Corporate agriculture: The implications for Indian farmers

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Globalisation has already affected the farm sector in India, as in many other developing countries, in a range of adverse ways. The most evident is the squeeze on farmers' incomes, and the threat to the viability of cultivation, which has come about because of rising input costs and falling output prices. This reflects the combination of reduced subsidy and protection to farmers in developing countries, and trade liberalisation which exposes these farmers to competition from highly subsidised production in the developed world. This combination, along with deflationary policies which have hit rural public expenditure, has created unprecedented agrarian crisis over much of the developing world, including in India.

However, until now, the Indian agricultural sector had been relatively spared from the most extravagant excesses of neoliberal interference, in the form of the corporatisation of agriculture. That reprieve now seems to be over, as the central government and several state governments in India are gradually won over by the dubious charms of contract farming. This is increasingly being presented as the great new hope and the way out of the morass in which Indian agriculture now finds itself, and is being actively promoted by major international donor agencies as well as by multinational companies that stand to gain from this process, and has recently been promoted by the central government as well.

The Government of India's National Agriculture Policy envisages that "private sector participation will be promoted through contract farming and land leasing arrangements to allow accelerated technology transfer, capital inflow and assured market for crop production, especially of oilseeds, cotton and horticultural crops". The NDA government at the Centre has already drafted a model law on agricultural marketing to provide, among other things, legal support to contract farming agreements. Several state governments, in Andhra Pradesh, Gujarat, Karnataka, Punjab and Tamil Nadu, are actively promoting contract farming, changing laws to enable and support it, and providing companies interested in it with a variety of incentives, including lifting of land ceilings, subsidies and tax rebates. Other state governments, including in West Bengal, are under active pressure to change their policy towards contract farming.

In this context, it becomes urgent to assess the experience with contract farming both internationally and in the recent Indian context. Contract farming is defined as a system for the production and supply of agricultural or horticultural products under forward contracts between producers/suppliers and buyers. The essence of such an arrangement is the commitment of the cultivator to provide an agricultural commodity of a certain type, at a time and a price, and in the quantity required by a known and committed buyer, typically a large company. According to the contract, the farmer is required to plant the contractor's crop on his land, and to harvest and deliver to the contractor a certain amount of produce, based upon anticipated yield and contracted acreage. This could be at a pre-agreed price, but

need not always be so. Typically, the contractor supplies the farmer with selected inputs and technical advice. The typical contract is one in which the contractor supplies all the material inputs required for cultivation, while the farmer supplies land and labour. However, the terms and nature of the contract differ according to variations in the nature of crops to be grown, the agencies or companies concerned, types of farmers, and technologies and the context in which they are practised.

This system has old historical roots – there are those who will find obvious analogies with the system of what became known as "forced commercialisation" under the aegis of the East India Company in the 18th and early 19th centuries, when indigo and opium cultivation was introduced by European planters into Bengal. But the more recent pattern of contract farming has been developed especially in the United States, where corporate penetration of agriculture is probably the most advanced. Along with this, multinational companies have come to dominate the entire chain of agricultural production and distribution, making this internationally one of the most concentrated sectors. In the next section, we consider the pattern of concentration in this sector, as well as the implications of the spread of contract farming for US farmers. In the third section, we briefly discuss some of the recent experiments with contract farming in India, and assess the implications for cultivators' income and employment, with special reference to the certain features such as labour displacement and the greater use of female and child labour.

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Agriculture globally is being increasingly dominated at a rapid pace by transnational corporations, like Cargill, Archer Daniels Midland and Monsanto to name a few. The market dominance of these agribusinesses is wide spread and deep not only in the domestic markets but is also spreading rapidly globally. These corporate giants are now involved at each stage of the agriculture system.

These corporations achieve domination over the market through a combination of horizontal and vertical integration.

