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SMALLHOLDEER AND PRO-POOR AGRICULTURE GROWTH

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SMALLHOLDERS AND PRO- POOR AGRICULTURAL GROWTH
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Introduction

About 80% of the poor in the developing world live in rural areas (IFAD, 2000) and they are predominantly small farmers or landless workers. Many live in less-favored areas and are challenged by poor agroclimatic conditions and/or poor access to inputs and markets. Agricultural growth that benefits small farms and landless workers through increases in own farm productivity, rural employment and wages, and more abundant and cheaper food, has enormous potential to slash poverty and raise rural living standards. Yet there is much debate about the viability of small farms in today's market place, and some have concluded that it is better to focus on commercially viable farms and higher value agriculture (e.g. Simon Maxwell, 2003). This position fails to address the diversity of small farm situations around the world, and hence misses out on the excellent prospects for small farm development in many of the poorer countries. Nor does it suggest how a rapid exodus of small farms could be managed without resulting in a much larger number of people becoming trapped in rural poverty and urban ghettos.

Why Small Farms?

Why should we care about the future of small family farms? For poorer countries, the attraction lies in their economic efficiency relative to larger farms, and the fact that they can create large amounts of productive employment, reduce rural poverty and food insecurity, support a more vibrant rural nonfarm economy (including rural towns), and help to contain rural-urban migration.

The efficiency of smaller farms in most developing countries is demonstrated by an impressive body of empirical studies showing an inverse relationship between farm size and land productivity (see Heltberg (1998) for a recent review). Moreover, small farms often achieve their higher land productivity with lower capital intensities than large farms. These are important efficiency advantages in many poor countries where land and capital are scarce relative to labor.

The greater land productivity of small farms stems from their greater abundance of family labor per hectare farmed. Family workers are typically more motivated than hired workers and provide higher quality and self-supervising labor. They also tend to think in terms of whole jobs or livelihoods rather than hours worked, and are less driven by wage rates at the margin than hired workers. Small farms exploit labor using technologies that increase yields (hence land productivity) and they use labor-intensive methods rather than capital-intensive machines. As a result, their land and capital productivities are higher and their labor productivity is typically lower than that of large farms. This is a strength in labor surplus economies, but it becomes a weakness for the long-term viability of small farms as countries get richer and labor becomes more expensive.

In poor, labor abundant economies, not only are small farms more efficient, but because they also account for large shares of the rural and total poor, then small farm development can be win-win for growth and poverty reduction. Asia's green revolution, for example, demonstrated how agricultural growth that reaches large numbers of small farms could 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 (e.g. Deininger and Squire, 1998; Ravallion and Datt, 2002). Small farms also contribute to greater food security, particularly in subsistence agriculture and in backward areas where locally produced foods avoid the high transport and marketing costs associated with many purchased foods.

Small farm households also have more favorable expenditure patterns for promoting growth of the local nonfarm economy, including rural towns. They spend higher shares of incremental income on rural nontradables than large farms (Mellor, 1976; Hazell and Roell, 1983), thereby creating additional demand for the many labor-intensive goods and services that are produced in local villages and towns. These demand-driven growth linkages provide greater income earning opportunities for small farms and landless workers among others.

A vibrant small farm sector also helps prevent excessive or too rapid rural-urban migration. Excess migration contributes to growing urban ghettos, and all the poverty, environment, health and crime problems associated with them.

The Farm Size Transition

Accepting that small farms have several attractive features, just how small should a small farm be and how many should a country have? There are no easy answers to these questions. Size depends on the ability to create viable household livelihoods, and this varies enormously with the type of farming that is possible at any location, and the possibilities of combining farm with nonfarm sources of income. A “viable” small cereal farm, for example, might vary from just a couple of hectares in parts of Asia or Africa to 100 times as large in parts of Europe to 1000 times as large in North America. But it can be much smaller if cereal farming is combined with a nonfarm source of income, as with many small, part-time rice farmers in Japan.

An important driver of the size distribution of farms is the stage of economic development of a country. GDP per capita correlates closely with the relative costs of land and labor. In the early stages of development, small farms typically account for the lion’s share of the farming population. Because farm labor is abundant but land is expensive, small farming is economically efficient. As average per capita incomes rise, economies diversify and workers leave agriculture, rural wages go up, and capital becomes relatively cheaper. It then becomes more efficient to have progressively larger farms. This is accentuated by the economies of scale that emerge with more capital-intensive forms of farming. The rate of transition to larger farms with economic development depends critically on the rate of rural-urban migration, and hence on growth in the nonagricultural sector, and on agricultural policies.

