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DEVELOPING AND CONNECTING MARKETS FOR POOR FARMERS

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Agricultural markets play a key role in the lives of poor people in developing countries. More than half the population in developing regions (58 percent) and more than three-quarters of the poor—defined as those living on less than US\$1 per day—live in rural areas where agriculture typically constitutes 50–90 percent of household income. As a result, the development of efficient agricultural markets has a large impact on the economic opportunities of rural households. Rural households, however, are subject to a number of constraints that make their participation in the market both costly and risky, often leaving them “unconnected.” This brief summarizes these constraints and examines policy interventions to address them.

Enabling farmers to sell their crops provides significant benefits: when constraints are removed, farmers can earn more by specializing in crops for which they have a comparative advantage and purchase commodities that are relatively costly for them to grow. Indeed, those who produce mainly for their own consumption are the poorest, while those who are well integrated into markets and specialize in a smaller number of crops are better off. Cases where commercialization coincides with the loss of farmer income certainly exist—as in the Philippines, where expanded sugarcane production meant that tenant farmers lost access to land for maize production—but in most cases markets provide opportunities for smallholders to improve their incomes and livelihoods. Higher income and/or nutritional status has been associated with the adoption of commercial farming in Guatemala (vegetables), Malawi (tobacco), India (dairy), and Kenya (sugarcane).

Why Are Farmers Disconnected from Markets?

Given the potential benefits of engaging in markets, why do many farmers in developing countries produce largely for their own consumption? Farmers face numerous marketing constraints that can be categorized, roughly, as those that raise marketing costs and those that increase the risk associated with commercialization.

High marketing costs often stem from poor transportation networks, lack of market information, and—sometimes—lack of competitiveness of markets. Poor government policy can also contribute to high marketing costs through overregulation or sporadic intervention, which creates uncertainty and discourages marketing investments. One study found that marketing costs in Sub-Saharan Africa were up to

70 percent of retail values. These high costs reduce the effective “price” farmers receive for their products. Farmers living far from roads and markets, such as those in mountainous or semi-arid areas, tend to sell smaller shares of their outputs. For example, the share of crop production sold in Vietnam varies from just 34 percent in the sparsely populated northern uplands to 88 percent in the area around Ho Chi Minh City. Similarly, the marketed share of crops in Benin varies from 82 percent in the coastal province of Atlantique to 43 percent in the semi-arid northern province of Atacora. Studies of Laos, Malawi, and Zaire, among other countries, have found that the level of commercialization declines with the distance from roads and markets. Poor farmers have only small amounts to sell, making long-distance travel to sell their products unprofitable.

Production risk is another factor constraining market participation. Regardless of whether commercial crops are inherently more vulnerable to weather and pests, growing an unfamiliar crop or variety involves more uncertainty than growing a staple food crop. Commercial tree crops, such as coffee, cocoa, and fruit, involve additional risk and financial resources because they do not produce a harvest for several years after planting. In addition, producing for markets sometimes requires intensive and costly input use, which results in substantial risk for small farmers when yields are uncertain. The per hectare cost of inputs to grow vegetables for export in Guatemala, for example, is 12 times higher than the per hectare cost of inputs for maize production for farmers’ own consumption.

A third factor preventing farmers from selling crops at market is marketing risk. A farmer’s food security will be threatened if the price of the cash crop at harvest is lower than expected or the retail price of food is higher than expected. Perishable crops imply additional risk because their prices are more volatile, so the sale prices are more uncertain; the crops may spoil before sale; and, in the absence of competition, farmers don’t have the option of returning to the market for better prices another day, so they may be forced to accept very low prices. A study of seasonality in Mali found that the off-season price was only 7 percent higher than the harvest price for rice and 40 percent higher for maize, but it was 100 percent higher for fruits and vegetables. Similarly, coffee prices in Uganda were found to be two and a half times as volatile as prices for staple crops like bananas and potatoes, making engaging in markets risky.

