

## **Globalization and Contract Farming in India-Advantages and Problems**

**Shoja Rani B N\***

### **Introduction**

Contract Farming has been in existence for many years as a means of organizing the commercial agricultural production of both large – scale and small –scale farmers. In an age of market liberalization, globalization and expanding agri business, there is a danger that small- scale farmers will find difficulty in fully participating in the market economy. The era of globalization, the concept of ‘Contract Farming’ is an effective way to co-ordinate and promote production and marketing in agriculture. “Contract Farming can be defined as an agreement between farmers and processing or marketing firms for the production and supply of agricultural products under forward agreements, frequently at predetermined prices.”

Contract Farming is essentially an agreement between unequal parties, companies, Government bodies or individual entrepreneurs on the one hand and economically weaker farmers on the other. The main feature of Contract Farming is that the buyer/contractor supplies all the material inputs and technical advise required for cultivation to the cultivator. This approach is widely used, not only for tree and cash crops but also, increasingly for fruits and vegetables, poultry, pigs, dairy products and even prawn and fish. Indeed, Contract Farming is characterized by its “enormous diversity” not only with regard to the products contracted but also in relation to many different ways in which it can carried out.

The advantages, disadvantages and problems arising from contract farming will vary according to the physical, social and market environments. More specifically, the distribution of risks will depend on such factors as the nature of the markets for both the raw material and the processed product, the availability of alternative earning opportunities for farmers, and the extent to which relevant technical information is provided to the contracted farmers. These factors are likely to change over time, as will the distribution of risks.

### **History of Contract Farming**

Contract Farming can be traced back to colonial period when commodities like Collin Indigo were produced by the Indian farmers for English factories. Seed production has been carried out through contract farming by the seed companies quite successfully for more than four decades in the country. The new agricultural policy of 2000 sought to promote growth of private sector participation in agribusiness through contract farming and land bearing arrangements to accelerate technology transfers, capital inflows and assured market for crops.

The colonial period saw the introduction of cash crops such as tea, coffee, and rubber, poppy and indigo in various parts of the country, mostly through a central expatriate-owned estate surrounded by small out growers model. ITC introduced cultivation of Virginia tobacco in Coastal Andhra Pradesh in the 1920’s incorporating most elements of a fair contract farming system and met with good farmer response. This was replaced by auctions in 1984. Organized public and private seed companies, which emerged in the 1960’s. The Pepsico introduced tomato cultivation in Punjab in the 1990’s under farming to obtain inputs for its paste-manufacturing facility established as a pre-condition to its entry in to India. This was sold to Hindustan Lever in 2000, which had earlier acquired the kissan Karnataka. Contract Farming was the strategy of choice for almost all food processing projects contemplated in the 1980’s and 1990’s. Contract Farming is again vogue, and even tried for bulk production of subsistence crops, such as paddy-rice, maize and wheat. Commodity co-operatives, which emerged in the 1950,s provided most services envisaged under ideal contract farming to their members and bought back the supplies offered at contracted prices, although these were not strictly contract arrangements. The succeeded enormously, leading to their replication and compelling private companies also to adopt similar approaches. Contract Farming is now considered to be a corrective to market imperfections and serving a useful purpose in India in its own limited sphere.

Contract Farming has been promoted in the recent three decades as an institutional innovation to improve agricultural performance in less developed countries. This system was accepted and used as one of the promising institutional frameworks for the delivery of price incentives, technology and other agricultural inputs. Local Governments, private local firms, Multinational companies, some international aid and lending agencies etc have been involved in these contract farming schemes (Glover 1994).

### **ADVANTAGES FOR FARMERS**

The prime advantage of a contractual agreement for farmers is that the sponsor will normally undertake to purchase all produce grown, within specified quality and quantity parameters. Contracts can also provide farmers with access to a wide range of managerial, technical and extension services that otherwise may be unobtainable. Farmers can use the contract agreement as collateral to arrange credit with a commercial bank in order to fund inputs. Thus, the main potential advantages for farmers are:

1. provision of inputs and production services;
2. access to credit;
3. introduction of appropriate technology;
4. skill transfer;
5. guaranteed and fixed pricing structures; and
6. access to reliable markets.