Small farms survive longer into the transformation process if they can adapt to the changing economic environment. Key adjustments include buying or renting additional land, diversifying into higher value production activities (e.g. fruits and vegetables, and niche markets like organics), and expanding into nonfarm sources of income or employment. Fortunately, opportunities to diversify into a broader range of farm and nonfarm activities also grow as countries become richer. This is because demands for more diverse and higher value foods, such as fresh fruits and vegetables, livestock products, fish and processed and pre-cooked foods, increase with per capita incomes and urbanization, and the nonfarm economy grows more quickly than agriculture.

Some countries handle this farm size transition better than others. Some countries have successfully developed, but farm consolidation and rural-urban migration has lagged behind economic growth, leaving a situation with too many small farms whose incomes fall below the national average. This leads to pressures for government support, and hence the kind of farm policies found in many OECD countries. In much of South East Asia the number of small farms is still increasing despite rapid growth in per capita GDP (Rosegrant and Hazell, 2000). Unless these farms can successfully diversify into nonfarm sources of

income, it is likely they too will be headed towards protectionist policies (indeed this is already happening in South Korea and China).

Other countries attempt the transition too soon and seek to concentrate land among large farms at an early stage, such as occurred through colonization (e.g. South Africa, Zimbabwe, and many Latin American countries), creation of large state farms through government policy (e.g. Syria and Tanzania) or the collectivization of agriculture (USSR, Eastern Europe and China). Many of these interventions have been costly failures, and have led to lost opportunities for more efficient growth and employment creation in agriculture, and have contributed to impoverishment of neglected small farms and excessive rural-urban migration in relation to available jobs (Eastwood, et al., 2003). This has contributed to the kinds of dualistic patterns of development with enriched middle and upper classes juxtaposed with high rural poverty and expansive urban ghettos found in many Latin American countries.

New Challenges

The complexity of the transition problem is also changing in some important ways with important new forces at work that are tilting the playing field in favor of larger farms and threatening the future viability of large numbers of small farms. Four driving forces in particular deserve mention.

First, marketing chains are changing dramatically in all types of countries with trade liberalization and globalization. The small farmer is increasingly being asked to compete in markets that are much more demanding in terms of quality and food safety, more concentrated and integrated, and much more open to international competition. Supermarkets, for example, are playing a much more dominant role in controlling access to retail markets (Reardon et al., 2003) and direct links to exporters are often essential for accessing high value export markets. As small farms struggle to diversify into higher value products, they must increasingly meet the requirements of these demanding markets, both at home and overseas. These changes offer new opportunities to small farmers who can successfully access and compete in these transformed markets, but they are also a serious threat to those who cannot.

Second, structural adjustment programs have left many small farmers without adequate access to key inputs and services, including farm credit. As part of the reforms, state agencies have been removed from providing many direct marketing and service functions to small farms, leaving a vacuum that the private sector has yet to fill in many countries (Kherallah et al., 2002). The removal of subsidies has also made some key inputs (e.g. fertilizer) prohibitively expensive for many small farms, and the removal of price stabilization programs has exposed farmers too much more volatile farm gate prices. These problems are especially difficult for small farms living in more remote regions with poor infrastructure and market access.

Third, the protectionist agricultural policies of many rich countries are reaching new heights in creating unfair competition for small farmers in developing countries. Developing country farmers not only have limited access to rich country agricultural markets, but they also face unfair competition in their own domestic markets from subsidized imports. The size of these distortions is immense. In 2000, the producer subsidy equivalent of these policies in the OECD countries was US\$330 billion (World Bank, 2003); equal to Africa's entire annual GDP. These policies are particularly damaging to small farmers in poor countries because they limit their opportunities to produce more of the products in which they have comparative advantage. This is not just a matter of developing country farmers being squeezed out of export markets for tropical crops like cotton, sugar and tobacco, but they are even pressured in their own domestic and regional markets for staple foods like cereals and livestock products.

Fourth, HIV/AIDS is taking a severe and increasing toll among small farms in many developing countries, reducing the number of able adult workers and leaving many children as orphans with limited knowledge about how to farm. Many small farms will eventually disappear as a result of HIV/AIDS, but only after a

difficult transition problem during which local communities must find ways to cope with the human tragedies involved.

These driving forces are particularly challenging for Africa and South Asia, where small farms dominate the landscape and account for the lion's share of agricultural sector output (Narayanan and Gulati, 2003). Left to market forces alone, the major beneficiaries of the new high value and liberalized agriculture will mostly be the larger and commercially oriented farms, and farms that are well connected to roads and markets. If agricultural growth is to play a key role in reducing rather than worsening rural poverty, then developing viable strategies for small farms is probably one of the most fundamental problems that policy makers will need to resolve.

