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POLICY BRIEF 30

Conditions for the Success of Contract Farming in Smallholder Agriculture?

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Agriculture and agri–food marketing system in India are undergoing a strategic transformation. Signalled by changes in food basket, the agriculture is diversifying towards high–value food commodities such as fruits, vegetables, milk, meat, egg and fish. The agri–food marketing system is changing from *adhoc* transactions towards the coordinated systems like cooperatives, producers' associations and contract farming. The public policy has been proactive to facilitate this transformation. The central and state governments have taken some important policy initiatives, such as de–regulation of food industry, enactment of an integrated food law, de–monopolization of agricultural markets, reduction in excise duties on manufactured food products, and priority sector lending to food industry to strengthen agriculture–industry linkages.

These policy developments, however, have sparked a debate, particularly regarding the impact of emerging marketing institutions, like contract farming on farmers. Proponents of contract farming argue that if properly managed it can offer solutions to many problems, like limited access to markets, insurance, credit, inputs, technology, information and services that small farmers face in the process of commercialization (Warning and Key, 2002; Patrick, 2004; Birthal *et al.*, 2005; Ramaswami *et al.*, 2006; Miyata *et al.*, 2007; Roy and Thorat, 2008). Critics, on the other hand, perceive contract farming 'a partnership between unequals', and contend that the firm — the dominant partner, may exploit the farmers by exercising its monopsonistic and monopolistic powers (Little and Watts, 1994; Runsten and Key, 1996; Singh, 2002). There is also an apprehension that contract farming may exclude smallholders because of higher transaction costs of contracting with a large number of them. Against this backdrop, we try to identify the price and non–price factors critical to the success of contract farming.

Impact of Contract Farming on Smallholders

There are two important issues that need to be considered while assessing the impact of contract farming on smallholders. First, do farmers benefit from contract farming? Second, how the benefits of contract farming are distributed among the farmers?

Impact on Income: Farmers will participate in contract farming if they feel better off with it than without it. Empirical evidence on impact of contract farming on farmers' income is not much documented in India. Some recent empirical studies indicate that farmers do benefit from contract farming. Birthal *et al.* (2005) found contract farmers of milk (Punjab) and spinach (peri–urban Delhi) obtaining 78–100 per cent more profits, saving over 90 per cent marketing and transaction costs, and receiving 4–8 per cent higher prices over non–contract farmers (Table 1). A similar story unfolded for milk production in Rajasthan (Birthal *et al.*, 2008). Kumar (2006) and Chengappa and Joshi (2006) reported higher profits from contract farming of a number of commodities in Punjab. Similar evidence is available for grapes in Andhra Pradesh (Parthasarathy Rao *et al.*, 2008) and Maharashtra (Roy and Thorat, 2008) and gherkins in Karnataka (Erappa 2006). Higher profits from contract farming reported in these studies were largely due to price premium, and not due to higher yield and/or lower production cost.

Table 1: Profits of contract and non–contract farmers, 2002–03

(Rs/tonne)

Item	Milk			Spinach		
	Contract	Non-contract	Difference, %	Contract	Non-contract	Difference, %
Total variable cost	5686	7170	−20.7***	1520	2067	−26.5***
Production cost	5586	5782	−2.5	1485	1630	−8.9
Marketing and transaction cost	100	1442	−93.1***	35	437	−92.0***
Price	9337	8991	3.8	3311	3071	7.7**
Net revenue	3651	1821	100.5***	1791	1007	77.9***

***, ** and * indicate significance at 1, 5 and 10 % levels, respectively.

Source: Birthal *et al.* (2005)

For some commodities, farmers may forgo market opportunities in return for protection against risk. This is revealed in case of broilers, where contract farming did not casue any significant improvement in income, but provided farmers a cushion against risk (Birthal *et al.*, 2005, Ramaswami *et al.*, 2006). Ramaswami *et al.* (2006)

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estimated that farmers could shift 88 per cent price and production risks to the firms through contracts. This was because contract farmers were provided day–old chicks, feed, medicines, etc. at no cost, and in lieu of their contributions to cost and management, they received a guaranteed return (on the basis of birds' average body weight) from the firm, while non–contract farmers faced volatile prices. Additionally, the provision of inputs as a part of contract eased credit constraint.

