

## IS SMALL FARM LED DEVELOPMENT STILL A RELEVANT STRATEGY FOR AFRICA AND ASIA?

Peter Hazell

### ABSTRACT

Although there is a lot of country and regional variation, the overwhelming story across much of Africa and Asia is one of more small farms, shrinking farm sizes and increased income diversification. Despite growth, sometimes quite rapid growth, in national per capita incomes, there is little sign yet of a shift to the patterns of farm consolidation and matching levels of rural-urban migration that occurred during the economic transformation of today's industrialized countries. Rather, relatively few workers are leaving their farms for the cities and instead are diversifying into nonfarm activity from a small farm base. In some countries even the total agricultural land area is becoming more concentrated among small farms, and it is the large farms that are being squeezed out.

This 'reverse' farm transition is creating new tensions and potential tradeoffs between important economic, social and environmental goals. During the green revolution era, small farm growth was seen as a winning proposition for growth, poverty alleviation and food security outcomes, and concern focused largely on adverse environmental outcomes. This is now changing and the future outlook is for less complementary outcomes at national scales between growth, poverty alleviation and food security goals, posing more difficult choices for policy makers. There can be no pretence that all of today's small farms (some 500 million less than 2 ha in size) have viable futures in farming, and in many cases the appropriate emphasis should be on providing assistance in diversifying into a non-farm business or off farm employment, or leaving farming altogether. However, despite pessimism in recent years about the future of small farms, small farms situations are actually very diverse, and there are plenty of viable business opportunities for many to exploit if they receive the right kinds of assistance.

The contemporary literature distinguishes between small and non-small farms, between men and women farmers, and between poor and non-poor farms, but without recognizing that for targeting purposes there may be more relevant variation within these groupings than between them. Particularly relevant here is a growing literature showing that farms are becoming more widely differentiated by size and livelihood strategy, and by market forces and locational factors that have an important bearing on their prospects as farmers, and hence the kinds of support they need. There has also been a widening gap between farming opportunities in dynamic regions and more stagnant or lagging regions. This has created a more diverse and polarized set of smallholder farming situations which needs to be considered when targeting agricultural investments. This is especially important when the objective is to help more small farms become successful and profitable farm businesses.

Further research is needed to develop and test the relevance of smallholder typologies, and to assess the most effective forms of agricultural interventions for each type of smallholder. This should also include analysis of the best ways to integrate agricultural interventions with complementary policies and investments, such as safety nets and assistance with migration and off-farm diversification. Another challenge is developing practical ways of identifying the different groups on the ground. There has been a lot of recent work using GIS and spatial analysis methods to identify target areas for rural development purposes. Most of this work focuses on mapping different regions in terms of their agro-ecology, market access, and rural population density, but so far there has been limited work on disaggregating further according to differences in farmer endowments, market orientation and gender.

## INTRODUCTION

Small farm led development has been the dominant agricultural development paradigm amongst agricultural economists since its remarkable success in driving Asia's Green Revolution during the 1960s and 1970s. The paradigm is based on several claimed advantages of small farms:

- Small farms are more efficient than large farms as evidenced by an impressive body of empirical studies showing an inverse relationship between farm size and land productivity across Asia and Africa (Eastwood, Lipton and Newell 2010; Binswanger and McCalla 2010). Moreover, small farms typically achieve their higher land productivity using labour-intensive methods rather than capital-intensive machines. These are important efficiency advantages in poor countries where land and capital are scarce relative to labour.
- In poor, labour-abundant economies, not only are small farms more efficient, but because they also account for large shares of the rural poor, small farm development can be a "win-win" proposition for growth and poverty reduction. Asia's green revolution demonstrated how agricultural growth that reaches large numbers of small farms can transform rural economies and raise enormous numbers of people out of poverty (Rosegrant and Hazell, 2000). Recent studies also show that a more egalitarian distribution of land not only leads to higher economic growth but also helps ensure that the growth that is achieved is more beneficial to the poor (World Bank, 2007).
- Small farms also contribute to greater food security, both through feeding their own families but also by supplying local markets with foods that may be less costly and less risky than alternative supplies, particularly in regions facing high transport costs. Because they produce more output per hectare than large farms, they also contribute to greater national food self-sufficiency in land scarce countries.
- Small farm households with cash incomes also have more favourable expenditure patterns than large farms for promoting growth of the local nonfarm economy, including rural towns. They spend higher shares of their incremental income on locally produced goods and services, many of which are labour intensive (Mellor, 1976; Hazell and Roell, 1983). These demand patterns generate additional income and jobs in the local nonfarm economy which can be beneficial to the poor.

Advocates of small farm development have long recognized that the efficiency advantages of small farms slowly disappear as countries develop. As per capita income rises, economies diversify and workers leave agriculture, rural wages go up, and capital becomes cheaper relative to land and labour. It then becomes more efficient to have progressively larger farms. Economies of scale in mechanised farming eventually kick in, accelerating this trend. The result is a natural economic transition towards larger farms over the development process, but one that depends critically on the rate of rural-urban migration, and hence on the growth of the non-agricultural sector (Eastwood, Lipton and Newell 2010; Huang 1973).

