which are available from the author on request).
Note: Small farms are defined as those of less than 2 hectares. The total number of small farms is 404 million.

Africa has approximately 33 million small farms, representing 80 percent of all farms in the region. It is important to mention, however, that data for Africa are particularly scarce. Data on small farms are available for less than half of all African countries, while for many Agricultural Census data have not been collected since the 1960s or 1970s. Existing data suggest that small farms are most prolific in Ethiopia, followed in descending order by Nigeria, the Democratic Republic of Congo (DR Congo), Tanzania, and Egypt (Table 1).

Europe contains almost 16 million small farms, predominantly located in Central and Eastern Europe. Russia, included in Europe based on UN categorizations, contributes another 16 million farms of less than 1 hectare. Von Braun and Lohlein (2003) estimate that about 41 million subsistence farms of this size are located in Central and Eastern Europe and the countries of the former Soviet Union (FSU). Since the collapse of the Soviet Union and the subsequent shift, through land reform, away from collective farming, these subsistence plots have grown to represent over 95 percent of all farms and contribute a major share of the region's food production.

Table 1. Top five countries with the largest number of small farms, by region

Country	Census year	Number of farms under 2 hectares	Share of farms under 2 hectares, percent
Asia			
China	1997	189,394,000	98
India	1995–96	92,822,000	80
Indonesia	1993	17,268,123	88
Bangladesh	1996	16,991,032	96
Viet Nam	2001	9,690,506	95
Africa			
Ethiopia	2001–02	9,374,455	87
Nigeria	2000	6,252,235	74
DR Congo	1990	4,351,000	97
Tanzania	1994–95	2,904,241	75
Egypt	1990	2,616,991	90
Americas			
Mexico	1991	2,174,931	49
Peru	1994	1,004,668	58
Brazil	1996	983,330	21
Ecuador	1999–2000	366,058	43
Venezuela	1996–97	113,421	23
Europe			
Russia[a]	2002	16,000,000	98
Ukraine	2003	6,214,800	99
Romania	1998	2,279,297	58
Bulgaria	1998	1,691,696	95
Poland	2002	1,494,100	51

Sources: Calculated by author based on FAO (2001, 2004) and data from national statistical agencies (details of which are available from the author on request).
[a] Data are based on farm size of less than 1 hectare.

