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Contract Farming for Agricultural Diversification in the Indian Punjab: A Study of Performance and Problems

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I

INTRODUCTION AND REVIEW

Agribusiness firms, besides providing resources for productive investment, can benefit the locals in employment, technology transfer, and incremental technical knowledge, especially at the farmers' level (Goldsmith, 1985). But, agribusiness firms in general, and multinational companies (MNCs) in particular, may not promote larger national objectives like employment generation, equity, and balanced regional growth as they are driven by business goals alone. They tamper with the local production structures in order to tailor the agricultural production to their needs, thus generating a process of dependence of the producers on these corporations. This paper looks at the role of contract farming in agricultural diversification and development in terms of its practice and implications for the producers and the local economy in the Indian Punjab which is the most grown region of India agriculturally and there have been no studies relating to this aspect of Punjab's or India's agrarian economy. It explores the nature of contracts, studies the farmer and the firms' perceptions of the working of the contract system and problems, if any; and examines the effect of contract system on the local economy. The case studies are based on an interview survey of contract farmers, and discussions with the company officials [Hindustan Lever Limited (HLL), Pepsi and Nijjer] in three different crops (tomato, potato and chillies) which are being procured under contracts and processed into value added food products for domestic and export markets.

Contract farming can be defined as a system for the production and supply of agricultural produce under forward contracts, the essence of such contracts being a commitment to provide an agricultural commodity of a type, at a time and a price, and in the quantity required by a known buyer. It basically involves four things - pre-agreed price, quality, quantity or acreage (minimum/maximum) and time. For individual farmers, it is not contract *per se* but the relationship it represents which is crucial as the divergence between the two may prove crucial in determining the development of contract farming as an institution (Clapp, 1988). Further, it is the context of the contract which can make a big difference as there are many actors and factors in the environment which influence the working and outcome of contracts. The way farmers perceive contract farming, i.e., define their relationship with companies,

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differs across cultures (Asano-Tamanoi, 1988). In fact, there is so much diversity in the type of firms, farmers, nature of contracts, crops and socio-economic environment that it is better to focus on the specific situation than the generic institution of contract farming.

The studies of contract farming show that the farmers agreed that contracting helped them become better farmers, gave more reliable incomes, generated employment especially for women, provided new skills of farming, and did away with patron-client relationship between the large and small producers (Glover and Kusterer, 1990; Fulton and Clark, 1996). But, the farmers the generally find that the contracts are biased and enforced strictly, firms provide poor extension service, over-price their services, pass on the risk to the producers, offer low prices of the produce, favour large farmers, delay payments, do not provide compensation for natural calamity loss, and do not explain the pricing method (Glover and Kusterer, 1990; Grosh, 1994). On a larger level, the farmers felt that they had little bargaining power compared with that of the company which they perceived benefited more than the farmers, and that they had become dependent on the firms for credit and other inputs (Fulton and Clark, 1996). Finally, how can a contract between a processor and a farmer be equitable, as the two are not equal entities? Under conditions of anti-farmer contract terms and limited market choices, contracting tends to reinforce itself over time (Wilson, 1986). The over-exploitation of groundwater, salination of soils, soil fertility decline, and pollution are typical examples of environmental degradation due to contract farming (Siddiqui, 1998). The firms tend to move on to new growers and lands after exhausting the natural potential of the local resources, particularly land and water, or when productivity declines due to some other reason (Torres, 1997). The above review reveals that though contracting leads to better incomes and employment in the beginning, the relations between firms and farmers worsen over time to the disadvantage of the growers, and the system results in ecological and economic degradation of local production systems. Most of the studies find contracts inequitable, short-term, and ambiguous. But, it is not the contract per se which is harmful but how it is practised in a given context.

