

Chapter 9 - Conclusion

Contract farming is an institutional form of procurement of raw material (agricultural commodities) for agro-processing/marketing firms. As noted by Roy (1963), contract farming unblocks the flow of resources to agriculture. In light of the controversy surrounding the functioning of contract farming about the inclusiveness and exploitation of farmers, this thesis is an effort to contribute towards understanding the various socio-economic aspects of the CFAs. Overall, there is a dearth of micro-level studies focussing on the inclusiveness and economic aspects of the contract farming. The thesis sought to examine the profile of farmers prefer to grow under contract and the motivation behind it. The thesis also sought to examine the benefits and problems experienced by CF. The thesis also examined the cultivation and profitability aspects of contract farming vis-à-vis without it.

Due to time and resource constraints thesis adopted the cross-sectional research design to address the research questions. The case study was prepared for onion and CGP crop in the selected regions of Maharashtra through the secondary and primary data. Primary data comprised of structured schedule through farmers' onion and CGP survey comprising of 378 farmers. It also included semi-structured interviews of contracting firm staff, commission agents in APMCs, banking officials, Government officials, hundekari (traders in case of CGP) and input companies related to CFAs.

In this chapter, the summary of the findings of the thesis is presented; followed by suggestions for contracting firms and policy recommendations for the Government. In the end, the recommendations for future research areas pertaining to CFAs have been presented.

9.1 Summary of the findings

This section will synthesize the findings to answer the thesis research questions. It was found that both the contract farming firms' (JISL and PepsiCo) facilitated new crop adoption and helps diversify the farm portfolio. In addition to dominant contract crop growing regions, the contracting firm also tries to develop new regions. The reason being the farmers in these regions would remain a reliable source of supply of raw materials to the firm. It was found that both the contract farming firms' tries to supply inputs and services which shall help facilitate good quality production, minimize the costs,

empower farmer with good agriculture practices. Both the firms tries to build the relationship with farmers so that farmers continue to grow under contract and produce quality produce.

Both the firms have not shown any biases towards selecting the farmers in the contract except for those farmers who are most likely to sell the produce outside the contract. It is actually the farmers who decide whether to grow crop under contract. Farmers were drawn into onion and CGP contract farming mainly due to MGP, credit availability and by the success of co-farmers. It was found that all sections (across social groups, small or large holding, educated or uneducated, experienced or inexperienced) farmers participate in contracting. However, it is the wealthier and more experienced farmers in growing respective contract crop that were the first ones to join contract farming.

Although farmers with greater agricultural assets were more likely to be under CGP contract, it was vice-versa for onion. Thus, it cannot be concluded that only well-off farmers can grow contract crops. The schooling, age, farms distance from the road, and distance of farm to the road were not the significant determinants of CF participation. This is line with the results of Narayanan (2011) for papaya, marigold, gherkin and broilers in TN, Swain (2012) for rice seed, Miyata et al. (2009) for green onion and apple in China, and Warning and Key (2002) for peanuts in Senegal. The proportion of farmers with greater agricultural assets and experience mostly belonged to ACF. This phenomenon was also observed in Deshpande (2005). Less crop experienced farmers were found to be more likely to be under contract, as they needed company's support for production and marketing of the crop. This pattern is consistent with that presented by Narayanan (2011) for cotton in TN, Simmons et al. (2005) for broilers in Indonesia and by Ruben and Saenz (2008) for choyate in Costa but contradicts that of Birthal et al. (2008) and Awotide et al. (2015).

Field observations and overall descriptive and logit results seem to indicate that contract farming schemes were inclusive, as less experienced farmers and even farmers with low agricultural asset resource base grew contract crop. Farmers with high contract crop acreage had a higher likelihood of being under contract for both the crops. This signifies farmers seem to perceive contract farming as risk mitigation strategy, as in contract they have assured buyer and MGP, which reduces the risk coverage. Farmers' decision to contract in the forthcoming season is based on a number of factors. Agro-

climatic conditions (water availability), financial position, farmers' expectation of returns in the contract and other alternatives, theirs and co-farmers past experience of the same influences farmers' decision whether to grow contract crop in the forthcoming season.

