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Smallholder Farmers' Access to Markets for High-Value Agricultural Commodities in India

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Executive Summary

Sustained economic and income growth, a fast-growing urban population, and the increasing integration of global agri-food markets are fueling rapid growth in demand for high-value food commodities in India. This is an opportunity for farmers, especially smallholder farmers, in India to augment their incomes and use surplus family labor in the production of high-value, labor-intensive food commodities. The transition to high-value agriculture, however, is unlikely to be smooth. One of the major impediments is smallholders' lack of access to markets for high-value commodities. Local rural markets are thin, and trading in distant urban markets is not remunerative owing to high transportation and transaction costs. Besides, they also face problems in gaining access to credit, high-quality inputs, improved technology, information, and services.

Improving smallholders' access to markets requires close linkages between farmers, processors, traders, and retailers to coordinate supply and demand. Institutions such as cooperatives, producers' associations, and contract farming are important means of linking producers with markets, as well as a source of credit, inputs, technology, information, and services. But there is concern that smallholders may be excluded from the institution-driven value chains. Agribusiness firms, to reduce the transaction costs of contracting with a large number of smallholders, have tended to contract with a few large producers who can supply large volumes and are capable of complying with food-quality standards. There is also a fear that agribusiness firms may exploit smallholders by extracting monopsonistic rent in the output market and manipulating the terms and conditions of contracts.

Nonetheless, there is growing evidence that the advantages associated with institutional marketing outweigh its disadvantages. Policy makers should therefore create a level playing field to allow for the growth of the right kind of market institutions, promote competition among various market players and institutions, protect smallholders from institutional exclusion and unscrupulous trade practices, and support them with credit, insurance, technology, and services to improve their competitiveness and ensure food safety for con-

sumers. Policies should also focus on improving public infrastructure that generates widespread economic benefits.

Your assignment is (1) to compare advantages and disadvantages of cooperatives, producers' associations, and contract farming, and (2) to identify required government policies and other conditions for the success of these institutions, focusing on social, economic, and political and legal aspects.

Background

The Relevance of High-Value Agriculture to Smallholders

Smallholders¹ are a big deal in India. In 2002/03, out of 101 million farm households, 86 percent had landholdings of less than or equal to two hectares (ha), with an average holding of 0.53 ha per household. Furthermore, smallholders are multiplying rapidly. Since 1971/72 their number increased 2.25 times, whereas the average size of their holdings declined by 45 percent. How long can they survive on such tiny landholdings? Should they exit agriculture, or should they work to enhance their agricultural income by intensifying or diversifying their production with more remunerative activities like horticulture, dairying, poultry, and fisheries? The opportunity to exit agriculture appears to be limited given that past trends for transferring labor from agriculture to other economic sectors are not encouraging. Between 1972/73 and 2004/05, the share of agricultural employment in total employment declined from 74 percent to 57 percent.

In view of the slow transfer of labor out of agriculture, diversification of agriculture out of staples

¹ There is no universally accepted definition of smallholders. Generally, farm classes are defined in terms of the amount of land or livestock a household possesses. Furthermore, the cut-off point for categorizing a farm household as a smallholder varies depending on the scarcity or abundance of these resources. For more details, see Narayanan and Gulati (2002). In India farm classification is based on landholding size, and a household possessing less than two hectares of land is classified as a smallholder (see Government of India 2006).

and toward high-value food commodities appears to be an important pathway for smallholders to augment their income and escape poverty. High-value enterprises have strong potential to raise returns to land, labor, and capital inputs. Enterprises such as vegetable production and livestock rearing have short gestation or generation intervals and produce quick and continuous flows of output. Horticultural crops generate as much as seven times more income per unit of land compared with cereals (Joshi et al. 2004). Vegetable production requires two to seven times as much labor as cereals (Weinberger and Lumpkin 2005), and smallholders have abundant labor. There is also a possibility that labor may substitute for capital inputs—for example, manual weeding can replace the use of herbicides or tractors. Although high-value food production can require a greater amount of start-up capital, some activities, like vegetable production, small-scale dairying, and poultry raising, can be initiated and developed with relatively little capital.