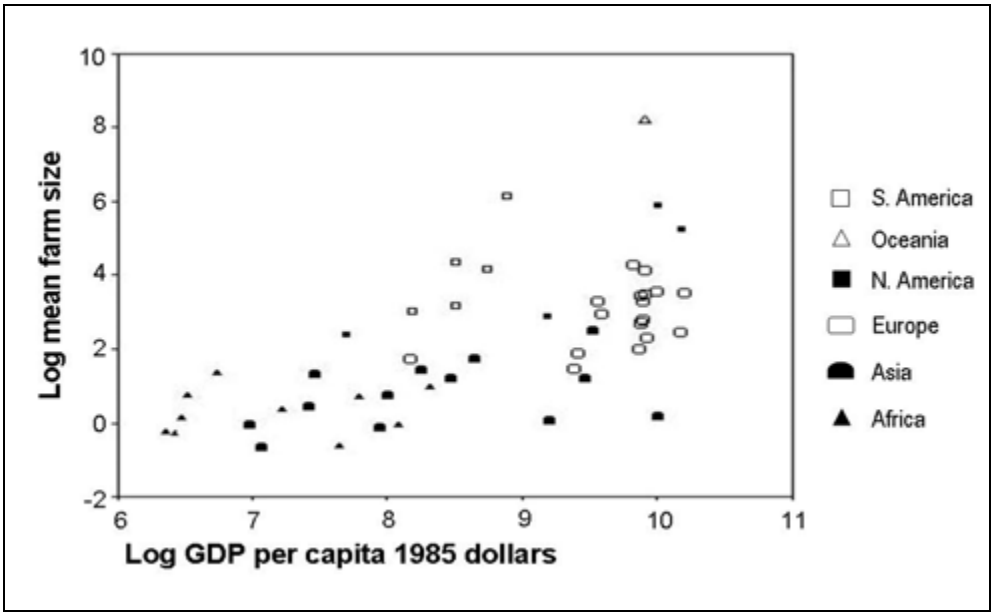
Recent Trends in Farm Size

Historical trends suggest that small farmers will continue to dominate the agricultural landscape in the developing world, especially in Africa and Asia, for at least the next two to three decades. In the longer run, the process of economic development will increase per capita incomes, diversify economic opportunities, and allow agricultural workers to leave farming in order to pursue employment opportunities in other sectors of the economy. Until the transition unfolds and alternative sources of livelihoods emerge in urban areas and in the rural nonfarm sector, policymakers must also take steps to help smallholders.

Recent evidence, for example, Eastwood, Lipton, and Newell (2004), suggests a positive relationship between average farm size and the level of economic development, as represented by GDP per capita

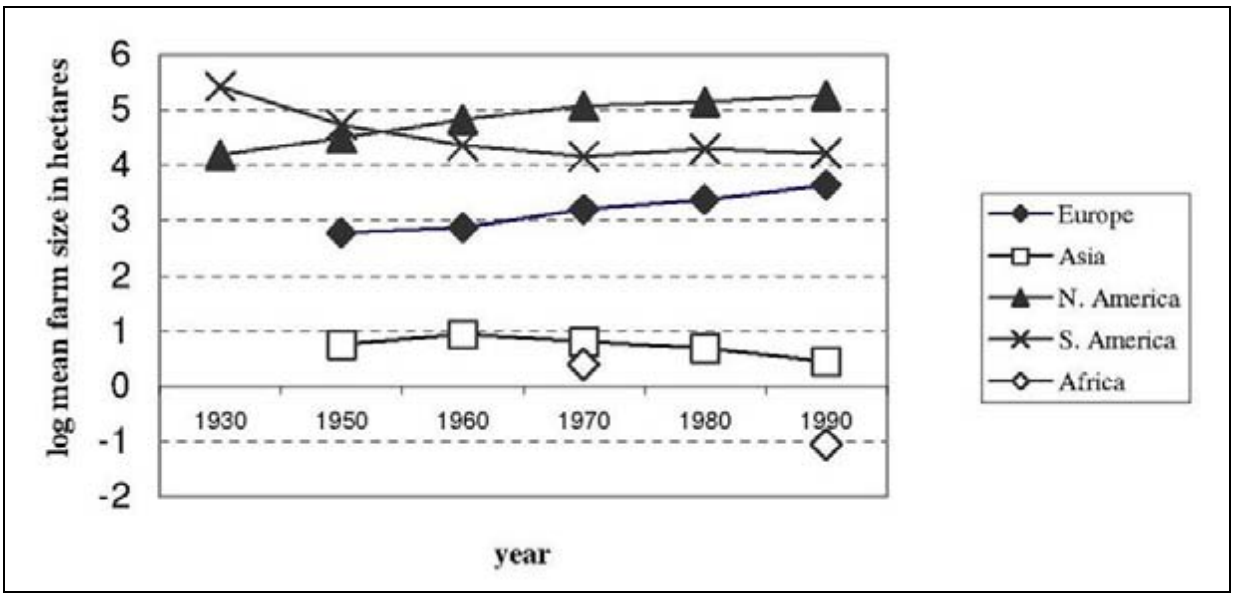
(Figures 2 and 3, Table 2). Historical trends from developed countries show that the size of farms increased during the second half of the 20th century, while the number of small farms decreased (Figures 3 and 4, and Table 3). In the United States, the average farm size has grown from 157 hectares in 1969 to 178 hectares in 2002, peaking at almost 200 hectares in the mid-1990s. Similar trends can be observed in the United Kingdom, where the average farm size grew from 55 to 70 hectares during 1970–93. Farm size in North America currently averages 121 hectares, and in Western Europe it averages 27 hectares (Table 2).