In any industry or its sub-sector, say for instance the wheat sector in the agriculture industry, the presence of a large number of private purchasing firms encourages a competitive environment. This ensures that the farmers have a wide range of wheat buyers to approach and thus possesses economic power in terms of price bargaining. The purchasing firms on the other hand are constantly under pressure to give higher prices to farmers in the face of competition. Similarly in the market for instance for wheat based products, the presence of a large number of sellers/retailers would mean lower prices for the consumers. Thus a competitive set up is good for the farmers and producers of agricultural produce and live stock, as well as the end consumer.

However over time the concentration in the international food processing and food manufacturing industries has increased tremendously and the market has moved from being more or less competitive, to being oligopolistic or monopolistic in nature. Farm input suppliers have merged with, acquired or forged partnerships with other input suppliers and so have the food processors and food manufacturers. This implies that in the wheat market for instance, with the presence of a few large input suppliers and buyers, the wheat

seller/farmer has only a few sellers/purchasers to choose from and is forced to accept the offered prices in the absence of holding power and in the hope of continuing cultivation. On the other hand the companies have accesses not only to the entire domestic market through their wide network of transportation facilities, but also the international markets. So they are under no compulsion to buy from farmers demanding higher prices.

Apart from expanding, companies have also consolidated their position by vertically integrating the various stages of the agriculture system. Companies such as Cargill, Monsanto in foodgrain and Tyson foods in livestock not only grow crops and rear livestock but also process and manufacture food products which they finally sell to the retailers. So companies which were engaged in one stage of the food system, have either diversified into other stages of the food system or have forged strategic allegiances through mergers, partnerships and acquisitions. By integrating all the stages of the food system the companies have come to own the products from the farm to the shelf translating into greater economic power.

Cargill for instance, to begin with has been involved in the agriculture system right from supplying seeds, fertiliser and other farm inputs, to the procurement and processing of food grains and other farm produce. In 1998 Cargill embarked on a joint venture with the Monsanto. With this it now has accesses to bio-technology and the genetically engineered products, which it would market through its extensive worldwide network. With this joint venture Cargill has successfully integrated all aspects of the food production system. Being present at each stage of the process, the company owns the product at all stages of its processing, and dictates every thing from what will be produced where and in what quantities, all with a view to maximize profits. Joint ventures and merges of these type are fast becoming the norm and are not restricted to just two companies but involve more then two companies leading to the emergence of what are termed as 'food chain clusters'.

These clusters consist of more than two companies who have formal and informal agreements amongst themselves. As the diagram indicates, the Cargill/Monsanto cluster begins with these companies at the top of the pyramid but in effect, the entire net work consist of numerous joint ventures with a number of companies to produce related processed products. The emergence of one cluster forces other companies to cluster together as individually they are less competitive and can remain viable only by forming a cluster of their own.

For instance ADM, another US giant, has joint ventures with the Swiss GE-giant Novartis, forming another competing food chain cluster as seen from the diagram above¹. ADM not only trades in the grain grown from the genetically engineered seeds produced by Novartis but also processes them and sells the processed commodities to around 17 different companies. Additionally ADM's beef and pork businesses are vertically integrated from production to the shelf or popularly called – 'dirt to dinner'.

These agreements and tie-ups among companies have created a complicated web which is becoming ever difficult to unravel and understand. It is near impossible to ascertain

¹ http://www.agribusinessaccountability.org/pdfs/44_Cargill%20Monsanto%20diagram.pdf

the true origins of food now found on market shelves. Such consolidation means that fewer and fewer companies are involved in all aspects of the agriculture system. Companies like Cargill can be found in the top four firms lists of more than one food/farm produce groups. Thus a handful of companies have through horizontal and vertical integration come to control the agri-business sector.

As a result the food business system is now being compared to an hour glass, where a large number of farmers engaged in production of food are compared to the sand on top, which then passes through the narrow part, analogous to the few agribusiness companies processing and manufacturing it and then finally distributing to millions of consumers worldwide².