Production of high-value commodities can make an important contribution to rural poverty reduction. The literature on the agriculture-poverty nexus identifies agricultural growth as the main cause of poverty reduction in many developing countries. In India the high-value food sector (fruits, vegetables, milk, meat, eggs, and fish) contributes nearly half of agricultural income and has been growing at almost twice the rate of the rest of the agricultural sector (Birthal and Joshi 2006). Besides, the distribution of high-value enterprises such as dairying, poultry, and small ruminants is skewed toward smallholders, suggesting that high-value agriculture can make a significant contribution to poverty reduction. There are numerous other examples where smallholders could escape poverty through the production of high-value agricultural products.

Another significant feature of high-value agriculture is that it is pro-women. Women perform a number of activities related to production and postharvest of high-value commodities. For instance, 76 percent of the labor required in dairy, 62 percent in poultry, and 44 percent in horticultural production in India is supplied by women, compared with 37 percent in the case of foodgrains (Birthal et al. 2006). Similar situations have been documented in many developing countries (Dolan and Sorby 2003).

Market Opportunities in High-Value Agriculture

Demand for high-value food production in the domestic as well as international markets has been increasing rapidly. The food basket in India has undergone a significant change over the past two decades or so. Between 1983 and 1999, per capita consumption of high-value food products increased by 24 to 39 percent, compared with a 16 percent decline in cereal consumption (Mittal 2006). Furthermore, this shift in the consumption pattern is not confined to high-income consumers, but is widespread. The percentage increase in the consumption of high-value food commodities has been higher among households at the lower end of the income distribution, owing to Engel's Law. Multiplying these changes by the rise in population translates into huge increments in demand growth for high-value food products.

The growth in domestic demand for high-value food products was triggered by rapid economic and income growth, increasing urbanization, changing consumer preferences, and unfolding globalization (Birthal et al. 2006). For the past two decades the Indian economy has been growing at an annual rate of more than 6 percent, per capita income at 4 percent, and the urban population at 3 percent. These economic and demographic changes are considered robust and are likely to continue in the near future, implying further expansion in the demand for high-value food products.

The global market for high-value food commodities is also expanding fast (Aksoy and Beghin 2005). The share of fruits and vegetables in world agricultural trade, for example, increased from 14 percent in 1981 to 19 percent in 2003. In India high-value food products (fruits, vegetables, dairy products, meat, eggs, and fish) accounted for 35 percent of total agricultural exports in 2003, up from 24 percent in 1981 (Birthal et al. 2006). Fish and fish products are the largest component of high-value exports (50 percent), followed by fruits and vegetables (35 percent). Annual growth of high-value food exports during this period was 4.4 percent, compared with 3.5 percent in total agricultural exports. The faster growth in exports of high-value food products presents an opportunity for smallholders to participate in global markets.

Barriers to Smallholders' Access to Markets

Can smallholders benefit from the expanding markets for high-value food commodities? The production and marketing requirements for high-value food commodities are much different than for staple foods. Production of most high-value food commodities is capital and information intensive, and because these products are perishable, they are prone to higher market and price risks. Moreover, smallholders are constrained by a lack of access to capital or credit, improved technologies, high-quality inputs, information, services, and risk-mitigating mechanisms.

Lack of access to markets for high-value food commodities is a major impediment to small farm diversification toward high-value food commodities. The perishability of high-value food commodities necessitates their immediate transfer to consumption centers or markets or transformation into less perishable products. Local rural markets for high-value food commodities are thin, and the marketable surplus of individual smallholders is too small to be traded economically in distant urban markets owing to high transportation and transaction costs. The transportation and marketing costs associated with open market sales of milk and vegetables in India eat up as much as 15 percent of farmers' gross revenue (Birthal et al. 2005). Some of these costs are fixed and, owing to a lack of scale economies, are higher for smallholders. In addition, compared with foodgrains, high-value food commodities are prone to higher price risks. Their prices are volatile and drop significantly when supply in the market is just slightly above normal.