II

CONTEXT OF STUDY

The Punjab agriculture has been known for its green revolution of the late 1960s and the 1970s and overall agricultural development. The state achieved this despite 70 per cent of the holdings having been below 4 hectares each. But, during the 1980s, the momentum of the green revolution could not be sustained. There was stagnation in yields accompanied by increasing costs of cultivation. By the mid-1980s, a wheat grower in Punjab was obtaining lower net returns per hectare, even after incurring higher costs per hectare on modern inputs, than a wheat grower in Madhya Pradesh (Nadkarni, 1988). The number of operational holdings in 1980-81 declined as compared to those in 1970-71 due to a phenomenon of 'reverse tenancy' under which

the small and marginal farmers started leasing out land to the medium and large farmers. The proportion of agricultural labour in the total rural male workers went up by 2.2 per cent and that of the cultivators down by 2.7 per cent during the 1980s. The jobs generated in the non-farm sector were only 19 per cent of the ones lost in the farm sector (Fisher and Mahajan, 1997). The net annual income of a 7-hectare farm family in the 1980s was found to be lower than the annual salary of a government department assistant (Johl, 1996). About 24 per cent of the small farmers and 31 per cent of the marginal farmers had incomes below the poverty line (Chand, 1999 a). Further, Punjab ended up growing largely wheat and rice (71 per cent of the gross cropped area) (Johl, 1996) and the net cultivated area is already 84 per cent of the total area. The area under vegetable crops has been declining since the 1970s in relative terms (as percent of gross cropped area) and that under potato alone fluctuating sharply during the two decades of 1970s and 1980s (Chand, 1999 b). The high degree of mechanisation led to the problem of rural unemployment. But, in 1991, only 44 per cent of the rural population were literate (Chand, 1999 b). The intensive production has also led not only to monocultures but also to higher incidence of pests and diseases which have in turn led to the ecological problems of decline in the water table, waterlogging, soil salinity, toxicity, and micro-nutrient deficiency.

The Johl Committee Report on diversification of Punjab agriculture (1986) recommended that at least 20 per cent of the area under wheat and paddy should be brought under new crops especially fruits and vegetables. The fruit and vegetable crops accounted for only less than two per cent of the gross cropped area at that time as they were not, like many other crops, competitive with wheat or paddy in terms of their relative profitability. It was thus realised that the economic condition of a vast majority of the farmers, especially marginal and small, could not be improved unless there were changes in the cropping pattern and technology of production. Diversification, intended to stabilise incomes and employment in the farming sector, could either be in terms of variety of crops grown or technologies used. The processing and marketing activities were necessary to bring dynamism to the agricultural sector by way of reduction in the cost of cultivation by raising productivity or cutting costs directly, or raising returns to the producers by value addition or diversification. Given the Land Ceilings Act in India, the agribusiness firms cannot own and cultivate land, for their raw material requirements, to overcome the difficulties encountered in procuring from the open market, especially in perishables. Therefore, the only option for agribusiness firms to procure the desired raw materials is to have contractual arrangements with the primary producers, known as contract farming. Besides, captive farming may not always be the best economic option for agri-business firms. The contract farming arrangement with the growers by the private processing interests was to achieve both these objectives by providing them better seeds and other inputs, and better markets and prices.

The Firms, Contracts and Growers

Contract farming in Punjab was in place by the early 1990s with the entry of Pepsi Foods - a MNC (Pepsico) subsidiary - into tomato, and chillies, and a local firm - Nijjer Agro Foods Ltd. - into tomato. It got further rooted with the selling off of its tomato facility by Pepsi to Hindustan Lever Limited [HLL - a Unilever (MNC which processes one-tenth of world's tomato production) subsidiary and the largest food processing and marketing company in India] in 1995, and Pepsi's entry into potato contracting by the mid-1990s. Since two of the firms (Pepsi and HLL) are export-oriented directly, and the local firm (Nijjer) indirectly, through Nestle as it supplies tomato paste to Nestle under a contract, the farming sector of the state stands internationalised through contract production system. The HLL plant in Punjab is the biggest tomato paste plant in Asia with a capacity to process 650 tonnes of tomatoes a day. The company works with about 400 contract growers. Pepsi which had been working with hundreds of farmers with more than 1700 acres under chillies until 1997, now works with only about a few dozen who plant 300 acres under chillies in all. The contract farming in potato by Pepsi Foods started in 1997-98 with 40 farmers which now number about 60. Nijjer Agro Foods' tomato paste plant capacity is half that of HLL plant's and the company works with about 400 contract tomato farmers.