Given the high marketing costs, production risk, and marketing risk, small farmers in developing countries are generally unwilling to expand into commercial food production or reallocate land to commercial crops. Instead, they grow enough staple crops to meet most of their basic food requirements and allocate any remaining land to commercial production. Thus, intensification of staple food crop production is often a prerequisite for diversification into high-value commercial crops. In the northern uplands of Vietnam, land has been reallocated from rice to tea and horticultural crops, but only because rice yield increases have more than offset the reduced area.

Transformation of Agricultural Markets

The issue of connecting poor farmers to markets has become more important over time because of long-term trends that are transforming the agricultural sector throughout the developing world. First, agricultural markets have been liberalized in many developing countries over the past 20 years. Commodity marketing boards that offered guaranteed prices have been eliminated, price controls have been relaxed, state-owned processors have been closed or privatized, and restrictions on agricultural production and marketing have been lifted. These reforms have increased competition and reduced marketing costs in many cases, although the net effect on farmers is mixed because of the elimination of support prices in some countries. Importantly, these market reforms give farmers greater responsibility for production and marketing decisions.

Second, international trade has been liberalized and exchange rates have been adjusted to provide greater incentives to exporters, including agricultural exporters. Agricultural markets remain distorted by subsidies in rich countries and constrained by sanitary and phytosanitary barriers. Despite these barriers, agricultural trade has grown rapidly, particularly in terms of horticultural exports from developing to developed countries. Developing-country exports of fruits and vegetables grew at almost 12 percent per year during 2000–05, and net U.S imports of fruits and vegetables have tripled since 1990, largely due to imports from Mexico and other Latin American countries. Meanwhile, net fruit and vegetable imports to Europe have more than doubled since 1990 as supplies from Egypt, Morocco, Kenya, South Africa, and other countries have expanded. In Asia, Chinese horticultural exports are displacing domestic production in Japan and other countries.

Third, income growth and urbanization within developing countries, particularly in Latin America and Asia, are promoting a shift in consumer demand away from staple food crops toward meat, dairy, fruits, vegetables, and fish. The per capita demand for grains and pulses in developing countries is stagnant, while the per capita consumption of vegetables, spices, and eggs is growing at more than 3 percent per year, and demand for meat, butter, and vegetable oils is growing at 2–3 percent per year. As part of this change, higher income urban consumers willing and able to pay for food safety, and processed convenience foods are

emerging. This shift in domestic demand is creating market opportunities for smallholders to produce more remunerative high-value commodities for the growing urban market if they can meet rising standards.

Finally, in response to new technology and changing consumer preferences, supermarkets and processors are playing an increasingly important role in food marketing in developing countries. The number of supermarkets is growing rapidly, and in middle-income countries they represent an important share of retail food marketing. The share of supermarkets is less than 10 percent in low-income countries, such as Kenya and Vietnam; 25–50 percent in lower middle-income countries, such as Guatemala and Indonesia; and 50–75 percent in upper middle-income countries, such as Argentina and Malaysia. One study uses cross-country patterns to predict that, in most countries, the share of supermarkets in the retail food sector will grow 5–10 percentage points by 2015. This has implications for farmers because supermarket chains generally set up coordinated supply chains to ensure a steady supply of good-quality produce. Small farmers need to learn to meet these quality and food safety standards to continue to participate in these growing markets.

Policy Options to Connect Poor Farmers to Markets

With the rapid evolution of food-marketing systems in developing countries, identifying the “best” crops for farmers to grow based on their agroclimatic conditions and proximity to markets is infeasible. Farmers themselves have better incentives and information to make these decisions. Rather, what is needed is a set of marketing policies and institutions that connect farmers to markets by reducing their marketing costs and risks. A number of interventions of this type are considered below.

A Stable Policy Environment

The first step in helping small farmers connect to markets is to establish a stable policy environment that facilitates private marketing operations. As mentioned above, agricultural marketing costs may be unnecessarily increased by overregulation, including policies to force crops to be sold through cooperatives, state enterprises, or official marketplaces. Similarly, private investment in storage facilities and transportation will be discouraged by unpredictable public intervention in markets, such as occasional export bans, government-managed trade, or vague policy injunctions against hoarding or overcharging. A price stabilization scheme with transparent rules of intervention is preferable to ad hoc intervention, but policymakers should recognize that even occasional intervention can dampen the incentives for private storage and transportation services.