Market dimensions also play an important role in decision making of the farmer. Villages, which have inputs and output markets close by, there farmers may prefer to grow CGP/onion without a contract. Also, the villages in which CGP hundekaris are more, there also. However, those villages which are far away from input and output markets, there farmers prefer to grow CGP/onion in the contract. This phenomenon was also observed by Kliebenstein and Lawrence (1995) and Miyata et al. (2009). However, this result of the thesis is contrary to (Singh, 2007) which notes that large spread of CFA has been found in regions better endowed with infrastructural facilities. But our thesis observes that, where there are imperfections in input and output markets, there farmer feel the need for support and are more likely to remain in the contract. The agriculturally backward region (i.e. regions which are less endowed in terms of soil and climate for farming) from a market perspective, are favorable for contract farming. For instance prevalence of PepsiCo CFAs in Satara which is a drought prone region

Another inclusiveness aspect of contract farming observed in the both the crops was that CFAs has facilitated new technology adoption. Farmers mentioned that in addition to seed variety and plant protection kit, both the contracting firms incentivises farmers to adopt MIS, which saves water and enables farmer with less water availability to grow the contracted crop. JISL introduced direct sowing method through its agricultural equipment, which saved the labour costs. While PepsiCo introduced STP sprayers for application of plant protection kit as well as potato planters and harvesters to its farmers. Farmers have felt benefited with the extension services of CFAs, as it made them more aware of good agricultural practices, which they would adopt in growing other crops. As prior to the advent of contract farming in the region, farmers did not receive any extension services from Government agencies. Even the NCF benefit from their fellow CF, as they share the information about cultivation practices and inputs (plant protection chemicals, micro-nutrients, etc.). It was common to see that both CF and NCF used to consult Jain sevak for any advice with respect to the cultivation of other crops as well. Overall, farmers felt empowered with the access to new technologies,

skills and an increase in capacities and income due to contract crop cultivation. All this have contributed to CF farmers getting good yields.

Production results confirmed that CF were better off compared to NCF. Although CF had higher absolute costs, but they had lower per kg total costs owing to higher yields. Higher yields in CF is mainly due to extension services and access to quality material inputs in contracting. This result is in line with the literature (Awotide et al. 2005; Deshpande, 2005; Dev & Rao, 2005; Dileep et al., 2002; Kumar, 2006; Miyata et al. 2009; Pandit, Pandey, Rana, & Lal, 2009; Rangi & Sidhu, 2000; Singh S. , 2000; Swain, 2010, 2011; Tripathi, Singh, & Singh, 2005; Warning & Key, 2002). Thus contracting seems to have a positive impact on cultivation practices in the village, which shall boost growth in the agriculture sector.

CF of both the crops faced relatively less marketing costs. This phenomenon was also observed by Dev and Rao (2005) and Vijaykumar and Sonnad (2010). Reduction in marketing costs helps improve farmers' profitability. For the reference season, net returns over total costs were significantly higher for onion CF compared to NCF. However, for CGP, net returns over total costs were significantly not different from each other. Costing, yield and profitability results have to be seen in caution as they are for one particular season. Hence, results cannot be generalised whether CF gets better yields and returns compared to NCF.

Overall, the farmers in the villages admit that contract farming in the region has raised the incomes of farmers in the village, which have boosted the overall village economy. As with rising in income, their consumption expenditure has increased and they have started investing in agriculture assets, which improve their capacities to grow cash crops and reduce production risks.

Churning in and out of the contracts was observed in both the crops. Having single buyer and higher price outside the contract, were the major reason for non-participation in CF. Farmers felt having a single buyer is a constraint as they have to agree to terms and conditions of the contracting firm. However, if NCF has a bad experience in growing crop without a contract in the previous season, then they may switch to contract farming in the forthcoming season. The contracting firm welcomes the return of farmer in contracting. Overall, participation in contracting and disadoption is not a permanent feature, a farmer can grow CGP under contract as and when it wants.

9.2 Suggestions for contracting firms.

Although, majority of the CF were satisfied with contract farming. But there were few who faced the problem of delayed in procurement and complained of strict quality norms. Contracting firm should try to understand the farmers' perspective about the problems faced by them due to strict quality norms followed by it. Also, farmers should be explained the reasons behind the strict quality norms.