The contracts are Procurement and Input (P&I) contracts under which the firms not only agree to pick up the contracted acreage specified quality produce at a fixed time and price, but also provide inputs like seedlings on credit (with part payment in advance), technical advice and various equipments, all free of cost on returnable basis. The contracts are only verbal commitments as there is no written proof with the farmers in the case of Pepsi and HLL, and include acreage and quality conditions. But, Nijjer has written contracts (in local language) with the farmers. The acreage for tomato production should not be less than 2.5 acres in Rajasthan (for HLL) and 5 acres for potato or tomato in Punjab though it is not strictly followed. The contract price varies across regions depending on transport cost. There is competition between HLL and Nijjer in contract tomato price. The tomato quality refers to produce not being rotten, worm effected, yellow in colour or damaged. The lots are rejected or accepted depending on the sample results. The farmers are selected on the basis of their ability to adopt new technology, suitability of land, assured irrigation, financial position, and commitment and literacy level. The companies also recommend the schedule of pesticide sprays for each area and even the type and brand of pesticide to be used each time. At the time of harvest, each tomato farmer is given crates free of cost on returnable basis. In the case of crop failure, HLL compensates the farmer to the extent of waving his seedlings cost. Pepsi buys back the entire produce of potato and only two tonnes of chillies. The payment is made within 1-2 weeks after delivery by cheque/draft in the bank account of the farmer. Pepsi allows part of the acreage produce to be sold outside if enough procurement is available. The produce in all cases is brought to the factory by the farmers at their own cost.

Most of the MNC contract growers were secondary or college level literate with 12 years of schooling on an average, and the local firm growers were only primary or secondary literate (7 years of schooling). The average owned land holdings of the MNC farmers were of the order of 40 acres ranging from 5 to 195 acres, compared with an average of just 17 acres of the Nijjer growers, some of whom were also landless. Some of the contract growers also leased in land ranging from 5-50 acres and even more, the average being 23.65 acres. Thus, the average size of the operational holding of the MNC growers was 72 acres, ranging from 53 to 90 acres, of the local firm growers 22 acres ranging from 3-60 acres, and the average for all growers being 61 acres. The Pepsi chilly farmers were more literate and had larger holdings (owned and operated), on the average, than their potato and tomato counterparts, with the exception of land ownership which was higher in the case of tomato growers (Table 1). There was no MNC farmer with less than 15 acres of operational land holding which is much above the average operational holding in the state (8.9 acres) (Johl, 1996).

TABLE 1. COMPANYWISE AVERAGE AND RANGE OF SCHOOLING (YEARS), OF LAND OWNED, OF LAND LEASED, OF LAND OPERATED, OF LAND UNDER CONTRACT (ALL IN ACRES) AND OF EXPERIENCE OF CONTRACTING (YEARS) OF CONTRACT GROWERS

Parameter (average) (1)	HLL (2)	Pepsi – P (3)	Pepsi – C (4)	Nijjer (5)	All (6)
Years of schooling	12.13 (5-18)	11.58 (5-15)	13.09 (5-17)	6.93 (0-15)	11.59 (0-18)
Land owned	47.25 (5-150)	33.79 (5-95)	39.63 (5-195)	16.87 (0-60)	35.72 (0-195)
Land leased	30.96 (0-165)	18.95 (0-100)	40.45 (0-165)	5.6 (0-25)	23.65 (0-165)
Land operated	78.21 (16-225)	52.74 (15-150)	90.18 (15-225)	22.47 (3-60)	60.99 (3-225)
Land under contract	26.88 (2-130)	4.37 (1-15)	4.00 (1-7)	5.27 (1-13)	12.33 (1-130)
Years under contract	5.38 (1-10)	1.58 (1-5)	3.73 (1-10)	2.07 (1-6)	3.35 (1-10)

Source: Tables 1-3: Primary Survey.
Note: HLL: HLL tomato, Pepsi -P: Pepsi potato, Pepsi-C: Pepsi chillies, and Nijjer: Nijjer tomato. Figures in parentheses are the range (minimum and maximum) for each parameter.