Despite its proven success, the small farm development paradigm is widely challenged today and there is considerable debate about its continuing relevance for Asia and Africa. Critics argue that because of rural population growth on a fixed land base, the onslaught of globalization and market liberalization policies, and the

emergence of new types of farm technologies, the economic context for small scale farming has changed and small may no longer be as beautiful as before. This paper considers these arguments and their implications for agricultural development and small farm assistance strategies.

#### PATTERNS OF FARM SIZE TRANSITION AND THEIR CONSEQUENCES

Despite a growing chorus of small farm sceptics, small farms are proving surprisingly resilient and continue to increase in number. There are nearly 450 million farmers today who farm less than 2 hectares of land, and many more family farms larger than 2 ha who struggle to make an adequate living from farming. Small farms are predominantly concentrated in Asia and Africa, and are home to some 2 billion people, including half the world's undernourished people and the majority of people living in absolute poverty (IFPRI, 2005).

Average farm sizes continue to shrink across much of Asia and Africa (Figure 1). In India, the average farm size about halved between 1971 and 2005/06, and the number of farms less than 2 hectares doubled (Table 1). In China, the average farm size bottomed out in 2000 but with only a modest increase since then (Table 2). The farm size data are much better for Asia than Africa, but Jayne (2012) and Djurfeld and Jirström (2012) report that average farm sizes are already falling in many of the more populous countries in Africa, and small farms less than 5 hectares increasingly dominate farm size distributions.

**Figure 1—Mean farm size by continent, 1930–1990**

Source: Eastwood, Lipton, and Newell 2010.

Table 1: Farm size distribution, India

Census year	Average farm size (Ha)	Number small farms less 2 Ha (millions)
1971	2.3	49.11
1991	1.6	84.48
1995/96	1.4	92.82
2001	1.3	98.10
2005/06	1.2	107.64

Source: World Bank (2007).

Table 2: Farm size distribution, China

	Cultivated land Ha/household	% net income from farming	% net income from wage earnings	% net income from other
1985	0.70	66.3	18.2	15.5
1990	0.67	50.2	20.2	29.6
1995	0.65	50.7	22.4	26.9
2000	0.55	37.0	31.2	31.8
2005	0.57	33.7	36.1	30.2
2010	0.60	29.1	41.1	29.8

Source: Huang, Wang and Qiu (2012)

Small farms are also becoming more diversified into off-farm sources of income, often because they are now too small to provide an adequate living from farming. In China, nonfarm income shares for farm households increased from 33.7% in 1985, to 63% in 2000, to 70.9% in 2010 (Huang, Wang and Qiu, 2012). This is a more extreme example, but nonfarm income shares have reached 40% or more in many other Asian and SSA countries, and are often much higher for the smallest farms (Haggblade, Hazell and Reardon, 2007). On average, this diversification is higher across Asia than Africa, but there is considerable variation within each continent.

Although there is a lot of country and regional variation, the overwhelming story is one of more small farms, shrinking farm sizes and increased income diversification. Despite growth, sometimes quite rapid growth, in national per capita incomes, there is little sign yet of a shift to the patterns of farm consolidation that occurred during the economic transformation of most of today's industrialized countries. Rather, relatively few workers are leaving their farms for the cities and instead are diversifying into nonfarm activity from a small farm base. This "reverse" transformation is leading to farm size distributions that look more and more like Figure 2. There is a general drift in the farm size distribution towards the origin on the horizontal axis, while off-farm diversification is leading to a simultaneous movement along the depth axis. Even in land abundant countries where the average farm size is increasing, still many small farms persist in lagging regions. In some countries (e.g. Bangladesh, India and the Philippines), even the total agricultural land area is becoming more concentrated among small farms, and it is the large farms that are being squeezed out.

**Figure 2: Stylistic representation of the emerging distribution of farm households by farm size group and degree of off-farm income diversification**

There are many factors driving this reverse farm size transition:

- Rapid rural population growth, especially in already populous countries.

- Insufficient growth in urban jobs to enable faster rural-urban migration. Even relatively fast growing countries like India have not generated sufficient growth in nonfarm jobs. Bangladesh and China may be two recent exceptions.
- Other constraints on rural-urban migration, such as language, racial and cultural barriers; legal restrictions on resettlement (e.g. China).
- Inheritance systems that lead to sub-division of farms amongst multiple heirs.
- Dense rural settlement patterns that provide enough income earning opportunities in the local nonfarm economy so that farm based workers do not need to migrate to urban areas.
- Growing high value opportunities in farming that create significant new employment opportunities in agriculture
- Restrictions on land market transactions, such as caps on farm size (India), or indigenous land rights systems that limit opportunities for land consolidation (Africa).
- An aging and immobile population of farmers. Farm exits tend to be an inter-generational phenomena; land is consolidated when farmers retire or die.
- Constraints on women's employment opportunities that keep them on the farm
- Inadequate social security systems so that farms are kept as a retirement hedge
- Subsidies and other agricultural support policies that make small scale farming more attractive than its real economic worth.