Lack of infrastructure such roads, refrigerated transport, and cold storage is an important barrier to farmers' participation in the production and marketing of high-value food commodities. Evidence shows that the spread of high-value agriculture is poor in areas with poor road networks (Parthasarathy Rao et al. 2006). A lack of road connectivity leads to delays in transferring produce to market centers, quantitative and qualitative losses in farm produce, and higher transportation and transaction costs, which act as a disincentive to farmers and agroprocessors to invest in high-value agricultural production and processing.

Although the globalization of agri-food markets presents an opportunity for farmers to participate in these markets, globalization is accompanied by

increasing demands for food safety, quality, traceability, and compliance. Meeting these requirements is a big challenge for farmers, processors, and exporters. Food safety and quality concerns are also echoed by the organized food retail chains in domestic markets. Lack of compliance with food safety and quality standards may exclude smallholders from the quality-driven supply chains.

Institutional Innovations Linking Farmers to Markets

For smallholders to benefit from the growing market opportunities, close linkages between farmers, processors, traders, and retailers are needed to coordinate supply and demand. Vertical coordination of agri-food markets through institutions like cooperatives, producers' associations, and contract farming can help create such linkages. These institutions, if managed well, can provide several benefits to farmers besides access to markets. The major benefit consists of reduced transportation and transaction costs. Farmers also benefit from the provision of high-quality inputs, improved technologies, credit, insurance, and support services from the processing or marketing firms provided as a part of contracts.

These institutions are not, however, free from criticism. Although cooperatives and producers' organizations offer the benefit of collective strength, friction and disputes among the members can mar the spirit of cooperation. Contract farming is viewed as a partnership between unequal partners, and there is always scope for exploitation of the weaker party—that is, the farmers. The agribusiness firms may extract monopsonistic rents in the output market and manipulate the terms and conditions of contracts to the disadvantage of farmers. Another important argument against contract farming is that agribusiness firms, to reduce the transaction costs of contracting with a large number of smallholders, tend to select large farmers who are capable of supplying sufficient quantity and complying with food safety and quality standards.

Nonetheless, India is witnessing a revolution in institutional innovations linking farmers with markets (Box 1). Cooperatives among sugarcane and dairy producers have long existed. Producers' associations for marketing fruits are emerging in their niche production regions. And now, with enabling

market liberalization policies, contract farming is becoming a preferred method for the sourcing of raw materials by agri-business firms, organized food retailers, and exporters.

Box 1: The Institutional Revolution in High-Value Agriculture: The Case of Poultry Production

Until 1991, contract farming in poultry was almost nonexistent in India. Although poultry production was booming, a disease outbreak in the mid-1990s in the southern part of the country—the heart of the poultry industry—forced many smallholders to exit poultry production. This production decline affected not only producers, but also hatcheries and the feed industry. Consequently, a few leading firms in the poultry business initiated contract farming with farmers who had closed their farms. The obvious advantage was that these farms had infrastructure and skills in poultry production and required only operational capital, which these firms provided in the form of chicks and feed. The farmers were provided with guaranteed income in the form of fixed growing charges, which acted as insurance against market risks. Today, contract farming is widely practiced in both broilers and layers; about 40 percent of India's poultry production takes place under contracts, and in some southern and western states the share is more than 70 percent.

The literature on contract farming identifies three types of contracts: market specification, resource-providing, and management contracts.² All these

² Under a market specification contract, a farmer commits to sell his produce to the agribusiness firm at a fixed price or at the market price prevailing at the time of harvest. Under a resource-providing contract, the agribusiness firm provides inputs, technology, and services to the farmer against his commitment to supply a stipulated amount of produce. Under a management contract, the agribusiness firm not only provides resources but also has strict managerial control over the

contractual arrangements exist in India in varying intensity. Market specification contracts, as pre-harvest contracts, are widely prevalent in horticultural crops like mango, banana, apple, litchi, grape, arecanut; management contracts are quite common in poultry; and resource-providing contracts are observed in most of the commodities.