#### **Provision of inputs and production services**

Many contractual arrangements involve considerable production support in addition to the supply of basic inputs such as seed and fertilizer. Sponsors may also provide land preparation, field cultivation and harvesting as well as free training and extension. This is primarily to ensure that proper crop husbandry practices are followed in order to achieve projected yields and required qualities. There is, however, a danger that such arrangements may lead to the farmer being little more than a laborer on his or her own land. It is often difficult for small-scale farmers outside the contract-farming context to gain access to inputs. In Africa, in particular, fertilizer distribution arrangements have been disrupted by structural adjustment measures, with the private sector having yet to fill adequately the void created by the closure of parasitical agencies. In many countries a vicious circle has developed whereby the low demand for inputs provides no incentive for the development of commercial distribution networks and this, in turn, further adversely affects input availability and use. Contract farming can help to overcome many of these problems through bulk ordering by management.

#### **Access to credit**

The majority of smallholder producers experience difficulties in obtaining credit for production inputs. With the collapse or restructuring of many agricultural development banks and the closure of many export crop marketing boards (particularly in Africa), which in the past supplied farmers with inputs on credit, difficulties have increased rather than decreased. Contract farming usually allows farmers access to some form of credit to finance production inputs. In most cases it is the sponsors who advance credit through their managers. However, arrangements can be made with commercial banks or government agencies through crop liens that are guaranteed by the sponsor, i.e. the contract serves as collateral. When substantial investments are required of farmers, such as packing or grading sheds, tobacco barns or heavy machinery, banks will not normally advance credit without guarantees from the sponsor.

The tendency of certain farmers to abuse credit arrangements by selling crops to buyers other than the sponsor (extra-contractual marketing), or by diverting inputs supplied by management to other purposes, has caused some sponsors to reconsider supplying most inputs, opting instead to

provide only seeds and essential agrochemicals. The policies and conditions that control advances are normally described in attachments to contract.

### **Introduction of appropriate technology**

New techniques are often required to upgrade agricultural commodities for markets that demand high quality standards. New production techniques are often necessary to increase productivity as well as to ensure that the commodity meets market demands. However, small-scale farmers are frequently reluctant to adopt new technologies because of the possible risks and costs involved. They are more likely to accept new practices when they can rely on external resources for material and technological inputs. Nevertheless, the introduction of new technology will not be successful unless it is initiated within a well managed and structured farming operation. Private agribusiness will usually offer technology more diligently than government agricultural extension services because it has a direct economic interest in improving farmers' production. Most of the larger sponsors prefer to provide their own extension rather than rely on government services.

### **Skill transfer**

The skills the farmer learns through contract farming may include record keeping, the efficient use of farm resources, improved methods of applying chemicals and fertilizers, a knowledge of the importance of quality and the characteristics and demands of export markets. Farmers can gain experience in carrying out field activities following a strict timetable imposed by the extension service. In addition, spillover effects from contract farming activities could lead to investment in market infrastructure and human capital, thus improving the productivity of other farm activities. Farmers often apply techniques introduced by management (ridging, fertilizing, transplanting, pest control, etc.) to other cash and subsistence crops.

### **Guaranteed and fixed pricing structures**

The returns farmers receive for their crops on the open market depend on the prevailing market prices as well as on their ability to negotiate with buyers. This can create considerable uncertainty which, to a certain extent, contract farming can overcome. Frequently, sponsors indicate in advance the price(s) to be paid and these are specified in the agreement. On the other hand, some contracts are not based on fixed prices but are related to the market prices at the time of delivery.

### **Access to reliable markets**

Small-scale farmers are often constrained in what they can produce by limited marketing opportunities, which often makes diversification into new crops very difficult. Farmers will not cultivate unless they know they can sell their crop, and traders or processors will not invest in ventures unless they are assured that the required commodities can be consistently produced. Contract farming offers a potential solution to this situation by providing market guarantees to the farmers and assuring supply to the purchasers. Even where there are existing outlets for the same crops, contract farming can offer significant advantages to farmers. They do not have to search for and negotiate with local and international buyers, and project sponsors usually organize transport for their crops, normally from the farm gate.

## **PROBLEMS FACED BY FARMERS**

For farmers, the potential problems associated with contract farming include:

1. increased risk;
2. unsuitable technology and crop incompatibility;
3. manipulation of quotas and quality specifications;

4. corruption;
5. domination by monopolies; and
6. indebtedness and over reliance on advances.