Such widespread and invisible control of the food system has given huge power to the agribusiness corporations and the new emerging clusters in terms of the prices offered to the farmers. Increasingly the existence of country wide markets for farm produce are vanishing and are being replaced by direct contacts between the producers and the trading/processing companies. These contracts give direct accesses to the company representatives to the farm or ranch of the farmer and dictate terms in all aspects of the produce quantity and quality. With the new advances in gene research, such as the 'terminator seed' technologies developed by Monsanto, the farmers depend on the companies from the very beginning of the production process and tend own nothing more than the land, while being paid at a per unit basis for the output.

Such clustering of companies has greatly reduced the earlier prevalent level of competition in agribusiness, when firms operated individually. This slow yet sure move towards a monopolistic market structure has reduced competition and increased the margins for the procuring and processing firms while at the same time reducing farm incomes and increasing the prices for the consumers. The fact is that the profits in agribusinesses are quit high, but are just not available for the farmers, as they lack economic power which squarely lies with the firms.

In 2002, 40 per cent of the farmers in the US rented in land for cultivation purposes and therefore had to pay rent to the land owners. Due to competition amongst farmers, rentals are driven up and farm incomes are driven down. With the consolidation of agribusiness through horizontal and vertical integration, farmers' incomes have been adversely affected. The supply chain structure and the emerging contract farming systems have also meant reduced farm incomes. Contracting means that the firms have a greater say in all aspects of production and decision making which has shifted to the corporate office room. Farmers have been reduced to a position of being mere caretakers, being paid the minimum wages which are being driven down to the lowest due to prevailing intra farmer competition. USDA estimates indicate that in 1999, 989,000 workers were hired, who on an average were paid \$ 7.83 per hour.³

³http://www.agribusinessaccountability.org/pdfs/181_An%20Essay%20on%20Farm%20In come.pdf

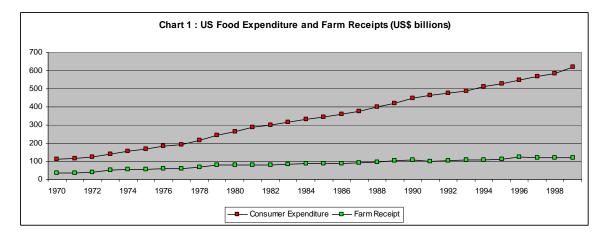
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²http://www.agribusinessaccountability.org/pdfs/42_Consolidation%20in%20Food%20and%20Ag%20System.pdf

The growth of marketing margins

The implications of this process of concentration and vertical integration have been harmful for both the direct producers and the consumers in the US. It is not just that the "consumers" so beloved of mainstream economic theory are adversely affected by these levels of concentration and effective monopoly. It is also precisely this kind of market leverage that has given the large companies a pricing advantage over farmers and ranchers. And it is this which explains the rising spread between the prices received by farmers and livestock breeders, and the retail prices, which has been so marked in the US over the past decade.

This can be gleaned from Chart 1, which shows index numbers of total food spending and farm receipts in the US, in terms of current US dollars. As evident from the chart, while total food spending has ballooned, farm receipts have barely risen even in current price terms, and the gap between them has increased most strikingly over the 1990s.



Obviously, this is even more marked in terms of real values. In constant price terms (that, calculated at 1982-1984 real US dollars) between 1970 and 1999, consumer food spending increased by 30 per cent, the marketing bill rose by 54 per cent, and farm value actually declined by 21 per cent. Much of this process was due to specific trends of the 1990s. US consumers spent \$618.4 billion on food in 1999 (excluding imports and seafood), up 37 percent from the amount spent in 1990.

Between 1990 and 1999, marketing costs rose 45 percent and accounted for most of the 37-percent rise in domestic consumer food spending. In comparison, the farm value of food purchases climbed only 13 percent between 1990 and 1999. The higher marketing costs not only raised consumer food expenditures, but also increased the share of expenditures attributable to marketing. In 1999, marketing costs accounted for 80 percent of total consumer food spending, with farm value accounting for the remaining 20 percent. In

⁴ Data for this and other charts are from the US Department of Agriculture.

comparison, the marketing bill accounted for 76 percent of 1990 consumer expenditure and farm value 24 percent. While these figures are cited in current dollars, the story is similar when they are adjusted for inflation. Between 1990 and 1999, marketing costs rose 14 percent, while consumer food expenditures climbed 8 percent in real dollar terms. Meanwhile, the farm value of food purchases dropped 11 percent.