Within the broad framework of market specification, resource-providing, and management contracts, a contract could be bipartite or multipartite, depending on the commodity, the resource base of the producers, and the capacity of the agribusiness firms. A bipartite contract is a direct contract between a producer or group of producers and an agri-business firm. Poultry contracts in India are mostly bipartite management-type contracts. Multipartite contracts involve not only farmers and agri-business firms, but also many other stakeholders such as financial institutions (credit and insurance), input manufacturers, and service providers. Given the poor resource endowments of smallholders, multipartite contracts are becoming important in India. Further, the practice of subcontracting is widely prevalent both in bipartite and multipartite contract systems. In this case, the firm enters into an agreement with a local villager to obtain a commodity supply on a commission basis. The local villager acts as an intermediary between the firm and the producers in terms of procurement of the produce and distribution of inputs and services. In a smallholder-dominated agrarian economy, such an arrangement reduces the firm's transaction cost of contracting with a large number of smallholders and also spreads risk. These contracts are common in dairying.

Empirical evidence on the profitability of contract farming is scanty, yet the available data show that farmers, both large and small, benefit from these arrangements (Birthal et al. 2005; Kumar 2006). Table 1 shows the percentage difference in costs, price, and net revenue between contract and independent production of milk, broilers, and spinach.³ With contracts, dairy and spinach producers can

farmer's decisions and guarantees a minimum income to the farmer.

³ Contracts in dairy are of two types: (1) direct contracts with large producers, and (2) subcontracting with small producers through agents. Broiler contracts are management-type contracts. In the case of spinach, contracts are through producers' associations. For details, refer to Birthal et al. (2005).

Table 1: Unit Cost, Price, and Net Revenue of Contract Farmers Compared with Those of Noncontract Farmers (%)

Item	Milk	Broilers	Spinach
Cost of production	-2.5	-	-8.9
Marketing and transaction cost	-93.1	-57.8	-92.0
Total cost	-10.2	-	-26.5
Price	3.8	-	7.7
Net revenue	100.5	12.6	77.9

Source: Birthal et al. 2005.

Note: Dashes signify that the data are not comparable.

realize as much as 78–100 percent more net revenue than their independent counterparts selling in the open market. The major benefits accrue from reduced transportation and transaction costs. With off-take of the produce at the farm gate assured, contract producers can save on transport, travel, and labor costs. Because they are provided with inputs (at market prices) and free technical services at their doorstep, they also save on the cost of acquiring these goods and services. There is no significant difference between the contract price and the market price, although the contract price is marginally higher for both milk and spinach. Thus it does not appear that agri-business firms tend to extract monopsonistic rent in the output market and monopolistic rent in the input market.

Broiler contracts are management-type contracts. The agribusiness firms provide day-old chicks, feed, vaccines, medicines, and services and thus bear about 90 percent of the variable cost, which in a sense is an interest-free credit to producers. The producers are provided with a guaranteed income (in the form of fixed growing charges for birds based on body weight) for their contribution to production cost. This system eases farmers' capital constraints, insulates them from market and price risks, and provides stable income (Ramaswami et al. 2006). Since there is a trade-off between risk and returns, contract farming in broilers is not as profitable as in milk and spinach.

Marketing and transaction costs are higher for smallholders, and thus they are expected to benefit

most from institutional arrangements. The question, however, concerns their participation in these arrangements. Evidence in this regard is mixed. In the cases presented in Table 1, 56 percent of dairy producers had fewer than 5 dairy animals, 51 percent of spinach producers had a farm smaller than 2 ha, and 32 percent of broiler producers had fewer than 5,000 birds per crop. In contract farming of gherkins, Erappa (2006) found more than 50 percent of farmers had less than 2 ha of land. On the other hand, Kumar (2006) found very little involvement of small landholders in contract farming (15 percent) in crop production in general.