Policy Interventions

What kinds of policies are needed to help ensure that small farmers have a viable future? Unlike the rich countries that can afford to subsidize their small farms, the preponderance of small farms in most developing countries requires that, net of the costs of assisting them, they add rather than detract from national economic growth. This requires public policies and investments that create an enabling environment for small farm development.

Context is very important when thinking about appropriate interventions to assist small farms. As already discussed, countries with dynamic and growing national economies and rising per capita incomes offer small farmers many more opportunities to diversify into higher value products, nonfarm sources of income or to exit farming. But in poorer and slower growing economies, opportunities for income diversification and exit strategies are much more limited. Clearly a one size fits all" approach will not work across these very different situations.

We turn now to some of the more important interventions appropriate for assisting small farms in developing countries, bearing in mind the context in which they are to be considered.

Increasing Productivity for Food Staples

In many poor countries, especially in Africa, there is still excellent growth potential for small farms in the food staples sector (cereals, roots and tubers and traditional livestock products). For Africa as a whole, the consumption of these foods accounts for the lion's share of agricultural output (Table 1) and is projected to double by 2015. This will add another \$50 billion to demand in 1996-2000 prices. Moreover, with increasing commercialization and urbanization, much of this additional demand will translate into market transactions and not just additional on-farm consumption. There are no other agricultural markets that offer growth potential on this scale and which could reach huge numbers of Africa's rural poor. Many small farms could double or triple their incomes if they could capture a large share of this market growth. Simulations with economy-wide models at IFPRI confirm this conjecture. Box 1, for example, shows that for Ethiopia (a poor and food deficit country), the fastest way to reduce poverty by 2015 is through productivity growth for food staples. This strategy outperforms a strategy built around increasing production of high value products, classified as nontraditionals in Figure 2. On the other hand, in many middle and higher income countries in Asia and Latin America, food staple market opportunities are more constrained, with demand growth linked more to growth in livestock feed or export opportunities than to domestic human consumption. In these cases, small farms need urgently to diversify into higher value products that face much better demand prospects.

If small farms are to capture a fair share of this growth in food staples, particularly in Africa, they will have to become more competitive, especially against cheap food imports from abroad. This will require improved technologies to increase yields and reduce unit production costs, improved infrastructure, marketing, credit and transport services to increase access to markets and key farm inputs, reduce costs and improve food standards and, in Africa, removal of the many barriers to agricultural trade between African

countries (Diao and Hazell, 2004). The removal of agricultural support policies in OECD countries would also help, potentially adding another 5.7% to African farmers' income per year.

Diversification into higher value products

Small farms with a commercial orientation can benefit enormously from diversification into higher value foods (fruits, vegetables, oils, fish, livestock products, etc.) and processed and pre-cooked foods. Demand for these types of foods is growing rapidly with rising incomes and urbanization in many successfully growing countries, offering robust domestic markets (e.g. India – see Table 2). Trade liberalization is also opening new export opportunities for some of these commodities, providing new opportunities even in countries that have weak domestic markets. What is often required is a set of public policies and investments to fully unleash this new potential. This must include additional public investment in the kinds of rural infrastructure and technologies needed for these new high value activities, improvements in marketing and distribution systems for higher value and more perishable foods, and often further liberalization of the agro-industrial sector. The private business sector can and should play a dominant role in these higher value market chains, and public policy must strengthen the enabling environment for this to happen. This will require a fundamental shift in thinking in many public agencies that are still geared towards the dominant role that the state played until recently in the market chains for food staples.

A challenge for this “new” high value agriculture is to make it pro-poor. Left to market forces alone, the major beneficiaries of the new high value agriculture will mostly be the larger and commercially oriented farms, and farms that are well connected to roads and markets. The majority of small farms are likely to get left behind. Fortunately, there is great opportunity to guide the new high value agriculture so that small farms and even many backward regions can participate. Key requirements will be improving infrastructure and education in many backward regions and communities, ensuring that small farms get the technologies and key inputs that they will need, and promotion of producer marketing organizations that can link small farmers to the new market chains (to supermarkets, contractors, processors, exporters and the like). Small farmers cannot do all these things on their own, and the public, private and NGO sectors all have important roles to play.

Organizing Small Farmers for Marketing

Small farms have always been at a disadvantage in the market place. They only trade in small volumes, often have variable and sub-standard quality products to sell, lack market information and have few links with buyers in the marketing chain. These inefficiencies can all too easily offset the efficiency advantages of small farms as producers. The problem has been exacerbated by market liberalization and globalization. Not only has the state been removed from providing many direct marketing and service functions to small farms, leaving a vacuum that the private sector has yet to fill in many countries, but small farmers must now also compete in ever more integrated and consumer driven markets where quality and price are everything. Small farmers will need to organize themselves to overcome these problems and to exploit the new opportunities that these market changes offer; otherwise they risk losing market access.