Inclusion of Smallholders: Higher marketing and transaction costs are a barrier to small farmers' participation in open markets. On average, these costs take away 14–16 per cent of the gross returns (17–22% for small farmers and 9–11% for large farmers) (Birthal *et al.*, 2005). Since contracts reduce marketing and transaction costs, smallholders can derive significant benefits from participation in contract farming.

The question is: Are smallholders included in contract farming? The general argument is that contracting with a large number of small farmers raises transaction costs to the firms, and hence they tend to contract with those farmers who are capable of supplying large volumes and complying with food safety and quality standards. Evidence regarding inclusion of smallholders in contract farming is mixed. Birthal *et al.* (2005) found significant involvement of smallholders[1] in contract farming of milk (56%) and spinach (51%), but not in poultry (32%). In case of gherkins in Karnataka, Erappa (2006) reported that 50 per cent contract farmers were small farmers. Roy and Thorat (2008) also found distribution of contract grape producers skewed towards lower end of land distribution. On the other hand, Kumar (2006) found only 15 percent contract farmers in Punjab from the category of smallholders.

Conditions for Success of Contract Farming

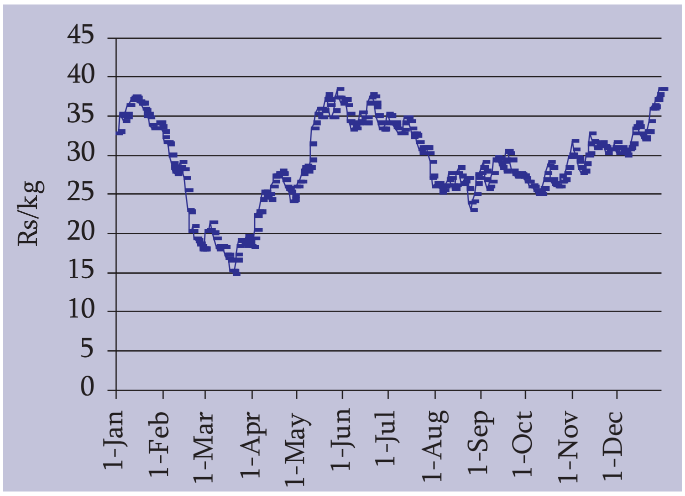
The review of empirical literature in the previous section has brought forth some important factors critical to the success of contract farming. The key factor, of course, is that a successful contract farming scheme raises farmers' net income, either by reducing production and marketing costs or offering premium price or effecting changes in production system or a combination of these.

Price is an important factor in the success of contract farming. Pre–determined prices often lead to problem of opportunism. To circumvent the problem of opportunism by farmers, many agribusiness firms in India make contract price conditional on the prevalent market price, and pay some premium over it. Besides, firms share with farmers the benefits of economies of scale in procurement of inputs and services by charging lower prices from them. Hence, we can infer that the probability of success of contract farming is high if the output price is linked to market price and firms abstain from extraction of monopsonistic rent in the output market and monopoly rent in the input market.

[1]Birthal *et al.* (2005) have defined a small farmer having ≤ 2ha of land in the case of crops, maintaining ≤ 5 dairy animals in the case of milk, and a flock size of ≤ 5000 in the case of broilers.

Some enterprises confront higher production and market risks, are capital–intensive and have a high degree of asset–specificity, while smallholders are risk–averse and capital–constrained. For example, commercial poultry is a typical enterprise of this kind (Figure 1). In such cases, success of contract farming depends on its capability to act as insurance and banking institution. The success of contract farming in poultry in India can be attributed to provision of interest–free in–kind credit (day–old chicks, feed, etc.) to farmers and a guaranteed return in the form of fixed growing charges per kg of birds' body weight, in lieu of their contribution to production cost and management.