Policy Issues

In India smallholders (with landholdings of less than 2 ha) make a significant contribution to the production of high-value food commodities (Birthal and Joshi 2006). They control 61 percent of the total area under vegetables and 52 percent under fruits, compared with their share of 44 percent of arable land. Most smallholders do not, however, practice high-value agriculture on a commercial scale; only 16 percent of them grow vegetables, and of these farmers 60 percent allocate less than 20 percent of their area to vegetables owing to lack of market access. Production on such a tiny scale might offer nutritional benefits to them, but the lack of access to markets largely eliminates cash benefits. The major policy issue is therefore how to connect them with regional, national, and international markets.

Agriculture in India is a state subject. The marketing of agricultural produce is governed by the state-specific Agricultural Produce Market Committee (APMC) Acts, which until recently restricted commercial transactions in agricultural commodities outside the state-designated markets. Under its economic reform program, the central government came with a new Model Agricultural Marketing Act in 2003, which allows agribusiness and marketing firms to source their raw materials directly from farmers through contracts or other arrangements. The implementation of the Model Agricultural Marketing Act, however, rests with state governments, and progress has been slow, acting as a disincentive for agribusiness firms to invest in marketing and processing infrastructure and thus slowing the upscaling of contract farming.

A related issue concerns regulation and legal protection of contract farming. The Model Agricultural Marketing Act has regulatory provisions but does not provide any legal teeth for resolving conflicts and disputes between the parties involved, on the grounds that legal procedures could be lengthy and complex. Nevertheless, contract farming is growing rapidly, and the need for legal protection cannot be ruled out.

Downstream from this vertical coordination, a significant change is taking place in India's food retailing system in the form of the rise of supermarkets. A number of large business houses have entered organized food retailing. This move is likely to have a significant impact on food procurement, as well as on traditional retailing systems. Supermarket chains are quality-driven. There is concern that smallholders may be unable to meet supermarkets' quantitative and qualitative requirements and thus may be displaced from the high-value market segment. There is also concern that the rise of supermarkets in food retailing could displace millions of workers in the unorganized retail food sector. On account of these concerns, India prohibits foreign direct investment in multibrand retailing. It is also feared that foreign investors may import goods into India, which could be detrimental to domestic producers.

The food-processing industry is underdeveloped and lacks investment. Only about 2.2 percent of fruits and vegetables, 6 percent of poultry meat, 21 percent each of fish and buffalo meat, and 35 percent of milk undergo value addition (Govern-

ment of India 2005). This low level of processing results from both demand- and supply-side factors. Prices of processed foods are high owing to the high cost of packaging and taxes.⁴ Moreover, the food-processing industry lacks scale economies. Improving the scale of processing requires huge capital expenditures and investments in technology to allow industry to compete in global markets.

With rising incomes and access to information, consumers are becoming increasingly conscious of food safety and quality. High-value food commodities are more prone to food-safety issues at every stage of the value chain. Unfortunately, the cost of complying with food safety demands is exorbitant owing to required higher initial investments in machinery and equipment, certification procedures and labeling, and monitoring and enforcement costs at the farm level (Mehta et al. 2007).

An important issue that has attracted considerable attention from policy makers concerns the trade-offs between high-value crops, food security, and natural resources. Some observers fear that diverting land from staples to commercial cultivation of high-value crops may adversely affect household food and nutrition security. Besides, there is an argument that high-value crops require more irrigation water, fertilizers, and pesticides and thus could lead to a deterioration of natural resources. There are counterarguments to these (Birthal et al. 2006), but this debate creates a dilemma for policy makers.