Companies regularly exploit their market leverage, and the degree of control created by vertical integration of breathtaking dimensions, to depress market prices for independent, relatively small producers. In some cases the control is direct. Thus, owning feedlots, or (an increasingly common practice) signing output contracts with individual farmers for poultry, hogs, cattle and even grain and soyabean, gives the processing companies access to their own captive supplies.

Even when there is no such overt control, the ability of marketing giants to hold their own private stores of livestock or grain or oilseeds means that they no longer have to rely on the traditional auction based purchases in the open market to provide most of their supply. This has affected the auction markets as well, rendering the prices for farmers lower and more volatile.

The recent crashes in world trading prices have speeded up these processes. Two consequences of this are now clear. The first is that it drove many farmers even in the developed world, into rushing to accept whatever new technology offered cost cutting or output increasing effects. Thus, farmers sought more capital-intensive cultivation, and Monsanto and other companies were also easily able to persuade farmers to adopt their genetically modified seeds for corn and soyabean in particular. The other impact of the price collapse is that it has driven many farmers many more farmers into accepting the status of contract producer growing crops of livestock under fixed-price contracts with the corporations.

This model is eerily reminiscent of the process of forced commercialisation in Indian agriculture over the nineteenth century, when small farmers were incorporated into a global economy through a process of debt engagement or through contracts of purchase where the ultimate buyer (for example, the opium or indigo planter) also offered inputs such as seeds and other working capital as well as credit, and thereby bound the formerly independent producer into a subservient relationship. Of course, in the US this process is occurring in an already capitalist agriculture which is highly sophisticated in terms of techniques and production organisation. For that reason, it also bears similarity with the pattern of organisation in contemporary major industrial sectors in developed economies. Here a large corporation - say Nike or Benetton - organises a complex but disparate and shifting network of affiliated producers, subcontractors and distributors, who all adhere to its brand standards.

This entire process has been dramatically described as follows: "Farmers can see themselves being reduced from their mythological status as independent producers to a subservient and vulnerable role as sharecroppers or franchisees. The control of food production, both livestock and crops, is being consolidated not by the government but by a handful of giant corporations. While farmers and ranchers suffered three years of severely depressed prices at the close of the 1990s, the corporations enjoyed soaring profits from the

same line of goods. Growers are surrounded now on both sides - facing concentrated market power not only from the companies that buy their crops and animals but also from the firms that sell them essential inputs like seeds and fertiliser. In the final act of unfettered capitalism, the free market itself is destroyed." (William Grieder, "The last farm crisis", The Nation, November 20, 2000)

American farmers are effectively being incorporated into a peculiar commercialisation of agriculture, where those in control are large multinational companies operating all the way along the value chain. And it is this model of growing corporatisation of agricultural and agro-processed commodity production which is being upheld as an example for other countries, and which is effectively being pushed on to a whole range of developing countries such as India. The adverse effects of such a policy on US farmers, who are already quite well off, and financially and politically strong, are now apparent. But this process is likely to be much more devastating in terms of its impact on Indian cultivators, a majority of whom are already operating at the margin of subsistence. Some of the early effects gleaned from the relatively few experiments with contract farming in India, are considered in the next section.

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In this section we consider two cases of contract farming in India, that have been held up as examples to be emulated elsewhere, and note the problems that have already emerged. We then discuss the implications of these experiences for state policy towards agriculture in India.