### **Increased risk**

Farmers entering new contract farming ventures should be prepared to balance the prospect of higher returns with the possibility of greater risk. Such risk is more likely when the agribusiness venture is introducing a new crop to the area. There may be production risks, particularly where prior field tests are inadequate, resulting in lower-than-expected yields for the farmers. Market risks may occur when the company's forecasts of market size or price levels are not accurate. Considerable problems can result if farmers perceive that the company is unwilling to share any of the risk, even if partly responsible for the losses. In Thailand, for example, a company that contracted farmers to rear chickens charged a levy on farmers' incomes in order to offset the possibility of a high chicken mortality rate. This was much resented by the farmers, as they believed that the poor quality of the day-old chicks supplied by the company was one reason for the problem.

### **Unsuitable technology and crop incompatibility**

The introduction of a new crop to be grown under conditions rigorously controlled by the sponsor can cause disruption to the existing farming system. For example, the managers may identify land traditionally reserved for food crops as the most suitable for the contracted crop. Harvesting of the contracted crop may fall at the same time as the harvesting of food crops, thus causing competition for scarce labour resources. Particular problems may be experienced when contract farming is related to resettlement programmers. In Papua New Guinea, for example, people from the Highlands were resettled in coastal areas to grow oil palm and rubber. This required the farmers, who were traditionally sweet potato eaters, to learn cultivation techniques for new food crops and to adapt their dietary practices accordingly. Two factors should be considered before innovations are introduced to any agricultural environment. The first is the possible adverse effect on the social life of the community. When tobacco growers in Fiji were encouraged to cure tobacco themselves rather than sell it in the fresh green form, it was found that they were unable to handle the highly technical curing operation with any degree of continuity. This was attributed to intermittent social commitments and customary obligations that overrode contractual responsibilities and eventually resulted in the cancellation of their contracts.

The second factor is the practicality of introducing innovations or adaptations. The introduction of sophisticated machines (e.g. for transplanting) may result in a loss of local employment and overcapitalization of the contracted farmer. Furthermore, in field activities such as transplanting and weed control, mechanical methods often produce less effective results than do traditional cultivation methods. Field extension services must always ensure that the contracted crop fits in with the farmer's total cropping regime, particularly in the areas of pest control and field rotation practices.

### **Manipulation of quotas and quality specifications**

Inefficient management can lead to production exceeding original targets. For example, failures of field staff to measure fields following transplanting can result in gross over planting. Sponsors may have unrealistic expectations of the market for their product or the market may collapse unexpectedly owing to transport problems, civil unrest, change in government policy or the arrival of a competitor. Such occurrences can lead managers to reduce farmers' quotas. Few contracts specify penalties in such circumstances. In some situations management may be tempted to manipulate quality standards in order to reduce purchases while appearing to honor the contract. Such practices will cause sponsor-farmer confrontation, especially if farmers have no

method to dispute grading irregularities. All contract farming ventures should have forums where farmers can raise concerns and grievances relating to such issues.

### **Corruption**

Problems occur when staff responsible for issuing contracts and buying crops exploit their position. Such practices result in a collapse of trust and communication between the contracted parties and soon undermine any contract. Management needs to ensure that corruption in any form does not occur. On a larger scale, the sponsors can themselves be dishonest or corrupt. Governments have sometimes fallen victim to dubious or “fly-by-night” companies who have seen the opportunity for a quick profit. Techniques could include charging excessive fees to manage a government-owned venture or persuading the government and other investors to set up a new contract farming company and then sell that company overpriced and poor quality processing equipment. In such cases farmers who make investments in production and primary processing facilities run the risk of losing everything.

### **Domination by monopolies**

The monopoly of a single crop by a sponsor can have a negative effect. Allowing only one purchaser encourages monopolistic tendencies, particularly where farmers are locked into a fairly sizeable investment, such as with tree crops, and cannot easily change to other crops. On the other hand, large-scale investments, such as for nucleus estates, often require a monopoly in order to be viable. In order to protect farmers when there is only a single buyer for one commodity, the government should have some role in determining the prices paid.