Onion farmers mentioned that there were rumors that V12 cultivation affects soil fertility. Thus, the JISL should conduct the scientific study of the same and publish its results. Positive feedback from peers and image of contracting firms attract farmers participation in CFAs, while negative feedback discourages farmer to join CFAs. Thus, company staff should try their best to build trust in a relationship through its actions. Contracting firms needs to keep the focus on how could they retain their farmers and be their preferred buyers. For this, it is essential that their staff functions in an efficient and diligent way. As any inappropriate action leads to negative reputation, which may have an adverse impact on the functioning of CFAs.

9.3 Policy suggestions

Evidence from several studies, including this thesis state that CFAs helps boost agriculture sector and the rural economy overall. Agriculture gets boosted with an increase in yields, farm investments and incomes. In-turn rural economy gets boosted with increasing farm incomes which in turn give rise to consumption expenditure. Therefore, all the State Governments in India should permit and facilitate CFAs. As mentioned in section 2.3.1 , some kind of arbitration machinery is needed that shall help protect the interests of stakeholders viz. farmer and firm

Maharashtra Government amended its APMC act in 2005 to permit and facilitate contract farming. The Maharashtra model APMC act provides institutional support to contract farming through (i) Registration of sponsoring company; (ii) Recording of Contract Farming agreement; (iii) Time bound dispute resolution mechanism; and (iv) Indemnity to farmers land. The basic objective behind model APMC act is to protect the rights of both the parties (farmer and contracting firm). Generally, farmers are considered weak compared to firms and the redressal mechanism shall help farmers in protecting rights of farmers. Although the States have been amending the act and rules

for making provisions of contract farming, but the response from contracting firms is not that encouraging for example based on the media reports . Interaction with agricultural marketing board officials of the state of Gujarat and Maharashtra, that there are a handful of companies that have come forward and registered themselves. For e.g., Maharashtra State Agricultural Marketing Board (MSAMB) list of contracting firms consisted of some firms which comprised mostly for crops like cotton, banana, and grapes. The JISL and PepsiCo, involved in large-scale CFAs of white onions and CGP in Maharashtra had not registered themselves with the prescribed district authorities. Therefore, there are no complete data available at State level or national level pertaining to a number of companies and farmers involved in contract farming. Moreover, the data on the crops and acreage under contract farming at State and National level is unavailable in the public domain.

Most of the commodities grown under contract farming would be used for processing purposes and not for table consumption. Most of the commodities grown under contract farming are those which are not available in the APMC market at the required quantity and at right time for the agro-processors. Therefore, in light of the issue of food security, as a policy maker, it is important to know how much area is being diverted to which crops under contract farming. For example; JISL had contracted for 3331 acres in 2011-12 Rabi season for white onion (processing variety) cultivation which was used for dehydration to be exported. It is likely, that the farmer which would have grown table variety onion has diverted his acreage for growing this processing variety onion. Similarly, contract farming is carried out extensively for commodities which are processed. For e.g., Palm fruit, chip-grade potato, sugarcane, gherkin, cotton, winery grapes, marigold, etc. (See Appendix for the list of crops and contract farming firms). Therefore it is important to monitor the crop acreage diversion for processing variety crops. Such monitoring would help us in planning for issues related to food price inflation and food security. If thought from the academic perspective, such a database helps researchers, who are planning to work in the area of agribusiness and high-value chains.

The primary survey in selected districts of Maharashtra found that the farmers, unaware of the existence of a dispute-settling mechanism, felt helpless whenever a dispute would arise. While the interaction with the firm staff revealed that firms are not interested in registering, as they perceive that dispute resolution mechanism would be

biased against them. As any dispute lodged by farmers shall create a negative reputation of the firm. Instead, both the firms attempt that disputes do not arise. In case there is any they would like to settle it, without involving any third party. As mentioned in Chapter 5, both the firms try to build a relationship of trust with the farmers. As JISL officials call it “contact farming” rather than contract farming.