Stakeholders

Stakeholders on the supply chain for high-value food products can be broadly categorized as producer-sellers (individual or collective), buyers (commission agents, wholesalers, institutional buyers, processors, exporters, and retail chains), consumers, input manufacturers, and service providers (financial institutions, extension agents, agricultural research institutions, packers, and transporters). All these stakeholders have different interests, some of which are complementary and others of which are conflicting.

⁴ For most horticultural products, packaging costs vary between 12 and 20 percent of the total cost, and tax incidence ranges between 15 and 21 percent.

Producers are the primary stakeholders. Their main interest is to have an assured and remunerative market for their produce, and they will benefit the most from institution-driven supply chains. Assured access to markets lowers marketing and transaction costs, reduces price risks, and acts as an incentive to improve scale of production.

Agroprocessors, organized retailers (supermarkets), and exporters are important key actors in creating new markets for high-value food products. Institutions like contract farming enable them to have quantitative and qualitative control over raw material procurement and to use their installed capacity, infrastructure, and labor force more effectively. Their main interest is to expand business by capturing emerging opportunities in the high-value sector. The level of food processing, as well as organized food retailing, in India is low, but rising demand for high-value foods offers immense opportunities to them in agriculture and agribusiness. At present, the supply chain for high-value food commodities is long and dominated by a number of intermediaries such as commission agents, wholesalers, and unorganized retailers. Vertical coordination through institutional mechanisms would lead to increased competition in procurement and retailing systems, benefiting both producers (through reduction in market risks) and consumers (through lower prices and better quality). On the other hand, vertical coordination might squeeze the profits of traditional stakeholders like commission agents, wholesalers, and unorganized food retailers.

High-value agriculture requires capital, improved technology, high-quality inputs, information, and services, and many farmers lack access to these. The new marketing institutions create enormous potential for financial institutions, input manufacturers, and technology, information, and service providers to integrate themselves into the supply chain through links with agribusiness firms and farmers.

As stakeholders, the central and state governments should create a level playing field for the growth of new market institutions, promote competition among various market players, and enact regulations and legislation to ensure food safety for consumers. They should also encourage smallholders to form producers' associations to deal with agribusiness firms; this step can help them avoid being

excluded from markets and improve farmers' access to credit, insurance, technology, information, and support services to improve competitiveness. In addition, the government's role in providing public infrastructure, such as roads, electricity, and communication, that generates widespread economic benefits is of utmost importance.

Policy Options

Three critical elements that need a policy focus are (1) physical infrastructure (such as roads, electricity, and communication) that connects smallholders to consumption centers and markets; (2) institutions that reduce marketing risks and transaction costs and provide inputs, technology, information, credit, insurance, and support services; and (3) investment in food processing.

For perishable commodities, access to high-quality and cost-effective transportation is essential to reduce marketing risks and transaction costs for both sellers and buyers. Hence, governments should increasingly invest in rural roads and other means of transportation, especially in remote areas that have favorable environmental conditions for production of high-value commodities but lack market access.

There is also a need to invest in electrification, which is a prerequisite for production, postharvest storage, and processing of high-value commodities. In this age of the information revolution, electricity is also crucial for the effective use of technologies to retrieve and transmit information on production and postharvest technologies, management practices, prices, and markets. This issue raises the role of information and communication technologies. Lack of access to information is an important limitation to commercializing high-value agriculture. An uninterrupted supply of electricity and information, by reducing unit production costs and transaction costs, will improve competitiveness in production, marketing, and processing.

Investment in public infrastructure triggers private investment in cold storage, refrigerated transportation, market infrastructure, and processing, which are essential to stimulate production of high-value food commodities. Unfortunately, both public and private investment in such infrastructure is inadequate to cope with the ongoing revolution in the

high-value food sector. For instance, the available cold storage capacity in India can accommodate barely 10 percent of the horticultural produce (Birthal et al. 2005). Chilling and storage facilities for milk and meat are grossly lacking.

An enabling policy environment is also needed to enhance private sector participation in agri-food markets. Some important issues that need policy attention include reduction of regulatory barriers such as the multiplicity of regulatory and licensing authorities, increased flow of credit to processors and exporters, and reduction of the multiple taxes on processed products.