Figure 2. Mean farm size and GDP per capita, 1990



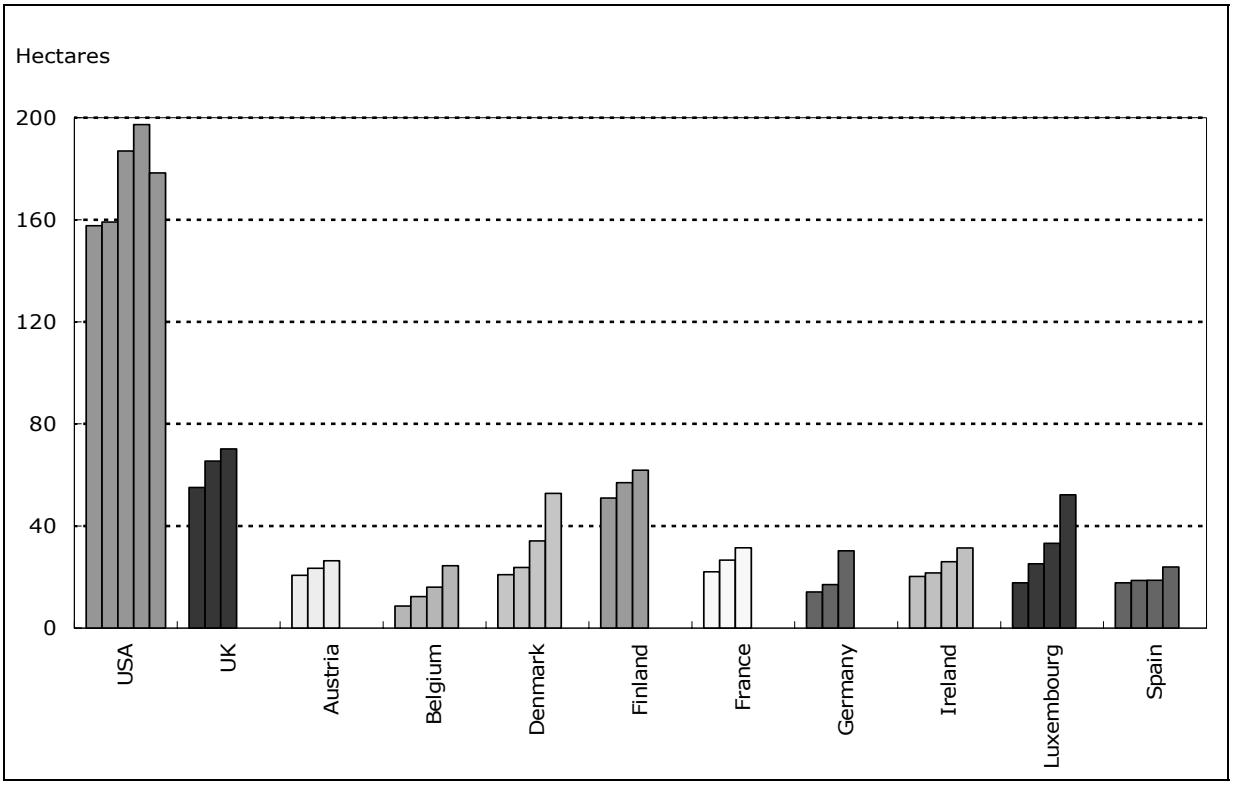
Source: Eastwood, Lipton, and Newell 2004.

Figure 3. Mean farm size by continent, 1930–90



Source: Eastwood, Lipton, and Newell 2004.

Figure 4. Trends in average farm size, selected developed countries



Source: FAO 2001, 2004.
Note: The data for Figure 4 is contained in Table 3.