As mentioned by Mighell and Jones (1963) contract production is an institutional machinery for getting things done. One cannot say that machine is good or bad. A machine may yield good or bad result depending on how and where it is used. In such a scenario, State Government can keep a watchful eye to protect the rights of stakeholders. Some of the policy suggestions that can help in effective functioning of contract farming:

- a) State Governments should hold a discussion with the food processing firms/ associations to find out the suggestion for incentivising contracting firms to register with respective State/District agencies.
- b) State Government should publicise its contract farming policy and rules in order to create awareness for the same with special highlights on benefits of contract farming, the availability of dispute resolution mechanism and indemnity of land, which protects the rights of the farmer. State Governments can use mass media viz. electronic media (Television, radio, etc.), print media (newspapers, periodicals, etc.), as well as through agri-exhibitions to publicise and promote contract farming rules. This shall help in making farmers aware about their rights in CFAs and clear the fears from farmers mind about working with agro-processing/marketing firms.
- c) State Government extension services agencies, should examine and keep a watch, whether contract crop cultivation has any negative impact on soil fertility and ground water.

9.4 Future areas of research

Similar studies on different crops shall contribute to a better understanding of inclusiveness aspects of CFAs. During the course of the thesis, certain limitations (Section 1.8) were found in the research design. Also due to time and resource constraints, certain issues of contract farming could not be dealt, which have been

highlighted in this section. Also, there are certain areas which need to be studied and examined, that would help us in a better understanding of contract farming. Following are the future areas of research in the subject of contract farming, which can be worked on:

- a) How much time does it take to adopt or give up the contract crop cultivation? Is the churning in and out of contract farming temporary and permanent? A duration analysis of contract farming shall help us to know how much time it takes to adopt farmers to take up contracting.
- b) Need more studies that document the broad implications of contract farming. There is a need for studies that highlight the implications of CFAs on input and output market structure and the cropping pattern in the region. There is a need to document that how contracting can help develop new markets and how it affects different stakeholders such as farmers, businessmen, and consumers overall. As mentioned in section 7.3, that most of the commodities grown under contract farming would be used for processing purposes and not for table consumption. Thus, whether the growth of CFAs affects the prices of foodgrains, fruits, and vegetables and contributes towards food inflation of the country.
- c) There are a handful of Indian studies viz. Narayanan (2011) and (Singh, 2007) that have conducted village-level analysis, to find out what kind of villages get selected into CFAs, and which do not. It may be essential to know from a policy point of view, to know whether only villages with good infrastructure are where CFAs are practiced or even in backward regions. This shall help us understand the inclusiveness of CFAs as institutional machinery.
- d) One of the important parameters of success of CFAs is when both the parties (firm and farmer) mutually adhere to terms and conditions. However, if one of the parties reneges the terms, then that relationship would break. Thus, study multiple crops to see, under which kinds of contracts, compliance rates are high; i.e., How the design of contracts helps in higher compliance and success of CFAs.

- e) As per our survey, farmers used to grow contract crops (onion and CGP) both in a contract and without a contract. There is a need for studies to validate whether CFAs are a hedging mechanism for farmers to cover the price risks.

9.5 Concluding remarks

As have mentioned in the first chapter of the thesis, it is not possible to have a general theory of contract farming, due to the heterogeneity of crop characteristics, firms' conduct, and contract-farming relations. This thesis contributes to the literature in a way of understanding the phenomenon contract farming of two short duration of processing variety crop in Maharashtra (India). In this thesis, it was found that gains from CFAs are not just restricted to yields and returns but it has benefited farmers in the long run, by educating them on good agricultural practices, improving their farm capacities, and helping them being more empowered in taking their farming decisions. Overall, it was found CFAs are inclusive as all sections of farmers participate in it. Imperfections in input and output markets and lack of profitable alternatives led farmers to join contract farming. CF had higher yields for both crops, signifying its positive influence in boosting agriculture production. Although, there were few constraints faced by CF, but overall benefits out powered constraints as majority of CF were satisfied growing under contract with the present firm. Current regulatory framework for contracting seems inadequate, as the majority of contracting firms are not registering themselves. Thus State Government should make the regulatory (arbitration) mechanism more participatory which is easily accessible and not costly along with timely redressal of disputes.