The private sector is emerging as a key player in linking larger-scale commercial farmers with markets (e.g. contract farming and supermarkets), but they have less interest and ability to deal with small-scale farmers on an individual basis. Voluntary producer organizations of various types will have important roles to play in filling this void and in linking small farmers to food processors, manufacturers, traders, supermarkets and other food outlets (Kindness and Gordon, 2002). Such organizations can help serve businesses by providing an efficient conduit to reach small-scale producers, and help improve the quality and timeliness of small farmers' production and their access to agricultural research and extension, input supplies and agricultural credit.

Unlike former state co-operatives that are widely discredited because of their poor performance and high cost, key design principles are organizations that are voluntary, economically viable, self-sustaining, self-

governed, transparent and responsive to their members. Supporting these kinds of organizations will require government and donor support, engaging with businesses and civil society groups. Producer based organizations will need help in developing business and management skills, establishing information systems and connections to domestic and global markets, creating good governance practices, and creating the infrastructure to connect small farmers to finance and input supply systems.

Public policy can help ensure improved market access for small farmers by putting in place institutions to deliver finance, reduce risks, build social capital of producers and traders, transmit market information, grade and certify goods, and enforce contracts (Gabre-Madhin, 2001). Infrastructure investments are also crucial; the farmers least likely to benefit from globalizing markets are those who are more distant from roads and markets (Narayanan and Gulati, 2003).

Agricultural Research and Extension

Small farmers need improved technologies appropriate to their needs if they are to survive in today's market place. This typically means more labor intensive technologies than large farms, though as small farms get smaller and/or labor becomes relatively more expensive, it becomes increasingly important to develop technologies that increase total factor productivity. Farmers not only need to produce more output and income per unit of land, but also to do this in ways that increase their labor productivity. Otherwise, they will simply be working harder to achieve, perhaps unsuccessfully, the same level of per capita income.

Smallholder farms also need to diversify into higher value products to maintain their incomes, given diminishing land/labor ratios. Such diversification is already happening in many countries, especially in Asia and Latin America. The opportunities for income-enhancing diversification are much more constrained in countries with low and stagnant per capita incomes, as in much of Africa. In these cases, attention needs to be given to developing cash crops for export. Agricultural research for higher value crops and livestock, and for post harvest handling, is under-funded in many developing countries.

Despite the growing trend towards privatization of agricultural research in many countries, publicly funded research and extension still has a crucial role to play in meeting the technology needs of small farms. Private agricultural research and seed firms are less attracted to the problems of small farms because of the higher transactions costs incurred and lower volumes of business. Producer organizations can help bridge this gap.

Women now manage many small farms and research and extension systems need to cater to their specific needs. Targeted research is also needed for farm households impacted by HIV/AIDS. They typically need technologies for producing foods that use relatively little labor, but without the expense of mechanization.

To meet these challenges, there is need for a more client-oriented, problem-solving approach in public agricultural research systems. This approach will often translate into a need for more on-farm research, and for more participatory approaches in which farmers have a greater say in selecting research priorities and in evaluating research outputs. Not all of the technological challenges facing small farms will be solved by more on-farm and participatory work; modern science, including biotechnology conducted in a strict laboratory environment, may be critical, for example, in raising yield ceilings or for improving drought tolerance. However, even biotechnology will be more effective if it addresses priorities set on the basis of a client-oriented, problem solving approach that draws many of its insights from interaction with farmers.

Agricultural Credit for Small Farms

In many developing countries, the financial sector reforms undertaken as part of structural adjustment programs have left a vacuum in the supply of seasonal credit for small farms. Private banks are servicing the needs of large commercial farms, and micro finance institutions have mushroomed to cater for the

financial needs of the poor. The seasonal nature of farm credit needs, and the highly covariate nature of most agricultural production and marketing risks, undermine the viability of borrowing groups for farm credit purposes. With the demise of publicly funded agricultural development banks, most small farmers now have to rely on self- or family financing, using livestock and other assets, as well as remittances from family members in non-farm employment. Improving small farmers' ability to save and invest requires the development of an entire rural financial infrastructure in which farmers can access a full range of financial services, including credit and deposit banking at competitive interest rates. Although a return to the inefficient and highly subsidized agricultural development banks is not to be recommended, there is a clear need for some form of public intervention to help fill this void. New types of institutional innovations are badly needed.