Figure 1: Daily farm–gate prices of broilers in Andhra Pradesh: 2004–06



Source: All India Broiler Farmers' Marketing Cooperative Ltd.

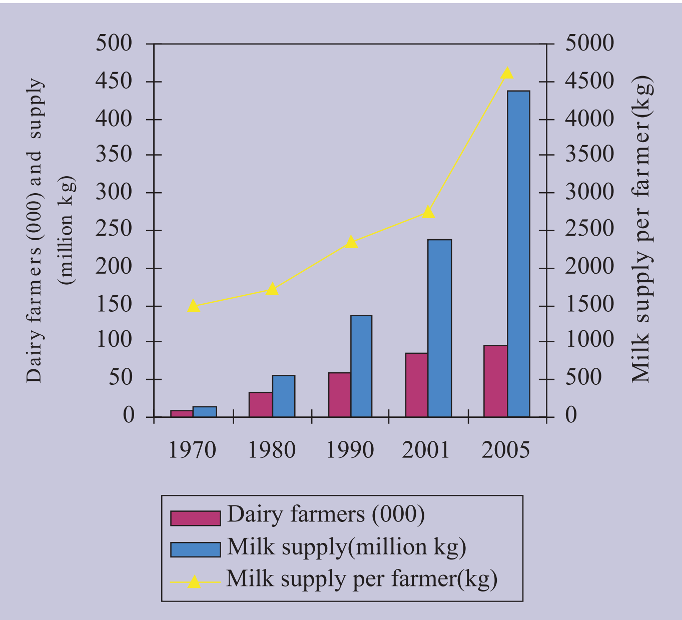
How can smallholders be involved in contract farming? For an agribusiness firm, reliance on a few large suppliers is risky, hence it tends to spread supply risks by contracting with a large number of small farmers. A fairly good representation of the smallholders in different contract farming schemes, as described in the previous section, is a testimony to this. Though, contracting with smallholders raises transaction cost to the firm, this could be reduced by organizing farmers into associations and self–help groups (SHGs) or intermediate contracts. For example, most dairy firms source milk from small producers through intermediate contracts, wherein commission agents facilitate milk collection and distribution of inputs and services. The Mother Dairy Fruits and Vegetables Limited (MDFVL) procures fruits and vegetables from growers' associations.

Non–price factors, such as regularity in off take of output and disbursal of payments, inputs, technical advice and services, and incentives for efficiency and quality play an important role in shaping firm's relationship with farmers. Birthal *et al.* (2005) reported firms rewarding farmers for better production efficiency and quality by a premium on the price. In a study of milk markets in Tamil Nadu, Thirunavukkarasu and Sudeepkumar (2005) observed a considerable number of producers having shifted from informal markets to formal market institutions (contract farming and cooperatives) because of timeliness in payments and delivery of inputs and services by the latter. Non–price factors thus motivate farmers to bolster a sustainable relationship with the firm and these are likely to assume a greater importance as the markets become more competitive.

Asset specificity[2] is high in contract farming, for both firms and farmers. Firms lock in substantial investment in infrastructure and manpower for processing, procurement and distribution. Farmers too invest in commodity–specific assets, more so in enterprises like plantations and poultry. Both parties would fail to realize returns on investment, if they do not have long–term commitment and mutual trust. Experiences of some successful contract farming schemes, for example, Nestle's in milk and MDFVL's in horticulture, suggest that effective communication/monitoring and transparency in terms and conditions are essential for a long–term relationship.

A related issue is that of scaling–up of the production system. In the short–run, although farmers benefit from contract farming, their long–term objective is to move up in the income hierarchy through scaling–up their activities. Firms should facilitate the process of scaling–up through sustained market support and provision of quality inputs, improved technologies, information and services. Scaling–up is also beneficial to the firms. Increased supply from the existing partners avoids transaction costs on search, monitoring and enforcement of new contracts. There is an evidence of contract farming being accompanied by scaling–up of production systems, particularly poultry. Birthal *et al.* (2005) also found considerable increase in milk suppliers and milk supply per farmer under contract farming scheme (Figure 2).