The Government of India allows foreign direct investment (FDI) in food processing, but cumbersome procedures and lack of infrastructure hinder this investment. Presently, food processing accounts for only 4 percent of total FDI. FDI in food retailing is not allowed except in single-brand retailing. FDI can promote high-value agriculture by creating new markets for processed foods, improving scale economies, and linking farmers to export markets.

Globalization is creating opportunities to export high-value food products but is accompanied by stringent food safety and quality standards. To exploit these opportunities, India must promote public-private partnerships to develop and improve quality standards, build food-testing laboratories, set up export promotion zones, and equip farmers with best production practices.

Diversification toward high-value food commodities is demand-driven and sets a demand-driven agenda for agricultural research. The research should target the development of crop varieties and production practices that satiate consumers' tastes, preferences, and food safety requirements. In addition, research should focus on developing crop varieties and products that are suitable for processing (taking into account, for example, size, color, shelf life, and chemical composition) and that make use of cost-effective processing technologies.

Given an appropriate macroeconomic policy framework, farmers would benefit the most if the supply chain is squeezed to reduce marketing costs and margins and if farmers are provided with high-quality information, improved technologies, credit, information, and risk-mitigating instruments. These

goals could be met if agribusiness firms establish strong backward linkages with farmers through institutions like cooperatives, producers' associations, and contract farming. Governments should therefore facilitate the upscaling of such institutions by accelerating the process of agricultural market reform and demonstrating the benefits of these institutions to farmers.

Institutional reforms should be accompanied, however, by appropriate regulations and legal instruments that protect producers from unscrupulous trade practices. Two important issues here relate to (1) the monopsonistic power of agribusiness firms, and (2) exclusion of smallholder farmers from the market. Governments must recognize these possibilities and ensure that contracts are transparent, unbiased, and not disadvantageous to producers.

Global experience reveals that agribusiness firms tend to exclude smallholders from such institutions. Although Indian agriculture is numerically dominated by smallholders, the distribution of land is highly inequalitarian; 35.6 percent of the land is controlled by 5.2 percent of farm households. Thus, it is not difficult for firms to find large landholders and contract with them to supply high-value agricultural commodities. The best option to ensure that smallholders are not excluded and exploited is to encourage them to join together in producer organizations, which should be supported by policy instruments such as provision of subsidized credit and insurance, extension services and information, and communication technologies.

Assignment

Cooperatives, producers' associations, and contract farming are important means of improving smallholders' access to markets for high-value food commodities. Their success, however, has varied across commodities and locations. Your assignment is (1) to compare the advantages and disadvantages of cooperatives, producers' associations, and contract farming; and (2) to identify required government policies and other conditions for the success of these institutions, focusing on social, economic, and political and legal aspects.

Additional Readings

Eaton, C., and A. W. Shepherd. 2001. *Contract farming: Partnerships for growth*. FAO Agricultural Services Bulletin No. 145. Rome: Food and Agriculture Organization of the United Nations.

Glover, D., and K. Kusterer. 1990. *Small farmers, big business: Contract farming and rural development*. London: Macmillan.

Joshi, P. K., A. Gulati, and R. Cummings, Jr., eds. 2007. *Agricultural diversification and smallholders in South Asia*. New Delhi: Academic Foundation.

Patrick, I. 2004. Contract farming in Indonesia: Smallholders and agribusiness working together. ACIAR Technical Report No. 54. Canberra: Australian Centre for International Agricultural Research.

Runsten, D., and N. Key. 1996. *Contract farming in developing countries: Theoretical aspects and analysis of some Mexican cases*. Santiago, Chile: U.N. Economic Commission for Latin America and the Caribbean.

Swinnen, J. F. M., and M. Maertens. 2006. *Globalization, privatization, and vertical coordination in food value chains in developing and transition countries*. Working Paper 12. Leuven, Belgium: Leuven Interdisciplinary Research Group on International Agreements and Development.
<http://www.law.kuleuven.be/lirgiad/Papers/WP12.pdf>.