Contract farming in Punjab

The recent spate of contract farming in India effectively began with the case of Pepsi Foods Ltd (hereafter PepsiCo) which entered India in 1989 by installing a tomato processing plant at Zahura in Hoshiarpur district of Punjab. The company intended to produce aseptically packed pastes and purees for the international market. However, before long, the company decided that the investment in agro-processing plants would not be viable unless the company also had greater control over the yields and quality of the tomatoes produced locally. In consequence PepsiCo followed the contract farming method described earlier, whereby the cultivator plants the company's crops on his land, and the company provides selected inputs like seeds/saplings, agricultural practices, and regular inspection of the crop and advisory services on crop management. The evolution of contract farming for tomato production has been followed by similar methods being used by PepsiCo for cultivation of food grains (Basmati rice), spices (chillies) and oilseeds (groundnut) as well, apart from other vegetable crops such as potato. Until recently, the PepsiCo model of contract farming was considered a success in terms of diversifying cultivation in Punjab and improving the incomes of farmers. However, recently there has been growing dissatisfaction among the farming community affected by these contracts, especially as lower market prices have led the company to effectively reduce the output prices through a variety of means such as quality control.

In Punjab, the state government has argued that contract farming is the best means of crop diversification, in a region where there is a real question of ecological survival and

sustaining natural resources like water and soil in a reasonably healthy state. Traditional crops like wheat and the more recent paddy are seen as excessively reliant on water, so reduction in acreage of these crops by around 30 per cent is suggested by agronomists. However, since contract farming is based on private corporate interests that are inherently profit-driven, there is no reason why these should coincide with the ecological requirements of the region. Indeed, much of the recent corporate interest in Punjab agriculture has been in basmati farming, which is one of the great water-guzzlers. Crop diversification can be more effectively encouraged through a system relative pricing policy accompanied by a supportive system of public agricultural extension services. It is the decline of such public services which has instead laid open the field for private corporates to enter.

The Punjab government apparently feels that shifting to contract farming will ease the pressure on state finances by eliminating both subsidies and farm support prices. But it is likely to do so only at the more significant medium term cost of corporatisation of agriculture and marginalisation of farmers. Already, more than 90,000 acres are under contract farming in the state, with both multinationals and domestic companies involved. The system that is increasingly in vogue involves a tie-up of a marketing company with an input producer (such as Rallis India, for example) with a bank (ICICI Bank or SBI, both of which have entered into such arrangements) which agrees to provide credit. However, the recent trends of lower prices have entailed default on loans by farmers, which in turn has created conflict among the various corporate partners about who will bear the consequent loss.

It has also become clear in Punjab that the farmers are now becoming increasingly resentful of a system that has put them under the total control of corporations, which will decide not only the crops grown but also the procurement price. The growing incidents of the pre-determined prices being reduced on the pretext of inferior quality of the grain or crop, have added to the resentment among farmers. The issue became such a critical one, that the state government agency that had designed the contract farming programme in the first place (Punjab Agro Foodgrains Corporation) has been forced to step in and buy basmati rice that was being rejected by the contracting companies. The PAFC has become the guarantor of last resort for buyers and farmers in case the transaction does not go off smoothly, which is increasingly the case.

It has been observed that the private companies that were to provide extension services in the contracted areas, did not do their job properly. (This is after all a labour intensive and expensive service to provide, with many positive externalities, which suggests that it would typically be underprovided by private suppliers in any case.) Issues like proper agronomic practices, regular visits to farmers and emphasising the quality norms were inadequately addressed. As a result, in the non-traditional basmati areas which were under contract farming, cultivators resorted to large-scale use of harvesting machines which resulted in high percentages of broken grains. Contractors wanted to pay lower prices for such grain, which the farmers have not been willing to accept. Farmers are now desperate that they will earn prices below the cost of cultivation, which is why the state government corporation has had to step in, since the private corporates refused to accommodate these issues.