Drucker suggests that privately managed monopolies under public regulation are preferable to non-regulated private or public monopolies. The greatest abuses do tend to occur when there are public monopolies, where buying prices are set by the government, or where farmers have made long-term investments in perennial crops. In 1999 the Kenya Tea Development Authority experienced serious unrest amongst its growers, reportedly because of the Authority’s inefficient extension services and alleged “manipulation” of farmers. There was also discontent in Kenya among sugar farmers because the price set by the government did not change between 1997 and 1999.

Indebtedness and over reliance on advances were high, as they thought contract farming did not pay. One of the major attractions of contract farming for farmers is the availability of credit provided either directly by the company or through a third party. However, farmers can face considerable indebtedness if they are confronted with production problems, if the company provides poor technical advice, if there are significant changes in market conditions, or if the company fails to honour the contract. This is of particular concern with long-term investments, either for tree crops or for on-farm processing facilities. If advances are uncontrolled, the indebtedness of farmers can increase to uneconomic levels. In one venture “compassionate” advances for school fees, weddings and even alimony resulted in many farmers receiving no payments at the end of the season. Dropout rates for farmers in that particular project.

### **ADVANTAGES FOR SPONSORS**

Companies and government agencies have a number of options to obtain raw materials for their processing and marketing activities. The benefits of contract farming are best examined in the light of the other alternatives, namely spot market purchases and large-scale estates. The main potential advantages for sponsors can be seen as:

1. political acceptability;
2. overcoming land constraints;
3. production reliability and shared risk;
4. quality consistency; and
5. promotion of farm inputs.

### **Political acceptability**

It can be more politically expedient for a sponsor to involve smallholder farmers in production rather than to operate plantations. Many governments are reluctant to have large plantations and some are actively involved in closing down such estates and redistributing their land. Contract farming, particularly when the farmer is not a tenant of the sponsor, is less likely to be subject to political criticism. As a result of the restructuring of their economies, many African governments have promoted contract farming as an alternative to private, corporate and state-owned plantations. In recent years many countries have seen a move away from the plantation system of production to one where smaller-scale farmers grow crops under contract for processing and/or marketing. The decision to choose contract farming does not make a company totally immune from criticism. For example, the considerable opposition to the role of multinational corporations in India in the late 1990s had a negative effect on investment in contract farming by foreign agribusiness corporations.

### **Overcoming land constraints**

Most of the world's plantations were established in the colonial era when land was relatively plentiful and the colonial powers had few scruples about either simply annexing it or paying landowners minimal compensation. That is, fortunately, no longer the situation. Most large tracts of suitable land are now either traditionally owned, costly to purchase or unavailable for commercial development. Moreover, even if it were possible for companies to purchase land at an affordable price, it would rarely be possible to purchase large enough parcels of land to offer the necessary economies of scale achieved by estate agriculture. Contract farming, therefore, offers access to crop production from land that would not otherwise be available to a company, with the additional advantage that it does not have to purchase it.

### **Production reliability and shared risk**

The failure to supply agreed contracts could seriously jeopardize future sales. Plantation agriculture and contract farming both offer reasonable supply reliability. Sponsors of contract farming, even with the best management, always run the risk that farmers will fail to honor agreements. On the other hand, plantation agriculture always runs the risk of labour disputes. In the case of horticultural production some companies do prefer estate rather than contracted production. In Gambia and Ghana, for example, a number of crops are grown under the estate model, as are strawberries and flowers in Kenya. Working with contracted farmers enables sponsors to share the risk of production failure due to poor weather, disease, etc. The farmer takes the risk of loss of production while the company absorbs losses associated with reduced or non-existent throughput for the processing facility. Where production problems are widespread and no fault of the farmers, sponsors will often defer repayment of production advances to the following season. Both estate and contract farming methods of obtaining raw materials are considerably more reliable than making purchases on the open market. The open market is rarely an acceptable option for organizations that have significant assets tied up in processing facilities and need to have guaranteed quantities of raw material to justify their investment. For example, it is hardly ever an acceptable option for companies who make regular shipments of horticultural produce to supermarkets and for export. Companies must ensure that crops are harvested and sold on a carefully scheduled and consistent basis: a factor that is normally assured under a well-directed contract farming scheme.

### **Quality consistency**

Markets for fresh and processed agricultural produce require consistent quality standards. Moreover, these markets are moving increasingly to a situation where the supplier must also conform to regulatory controls regarding production techniques, particularly the use of pesticides.