Even the average acreage under contract for MNC (14.3 acres) as well as all contract growers (12.33 acres) was much above the average operational holding in the state. In fact, there have been growers of tomato in the past (under Pepsi) who put their entire land (as much as 45 hectares) under tomato in 1995 and as much as 13 hectares under chillies in 1996 (Gabrani, 1996). The contracted acreage under potato and chillies for Pepsi was very modest, i.e., three-fourths of potato farmers and 90 per cent of chilly growers planting only 5 acres or less each under contract, and the

contract production was in owned land in most of the cases. The HLL growers not only planted large acreage under contract but also had larger owned land holdings. The average contracting experience of HLL tomato growers was 5.4 years, of Nijjer tomato growers 2 years, and 3.7 and 1.6 years in Pepsi chilly and Pepsi potato crops respectively, the average across firms being 3.35 years (Table 1). The main benefits of contracting, as perceived by the contract farmers, were better and reliable income, new and better farming skills, and better soil management in that order across firms. The farmers also prefer contracting as it gives them bulk sales outlet. Some of them go for tomato production as the crop is said to be effective in reducing waterlogging though it is also pesticide intensive. Similarly, potato is only a three-month crop and farmers can take an additional crop of sunflower after potato. The chilly crop is grown under contracts as they provide an assured market.

III

PERFORMANCE OF CONTRACTS

Procurement and Default

Default on quantity and/or quality has been one of the most common problems for firms in contracting everywhere (Glover and Kusterer, 1990). The terms of the contract were the same for all classes of farmers and almost all the growers (90 per cent) had met the contract terms in the past. In case of default, companies lose recoveries of seeds/seedlings cost. The default rate is high (> 50 per cent) only if the gap between contract and market prices is very large (3-5 times). The companies blacklist all the full and part defaulters. They have not gone in for legal action against the defaulters, as it is neither feasible nor politically wise. About 80 per cent of the farmers from the previous season are retained for the next season. It is not that only farmers default. Even companies (especially HLL) have not been able to procure from the farmers many times especially when they over-contract acreage and the yields are good. Then, either they did not give quota slips in time for the entire produce or became strict on quality. Pepsi accepts even lower quality produce from the contract growers.

Input Supply and Crop Failures

The HLL contract growers did not appreciate the company selling seedlings to the non-contract farmers when it had surplus seedlings, just for the commercial consideration of making money out of additional seedling production. But, perhaps, the company wanted to create a larger base for procurement and contracts in the longer term and also generate surplus in the market to keep down the market prices, by doing this. The Pepsi farmers found the potato seed supplied by the company generally less than adequate for the acreage to be sown under contract and the pesticides recommended by the company as poor and costly. Two-thirds of the HLL

farmers, three-fourths of the Nijjer growers and about half of the Pepsi potato growers reported lower yields as a case of crop failure, with another 12 per cent of HLL and 7 per cent of Nijjer growers reporting total crop failure. Some of the Pepsi growers also reported poor quality of produce (Table 2). The main reasons were disease or pest attack, natural calamity and seed failure in that order (Table 3). Only 25 per cent of the HLL growers reported waiver of seedlings cost by the company in such situations. The companies tend to blame the yield loss on the farmer