The effect on employment also deserves more attention. Contract farming has led to more employment opportunities for labour, (Singh, 2003) since the labour intensity of vegetable crops, except potato, is much higher than for traditional crops like wheat or paddy. The labour intensity is 3,600-4,000 hours per hectare for tomatoes (depending on whether it is a summer or winter crop), compared with only 740 hours per hectare for paddy (Gill, 2001). This has created a big employment boom for women workers especially, in the contract production areas of the state, especially as the mechanisation of sowing and harvesting operations of paddy and wheat crops has reduced manual work to almost nothing.

However, while employment has grown as a consequence of the labour intensive nature of the crops, accompanied by the emergence of some employment in processing, wage levels have been pushed to subsistence levels by increased competition for work through migration. At the same time, those in work have to deal with insecure employment and poor working conditions. According to Gill (2001), during the mid-1990s, three-quarters of all workers employed in the state's vegetable production sector were hired labour. Further, female labour accounted for 58 per cent of total labour hours, compared with 34 per cent in paddy. And 49 per cent of all those working in the vegetable production sector were hired female labour compared with 25 per cent in paddy. In tomato production alone, female labour accounted for almost 60 per cent of the total labour hours. Child labour accounted for about 3-4 per cent of the total labour hours in vegetable crops, as part of family labour. However, a woman's wage is only between 60 and 75 per cent of a male worker's wage; and a child worker receives only half that of a male worker (when paid a daily wage rather than a piece rate wage). It appears that male labour is being displaced by mechanisation while women and children are increasingly employed for the more labourintensive activities. Mothers with infants typically also work on the farms, and infants and children remain on the farms through out the day, with negative implications for their health and nutrition.

The Kuppam project in Andhra Pradesh

The Kuppam Pilot Project in Chittoor district, was conceived as one of the showpieces of the Chandrababu Naidu government, specially developed in the Chief Minister's constituency. It was promoted by the Government of Andhra Pradesh through its Rural Development Department, as part of its new strategy for agricultural development in the state, to promote new capital-intensive crops, using the latest technology and equipment, based on large-scale private corporate involvement through contract farming systems. The State cabinet approved the demonstration project with Israeli Technology offered by M/s.BHC (India) Pvt. Ltd. in September 1995. The actual implementation of the project began in June 1997. The total estimated cost of the project was around Rs. 964 lakh, of which M/S.BHC (India) Pvt. Ltd. would charge Rs. 243.54 lakhs (Rs. 81.18 lakhs per year) for technology transfer. The project was originally contemplated for about 200 acres, but the actual area covered is only170 acres, thus bringing the cost per acre to Rs. 5.668 lakh. This order of investment is at least ten times more than those of even rich farmers adopting the most modern intensive cultivation practices. This was designed as a demonstration to prove the effectiveness of corporate contract farming.

An independent team of scientists who visited the project came up with a report in 2002, with severe criticisms of the project.⁵ It found that the Kuppam project was ill-designed, undemocratic, unsustainable in environmental terms, overly expensive, and had adverse effects on the local cultivating households. The only positive feature was the introduction of Israeli drip technology, which was already a well-known technology and has been introduced at much lower cost (raning from Rs. 17,000 to Rs. 20,000 per acre) in neighbouring regions sponsored by the Karnataka government. Some details of the report are worth describing further.

To facilitate the demonstration on corporate/contract farming, "Chaldiganipalle Mutually Aided Co-operative Joint Farming Society" was formed to enable participation of small and marginal farmers (167) in large numbers in the demonstration. The Society bears the name Mutually Aided Joint Farming Co-operative Society, but the putative members have no knowledge of the functioning of the Society. Nor do they know that it has entered into a contract with a corporate body for farming. The Team learnt that the Society came into existence much after the start of the demonstration. It also learnt that all the nine directors of the Society are employees working with the corporate body (M/s BHC Agro) Private Ltd. No general body of the Society has been conducted with the knowledge of its members (not even a big farmer like R.S.Madhusudhan Reddy Ex-Sarpanch who owns about 40 acres of land which were physically taken over by the corporate body). The farmers told the Team that it was the Government which took their lands and handed them over to the Israeli Company. They never gave their lands voluntarily to the corporate body, and none of the farmers knew the details of the contract.