References

Aksoy, M. A., and J. C. Beghin, eds. 2005. *Global agricultural trade and developing countries*. Washington, DC: World Bank.

Birthal, P. S., and P. K. Joshi. 2006. *High-value agriculture for accelerated and equitable growth*. Policy Paper No. 24. New Delhi: National Centre for Agricultural Economics and Policy Research.

Birthal, P. S., P. K. Joshi, and A. Gulati. 2005. *Vertical coordination in high-value food commodities: Implications for smallholders*. Markets, Trade, and Institutions Division

Discussion Paper No. 85. Washington, DC: International Food Policy Research Institute.
<http://www.ifpri.org/divs/mtid/dp/mtidp85.htm>.

Birthal, P. S., P. K. Joshi, D. Roy, and A. Thorat. 2006. Diversification in Indian agriculture towards high-value products. Paper presented at the workshop "Plate to Plough: Agricultural Diversification and Its Implications for Smallholders," organized by the International Food Policy Research Institute and the Institute of Economic Growth, New Delhi, September 20–21.

Dolan, C. S., and K. Sorby. 2003. *Gender and employment in high-value agriculture industries*. Agriculture and Rural Development Working Paper 7. Washington, DC: World Bank.

Erappa, S. 2006. *Contract farming in Karnataka: A boon or a bane?* Research Report 9/ADRT 113. Bangalore: Agricultural Development and Rural Transformation Centre, Institute for Social and Economic Change.

Government of India. 2005. *Vision, strategy, and action plan for food processing industries in India*. New Delhi: Ministry of Food Processing Industries.

———. 2006. *Some aspects of land holding in India, 2002–03*. NSS Report No. 492 (59/18.1/3). New Delhi: National Sample Survey Organization, Central Statistical Organization, Ministry of Statistics and Program Implementation.

Joshi, P. K., A. Gulati, P. S. Birthal, and L. Tewari. 2004. Agricultural diversification in South Asia: Patterns, determinants, and policy implications. *Economic and Political Weekly* 39 (24), June 12.

Kumar, P. 2006. Contract farming through agribusiness and state corporation. *Economic and Political Weekly*, 41 (52), December 30.

Mehta, R., M. Saqib, and J. George. 2007. Challenging avenues in sanitary and phyto-sanitary agreement for India: A case study of selected processed food products. In P. K. Joshi, A. Gulati, and R. Cummings, Jr., eds., *Agricultural*

diversification and smallholders in South Asia.
New Delhi: Academic Foundation.

Mittal, S. 2006. *Structural shift in demand for food: Projections to 2020*. Working Paper No. 184. New Delhi: Indian Council for Research on International Economic Relations.

Narayanan, S., and A. Gulati. 2002. *Globalization and smallholders: A review of issues, approaches and implications*. Markets, Trade, and Institutions Division Discussion Paper No. 50. Washington, DC: International Food Policy Research Institute.
<http://www.ifpri.org/divs/mtid/dp/mssdp50.htm>.

Parthasarathy Rao, P., P. S. BIRTHAL, and P. K. JOSHI. 2006. Diversification towards high-value agriculture: Role of urbanization and infrastructure. *Economic and Political Weekly* 41 (26), June 30.

Ramaswami, B., P. S. BIRTHAL, and P. K. JOSHI. 2006. *Efficiency and distribution in contract farming: The case of Indian poultry growers*. Markets, Trade, and Institutions Division Discussion Paper No. 91. Washington, DC: International Food Policy Research Institute.
<http://www.ifpri.org/divs/mtid/dp/mtidp91.asp>.

Weinberger K. M., and T. Lumpkin. 2005. *Horticulture for poverty alleviation: The unfunded revolution*. AVRDC Working Paper No. 15. Shanhua, Taiwan: World Vegetable Centre (AVRDC).