Risk Management Aids

Small farmers face a range of weather, disease, pest and market related risks that can discourage them from investing in major land improvements and from adopting more profitable technologies and crop and livestock activities. Agricultural research can help reduce risk, for example, by improving drought or pest resistance in crops and helping develop better ways to conserve soil moisture. Investments in irrigation and watershed development can reduce drought exposure and control flooding while also increasing productivity.

Additionally, governments can help farmers cope with catastrophic weather events like drought by providing safety net programs, and by facilitating the development of credit and insurance arrangements that provide cash in times of need. Such interventions need to be designed to assist farmers better manage risk and improve their productivity and incomes, but without creating incentives that lead to inappropriate land uses and environmental degradation. The experience with crop insurance has had mixed results. While it has sometimes helped farmers protect their incomes and food security and repay debt in drought years, the heavy subsidies that are invariably included has led to negative impacts on the way resources are managed (e.g. by encouraging farmers to grow crops in areas for which they are not suitable) (Hazell et al., 1986; Hazell, 1992). Better alternatives for catastrophic risk management are area-based rainfall insurance sold in small denominations so as to be affordable to small farmers and the development of more accurate and accessible drought forecasting information (Skees et al., 1999; Arndt et al., 2000). This kind of insurance could be sold by the private sector without the need for heavy subsidies.

Commodity futures markets also offer new possibilities for providing forward price contracts to small farms. Rather than expecting farmers to trade in these markets on their own account, market intermediaries, such as large traders, processors or exporters, might be induced to offer farmers forward price contracts, and then to hedge the assumed price risk on their own account in the futures market. For this to happen, government must establish mechanisms for ensuring that contracts are enforced and, where appropriate, establish domestic futures markets for key commodities.

Tenure Security and Improved Access to Land

Farmers need assured long-term access to land if they are to pursue sustainable farming practices and to make long-term investments in improving the productivity of their resources. Many of the indigenous land tenure systems that prevail in the developing world already provide reasonable tenure security to those who have access to land, and they also seem to evolve to accommodate changing needs (e.g. greater privatization of rights) as population and commercialization pressures increase (Otsuka and Place, 2002). In these cases, the appropriate role for government is to seek ways of strengthening existing systems rather than imposing new systems. Legal registration of land by community groups and simple measures for recording land transactions and resolving disputes can often increase security by reducing land disputes between and within communities. By contrast, registration of individual plots will only be worthwhile in areas of high population density, where land has a high value, where formal lending institutions are also well developed, and land is already effectively privatized.

Many resources are owned and managed as common property (e.g. grazing areas, woodlands, water, and wetlands). There are usually good reasons for this; it can be a cost effective way of preventing intruders from using the resource, of maintaining flexible responses to drought, and of ensuring equitable access for all members of the community. But if these resources are to remain in common ownership, and avoid being privatized or over-used, then governments need to recognize local rights and capacities to manage these assets. Often, governments have undermined indigenous institutions by nationalizing important common property resources such as rangeland and forests, while being unable in practice to manage them effectively. As a result, many common property resources have degenerated into open access areas. There is now increased acceptance that the most successful institutions for managing common properties are likely to be local organizations, run by the resource users themselves. Government policy needs to support local management by such user groups, while at the same time ensuring that poor people are adequately represented in their management (Knox et al., 2002; Otsuka and Place, 2002).

Small farms also need access to efficient land markets for sale and rental purposes. This need is growing as small farms become increasingly smaller in many land scarce economies. Efficient land markets require an enabling legal environment, both in terms of legal recognition of the right to sell, rent or mortgage land, and also effective means of enforcing contracts. Land markets facilitate land consolidation as farms get too small or as some farmers seek to migrate to urban areas. They can also provide a way of facilitating land redistribution in countries where land is excessively concentrated. For example, South Africa has been redistributing land to the poor by making use of the ‘willing buyer, willing seller’ principle for voluntary land transfers (van Zyl et al., 1996). However, the effective application of this market-assisted approach requires well-developed mortgage financing, strict control of land prices to reduce speculation, and a range of complementary support services (credit, training, extension, and marketing). Better options are government sponsored land redistribution (though politically difficult), more effective land rental markets (Mearns 1999), and organization of the poor to obtain greater access to common property resources and their management.

Nonfarm Opportunities and Migration

Rural nonfarm income and migration remittances are important components of the livelihood strategies of small farmers and landless workers, often accounting for more than half their income. These income sources contribute to higher consumption, income stabilization (by offsetting agricultural losses in bad years), and are used for financing on-farm investments (Reardon et al., 1998; Walker and Ryan 1990). Low human, financial and physical assets confine many small farm households to low-productivity, low-growth nonfarm activities from which there are few pathways out of poverty. In this environment, the policy challenge becomes one of equipping poor households to move from these “refuge” nonfarm jobs to more remunerative ones. To do so, they require a variety of private assets such as education and start-up funds, and public assets such as roads and electricity and information about how to access dynamic market segments. Gender, caste and social status can restrict access by the poor to the most lucrative nonfarm activities in some settings. Many of these investments in human capital are also helpful for small farmers seeking exit strategies out of agriculture.