For fresh produce there is an growing requirement for “traceability”, i.e. suppliers to major markets increasingly need to be confident of identifying the source of production if problems related to food safety arise. Both estate and contracted crop production require close supervision to control and maintain product quality, especially when farmers are unfamiliar with new harvesting and grading methods. Often, large numbers of crops within a single project have to be transplanted, harvested and purchased in a uniform manner so as to achieve product consistency.. Agribusinesses producing for markets demanding high quality standards, such as fruits and vegetables for export, often find that small-scale farmers and their families are more likely to produce high-quality products than farmers who must supervise hired labour.<sup>8</sup> Also contract farming makes quarantine controls more manageable. It is easier for quarantine authorities to inspect a limited number of exporters of a single commodity, who closely supervise farmers, than to inspect hundreds, or sometimes thousands, of individual producers selling through open markets. Much of the production of “organic” foods is being done on contract, as an integrated operation facilitates a clear crop identity from farmer to retailer. In some highly sophisticated operations, containers are now being loaded on the farm for direct delivery to the supermarket.

### **Promotion of farm inputs**

An example of an unusual but, nevertheless, interesting benefit for sponsors comes from the Philippines. A feed milling company experienced difficulties in marketing its feed, which was more expensive than that produced by competing companies. To solve this problem it developed rearing schemes for pigs and poultry under contract in order to provide a market outlet for its feeds and to demonstrate their performance to other farmers living near the contracted farmers.

### **PROBLEMS FACED BY SPONSORS**

The main disadvantages faced by contract farming developers are:

1. land availability constraints;
2. social and cultural constraints;
3. farmer discontent;
4. extra-contractual marketing; and
5. input diversion.

### **Land availability constraints**

Farmers must have suitable land on which to cultivate their contracted crops. Problems can arise when farmers have minimal or no security of tenure as there is a danger of the sponsor’s investment being wasted as a result of farmer landlord disputes. Difficulties are also common when sponsors lease land to farmers. Such arrangements normally have eviction clauses included as part of the conditions.

Some contract farming ventures are dominated by customary land usage arrangements negotiated by landless farmers with traditional landowners. While such a situation allows the poorest cultivator to take part in contract farming ventures, discrete management measures need to be applied to ensure that landless farmers are not exploited by their landlords. Before entering into contracts, the sponsor must ensure that access to land is secured, at least for the term of the agreement.

### **Social and cultural constraints**

Problems can arise when management chooses farmers who are unable to comply with strict timetables and regulations because of social obligations. Promoting agriculture through contracts is also a cultural issue. In communities where custom and tradition play an important role, difficulties may arise when farming innovations are introduced. Before introducing new cropping schedules, sponsors must consider the social attitudes and the traditional farming practices of the community and assess how a new crop could be introduced. Customary beliefs

and religious issues are also important factors. For example, Easter for some Christians is an inappropriate time for sowing vegetable crops. Harvesting activities should not be programmed to take place during festivals, and failure to accommodate such traditions will result in negative farmer reaction. It must also be recognized that farmers require time to adjust to new practices.

### **Farmer discontent**

A number of situations can lead to farmer dissatisfaction. Discriminatory buying, late payments, inefficient extension services, poor agronomic advice, unreliable transportation for crops, a mid-season change in pricing or management's rudeness to farmers will all normally generate dissent. If not readily addressed, such circumstances will cause hostility towards the sponsors that may result in farmers withdrawing from projects.

### **Extra-contractual marketing**

The sale of produce by farmers to a third party, outside the conditions of a contract, can be a major problem. Extra-contractual sales are always possible and are not easily controlled when an alternative market exists. For example, a farmer cooperative in Croatia bought cucumbers, red peppers and aborigines on contract. The cooperative's advances to the farmers included all necessary production inputs. Unfortunately members often sold their vegetables to traders at higher prices than the cooperative had contracted. The outside buyers offered cash to farmers as opposed to the prolonged and difficult collection of payments negotiated through the cooperative. Sponsors themselves can sometimes be a cause of extra-contractual practices. There are several companies working with the same crop (e.g. cotton in some southern African countries), they could collaborate by establishing a register of contracted farmers. Managers must be aware of produce being sold outside the project and also be aware of produce from outside being channeled into the buying system. This occurs when non-contracted farmers take advantage of higher prices paid by an established sponsor. Non-contracted crops are filtered into the buying system by outside farmers through friends and family who have crop contracts. Such practices make it difficult for the sponsor to regulate production targets, chemical residues and other quality aspects.