TABLE 2. COMPANYWISE DISTRIBUTION OF GROWERS BY TYPE OF CROP FAILURE

Type of crop failure	HLL		Pepsi-P		Pepsi-C		Nijjer		All	
	No. of farmers	Per cent	No. of farmers	Per cent	No. of farmers	Per cent	No. of farmers	Per cent	No. of farmers	Per cent
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10	(11)
Lower yield	15	62.5	9	47.4	1	9.1	11	73.3	36	52.2
Poor quality	0	0	2	10.5	0	0	0	0	2	2.9
Total failure	3	12.5	1	5.3	0	0	1	6.7	5	7.2
No problem	6	25.0	7	36.8	10	90.9	3	20.0	26	37.7
All	24	100.0	19	100.0	11	100.0	15	100.0	69	100.0

TABLE 3. COMPANYWISE DISTRIBUTION OF GROWERS BY REASONS FOR CROP FAILURE

Type of crop failure	HLL		Pepsi-P		Pepsi-C		Nijjer		All	
	No. of farmers	Per cent	No. of farmers	Per cent	No. of farmers	Per cent	No. of farmers	Per cent	No. of farmers	Per cent
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10	(11)
	4	16.7	2	10.5	0	0	9	60.0	15	21.7
Natural calamity	3	12.5	3	15.8	0	0	0	0	6	8.7
Seed failure	3	12.5	3	15.8	0	0	1	6.7	7	10.1
Disease and natural calamity	4	16.7	1	5.3	1	9.1	1	6.7	7	10.1
Disease and seed failure	0	0	1	5.3	0	0	1	6.7	2	2.9
Natural calamity and seed failure	1	4.2	2	10.5	0	0	0	0	3	4.3
Disease, natural calamity and seed failure	3	12.5	0	0	0	0	0	0	3	4.3
No problem	6	25.0	7	36.8	10	90.9	3	20.0	26	37.7
All	24	100.0	19	100.0	11	100.0	15	100.0	69	100.0

and, therefore, do not offer any compensation. Though the farmers feel there is generally no dictation from the company on field practices, they tend to follow the recommended practices as otherwise they may face quality problems. But, the farmers find company recommended pesticides costly and non-viable, as they doubt that there must be some corrupt arrangement between the company and the pesticides companies/dealers about the sale of particular pesticides and brands. There have been no problems of disease or lower yield in chillies. The farmers agreed that Pepsi had introduced new technology of deep chiselling, new methods of transplantation, besides introducing new seed varieties in tomato.

Problems and Remedies

About two-thirds of the HLL growers and more than 50 per cent of the Nijjer growers did not face any major problem in contracting. The others reported problems like poor co-ordination of activities, poor technical assistance, delayed payments, outright cheating in dealings, and manipulation of norms by the firm. One of the cases of poor co-ordination was the delivery of tomatoes at the factory. The farmers had to wait at the factory gate for a day or more which leads to weight loss of the produce due to evaporation and the company ends up receiving more concentrated produce at the same price. Further, longer delays result in spoilage and higher rejection rate for the farmers. This again has been the most frequent farmer problem under contracts almost everywhere, either because of genuine problems on the part of the firm or due to deliberate strategy of getting more concentrated produce for processing (Glover and Kusterer, 1990). Some of the Pepsi potato farmers had a few problems with the company system, but a large number of them (60 per cent) were happy. Only excess or low quality chilly produce of the contract growers is sold in the open market. Though a vast majority of growers did not see any major role for government in the contract system, some of them wanted it to make the market more competitive by setting up more processing units (27 per cent) and to regulate contracts and companies (10 per cent). But a majority of them were more keen on the companies making improvements in their systems like higher rate for crop, better extension, field level grading and pick up, and a more sincere approach while dealing with the growers. Despite various problems and conflicts between companies and growers, 62 per cent of HLL, 80 per cent of Nijjer, and 68 and 73 per cent of Pepsi (potato and chilly respectively) farmers wanted to continue contracting.