While investments in human capital formation can assist small farm households diversify into nonfarm activities both locally and through migration, opportunities are also conditioned by the rate of growth of the nonagricultural sector. In stagnant countries with low per capita incomes, productive nonfarm opportunities are limited.

In this circumstance, policy and program interventions designed to strengthen the supply side of the rural nonfarm economy can be undermined by insufficient demand, even making producers worse off if demand is not very price responsive.

Targeting the Vulnerable

Agricultural growth centered on small farms can make deep inroads into poverty and hunger in many poor countries. But this would not be enough to eliminate poverty and vulnerability to production and market shocks. There is also need for effective safety net programs in times of crisis and for helping afflicted households and communities cope with chronic disease problems like HIV/AIDS. There have been real advances in recent years in targeting and delivering assistance more effectively, often by involving local communities in the design and implementation of targeted programs, which leads to programs that are primarily demand-driven and hence reflect local needs and constraints.

Conclusions

In many poor countries, small farm development offers an efficient and pro-poor option for agricultural development. However, small farms are seriously challenged today in ways that make their future precarious. Marketing chains are changing and are becoming more integrated and more demanding of quality and food safety. This is creating new opportunities for higher value production for farmers who can compete and link to these markets, but for many other small farms the risk is that they will simply be left behind. In developing countries, small farmers also face unfair competition from rich country farmers in many of their export and domestic markets, and they no longer have adequate support in terms of basic services and farm inputs. And the spread of HIV/AIDS is further eroding the number of productive farm family workers, and leaving many children as orphans with limited knowledge about how to farm. Left to themselves, these forces will curtail opportunities for small farms, overly favor large farms, and lead to a premature and rapid exit of many small farms.

If most small farmers are to have a viable future, then there is need for a concerted effort by governments, NGOs and the private sector to create a more equitable and enabling economic environment for their development. This must include assistance in forming effective marketing organizations, targeted agricultural research and extension, revamping financial systems to meet small farm credit needs, improved risk management policies, tenure security and efficient land markets, and where all else fails, targeted safety net programs. In addition, the public sector needs to invest in the provision of basic infrastructure, health, education and other human capital to improve market access and to increase the range of nonfarm opportunities available to small farm households, including permanent migration to urban areas. These interventions are possible and could unleash significant benefits in the form of pro-poor agricultural growth. The associated public investments could also more than pay for themselves in terms of their economic and social returns.

Unfortunately, the needed interventions do not seem very likely at present and current trends are moving in the wrong direction. For example, research and extension for small farms is declining, credit for small farms has virtually disappeared, and donor and government investment in crucial rural infrastructure is stagnant at best. Unless key policy makers adopt a new agenda towards small farm agriculture, there is growing risk that there will soon be a dramatic increase in rural poverty and waves of migrants to urban areas that could overwhelm available job opportunities, urban infrastructure and support services.

Table 1. Size of Africa's Agricultural Trade and Markets

Market	Value (\$ billions)
Traditional exports to non-SSA	8.6
Non-traditional exports to non-SSA	6.0
Other exports to non-SSA	1.9
Intra-SSA Trade	1.9
Domestic markets for food staples	50.0

Note: All figures are 1996-2000 averages except for domestic markets which are 1997 figures.