Many of these drivers are very powerful and seem unlikely to diminish in the near future. In poor, heavily populated countries experiencing rapid rural population growth (parts of South Asia and much of Africa) the pressure on land seems likely to keep growing. How many small farms will remain trapped in low productivity farming and poverty, and how many will successfully escape poverty by diversifying into high value agriculture or productive nonfarm activities or leaving farming altogether will depend critically on national and regional rates of economic growth and urban-rural linkages. In slow growing countries and in lagging regions more generally, large numbers of small and marginal farmers seem likely to remain trapped in subsistence farming and poverty.

The earlier experiences of Japan, Taiwan and South Korea suggest that the reverse farm size transition could continue until well into middle income status (Otsuka 2012). In Japan, for example, the average farm size only bottomed out around 1960 at 1 ha, and then increased to 1.2 ha in 1980 and 1.8 ha in 2005, while the percentage of farms less than 3 ha in size fell from 97.6% to 90.5% over the same period. China may finally have reached a tipping point in that the average farm size, which had fallen from 0.7 ha in 1985 to 0.55 ha in 2000, increased to 0.6 in 2010 (Table 2). However, it is difficult to obtain data to determine whether the actual number of small farms is now falling in China.

#### DOES THE REVERSE FARM SIZE TRANSITION MATTER?

From the perspective of economic efficiency or growth it does not really matter that farms are getting smaller unless there are economies of scale in farming. On the production side, the available evidence still supports an inverse relationship between land productivity and farm size, but small farms are facing growing challenges in accessing modern inputs, credit and high value markets. Large farms seem able to capture economies of scale and scope in linking to value chains, so unless small farms

are organized into marketing groups, it is possible that they are becoming less efficient than large farms. If so, then the reverse transition does matter from an efficiency perspective.

Another concern, particularly in Africa and Latin America, is growing competition from corporate sized farms that can exploit entirely new types of farming technologies, such as GPS-controlled precision farming, minimum tillage, GM seed and agrochemical packages, and back this with investments and political connections that give them privileged access to markets, modern inputs, insurance and credit, resulting in yields and cost structures that small farms simply may not be able to beat (Byerlee et al. 2012; Deininger and Byerlee 2011). A good example is the development model of Brazil's Cerrado region, which is being transplanted by private investors to parts of Africa (FAO and World Bank 2009). In some land surplus countries this development may be welcome and unstoppable, but unless carefully managed it is a growing threat to small farmers in more populous countries

Another economic growth concern is that as small farms get smaller, they may not have the kinds of cash income and expenditure patterns that help drive growth in the rural nonfarm economy. During Asia's green revolution, for example, small farms generated significant marketed surpluses and cash incomes, much of which was spent locally on a range of agricultural inputs, consumer goods and services, and investment goods for their farm and household. These expenditure and investment patterns generated significant secondary rounds of employment intensive growth in the rural nonfarm economy – or large growth multipliers (see Haggblade, Hazell and Dorosh (2007) for a review of the literature). Small farms today are less than half the size of the small farms of the green revolution era, and many are subsistence rather than market oriented. Much may depend on how off-farm sources of income are spent, but the possibility arises that it is now the commercially oriented and medium sized farms that are able to generate significant growth multipliers.

From a food security perspective the reverse transition poses a difficult dilemma. Small farms provide for the food security of huge numbers of rural poor. But many small farms are net buyers of food and they generate relatively little of the food required to feed large urban populations. Urban population shares are projected to grow strongly across the developing world (United Nations, 2011)<sup>1</sup>, and feeding these populations will require rapid growth in marketed food supplies. For most foods, these supplies will need to come from larger farms and commercially oriented small farms that can generate net surpluses. It follows that a food security agenda needs to walk on two legs. One leg is to provide support to the many smallholders who farm largely to meet their own subsistence needs. The other leg is to invest in large and medium sized farms and commercially oriented smallholdings that can produce marketed surpluses for the cities. Today about half the malnourished people in the developing world live on small farms (IFPRI, 2005), so support for subsistence oriented farms is crucial for meeting the current global food security challenge. But as urbanization proceeds, an increasing share of the poor will become urban based and detached from the land, so support for commercial farms will become increasingly important for meeting the food security needs of the poor.

---

<sup>1</sup> The UN projects that by 2050 urbanization will increase to 58% of the population in Africa and 64% in Asia.

From poverty and income equality perspectives the reverse transition also poses difficult challenges. Although diversification into nonfarm activities is a useful way of supplementing farm income, it may not be enough to maintain an adequate income, to escape poverty, or prevent widening rural-urban income gaps. Local diversification opportunities into high value farming and nonfarm activity are higher in fast growing countries, and in dynamic and more densely populated rural areas. Small farms in such areas may be achieving adequate livelihoods despite having little land. Elsewhere, opportunities for diversifying into high value farming or local nonfarm opportunities are more limited, leaving many small farms trapped in subsistence oriented farming and poverty. This is especially common in lagging regions where most of Asia's rural poor now live (Ghani, 2010).