### **Input diversion**

A frequent problem is that farmers are tempted to use inputs supplied under contract for purposes other than those for which they were intended. They may choose to use the inputs on their other cash and subsistence crops or even to sell them. Clearly this is not acceptable to the sponsor, as the contracted crop's yields will be reduced and the quality affected. Steps to overcome such problems include improved monitoring by extension staff, farmer training and the issuing of realistic quantities of inputs. However, the knowledge that a contract has the advantages of technical inputs, cash advances and a guaranteed market usually makes the majority of farmers conform to the agreement. Unless a project is very poorly managed, input diversion is usually an annoyance rather a serious problem.

### **Conclusion**

Contract Farming is not a panacea to solve all related problems of agricultural production and marketing systems. But contract farming could be evaluated as a way of providing earlier access to credit, input, information and technology and product markets for the small scale farming structure. Contract farming might also be seen as a way or as a part of rural development and promoted to improve agricultural performance especially in Third World Countries. Besides farming to both sides, there is some problems. For successful implementation of contract farming, having co-ordination and collaboration consciousness and acting in an organized manner are advisable for both sides. On the Other hand, Government attitudes and incentives are also important aspects.



## References

1. Allen, G.R. 1972. An Appraisal of Contract Farming, *International Journal of Agricultural Economics (IJAE)*, 23, 89-98.
2. Arnon, I. 1981. *Modernisation of Agriculture in Developing Countries: Resource, Potentials and Problems*, New York, John Wiley.
3. Beets, W. 1990. *Raising and Sustaining Productivity of Small holder farming systems in the Tropics: A Handbook of Sustainable Agricultural Development*, Alkmaar, Holland, AgBe Publishing.
4. Benziger, Vincent. 1996. Small Fields, Big Money: Two Successful Programs in Helping Small Farmers make Transition to High Value Added Crops, *World Development* 24(11), 1681-1693.
5. Boehlji Michael (2001) *The Moral Economy of the Contract in Living Under Contract* (eds) Peter D Little and Michael J Watts, The University of Wisconsin Press, Wisconsin.
6. Burch, D. 1994. Agribusiness, Peasant Agriculture and the State: the case of Contract Farming in Thailand, in D. T. Lloyd & O. Morrissey, eds. *Poverty, Inequity and Rural Development*, London, Macmillan, p.163.
7. Burch, D., Rickson, R.E. & Annels, R.1992. Contract Farming, Social Change and Environmental impacts: the Implications of the Australian Experience, in K. Walker & P. Tighe, eds. *Environmental issues and Public Policy*, Sydney, University of New South Wales Press, p.12-30.
8. Byres, T.J. 1983. Historical Perspectives on Sharecropping, *Journal of Peasant Studies*, 10(2/3): 7-41.
9. Coase R H (1937). Nature of the Firm, *Economica*, 4, Pp. 386-405.
10. Center for Research and Communications. 1990. Corporations and Small Farmers: the Big Helping the Small, in *Executive Briefings, Part I: 1-22*, Manila, Agribusiness Iunit of the Center for Research and Communication.
11. Clapp, Roger A 1994. *The Moral Economy of the Contract in Living under Contract* eds. Peter D Little and Micheal J Watts, The University of Wisconsin Press, Wisconsin.
12. Daddich, C.K. 1994. Contract Farming and Palm Oil Production in Cote d'Ivoire and Ghana., in P. D. Little & M. J. Watts eds. *Living under Contract: Contract Farming and Agrarian Transformation in Sub-Saharan Africa*, Madison, University of Wisconsin Press, p. 188-215. 65
13. Davis (1979) *Property without Power: A Study of the Development of Contract Farming in the US* Ph. D Dissertation Cornell University op.cit in Little D Peter and Micheal J Watts (eds) *Living Under Contract: Contract Farming and Agrarian Transformation in Sub Saharan Africa*, The University of Wisconsin Press, Wisconsin, 1994.
14. Deodhar Satish Y (2001). *WTO Agreements and Indian Agriculture Retrospection and Prospects in Implications of WTO Agreements and Indian Agriculture*, Oxford and IBH New Delhi.
15. Dileep, B K, R K Grover and K N Rai 2002 Contract Farming in Tomato: An Economic Analysis, *Indian Journal of Agricultural Economics*, April-June Vol. 57, No.2.
16. Dolinsky, D. 1992. *Contract Farming at Lam Nam Oon: An Operational Model for Rural Development*, Institute Report, East Asian Institute, Colombia University.
17. Dunham, D. 1995. *Contract Farming and Export Horticulture: Can Agribusiness Revitalise the Peasant Sector in Sri Lanka?* Research Studies Agricultural Policy Series No. 3, Institute of Policy Studies, Colombo.
18. Eaton, C.S.1998. *Directed Small-holder Farming in Fiji: A Case Study of Virginia Tobacco Production* (Unpublished M.A. thesis), School of Social and Economic Development, University of the South Pacific, Suva.
19. .... 1990. *The Possibilities of the Private Sector's Participation in Smallholder Agriculture in Fiji and Vanuatu*, Research Report 15, Pacific Island Development Program, East-West Centre.
20. .... 1998a. *Contract Farming Structures and Management in Developing Nations* in D. Birch, G. Lawrence, R. Rickson, & J. Goss, eds. *Australasian Food and Farming in a Globalised Economy: Recent Developments and Environmental Science*, Monash University, Melbourne.
21. .... 1998b. *Adaptation Performance and Production Constraints of Contract Farming in China* (Unpublished Ph.D. thesis), Department of Geography, University of Western Australia, Perth.
22. Eaton, Charles and Andrew W Shepherd 2001. *Contract farming: Partners for Growth*, *Agricultural Services Bulletin*, 145, FAO, Rome.
23. Ghee, L.K. & Dorell, R.1992. Contract Farming in Malaysia in D.J.Glover & L.K. Ghee, eds. *Contract Farming in South East Asia*, Kuala Lumpur, University of Malaysia, p. 71-118.