IV

CONTRACTING AND THE LOCAL ECONOMY

As the above account of contract farming in the state shows, the farmers are generally happy with contracting, though they do face some day-to-day problems which have implications for their incomes. On the other hand, companies are also sticking on to the system though they do face problem of defaults from the farmers' side. But, that is all about the contracting parties. As proposed, we look at the effects

of contract system on the local economy and its contribution in resolving the farm sector crisis in the following paragraphs:

Farm Incomes and Employment

Farmer satisfaction with contracts can be measured by the growers' interest in the contract system, number of farmers under the arrangement - growing or dwindling - and the level and frequency of income and its distribution effects across classes of farmers and within the households (CDC, 1989). More specifically, it is captured through farmer profitability of the crop, efficiency of payments and input supply, market assurance for the produce, and farmer participation in crucial decisions relating to contract production. There is no doubt that the vegetable crops under contracts are profitable for the farmers. A very large majority of the farmers interviewed also wanted to continue working under the contracts and many others wanted to get into contract production. This certainly indicates that the farmers, on the whole, are happy about the contract system. But, this may not last long due to the monopsonistic tendencies and the 'agribusiness normalisation' over time by these firms. That contracting has led to more and better employment opportunities for labour especially women is true and acknowledged by the labour. The labour intensity of potato and other vegetable crops is much higher than that of the traditional crops. It varies from 307 hours per acre in potato to 539 hours in other *kharif* vegetables (Chand, 1999 a) which may not be true for contract crop production as the operations are highly mechanised. The employment generated for labour may disappear as these companies are already planning to mechanise the planting and harvesting operations.

Biased Contracts

Whereas the contract agreements protect the firms of all and even any unforeseen obligation, the farmer is to meet the contract obligations under all circumstances. There is no compensation to him even under conditions of crop failure due to natural calamity. In all the contracts, the farmer is bound to sell to the company only and is to be penalised for default. But, there is no specified company liability for the failure to buy his produce. The contracts of the local and the multinational companies also differed in many other ways. For example, the contracts of the local firm were in the local vernacular language whereas those of the multinationals were in English only which is the case in MNC seed contracting in India as well (Shiva and Crompton, 1998). Also, the specification of the terms of the contracts was much more clear and stringent in the case of multinationals as compared to that of the local firm. That contracts are biased is clear from the following extracts from the contracts:

> *"Further provided that the seeds, the plants sprouting from the seeds and all parts of the plant will remain the exclusive property of PFL (the company) and shall only be disposed/sold off if so desired by PFL, as per PFL's instructions" (Pepsi Foods Contract).*

"In case of default, the grower shall be liable to pay to PFL the damages for the shortfall on this account and in such an event, PFL reserves the right to forthwith terminate the contract" (Pepsi Foods Contract).
"Farmer is bound to sell all healthy produce to the firm only. On the other hand, if the company's factory is out of order due to some reason beyond its control, then company will not be liable for any loss to the grower"(Nijjer Agro Foods contract).

Sustainability Implications

Repeated cultivation of the same crop without rotation can lead to a variety of soil infestations, most commonly nematodes, which has happened in many situations in the case of tomatoes. In fact, sometimes, the land becomes unfit for any kind of crop cultivation (Glover and Kusterer, 1990; Torres, 1997). Irrigation intensity of contract crops like tomato, potato and chillies is more than that of wheat. For example, potato requires 8-12 irrigations compared with only 5-6 for wheat and other crops (Chand, 1999; Pepsi Foods manual for potato production in Punjab). Pesticides and fertilisers are also used at much higher levels than in the traditional crops. For example, potato cultivation requires 108 kg of NPK (inorganic fertiliser) per acre as against only 78 kg for wheat (Chand, 1999 a) and 60 kg each of phosphorus and potassium per acre (Pepsi Foods manual). Tomato crop requires 60-90 kg of nitrogen, 60-100 kg of phosphorus, and 60-120 kg of potash per acre depending on the quality of soil (HLL manual for growing processing tomatoes). Similarly, the chip potato crop requires 4-5 pesticide sprays and the seed potato crop requires 6-7 sprays (Pepsi Foods manual). Tomato crop under contract requires as many as 14 sprays (HLL manual), which is even higher than that in cotton. This, in a situation where the farmer's awareness of the negative effects of pesticides on the environment, other than human and animal lives, especially food-related aspects, is very low, which can be quite problematic (Gandhi and Patel, 1997).