In India and some other Asian countries there seems to have been sufficient growth in remittances and rural nonfarm income in recent years to enable farm households to successfully avoid any widening gap between rural and urban per capita incomes. Rural poverty rates have also declined in tandem with urban poverty rates (Otsuka, 2012; Binswanger-Mkhize, 2012). But this is not true in many slow growing countries, particularly in Africa, where rural-urban income gaps are widening and rural poverty rates remain stubbornly high. The relatively slow growth of the agricultural sector and the generally sparser rural population densities in Africa also constrain growth in rural nonfarm opportunities.

Evidence from Japan, South Korea and Taiwan suggests that income diversification by small farms is not a long term solution to the rural-urban income gap problem. In these countries governments eventually had to introduce income support measures to narrow the income gap, and China and some other Asian countries are now beginning to follow suite (Otsuka, 2012).

From an environmental perspective more small and marginal farms can lead to mixed outcomes. Many small farms retain complex farming systems that are ecologically well balanced and serve to conserve in situ many underutilized and neglected foods and indigenous crop varieties and animal species. On the other hand, many highly intensified small farms are an important source of environmental pollution and zoonotic diseases. Many other small farms struggle to make a basic living, and can become trapped in downward spirals of resource degradation and poverty (Cleaver and Schrieber, 1994). Yet other small farms encroach into forests and are an important cause of deforestation. A larger number of small farms in a landscape also increases the difficulties of introducing knowledge intensive NRM practices, and can make it more difficult to undertake the kinds of collective action needed to sustainably manage and improve watersheds and common properties. On the other hand, it needs to be noted that many large farms also cause significant environmental damage.

In sum, the reverse transition is not a uniformly good thing, and is creating new tensions and potential tradeoffs between important economic, social and environmental goals. Earlier assumptions that small farm growth is a winning proposition for growth, poverty alleviation and food security cannot be taken for granted anymore, and the future outlook is for less complementary outcomes between these goals, posing more difficult choices for policy makers (Masters et al., 2013).

The widening fault line between goals is most evident in the recent emergence of two very different agricultural agendas. On the one hand, recent increases in world food and energy prices have made agricultural growth an imperative for food security. Since most of the food insecure households live in rural areas and mostly on farms, improving the productivity of subsistence oriented farms has become a high priority. As part of the 2009 G-8 Summit, leaders of 43 countries and multilateral organizations endorsed the L'Aquila commitment to "act with the scale and urgency needed to achieve sustainable global food security," creating the New Alliance for Food Security and Nutrition. On the other hand, higher agricultural and energy prices have turned agricultural growth into a 'business' opportunity for producing food, raw materials and biofuels, with significant growth in agricultural investment by sovereign wealth funds and foreign and national corporate sector investors.

Unfortunately these two drivers of change are not necessarily complementary. Many donors and NGOs are pushing for a broad social, environmental and climate change agenda based on subsistence oriented farmers for food security and poverty alleviation reasons, but with little thought about increasing agricultural growth (Badiane, 2008). On the other hand, the private sector is pushing a new business agenda, often with an emphasis on large commercial farms, integrated value chains and exports. Many governments seem uncertain which way to go, should it be a 'food security' or a 'business' oriented strategy?

The business oriented strategy does not have to be inconsistent with a pro-poor, food security approach, as long as it engages with large numbers of smallholders who are, or can, become commercially viable. Already, private sector investments along value chains are opening up new market opportunities for some smallholder farms, particularly for high value products. However, it is also becoming apparent that many more smallholders are being left behind while larger farms are gaining market shares. Many smallholders are not only missing out on new high value chains, but in many countries have also lost access to modern inputs, credit and market outlets even for their traditional food staples (Djurfeldt, Aryeetey and Isinika, 2011). There has also been growth in land grabbing and the development of corporate sized farms which threaten to displace smallholders from their land as well as their markets (Deininger and Byerlee, 2010).

These challenges have led some to suggest that small farms have a limited future as farm businesses, and that it is better to encourage private investments in large scale farm operations and to direct public assistance towards helping small farmers diversify out of agriculture, including helping more workers migrate and settle in urban areas (Maxwell et al. 2001; Collier 2009). The contrary view is that small farms can remain competitive in the market as full or part time businesses as long as the public sector supports them by investing in the kinds of R&D and infrastructure that can make them more competitive, and by promoting farmer organizations to increase their bargaining power in the market (Hazell et al. 2007).

Given all the above, it is hard to disagree with Dercon and Collier (2013) that we need to move beyond the small vs. big farm debate, and think more about appropriate portfolios of small, medium and large farms that are relevant to the resource

endowments and stage of development of a country. If one were to formulate the problem in mathematical programming terms as finding an optimal farm size distribution given multiple national goals, then as long as employment and poverty alleviation remain among the goals, solutions will end up with lots of small farms.

We also need to recognize that large numbers of small farms are not going to make it as commercial businesses, especially asset poor farmers in backward regions. Some of these kinds of farms are already diversifying their livelihoods out of farming, but there are many instances where this is not yet possible on the scale required or where the returns to nonfarm activities remain too low for them to escape poverty. Many are sinking into deeper poverty and subsistence modes of production because of higher food prices and reduced access to land, markets and modern inputs.