24. Glover, D. 1983. Contract Farming and the Transnationals. (Unpublished Ph.D thesis), University of Toronto, Toronto
25. Glover, D 1984. Contract Farming and Smaller holder Out grower Schemes in the Less Developed Countries, *World Development*, Pp. 1143-1157. 66
26. Glover, D 1987 Increasing the Benefits to Smaller holders from Contract Farming Problems for Farmer's Organisations and Policy makers, *World Development*, 15(4), Pp. 441-448.
27. Glover, D. & Kusterer, K. 1990. *Small Farmers, Big Business: Contract Farming and Rural Development*, London, Macmillan.
28. Grossman, L.S. 1998. *The Political Ecology of Bananas: Contract Farming, Peasants and Agrarian Change in the Eastern Caribbean*, Chapel Hill and London, University of North Carolina Press.
29. Jackson, J.C. & Cheater, A.P. 1994. Contract Farming in Zimbabwe: Case Studies of Sugar, Tea, and Cotton in P.D.Little & M.J. Watts eds. *Living Under Contract Farming and Agrarian Transformation in Sub-Saharan Africa*, Madison, University of Wisconsin Press, p. 97-139.
30. Joger M F Win 2000 Food Supply Chains from Productivity toward Quality in Fruit and Vegetables Quality: An Integrated View (eds) Shewfelt L Robert and Bernhard Brucker Technomic Publishing Company Inc. Lancaster.
31. Key Nigel and David Runsten 1999 Contract Farming, Small holders and Rural Development in Latin America, The Organisation of Agroprocessing firms and the scale of Outgrower Production, *World Development*, 27(2), Pp. 381-401.
32. Kinsalla, K. 1987. Problems of Sub-Contractors in Common Problems with Contruction Contracts, College of Law, Syney, p.25-52.
33. Kiresur, V R, Paril, S A, and Vijayakumar, A S (2002) Contract Farming Opportunity for Small and Marginal Farmers in the context of Trade Liberalisation, PII, *Agricultural Economics Research Review*, Pp 78-87.
34. Laramee, P.A. 1975. Problems of Small Farmers under Contract Marketing: with special reference to a case study in Chiangmai Province, Thailand, in *Economic Bull for Asia and the Pacific*, No. 26, p. 43-57.
35. Little, P.D. 1994. The Development Question in P.D. Little & M.J.Watts. eds. *Living under Contract: Contract Farming and Agrarian Transformation in Sub-Saharan Africa*, Madison, University of Wisconsin Press, p. 216-257.
36. Little. P.D. & Watts, M.J. 1994. *Living under Contract: Contract Farming and Agrarian Transformation in Sub-Saharan Africa*, Madison, University of Wisconsin Press.
37. Miller, L. 1995. Agribusiness, Contract Farers and Lanfd-Use Sustainability in North-West Tasmania,in *Australian Geographer*, No. 26(2), p. 104-111.
38. Mishra, P.K. 1996. *Agricultural Risk, Insurance and Income: A Study of the Impact and Design of India's Comprehensive Crop Insurance Scheme*, Aldershot, Avebury 67
39. Morrissy, J.D. 1974. *Agricultural Modernisation through Production Cotracting: the role of the Fruit and Vegetable Processor in Mexico and Central America*, Praeger, New York.
40. Mosely, P. & Krishnamurthy, R.1995. Can Crop Insurance Work? The case of India, in P.K. Mishra (eds). *Ibid*.
41. National Bank for Agriculture and Rural development (NABARD),1999. *News Review*, Jan-March, Volume 15 No. 1, p. 56.
42. Patrick, Francois and Roberts Joanne (2003) Contracting Productivity Growth, *Review of Economics Studies*, January, Vol. 70 (1), Issue 242, Pp. 59-85.
43. Rangi, P S and Sidhu, M S (2003) Contract Farming System, Punjab State Policy Issues, Productivity, October – December, Vol. 44, No. 3, Pp. 484-491.
44. Rickson, R.E. & Burch, D. 1996. Contracting on Organisational Agriculture: the effects upon Farmers and the Environment., in D. Burch, R.E. Ricksomn & G.E.Lawrence, eds. *Globalisation and Agri-food restructuring: Perspectives from the Australasia Region*, Aldershot, Avebury Publishing, Pp. 173-202.
45. Roth Ilyse Randi 1992 Contract Farming Breeds Big Problems for Growers <http://www.flaginc.org>.
46. Roy Ewell Paul 1963 *Contract Farming*, The Interstate Printers and Publishers Inc. Denville Illinois.
47. Sahay B S 2000 *Supply Chain Mangement in the 21st Century* Macmillan India Ltd, Delhi.
48. Singh, Gurdev, S R Asokan and Asopa, V N 1990 *Seed Industry in India: A Management Perspective*, Oxford and IBH, New Delhi.