The lands taken over from the farmers were being managed by the corporate body (M/s BHC Agri India Pvt. Ltd.) at all stages, right from the stages of planning, through the stages of development and management. Every farm operation, including marketing, was managed by the corporate body which had employed heavy mechanisation except for harvesting (which is mostly manual since it is a hand picking operation) and cleaning of the produce. Even weed control was done through intensive use of pesticides. The average cost of cultivation worked out to is about Rs. 20,000/- per acre.

The team found that Kuppam project was not sustainable in net energy terms, and that there were problems with the full technology package. Deep ploughing, with or without turning the soil, was practiced before every cropping. Large amounts of expensive agro chemicals, both pesticides and weedicides, were applied for every crop. These tend to leave considerable residues in the soil, raising serious environmental concerns. No organic manures were being applied. The irrigation system involved rapid depletion of groundwater with no provision for its recharge, or for any other rainwater harvesting measures.

The social impact of the project has been very adverse. Firstly, farmers tilling their lands have been driven out from their profession and only some are able to work as hired labourers on the demonstration farm. The benefit of subsidiary occupations like dairying with the use of crop residues, which is a by-product of mixed farming, has been lost. Indeed,

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⁵ The scientists concerned were Dr. Chowdry, Dr Prasada Rao, Dr Venkat and Dr Uma Shankari, under the auspices of the Andhra Pradesh Coalition for Diversity.

farmers who have tried to use some of the by-products for fodder, such as the leaves of cauliflower plants, have been punished, and there is strict policing of the labourers to prevent such "theft" from their won lands. Foodgrain production has almost ceased in the project area. Only vegetables and other similar crops are being cultivated. This will adversely affect foodgrain supply to the people living in the area. The result is that the dependence of the local people on the market which in turn is controlled by the corporate bodies, is total.

The alienation of the lands of small and marginal farmers is reflected in the form that the owners do not have any say or control on how their lands and labour are going to be used. The title may formally rest with them but products of their labour and resources of their land holdings will be alienated. The result will be that they become insecure wage-labourers on their own lands, with the potential of increasing incidence of poverty.

The problem of finding alternative employment for displaced cultivators has become a serious concern. Some family members (mostly women) of cultivating households whose lands have been taken over, were engaged as daily labourers, but most of them have not found employment. Their wages range from Rs. 50/- for male labour to Rs. 40/- for female labour, for a longer working day spread between 7 a.m. and 6 p.m. Some educated persons have been given supervisory/managerial role on the farm. It is not compulsory that the labour will be employed whenever they present themselves for work. They get employed only when there is work on the farm. While the total membership of the society comprised 167 heads of cultivating households, the project typically employed only 60-70 women and 7-10 male workers per day. Thus, both subsistence and livelihood of the local people have been threatened by this "model" project.

Local farmers now want to revert to self-cultivation, and are hoping that the state government will intervene and help them to resume their cultivation as before. Their concern is that the boundaries of their lands have been disturbed beyond recognition, so that retrieving their lands may become a problem. As in Punjab, this showpiece of contract farming, which has already been heavily subsidized by the state government, may have to be bailed out by further state intervention.

The spread of contract farming has had some very adverse effects on the labour process in agriculture in other areas of Andhra Pradesh as well. The most evident effects have been in the greater casualisation of labour as well as the greater use of female and child labour. Contract farm labour is generally casual labour, even though workers may be tied by advance loans on what is often their own land. A study by Sukhpal Singh (2003) shows that in 1999-2000 Andhra Pradesh had

- the highest incidence of child labour in India, with 25 per cent of children aged between 10 and 14 in the rural areas working, compared with only 9 per cent in India as a whole;
- the highest rural female work participation rate in the state at 48 per cent, compared with 30 per cent in India as a whole;
- much higher rates of casualisation: 47 per cent of the total rural employment in Andhra Pradesh casual compared with 36 per cent for rural India as a whole;
- higher rates of casual employment for female labour at 53 per cent, compared with 43 per cent for male labour.