Table 2: India Agricultural Production and Market

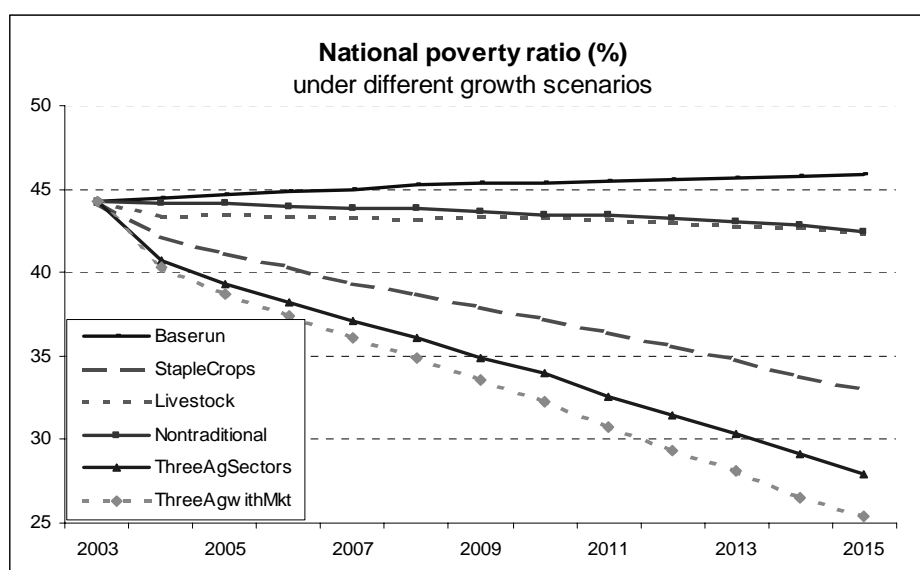
Amount, million MT (1998-2001 average)				
	Production	Food and feed	Imports	Exports
Rice	89.2	75.8		2.7
Wheat	70.9	57.9	0.8	1.1
Maize	12.0	9.8		
Oilcrops	32.1	7.2		0.4
Vegetable oils	6.4	9.3	4.3	0.3
Sugar	16.7	15.7	0.6	0.4
Vegetables	71.6	66.4		0.5
Fruits	45.6	39.3	0.3	0.3
Milk	80.1	77.5	0.1	0.2
Growth rate, 1991-2001 (%)				
Rice	2.2	1.4		14.8
Wheat	3.1	2.0	20.9	13.1
Maize	4.1	4.4		
Oilcrops	0.9	7.2		21.0
Vegetable oils	0.3	9.3	40.2	9.3
Sugar	4.7	4.6	36.1	-1.1
Vegetables	4.6	4.7		3.8
Fruits	5.2	5.1	17.5	15.0
Milk	4.7	4.7	-2.7	38.3

Box 1: Market constraints, agricultural growth and rural poverty reduction; the case of Ethiopia

Ethiopia is a poor country whose agricultural sector is dominated by large numbers of very small farms. Over 80% of the work force is still engaged in agriculture, nearly two thirds of the population lives below the poverty line, and average yields are some of the lowest in Africa. The country is dependent on food imports, much in the form of food aid, to meet its basic food security needs each year. Within this context, should agricultural growth give higher priority to diversification into higher value foods and processed commodities, or should it focus more on food staples? Which will lead to the most pro-poor outcome by 2015, the end date for the MDGs? Using a national economy-wide model, Diao et al (2004) have simulated the growth paths corresponding to different types of agricultural growth. The simulations are standardized so that the initial amounts of agricultural GDP generated are the same at base year prices. However, because prices are endogenous and there are trickle down impacts on the nonagricultural economy, differences in agricultural growth rates and poverty reduction can emerge. All markets clear, hence the model automatically balances demand and supply for each commodity.

The results clearly show the superior poverty reducing impact of giving priority to staple crops. This is because productivity enhancements for staple crops (e.g. through technological change) benefit most farms throughout Ethiopia, reaching many of the poorest areas. Staple crops also form the dominant share of household food expenditure, so productivity increases that lead to lower prices have powerful benefits for the urban poor too. By contrast, a focus on nontraditional (High value foods and processed agricultural products) benefits far less poor people, reaching only farmers in the better connected areas, and having little impact on the food costs of the poor.

Figure 2: Type of agricultural growth and national poverty projections to 2015, Ethiopia