Figure 2: Scaling–out and scaling–up: A case of contract farming in milk by Nestle



Source: Nestle India Limited

[2]Asset specificity means lack of transfer of asset from its intended use to other uses.

Policy Issues

Contract farming can be developed as a pro–poor institution through appropriate policies and regulations. Though, the central and state governments have taken a number of policy initiatives in this direction, some issues that are generic in nature merit more attention.

Improve Physical Infrastructure: A firm's decision to invest in agribusiness, to a great extent, is influenced by the availability of public infrastructure (roads, electricity, communication network, electricity, etc.), government policies and regulations. Public infrastructure in India, however, is not well–developed, leading to a slow growth in private investment in infrastructural developments like refrigerated transport, cold storages and food processing. It is reflected in low level of value-addition to agricultural produce in the organized sector. Only 1.4 per cent of the fruits and vegetables, 13 per cent of the milk, 6 per cent of the poultry meat, 21 per cent of the buffalo meat and 8 per cent of the fish produced in the country undergoes processing in the organized sector (GoI, 2005).

Promote Competition: By enacting the Model Act (The State Agricultural Produce Marketing Development & Regulation Act) in 2003 the Government of India has taken a bold step towards creating a level playing field for the private investment in agricultural markets, agribusiness and contract farming. Its implementation has remained poor. Only a few states have amended their existing Marketing Acts in true spirit, and others have made some cosmetic changes. It is however cautioned that while implementing such policies the governments should take appropriate measures to curb any tendency of regional monopsony and collusive oligopsony.

Evolve Mechanisms for Resolution of Conflicts: The Model Act, 2003 outlines provisions for regulating contract farming to protect interests of both firms and farmers. However, one of the provisions that merit attention is the mechanisms for dispute resolution. Considering lengthy legal procedures, the Act provides that any dispute between the firm and farmer should be mutually resolved or settled by the market committee with which the contract farming scheme is registered. It is a novel recommendation. However, many contract farming schemes remain unregistered and are not legally vetted, at present. Nevertheless, the need for some judicial or quasi-judicial body for resolution of disputes cannot be ignored as contract farming becomes widespread.

Promote Farmers' Organizations and Other Intermediaries: An effective way to involve smallholders in contract farming is to encourage and facilitate them to organize into cooperatives, self-help groups or growers associations. Such organizational structures also improve their bargaining power vis-à-vis agribusiness firms, and generate scale economies in acquisition of inputs, technology, services and information.

Develop Grades and Standards: Price and quality of output are two important factors that can make or mar contract farming. Agribusiness firms can reject farm produce or pay a lower price on the pretext of its poor quality. This happens due to lack of well-defined grades and standards and transparency thereof in the contract agreement. Organized retailers, exporters and processors often impose their own grades and standards. The need for developing effective grades and standards cannot be ignored with rising demand for safe and quality foods in both domestic and international markets.

Improve Farmers' Capacity to Invest, and Cope-up with Risks: Two important factors in scaling-out/up of contract farming relate to credit and insurance. An overwhelming majority of smallholders lack capacity to invest in high-value agriculture and are risk averse. Some activities like poultry and plantations are capital-intensive and riskier, and need institutional support in terms of finance and insurance. In India although formal rural credit system is fairly well-developed, institutions for agricultural insurance remain under-developed. It is therefore imperative to enhance farmers' access to financial institutions using the string of contract farming or otherwise.

To develop contract farming as a pro-poor market institution, the governments should create a conducive climate for private investment in agribusiness, promote competition in the market whilst curbing any tendency of regional monopsony and collusive oligopsony, develop and facilitate implementation of grades and standards, improve farmers' access to credit, insurance, technology and extension services, and sensitize and facilitate smallholders to organize into cooperatives, growers' associations and self-help groups so as to effectively deal with agribusiness firms.

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