Building Roads

As noted above, one of the largest marketing costs farmers face is the cost of transporting goods. Building roads and improving the surface of existing roads reduces both the time and cost of getting produce to market. In Bangladesh a carefully designed study

comparing outcomes before and after a road-building project in affected and unaffected villages found that paving rural feeder roads reduced transport costs by 36–38 percent, lowered fertilizer prices by 45–47 percent, and increased staple crop prices by 3–5 percent. Improving roads may also bring more goods to local markets to compete with goods farmers sell, but studies overwhelmingly show that improving roads promotes agricultural growth and farmer welfare. In the case of Bangladesh, improved roads increased per capita household expenditure by 11 percent.

Developing Market Infrastructure

Investing in market sheds and collection points can also make a big difference. In Nicaragua the development of collection centers throughout rural areas has allowed small-scale farmers who do not own vehicles to sell leafy greens to Hortifruti, a domestic supermarket. At the collection centers the leafy greens delivered are also graded and washed in chlorinated water. Developing market infrastructure for fruit and vegetable markets often also involves investing in cold-storage facilities and laboratories for testing produce for chemical residues and bacteria. Investing in other aspects of rural infrastructure, such as electricity, has also been shown to be important.

Investing in Market Institutions

Grades and standards become increasingly important with the development of high-value agricultural markets; they can be set by private companies, trader associations, or public bodies, but when common standards are absent the public sector is required to develop them. Once standards have been set, the public sector can also encourage their widespread adoption by providing information, training technicians, arbitration services, and infrastructure. Developing the institutional infrastructure needed to protect national companies operating in international food markets has also proved to be a valuable investment. For example, Guatemala has positioned consular officers at major ports of importation throughout the world, ready to assist in disputes over the quality of fresh produce. Complaints of poor quality have declined significantly since these positions were established.

Enabling Cooperative Behavior

Encouraging farmers to market their goods together can also reduce marketing costs. Farmer cooperatives have earned a bad name from poorly managed, state-promoted initiatives, but—if well managed—they can reduce costs and provide economies of scale in marketing. Some state-promoted cooperatives are still successfully marketing crops for small farmers, and recent developments in organizing farmers have proved successful. In the upland areas of Laos and Vietnam, a project by the International Center for Tropical Agriculture (CIAT) is reducing the search costs associated with marketing in this environment by organizing farmers, walking them through the market chain, and allowing them to establish contacts with traders and processors. Similarly, in the Indian state of Andhra Pradesh, groups of the poorest women have

found that acting collectively they can afford new equipment and negotiate better prices.

Providing Market Information

One reason that marketing margins in developing countries are high is that farmers have little information about current prices in nearby markets. Even traders have incomplete information about market conditions. If farmers had better market information, they could bargain for higher prices from traders. If traders had better information, trading would be less risky, so their risk premium would fall. The government and farmer organizations can play a useful role in collecting and disseminating prices and other marketing information. Until recently, market information was distributed by radio and newspaper, but the Internet and mobile phones are creating new opportunities. In Kenya a project allows livestock traders to get up-to-date price information via text messages through their mobile phones. In India private companies are establishing Internet centers where farmers and traders can get agricultural price information and even carry out transactions.

Agricultural Advisory Services

Effective and demand-driven agricultural advisory services can enable smallholders to supply quality-driven markets and reduce the risks they face in doing so. However, many countries are cutting back on the provision of public extension services because of inadequate management and accountability within those systems. Similarly, many donors have lost interest in financing public extension because earlier models failed to reach poor farmers effectively.