Table 2. Approximate farm size by world region

World region	Average farm size, hectares
Africa	1.6
Asia	1.6
Latin America and Caribbean	67.0
Europe[a]	27.0
North America	121.0

Source: von Braun 2005.
[a] *Data include Western Europe only.*

Table 3. Trends in average farm size and number of small farms

Country	Census year	Average farm size, hectares	Total area of holdings, hectares	Number of farms under 2 hectares
Selected developed countries				
United States	1969	157.6	430,321,000	108,370
	1979	159.1	394,061,235	na
	1987	187.0	390,311,617	na
	1997	197.2	377,088,222	66,012
	2002	178.4	379,712,151	na
United Kingdom	1970	55.1	17,992,312	na
	1979	65.4	17,568,330	na
	1993	70.2	17,144,777	na
Austria	1969	20.7	7,490,463	75,840
	1980	23.5	7,325,863	54,548
	1990	26.7	7,217,498	38,694
Belgium	1970	8.7	1,602,864	68,981
	1979	12.4	1,475,140	35,835
	1990	16.1	1,400,364	20,083
	2002	24.5	1,392,691	na
Denmark	1970	21.0	2,941,316	na
	1979	23.8	2,919,721	na
	1989	34.1	2,774,127	na
	2002	52.8	2,665,507	na
Finland	1970	51.0	15,150,223	33,573
	1980	57.0	12,800,326	20,673
	1990	61.9	12,338,439	27,114
France	1971	22.1	35,039,217	282,592
	1989	31.5	31,985,606	150,933
Germany	1971	14.2	15,236,139	195,198
	1995	30.3	17,156,900	90,600
Ireland	1991	26.0	4,441,755	4,460
	2000	31.4	4,443,071	3,130
Luxembourg	1970	17.8	135,143	1,175
	1980	25.1	130,061	807
	1990	33.2	126,298	523
	2001	52.2	137,664	324
Spain	1972	17.8	45,702,620	1,026,504
	1982	18.7	44,311,769	988,591
	1989	18.8	42,939,208	1,010,280
	1999	23.9	42,180,951	na

Table 2. Continued

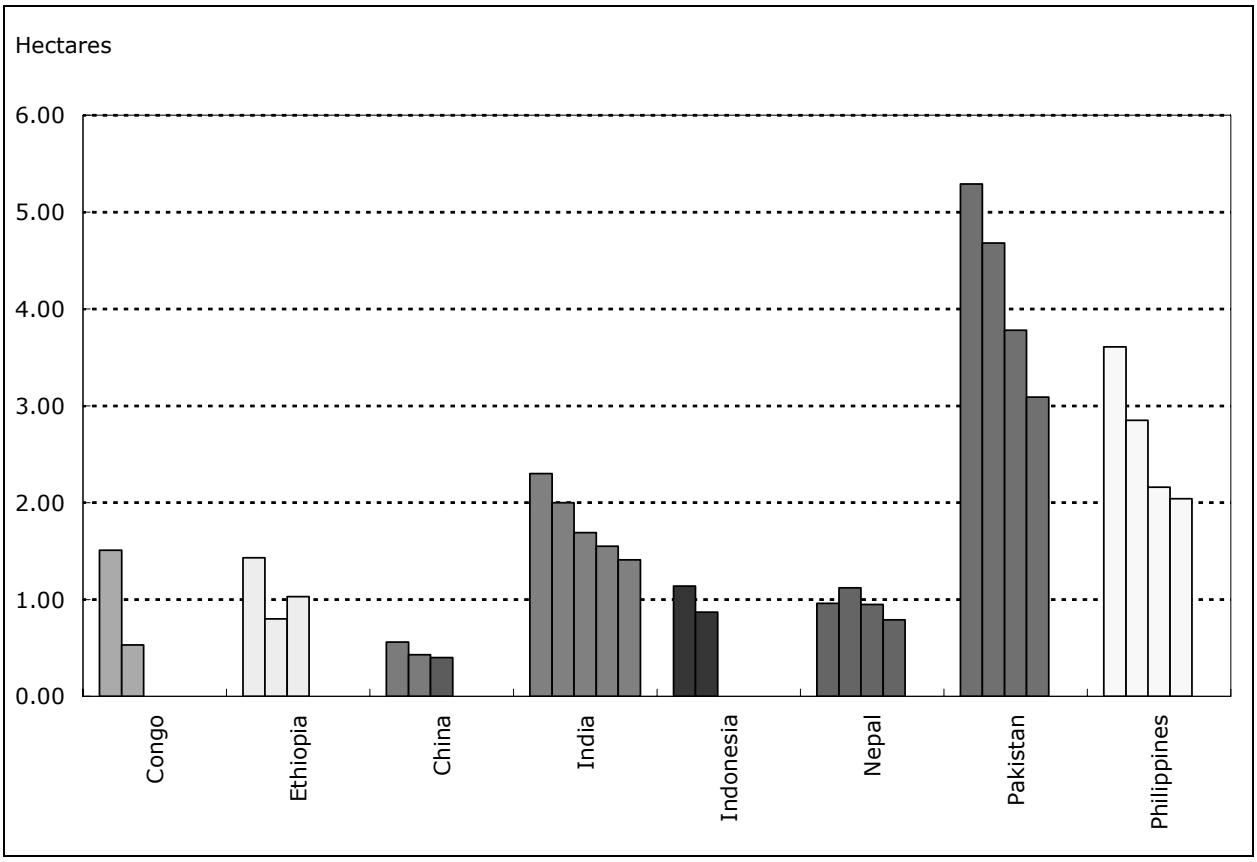
Country	Census year	Average farm size, hectares	Total area of holdings, hectares	Number of farms under 2 hectares
Selected developing countries				
DR Congo	1970	1.5	3,821,916	2,026,740
	1990	0.5	2,387,700	4,351,000
Ethiopia	1977	1.4	6,862,200	3,675,500
	1989–92	0.8	4,871,020	5,620,140
	2001–02	1.0	11,047,249	9,374,455
China	1980	0.6	na	na
	1990	0.4	na	na
	1999	0.4	na	na
India	1971	2.3	162,124,000	49,114,000
	1991	1.6	165,507,000	84,480,000
	1995–96	1.4	163,357,000	92,822,000
Indonesia	1973	1.1	16.394,000	12,712,791
	1993	0.9	17,145,036	17,268,123
Nepal	1992	1.0	2,598,971	2,407,169
	2002	0.8	2,654,037	3,083,241
Pakistan	1971–73	5.3	19,913,000	1,059,038
	1989	3.8	19,149,637	2,404,057
	2000	3.1	20,437,554	3,814,798
Philippines	1971	3.6	8,494,000	963,738
	1991	2.2	9,974,871	2,999,076