A study by Venkateshwarlu and Corta (2001) of contract farming of hybrid cottonseed in three districts of Andhra Pradesh, found large-scale use of the labour of young girls, at the expense of employment of adults. Most of the cross-pollination work - which accounts for nearly 90 per cent of the labour time – was being done by young girls who work daily from July to February. The involvement of young girls in cottonseed production was so high that it was estimated that 0.25 million girls were employed in this activity throughout Andhra Pradesh. Generally, 10-15 children were hired for 100-150 days per acre of cottonseed production. Children as young as six years old worked from 8.30 am to 6-7 pm. The cottonseed production calendar was standardised by companies for seed certification and marketing. This resulted in the regimentation of children's work schedules, so that they were continuously employed for six to nine months a year. Children's labour was extended well beyond the standard workday (9-10 hours a day with a one hour lunch break). Girls were preferred in cottonseed production because their wages were lower than those of adults, they worked longer hours and more intensively, and were generally easier to control. It was reported that one girl could do the work of three adults. Though the agreements typically obliged these female children to work for only one season (six to nine months), in practice they tended to work for several years for the same contractor.

The study found that gender relations at the household level had been distorted by this pattern of employment of girl children, with men withdrawing from work with the growing responsibility of girls and their mothers for bringing income into the household. Various health problems, including menstrual problems, were reported among the girl workers, and there were many reported cases of girls being withdrawn from school to undertake such paid work.

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It is evident from the cases reported here, as well as other evidence, that contract farming holds numerous problems for agriculture in developing countries like India. It tends to displace labour quite substantially; marginalises the direct cultivators who lose control over the production process and often even over their land; encourages more capital-intensive and less sustainable patterns of cultivation; can result in greater insecurity and lower incomes for farmers because of use of quality measures to lower the effective output price being paid by contractors; can even deny farmers the benefits of higher prices which could be instead absorbed by corporate contractors with local monopsonistic power; propagates monoculture which reduces food security and the possibility of livelihood diversification through livestock; relies excessively on the use of lower paid women workers and child labour; increases and accelerates the process of casualisation of labour. Given these evident problems, it is surprising that contract farming is still being promoted so assiduously by various forces, including the central government in India today.

The case for contract farming has emerged only because public institutions have failed to provide farmers with the essential protection and support required for viability on a sustained basis. What cultivators in rural India need most of all today is the following combination: a basic price support mechanism that ensures that costs are covered; efficient extension services that provide information about possible crops, new inputs and their implications, new agricultural practices relevant for the particular area, and so on; the

availability of reliable and assured credit at reasonable rates of interest. These features were certainly planned for Indian agriculture, and in some regions they were also delivered in some periods. There is also no reason why they cannot be delivered by the public sector. But the last decade has seen a collapse of agricultural extension services and the provision of agricultural credit, across rural India. The Minimum Support Price system is also being run down. There is no reason to expect that private corporate firms will deliver these requirements, since their interest would be to maximise profits in the short-term and they are not necessarily interested in the long-term sustainability of cultivation. Indeed, the experience thus far suggests that private corporate involvement tends to be unstable and has led to demands for the renewed involvement of the public institutions which had earlier reneged on their responsibility.

The argument is often made that the combination of price support, credit provision and extension services is no longer possible for state governments to deliver because of their current fiscal crunch, and that is why they are being forced to encourage contract farming. This argument is specious at best. If private corporates can borrow to undertake these activities, there should be no reason why the government cannot do the same, especially when public involvement is likely to take a more socially desirable form. If state governments are being prevented form undertaking such borrowing, then that is where the battle must be fought, by mobilising all the state governments to challenge these central restraints, rather than succumbing to the pressures and looking for private sector alternatives in an area with high positive externalities such as this.

What is very clear is that contract framing is no solution to the current agrarian crisis in the country; instead, it is likely to intensify such a crisis.