49. Singh, Sukpal 2000 Contract Farming and Agricultural Diversification in the Indian Punjab: A Study of Performance and Problems, *Indian Journal of Agricultural Economics*, 55(3), July-September, Pp. 283-294.
50. Tsoulouhas Theofanis and Tomislav Vukina 1999 Integrator Contract with Many Agents and Bankruptcy, *American Journal of Agricultural Economics*, Vol. 81, No. 1, February.
51. Unnevehr Laurian and Nancy Hirschhorn 2000 Food Safty Issues in the Developing World, *The World Bank Technical Paper 469*, The World Bank, Washington DC.
52. Von Bulow, D. & Sorensen, A. 1988. Gender Dynamics in Contract Farming: Women's role in Small-holder Tea Production in Kericho District, Kenya. CDR Project Paper, No. 88.1, Centre for development research, Copenhagen. 68
53. Watts, M. J. 1994. Life under Contract Farming, Agrarian restructuring, and Flexible Accumulation in P.D.Little & M.J.Watts, eds. *Living under Contract: Contract Farming and AgrarianTransformation in Sub-Saharan Africa*, Madison,University of Wisconsin Press, p. 21-77.
54. Welsh Rick 1997 Vertical Coordination, Producer Response and the Locus of Control over Agricultural Production Decisions, *Rural Sociology*, Vol. 62, No. 4, Pp. 491-507.
55. Williamson Oliver 1986 *Transaction Cost Economics: The Governance of Contractual Relations in Economic Organisation, Firm, Market and Policy Control*, Wheat sheaf Books Ltd, Sussex.
56. Williams, S & Karen, R. 1985. *Agribusiness and the Small-scale Farmer: a dynamic partnership for Development*, West view Press, London

\*\*\*\*\*