Source: Calculated by author based on FAO (2001, 2004). Data for China are from Fan and Chan-Kang (2003).
Note: na indicates that data were not available.

Evidence from Africa and Asia suggests that, despite steady economic growth in many Asian countries over recent decades, small farms still dominate in rural areas. According to the 1990 FAO World Agricultural Census (FAO 2001), as of the mid- to late 1990s farm size averaged 1.6 hectares in both Africa and Asia (Table 2), while in Latin America it averaged 67 hectares, reflecting highly unequal land distribution rather than advances in economic development. In fact, land holdings are becoming increasingly subdivided, suggesting that agriculture is absorbing the rising population (Figure 5). In Africa, for instance, the average size of landholdings shrank from 1.5 hectares in 1970 to 0.5 hectares in 1990 in DR Congo, at which time 62 percent of all farm households operated land holdings of less that 0.5 hectares. Further, the total number of small farms in DR Congo more than doubled during this time. In Lesotho, decreases in average farm size were accompanied by a 40 percent increase in the total number of small farms during 1970–90, and by a further increase of 70 percent over the following decade.

Similar trends can be observed in Asia. In China, average farm size decreased from 0.56 hectares in 1980 to 0.4 hectares in 1999 (Fan and Chan-Kang 2003); in Pakistan, it steadily declined from 5.3 hectares in 1971–73 to 3.1 hectares in 2000, during which time the number of small farms more than tripled; in the Philippines, average farm size fell from 3.6 hectares in 1971 to only 2 hectares in 1991; and in India, it decreased from 2.2 hectares in 1950, to 1.8 hectares in 1980, to 1.4 hectares in 1995–96.

Figure 5. Trends in average farms size, selected developing countries



Sources: Calculated by author based on FAO (2001, 2004). Data for China are from Fan and Chan-Kang (2003).
Note: Data for Figure 5 are contained in Table 3.