#### WHAT IS THE RIGHT STRATEGY FOR SMALL FARMS?

Small farms are a very diverse group, and they face varying prospects that depend on their own assets and aspirations as well as on their country and regional context. Policies and investments to assist small farms need to take this diversity and context into account.

A number of farm typologies have been offered in the literature to help manage this diversity. Vorley (2002) distinguishes between farmers operating in three rural worlds. In rural world 1, commercial farmers are globally competitive, linked to export markets and use modern technologies; in rural world 2, farmers sell primarily in local, regional and national markets and use intermediate technologies; in rural world 3, farmers are subsistence oriented and use traditional technologies. The World Bank (2007) identifies five smallholder groups: market oriented, subsistence oriented, off-farm labor oriented, migration oriented and diversified households that combine multiple income sources. Berdegúe and Escobar (2002) identify three groups of family farms based on regional context and household assets. The first category comprises family farms with good assets (land, labor, and/or access to capital) and who are located in places with good agricultural potential and access to markets. These farmers are usually fully integrated in a market economy and make a substantial contribution to the production of food for domestic and international markets. The second category comprises family farms that have reasonable assets and agricultural potential but are constrained by being located in slow moving regional economies with limited market access. The third category comprises resource-poor farmers located in places where conditions are adverse not only for agriculture, but often for nonfarm activities. The majority of smallholders in this group are poor, subsistence oriented and may be diversified into low productivity nonfarm sources of income. Fan et al. (2013) differentiate small farms according to their profitability within the agricultural sector (subsistence farmers without profit potential, subsistence farmers with profit potential, and commercial smallholder farmers), and the different stages of economic transformation (agriculture based, transforming, and transformed economies).

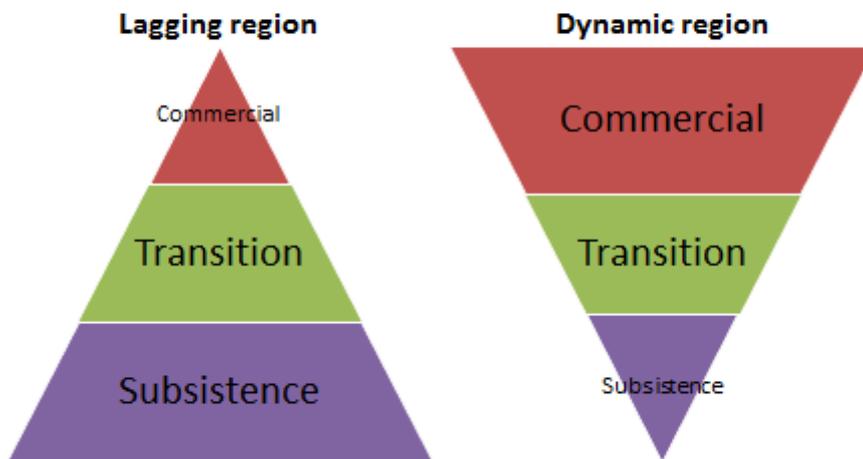
Key elements in these typologies are the characteristics of the region in which farmers live (especially its agricultural potential and access to markets), and the characteristics of the farm household themselves (assets, business orientation and acumen, and

degree of diversification into off-farm sources of income). Drawing on this work, Hazell (2013) classified smallholders into three groups for the purposes of targeting small farm assistance:

- Commercial small farmers who are already successfully linked to value chains, or who could link if given a little help. Commercially oriented small farms may be full or part time farmers.
- Small farms in transition who have or will soon have favourable off-farm opportunities and would do better if they were to either exit farming completely or obtain most of their income from off-farm sources. Most transition farmers are likely to leave farming, and it is just a question of when and how. Those that remain will farm part time and may not be very market driven.
- Subsistence oriented small farms are marginalized for a variety of reasons that are hard to change, such as ethnic discrimination, affliction with HIV/AIDS, or being located in remote areas with limited agricultural potential. Many of the same factors also prevent them from becoming transition farmers. Subsistence oriented farms frequently sell small amounts of produce at harvest to obtain cash income, but they are invariably net buyers of food over the entire year.

The relative importance of these three small farm groups varies widely from region to region (Figure 3). In a less-favored region in a slow growing country – the worst of all possible worlds, and a situation all too prevalent in Africa– the number of market-oriented farms is low and there are a lot of subsistence oriented small farms trying to get out while lack of off-farm opportunities prevents them from doing so, leaving many trapped in low productivity farming. At the other extreme, in a dynamic region in a dynamic country – such as some of the coastal areas in China – there are a large number of market-oriented small farms producing lots of high value products for the cities. There are also a lot of other small farmers being pulled out of agriculture into much better-paid opportunities in the industrial areas and in their local non-farm business economy; and only a very small group of subsistence farmers – often the elderly or the infirm. There are lots of other regions, of course, that fall somewhere between these two extremes.