Effect on Cropping Pattern and Land-Lease Market

The area under the contract crop (tomato) has increased in all pockets of the region where there is practice of contract farming. Each pocket has a few hundred acres under tomato, which, in some areas, was not grown at all earlier. In all, the area under tomato in Punjab in 1999 was reported to be 15,000 acres and the total production of the crop 93,000 tonnes (*Punjabi Tribune*, May 9, 1999) which had increased to 2.5 lakh tonnes this year. There has been considerable shift from paddy, wheat and cotton to tomato partly because of better economics of tomato crop under contract which is explained to the prospective contract growers by the company officials, and partly because of the constant failure of cotton in some of these regions in the past few years. The contracts reinforce the practice of reverse tenancy as large and medium farmers lease in land from small and marginal farmers for contract production as they can afford large input costs and take the risk of crop failure. The

lease rates have also grown as there is now more demand for the same land for open market as well as contract production of tomatoes. Also, as tomato crop is more remunerative, a system of 6-month or single crop lease as against annual lease has grown in practice. The land lease rate is not much affected by potato contracts as this crop has been grown in the state for many years.

V

CONCLUSIONS

One of the major issues in the farming sector of the state has been that of the farmer participation in agro-industrial development as it is believed that the capitalist farmers have accumulated, under the green revolution regime, significant investible surpluses which need to be given an outlet for investment. That purpose is certainly not being served by the contract farming model of agricultural change as these firms are the only beneficiaries of value addition surplus and do not share the extra profits with farmers. In fact, the issue of diversification has been tackled in an undesirable fashion. Diversification can mean doing same thing or different things differently. But, here, the different things are being done in the same way, i.e., new crops are being grown with the same or higher input intensity. In fact, what the state should have directed and attempted in participation with other actors has been left to the private corporate and multinational enterprises. It is important to recognise that what is needed is not less of state but better state for promotion and regulation of economic activities, and organisations and institutions for sustainability.

The non-governmental and community organisations, which can play a role in information provision, and in the monitoring and regulating the working of contracts, are, unfortunately, missing from the state altogether. In fact, that was one of the reasons that the suicides of farmers due to crop failure and indebtedness in the state recently (1998) could not be prevented. So, what is essential for making success out of contract system is the institutional and organisational innovations in the state's rural sector, which it is capable of, as proved by the emergence of the secondary tractor markets in the state (Singh, 1999). Contracts require frequent and independent scrutiny so that they remain competitive both with similar contracts and with open market transactions. Wide publicity of contract terms will help to stimulate competition. Secondly, vigorous bargaining co-operatives, or other agricultural producer organisations are needed to negotiate equitable contracts which have been able to secure the standardisation of contracts and their scrutiny by a government agency in the past in the U.S. (Wilson, 1986). In Japan as well, the farmers have managed their relationships with companies well through co-operatives (Asano-Tamanoi, 1988).

A legal protection to contract growers as a group is a must to protect them from ill-effects of contracting (Wilson, 1986). There are cases of legal protection given to subcontracting industries in Japan in their relations with large firms. This set of laws specify the duties (to have a written clear terms contract with the subcontractor) and forbidden acts for the large parent firm. The forbidden acts include refusal to receive

delivery of commissioned goods, delaying the payment beyond agreed period, discounting of payment, returning commissioned goods without good reason, forced price reduction, compulsory purchase by sub-contractors of parental firm's products, and forcing subcontractors to pay in advance for materials supplied by the parent firm. These provisions are monitored by the Fair Trade Commission. Interestingly, most of the violations by parent firms were on the written form of contracts and clear terms of the contracts (Sako, 1992). If contract farming is nothing but the flexible production systems prevalent in industry applied to farm production, then it is only logical to extend such legal provisions with necessary modifications to farming contracts.

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