Land Distribution

The prevalence of small farms in the developing world can be seen from their share of total farm households (Table 4). But inequitable land distribution in many countries means that the number of small farms usually does not equate with the share of total agricultural land. The most recent Agricultural Census for India (1995/96) indicates that 80 percent of farm households cultivate only 36 percent of total agricultural area. In Pakistan, 58 percent of all farmers fall into the smallholder category, but they cultivate only 15 percent of total agricultural land. Similar—though less dramatic—trends are also evident in Africa. In Egypt, three-quarters of all farmers are small farmers but they cultivate less than a half of all land. In Uganda, where a proportion of smallholders is comparable to Egypt, small farmers cultivate only 27 percent of all land. Unequal land distribution is especially prominent in Latin America. Smallholders in Ecuador, for example, constitute 43 percent of all farmers but cultivate only 2 percent of the land, and in Brazil only 20 percent of all farmers are smallholders, but their share of total land is less than 1 percent. In Eastern Europe, 51 percent of Poland's small farmers cultivate only 7 percent of the land, while in the Ukraine, small farms—which constitute 99 percent of all farms—cultivate only 8 percent of all agricultural land (World Bank/OECD 2004).

Table 4. Small farms as a share of total number of farms and total cultivable area

	Egypt 1990[a]	Ethiopia 1999/2000	DR Congo 1990	Uganda 1991	Bangladesh 1996	India 1995/1996	Indonesia 1993	Nepal 2002	Pakistan 2000	Brazil 1996	Ecuador 1999/2000	Panama 2001[b]	Georgia 1998	Poland 2002	Romania 1998	Russia 2002[b]	Ukraine 2003
Number of small farms as a share of total farms (percent)	75	87	97	73	95	80	88	92	58	20	43	53	96	51	58	98	99
Share of total area cultivated by smallholders (percent)	49	60	86	27	69	36	55	69	15	0.3	2	0.6	33	7	14	3	8

Source: FAO 2001, 2004; *Tanic 2001, Goskomstat 2002, World Bank/OECD 2004.*

[a] *Under 2.1 hectares.*
[b] *Under 1 hectare.*

Production Shares of Small Farmers

Small farmers account for a sizable share of agricultural production and in many instances their contribution is growing. In India, for example, smallholders were contributing over 40 percent of foodgrain production in 1990-91 (compared with only a third of the total in 1980), as of the late 1990s they owned the majority of livestock, and were dominating the dairy sector (Narayanan and Gulati 2002). In Kenya, the share of national agricultural production contributed by smallholders increased from 4 percent in 1965 to 49 percent in 1985 (Lele and Agarwal 1989, cited in Machethe 2004). Malawian small farmers account for 85 percent of total agricultural production (MOI Undated) while dairy smallholders in Ethiopia contribute 97 percent of total national milk production and three-quarters of commercial milk production (Ahmed, Ehui, and Assefa 2004). According to Spencer, 90 percent of all agricultural production in Africa is derived from small farms (2002).

In Eastern Europe, subsistence farmers have played a key role in ensuring food security in the region during the transition period from collective to private farming. Russian smallholders produced 52 percent of total agricultural production in 2001, compared with only 26 percent just a decade ago (Goskomstat 2002). Data on shares of small farmers—typically operating less than 1 hectare of land—in producing selected agricultural products is presented in Table 5.

Table 5. Share of small farms in agricultural production, selected former Soviet Union countries, percent

Country	Milk	Meat	Vegetables	Fruit	Potatoes	Eggs
Kazakhstan, 1997	12	68	na	na	na	53
Kyrgyzstan, 1997	5	76	na	na	na	1
Moldova, 1998	84	na	71	48	99	57
Russia, 2001	51	57	80	na	93	28
Ukraine, 2001	73	76	87	86	98	62
Uzbekistan, 1997	68	90	na	na	na	46

Sources: Dumitrshko 2001; Seperovich 2002; Goskomstat 2002; Suleimenov 2000.
Note: na indicates that data were not available.