**Figure 3: Relative importance of the three small farm groups**



With economic growth and urbanization, significant numbers of commercially oriented small farms are likely to prosper through diversification into high value agriculture. The most successful small farmers will tend to be located in areas with good agricultural potential and market access. Over time, some commercially oriented small farmers will become large farms while others will eventually become transition farmers or successfully exit farming to the nonfarm economy. Transition farmers will either have, or will be able to develop, suitable skills and assets for undertaking nonfarm activity, and they are likely to live in well-connected areas with access to off-farm opportunities. Their farming activities are likely to be oriented towards their own consumption rather than the market. Subsistence oriented farmers are more likely to persist in less-favoured and tribal areas and to grow traditional food staples (both crop and livestock) for their own consumption.

Table 3 summarizes the kinds of transitions that are possible for each of the three small farm groups. Over finite periods of time, shown as a move from period  $t$  to period  $t+1$  in the table, it is desired that subsistence farms should become transition or commercial farms; that transition farms should successfully move to the nonfarm economy; and that commercial small farms should either prosper as such, transform into larger farms or find successful exit strategies to the nonfarm economy. To be avoided are situations where many small farms revert to or remain trapped in subsistence farming, or where transition farms fail to find successful exits to the nonfarm economy.

**Table 3: Transitions from small farm groups**

Type small farm		Period $t+1$				
		<i>Subsistence</i>	<i>Transition</i>	<i>Commercial</i>	<i>Large Farm</i>	<i>Nonfarm</i>
Period $t$	<i>Subsistence</i>	O	X	X		
	<i>Transition</i>	O	O			X
	<i>Commercial</i>	O	O	X	X	X

Note: X = desired transition; O = undesired transition

## SOME GUIDING PRINCIPLES FOR ASSISTING SMALL FARMS

Table 4 highlights the kinds of interventions that may be relevant for each of the three groups of small farms. Commercially oriented small farms need support as farm businesses. They need access to improved technologies and natural resource management (NRM) practices, modern inputs, financial services, markets, and secure access to land and water. Much of this assistance will need to be geared towards high value production, and provided on a commercial basis. Many smallholders will also require help acquiring the necessary knowledge and skills to become successful business entrepreneurs in today's value chains, especially women and other disempowered groups. Managing market and climate risk is a challenge for many small farms, and in addition to insurance and access to safety nets, they need to develop resilient farming systems.

Transition farmers need help developing appropriate skills and assets to succeed in the nonfarm economy, including in many cases assistance in developing small businesses. This can be especially important for women and other disempowered groups who have little experience working off farm. The transition to the nonfarm economy may also be facilitated by securing land rights and developing efficient land markets so that can more easily dispose of their farms. Since many transition farmers seem likely to continue to remain as part time farmers, they can also benefit from improved technologies and NRM practices that improve their on-farm productivity.

Subsistence farmers are predominantly poor and will mostly need some form of social protection, often in the form of safety nets, food subsidies, or cash transfers. Interventions that help improve the productivity of their farms (e.g. better technologies and NRM practices) can make important contributions to their own food security and perhaps provide some cash income, and may in many cases prove more cost effective than some forms of social protection. But subsistence farmers have limited ability to pay for modern inputs or credit, so intermediate technologies that require few purchased inputs may be needed, or inputs will need to be heavily subsidized. Subsistence farmers are typically the most exposed and vulnerable to climate risks, and in addition to safety nets, they need help developing resilient farming systems.

**Table 4: Types of assistance relevant for different small farm groups**

<i>Type small farm</i>	<i>Types of assistance</i>
Commercial	<p><b><u>Farming as a business</u></b>            Better technologies and NRM practices            Organizing small farmers for marketing purposes            Incentivizing large agribusiness to link with small farms            Accessing seeds, fertilizer, finance and insurance            Securing land rights and development of efficient land markets            Encouraging entrepreneurship            Empowering women and other vulnerable groups</p>

	Building resilient farming systems Safety nets
Transition	<b>Stepping out of farming</b> Training and support for nonfarm activity, including development of small businesses Encouraging entrepreneurship Empowering women and other vulnerable groups Securing land rights and development of efficient land markets Better technologies and NRM practices Safety nets
Subsistence	<b>Social protection</b> Safety nets and transfers Better technologies and NRM practices Subsidized inputs for own food crops Securing land rights Building resilient farming systems Empowering women and other vulnerable groups Support for nonfarm diversification

Although the choice of assistance policies will need to be different for the three groups of small farms, not all interventions need to be as carefully targeted as others. Figure 3 shows how possible interventions to assist small farmers might impact on the three groups of SFs. Some interventions will benefit all three groups, and these are the interventions that fall in area A. Other types of interventions will benefit two groups (areas B, C and D) and others will benefit only one group (areas E, F, and G). Interventions that benefit only one group (areas E, F and G) may be relatively easy to target, but interventions that benefit two or more groups can be more problematic. If an intervention can benefit other groups at little or no additional cost beyond the cost of reaching the primary target group (e.g. some types of agricultural R&D) then the benefits captured by other groups can be viewed favourably as “spillover” benefits and careful targeting may not be required. But if the benefits captured by other groups represent a diversion of benefits from the primary target group, then this must be viewed as a “leakage” that needs to be minimized through careful targeting. Cash transfers, food subsidies and fertilizer vouchers intended for the poor typically fall into this category.