In the absence of an effective publicly funded system of providing training to smallholder farmers, alternative means of preparing small farmers to connect to new markets are being used. The private sector has an important role to play in enabling farmers to compete in new markets. For example, an export firm in Madagascar that contracts poor smallholder farmers to produce beans for European markets relies heavily on extension staff to ensure farmers meet production schedules, quality standards, and safety requirements. Of course, public extension still has a role; extension services operate optimally when they involve several actors contributing their individual strengths. In Madagascar it took two to three years before the firm's extension staff could take on full responsibility for a geographical area, and the provision of state-trained extension workers may have helped.

Weather and Price Risk Management

Weather fluctuations can also dissuade farmers from producing for the market or from producing certain types of crops. Traditional crop insurance based on assessments of yield losses is highly costly because yields need to be monitored. A new development bases weather insurance not on yields but on local rainfall indexes in the region where the farmer lives. When the index falls below a certain level, farmers automatically receive a payment, eliminating the need

to estimate their potential yield losses. These cost reductions make it possible to offer insurance to small farmers. The microfinance organization BASIX, for example, sold 11,000 weather contracts to Indian farmers in 2006.

Cost-effectively dealing with agricultural price risk is difficult. Commodity exchanges are rapidly expanding in Asia through the provision of centers where farmers and traders can make reliable, low-cost transactions. The establishment of grading standards and the enforcement of contracts emerging from the development of commodity exchanges enable farmers to enter standardized contracts with traders to deliver a certain quantity of grain at a given price at a specified future point in time, thereby reducing price uncertainty. The development of futures contracts (when forward contracts are themselves traded) allows price risk itself to be reduced.

For small farmers of internationally traded commodities such as coffee, international commodity options contracts are a means of reducing price risk. Minimum scale requirements for participation, however, necessitate the involvement of intermediate organizations to buy contracts on behalf of large numbers of farmers. Kilicafe, a Tanzanian coffee trade association, makes use of these markets to reduce risk for its 10,000 smallholder members.

Contract Farming

Contract farming can be defined as agricultural production carried out according to a prior agreement under which the farmer commits to producing a given product in a given manner, and the buyer commits to purchasing it. Often the buyer provides the farmer with technical assistance, seed, fertilizer, and other inputs on credit, while offering a guaranteed price for the output. Proponents of contract farming argue that it links small-scale farmers to lucrative markets and reduces the constraints they face in diversifying into high-value commodities and connecting to markets. Contract farming is not appropriate for all

commodities, but it can be useful in making the production of high-value commodities for a quality-sensitive market viable for small-scale farmers. A contract-farming scheme in Madagascar provides seed, fertilizer, and technical assistance to almost 10,000 poor farmers to help them produce green beans for export to Europe. Research suggests that the scheme has improved these farmers' level of food security by increasing food availability during the off-season. Similar results have been found in studies of contract farming in Mexico, Kenya, Madagascar, China, and Indonesia, among other countries. Contract farming can be facilitated by establishing an investment-friendly policy environment, legalizing direct purchases from farmers, promoting public-private partnerships in extension, mediating disputes between farmers and buyers, and helping to enforce contracts.

Conclusion

Poor farmers in developing countries are often disconnected from markets, producing largely for their own consumption and selling only a small share of their harvests. Policy interventions can help farmers connect to markets by reducing the costs and risks of doing so. This can be accomplished by creating a stable policy environment; investing in roads and other marketing infrastructure; providing effective market information systems; developing market institutions, such as grades and standards, to facilitate trade; improving extension services; introducing weather and price risk management mechanisms; and promoting contract farming.

For Further Reading: M. Kherallah, C. Delgado, E. Gabre-Madhin, N. Minot, and M. Johnson, *Reforming Agricultural Markets in Africa: Achievements and Challenges* (Baltimore: Johns Hopkins University Press, 2002); N. Minot, M. Epprecht, Tran Thi Tram Anh, and Le Quang Trung, *Income Diversification and Poverty in the Northern Uplands of Vietnam*, Research Report No. 145 (Washington, DC: IFPRI, 2006); J. F. M. Swinnen, ed., *Global Supply Chains, Standards and the Poor* (Oxford: Oxford University Press, 2007).

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