REFERENCES

- Arndt, C., P. Hazell and S. Robinson. 2000. "Economic Value of Climate Forecasts for Agricultural Systems in Africa." *Climate Prediction and Agriculture*, edited by M. V. K. Sivakumar, Washington, D.C., World Meteorological Organization, International START Secretariat.
- Carter, Michael R., and Keith D. Wiebe. 1990. Access and capital as impact on agrarian structure and productivity in Kenya. *American Journal of Agricultural Economics*. 72(5): 1146-1150.
- Deininger, K., and L. Squire. 1998. New ways of looking at old issues: inequality and growth. *Journal of Development Economics*. 57: 59-287.
- Diao, Xinshen with Madhur Gautam, James Keough, Detlev Puetz, Jordan Chamberlin, Charles Rodgers, Liangzhi You, and Bingxin Yu. 2004. Growth Options and Investment Strategies in Ethiopian Agriculture - A Spatial, Economy-wide Model Analysis for 2004 – 2015. Unpublished paper, IFPRI, Washington DC.
- Diao, Xinshen and Peter Hazell. 2004. Exploring Market Opportunities for African Smallholders. 2020 Brief, IFPRI.
- Eastwood, R., J. Kirsten and M. Lipton. 2003. Premature deagriculturalization? Land inequality and rural dependency in Limpopo Province, South Africa. Draft paper.
- Gabre-Madhin, E. Z. (2001). Market Institutions, Transaction Costs, and Social Capital in the Ethiopian Grain Market. *Research Report No. 124*. Washington, DC: *International Food Policy Research Institute (IFPRI)*.
- Hazell, P.B.R., 1992. The Appropriate Role of Agricultural Insurance in Developing Countries. *Journal of International Development*, 4(6): 567-581.
- Hazell, P., C. Pomareda and A. Valdés (eds.), 1986. Crop Insurance for Agricultural Development Issues and Experience. *Johns Hopkins University Press, Baltimore*.
- Hazell, P., and A. Roell. 1983. Rural Growth Linkages: Household Expenditure Patterns in Malaysia and Nigeria. *Research Report No. 41*, *International Food Policy Research Institute, Washington, D.C., September*.
- Heltberg, Rasmus. 1998. Rural Market Imperfections and the Farm Size-Productivity Relationship: Evidence from Pakistan. *World Development*, 26(10): 1807-1826.
- IFAD. 2000.
- Jayne, T. S., T. Yamano, M. T. Weber, D. Tschirley, R. Benfica, A. Chapoto and B. Zulu. 2003. Smallholder income and land distribution in Africa: Implications for poverty reduction strategies. *Food Policy*, 28: 253-275.
- Kherallah, M., Delgado, C., Gabre-Madhin, E., Minot, N. & Johnson, M. (2002). Reforming Agricultural Markets in Africa. *Baltimore MD: Johns Hopkins University Press*.

Kindness, H. and A. Gordon (2002). "Agricultural Marketing in Developing Countries: The Role of NGOs and CBOs". *Policy Series No.13*, Social and Economic Development Department, Natural Resources Institute. University of Greenwich, London, UK.

Knox, A., R. Meinzen-Dick, and P. Hazell. 2002. Property Rights, Collective Action and Technologies for Natural Resource Management: A Conceptual Framework. In *Innovation in Natural Resource Management; The Role of Property Rights and Collective Action in Developing Countries*. R.

Maxwell, Simon. 2003. Plenary paper presented at the 25th International Conference of Agricultural Economists, Durban, South Africa, August 16-23,

Mearns, R. (1999). Access to land in rural India (*Policy Research Working Paper No. 2123*). Washington DC: *The World Bank, South Asia Region, Rural Development Sector Unit*.

Mellor, J. W. 1976. *The New Economics of Growth: A Strategy for India and the Developing World*. Cornell University Press, Ithaca, NY.

Narayanan, S., and A. Gulati. 2003. Globalization and the smallholders: A review of issues, approaches and implications. *Discussion Paper No. 50, Markets and Structural Studies Division*. International Food Policy Research Institute, Washington D.C. November.

Otsuka, K., and F. Place (eds.). 2002. *Land Tenure and Natural Resource Management: A Comparative Study of Agrarian Communities in Asia and Africa*. Johns Hopkins University Press, Baltimore and London.

Ravallion, M., and G. Datt. 2002. Why has economic growth been more pro-poor in some states of India than others? *Journal of Development Economics*, 68: 381-400.

Reardon, T., K. Stamoulis, A. Balisacan, ME Cruz, J. Berdegue, B. Banks. 1998. "Rural Nonfarm Income in Developing Countries," Special Chapter in *The State of Food and Agriculture 1998*, Rome: Food and Agricultural Organization of the United Nations, pps. 283-356.

Reardon, T., C. P. Timmer, C. Barrett and J. Berdegue. 2003. The Rise of Supermarkets in Africa, Asia, and Latin America. *American Journal of Agricultural Economics*, 85 (5), December.

Rosegrant, M., and P. Hazell. 2000. *Transforming the Rural Asian Economy: The Unfinished Revolution*. Oxford University Press, Hong Kong.

Skees, J., Hazell, P. & Miranda, M. 1999. *New Approaches to Crop Yield Insurance in Developing Countries* (EPTD Discussion Paper No. 55). Washington, DC: Environment and Production Technology Division, International Food Policy Research Institute (IFPRI).

Van Zyl, J., Kirsten, J. & Binswanger, H. P. 1996. *Agricultural Land Reform in South Africa: Policies, Markets, and Mechanisms*. Cape Town: Oxford University Press.

Walker, T.S. and J.G. Ryan. 1990. *Village and Household Economies in India's Semi-Arid Tropics*. Baltimore, M.D.: Johns Hopkins University Press.

World Bank. 2003. *Global Economic Prospects: Realizing the Development Promise of the Doha Agenda in 2004*. Washington, D.C.