**Figure 3 Potential benefits accruing to different types of small farms as a result of assistance interventions, including agricultural research**

Further research is needed to develop and test the relevance of smallholder typologies, and to assess the most effective interventions for each type of smallholder. This should also include analysis of the best ways to integrate agricultural interventions with complementary policies and investments, such as safety nets and assistance with migration and off-farm diversification. Another challenge is developing practical ways of identifying the different groups of farms on the ground. There has been a lot of recent work using GIS and spatial analysis methods to identify target areas for rural development purposes. Most of this work focuses on mapping different regions in terms of their agro-ecology, market access, and rural population density (see, for example Omamo et al, 2006), but so far there has been limited work on disaggregating further according to differences in farmer endowments, market orientation and gender.

## CONCLUSIONS

The case for smallholder development as a win-win strategy for achieving agricultural growth, poverty reduction and food insecurity is less clear than it was during the green revolution era. The gathering forces of rapid urbanization, a reverse farm size transition towards ever smaller and more diversified farms, and an emerging corporate driven business agenda in response to higher agricultural and energy prices, is creating a situation where policy makers need to differentiate more sharply between the needs of different types of small farms, and between growth, poverty and food security goals.

Many smallholdings today are too small to provide adequate livelihoods, and their farm families have either begun a transition out of farming into the nonfarm economy, or they are trapped in subsistence modes of farming, often in lagging regions. Both kinds of smallholders may need assistance developing new off-farm opportunities, and in overcoming poverty and food insecurity. These smallholders account for large shares of the total rural poor and food insecure people in the developing world, and they are an important target group for international efforts to achieve the MDGs and promote food security. However, transition and subsistence oriented farms play a

relatively minor role in producing marketed surpluses to drive economic growth and feed growing urban populations, and are unlikely to successfully link to modern value chains. Interventions to improve on-farm productivity can be helpful to the food security of both groups, but will need to be complemented by other interventions that more directly alleviate poverty and facilitate off-farm transitions.

In contrast, there are also many small farmers who, because of their resource endowments, good location or sheer entrepreneurial skill, are succeeding as commercial farm businesses, even if only on a part time basis. These kinds of small farms are much more aligned with the new corporate driven business agenda. As with small farms in green revolution days, they can play important roles in driving economic growth and feeding urban populations. The greatest challenge facing these types of smallholders is accessing modern value chains. Private sector investments along value chains are opening up new market opportunities for some smallholder farms, particularly for high value products, but it is also becoming apparent that many more commercially oriented smallholders are being left behind while larger farms are gaining market shares.

If more smallholder farms are to become commercially successful, policy makers will need to do more to support them. Key areas for support include improving the workings of markets for outputs, inputs, land and financial services to overcome market failures that discriminate against small farms, investing in the kinds of R&D and rural infrastructure that small farmers need, helping to organize small farmers for the market, and incentivizing the private sector to link with more small farmers. The best way to achieve these is for government to work through private sector and civil society partners, creating an enabling policy and business environment, and scaling up proven successes.

## References

- Badiane, O. 2008. Sustaining and accelerating Africa's agricultural growth recovery in the context of changing global food prices. IFPRI Policy Brief 9, Washington DC: IFPRI.
- Berdegúe, J.A and G. Escobar. 2002. Rural diversity, agricultural innovation policies, and poverty reduction. AgREN Network Paper No. 122. London: Overseas Development Institute.
- Binswanger-Mkhize, Hans. 2012. India 1960-2010: Structural Change, the Rural Non-farm Sector, and the Prospects for Agriculture. Center on Food Security and the Environment, Stanford Symposium Series on Global Food Policy and Food Security in the 21<sup>st</sup> Century. Stanford University.
- Binswanger-Mkhize, H., and A. F. McCalla. 2010. The changing context and prospects for agricultural and rural development in Africa. In Prabhu Pingali and Robert Evenson (eds.), *Handbook of Agricultural Economics, Volume 4*. Elsevier: Amsterdam.
- Byerlee, D., Lissitsa, A., Savanti, P., 2012. Corporate models of broadacre crop farming: International experience from Argentina and Ukraine. *Farm Policy J.* 9(2), 13-15.
- Cleaver, K. and G. Schrieber. 1994. *Reversing the spiral: The population agriculture, and environment nexus in sub-Saharan Africa*. Washington, DC: World Bank.