Income Shares of Smallholders

Smallholder income derived through the sale of surplus farm produce is frequently supplemented by nonfarm income. A recent study conducted in South Africa estimates that farming activities generate only about 40 percent of total smallholder incomes, while nonfarm sources account for the remainder, including remittances and wages representing 12 and 19 percent, respectively (Machethe et al. 2004). A recent study by Jayne et al. (2003, Table 6) estimates that in Zambia, 27 percent of smallholder income is derived from off-farm activities, while in Kenya 40 percent is derived from nonfarm sources, such as remittances (7 percent), business income (12 percent), and wage labor (21 percent). The diversity of income sources for smallholders can also be found in FSU countries. In Georgia, for example, 57 percent of small farm income is derived from the sale of agricultural products, supplemented by contractual employment, remittances, and pension payments (Kegel 2003). Similarly in South Asia, rural nonfarm income accounts for approximately 30 to 40 percent of total smallholder income, while in Southeast Asia this share may be as high as 45 percent (DFID/ODI/NMFA 2002).

Table 6. Smallholder sources of income in selected African countries, percent

Country	Household per capita income (U.S. dollars)	Crop income share	Livestock production income share	Share of off-farm income, of which:	Remittances	Business income	Salary or wages
Kenya	336.7	34.0	26.0	40.0	6.7	12.3	21.0
Ethiopia	71.6	91.9	na	8.1	na	na	na
Rwanda[a]	78.7	70.3	4.9	24.8	3.4[b]	5.9	15.6
Mozambique[c]	43.1	84.5	2.8	12.7	na	10.5	2.2
Zambia	62.9	67.2	4.4	28.4	5.2	13.8	9.4

Source: Jayne et al. 2003.
Note: na indicates that data were not available. All data are weighted, except for Kenya, where weights were not available.
[a] Income data include gross income derived from crop production on rented land.
[b] Gifts received rather than remittances.
[c] Where available, income data are for North-Central Mozambique only.

Poverty and Small Farmers

Despite the volume of production that smallholders generate and the variety of additional sources of income they draw on, small farmers—in addition to the landless and urban poor—are among the most disadvantaged and vulnerable groups in the developing world. Half of all undernourished people in the world, three-quarters of Africa's malnourished children, and the majority of people living in absolute poverty can be found on small farms (Millennium Project Task Force on Hunger 2004, 2005; IFAD 2001). Individual country- and household-level case studies confirm these generalized findings. Jayne et al. (2003) established that of the share of surveyed smallholder households falling below the poverty line was 55 percent in Kenya, 75 percent in Ethiopia, and a staggering 97 percent in Mozambique (Table 7). Recent research in India shows that the incidence of hunger among those farmers whose landholdings are less than 0.5 hectares is 32 percent and the incidence of poverty is 38 percent; the likelihood of being affected by hunger or poverty drops to 12 and 13 percent, respectively, for those farmers who cultivate more than 4 hectares of land (Singh 2004).

Table 7. Smallholder income and poverty in selected African countries

Country	Average land access per household (hectares)	Household per capita income (U.S. dollars)	Nonfarm share of household per capita income (percent)	Poverty headcount (percent)	Poverty line (U.S. dollars)	Poverty gap (ratio)
Kenya, 1997	2.65	336.9	40.0	55.2	256.3	0.3
Ethiopia, 1995	1.17	71.6	7.3	75.1	97.4	0.4
Rwanda, 1990	0.94	78.7	24.8	na	na	na
Mozambique, 1996	2.1	43.1	12.7	97.1	170	0.8
Zambia, 2000	2.76	57.7	27.3	na	na	na

Source: Jayne et al. 2003.
Note: na indicates that data were not available. Data for Ethiopia, Rwanda, Mozambique, and Zambia are weighted. Data for Kenya are sample statistics.

Many of the forces shaping the future of small farms can be harnessed to propel small farmers to higher standards of living by both stimulating productivity increases and opening up promising new markets. Against the overall discouraging backdrop of actual impacts, there are refreshing exceptions throughout the developing world which indicate that advances in productivity and income levels can be achieved. Capitalizing on renewed political will by turning challenges into opportunities for small farmers could transform smallholder agriculture from "the parking lot for the poor" and into an engine of growth.

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