- Collier, Paul. 2009. Africa's organic peasantry: Beyond romanticism. *Harvard International Review*, Summer 62-65.
- Deininger, K., and D. Byerlee. 2010. The Rise of Large Farms in Land Abundant Countries: Do they have a future? Washington DC: World Bank, unpublished.
- Deininger, K., Byerlee, D., 2011. The rise of large farms in land abundant countries: Do they have a future? Policy Research Working Paper 5588. World Bank, Washington, DC.
- Deininger. 2003. Land policies for growth and poverty reduction. A World Bank Policy Research report, World Bank, Washington DC.
- Dercon, S., and P. Collier. 2013. African agriculture in 50 years: Smallholders in a rapidly changing world? *World Development*, forthcoming.
- Djurfeldt, G., E. Aryeetey and A. Isinika (eds.). 2011. *African Smallholders: Food crops, markets and policy*, Wallingford, Oxford: CABI.
- Djurfeldt, Agnes Andersson and Magnus Jirström. 2013. Urbanization and changes in farm size in Sub-Saharan Africa and Asia from a geographical perspective: a review of the literature. Background Paper for the ISPC Foresight Study on Farm Size and Urbanization. Available from: <http://www.sciencecouncil.cgiar.org/sections/strategy-trends>.
- Eastwood, Robert, Michael Lipton and Andrew Newell. 2010. Farm size. In Pingali and Evenson (Eds.), *Handbook of Agricultural Economics, Volume 4*. Elsevier: Amsterdam.
- FAO and World Bank., 2009. *Awakening Africa's Sleeping Giant: Prospects for Commercial Agriculture in the Guinea Savannah Zone and Beyond*. World Bank, Washington DC.
- Fan, S., J. Brzeska, M. Keyzer, and A. Halsema. (2013). From subsistence to profit: transforming smallholder farms. Food Policy Report, IFPRI, Washington DC.
- Ghani, Ejaz (ed.). 2010. *The poor half billion in South Asia: What is holding back lagging regions?* New Delhi: Oxford University Press.
- Haggblade, S., P. Hazell and T. Reardon (eds.). 2007. *Transforming the Rural Nonfarm Economy*. Johns Hopkins University Press, Baltimore.
- Haggblade, S., P. Hazell and P. Dorosh. 2007. Sectoral growth linkages between agriculture and the rural nonfarm economy. In Haggblade, S., P. Hazell and T. Reardon (eds.), *Transforming the Rural Nonfarm Economy*, Baltimore: Johns Hopkins University Press.
- Hazell, Peter. 2013. Urbanization and farm size changes in Africa and Asia: cross regional comparison and implications for agricultural research. Background Paper for the ISPC Foresight Study on Farm Size and Urbanization. Available from: <http://www.sciencecouncil.cgiar.org/sections/strategy-trends>
- Hazell, Peter, Colin Poulton, Steve Wiggins and Andrew Dorward. 2007. The Future of Small Farms for Poverty Reduction and Growth. 2020 Discussion Paper 42, Washington, DC: International Food Policy Research Institute.
- Hazell, P., and Roell, A. 1983. *Rural growth linkages: Household expenditure patterns in Malaysia and Nigeria*. Research Report 41. Washington, DC: International Food Policy Research Institute.
- Huang, J, Wang, X, Qui, H. 2012. *Small-scale farmers in China in the face of modernisation and globalisation*, IIED/HIVOS, London/The Hague.

- Huang, Y. 1973. On some determinants of farm size across countries, *American Journal of Agricultural Economics* 64(1): 89-92.
- IFPRI. 2005. *The future of small farms: Proceedings of a research workshop*. Washington, DC.
- Jayne, Thomas. 2013. Urbanization and farm size changes in Sub-Saharan Africa: implications for agricultural research. Background Paper for the ISPC Foresight Study on Farm Size and Urbanization. Available from: <http://www.sciencecouncil.cgiar.org/sections/strategy-trends>.
- Master, William A., with Agnes Andersson Djurfeldt, Cornelis De Haan, Peter Hazell, Thomas Jayne, Magnus Jirstrom, and Thomas Reardon. 2013. Urbanization and farm size in Asia and Africa: Implications for food security and agricultural research, *Global Food Security*. Available online 10 September 2013, <http://dx.doi.org/10.1016/j.gfs.2013.07.002>.
- Maxwell, S., Urey, I., and Ashley, C. 2001. *Emerging issues in rural development: An issues paper*. London: Overseas Development Institute.
- Mellor, J. W. 1976. *The new economics of growth: A strategy for India and the developing world*. Ithaca, NY: Cornell University Press.
- Omamo, S. W., X. Diao, S. Wood, J. Chamberlin, L. You, S. Benin, U. Wood-Sichra and A. Tatwangire (2006), *Strategic Priorities for Agricultural Development in Eastern and Central Africa*. Washington, DC: International Food Policy Research Institute.
- Otsuka, Keijiro. 2012. Food Insecurity, Income Inequality, and the Changing Comparative Advantage in World Agriculture. Presidential Address at 27th International Conference of Agricultural Economists, Foz do Iguaçu, Brazil, August.
- Rosegrant, M., and Hazell, P. 2000. *Transforming the rural Asian economy: The unfinished revolution*. Hong Kong: Oxford University Press.
- United Nations. 2011. *World Urbanization Prospects; The 2011 Revision*. Economic and Social Affairs, United Nations, New York.
- Vorley, Bill. 2002. *Sustaining agriculture: Policy, governance and the future of family farming: A synthesis report of the collaborative research project 'Policies that work for sustainable agriculture and regenerating rural livelihoods'*. London: IIED.
- World Bank. 2007. *World Development Report 2008: Agriculture for Development*. Washington DC: The World Bank.