

Does vertical integration benefit farming community? A comparative study of contract and non-contract farmers in India

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1. Introduction

Contract farming is widely becoming popular in different countries (Little and Watts, 1994). It is suggested that contracting can help to remove market imperfections in produce, capital (credit), land, labour, information and insurance markets; would facilitate better co-ordination of local production activities which often involve initial investment in processing, extension etc. and can also help in reducing transaction costs (Grosh, 1994; Key and Runsten, 1999). However, the impact of contract farming on farmers is a matter of discussion, in this context, the impact of contract farming on predominantly agrarian country like India is an important topic to study where 63% of population is still engaged in farming and allied activities and agriculture sector contributes 20 per cent of the total GDP. The present study was focused on Maharashtra State where contract farming is an upcoming trend and the Government has made a special amendment to legalize contract farming by reformation of Agricultural Produce Marketing Commission (APMC) Act which was implemented in 2006. In this context the present investigation attempted to compare the contract and non-contract farmers in the potato growing pocket of Pune region of the Maharashtra State of India where the contract farmers are involved in chip quality potatoes for a multinational company named Frito Lays Ltd., while the non-contract farmers are engaged in traditional potato farming and sell their produce in a non-organized market. The investigation attempted to focus on comparing the costs and benefits involved in contract and non-contract farming and studying its economic feasibility for the participating farmers. The factors influencing the participation of farmers in contract farming were also analysed and the satisfaction level of contract and non-contract farmers regarding the provision of extension services, access to inputs and credit compared.

2. Methodology

Actual survey was carried in three tehsils¹ of Pune district namely Khed, Junnar and Ambegaon. The research design for present study was *ex post facto* design with

¹ It is the administrative sub-unit of a district

survey method. The samples of contract and non-contract farmers were selected by random sampling method. In total, the survey consisted of 52 contract and 41 non-contract framers. A structured questionnaire was used to interview contract and non-contract farmers in the region of study, while the information on prices prevailing in the region was collected from Agriculture Produce Marketing Commission, Pune, India.

3. Results

Factors influencing participation decision of farmers

Table 1 represents results of the logit model to explain factors influencing farmers' participation in contract farming. The variable age (X1), has shown positive influence, indicating that increase in the age would likely increase the participation. Farmers with long farming experience seem to know yearly price trends and are therefore aware of the risks of marketing the crop. It was observed that the predictive power of the variable was not high. Off farm income showed negative influence on participation decision in contract farming. The result was in corroboration with the hypothecation that off farm income provides other means of income and thus as an extra capital source and hence farmers do not face much constraint regarding credit and other facilities. The education also was found to exhibit positive influence on participation decision at significant level. It explains that the higher level of education from farmer's side tended to increase his participation in contracting.

Table 1: Factors influencing participation decision of farmers

Independent Variable	Coefficient
Age (X1)	0.013
Education (X2)	0.679*
Off Farm income (X3)	-0.064*
Value of asset (X 4)	-0.019
Total land holding (X5)	0.592***
Distance from credit source (X6)	0.430*
Membership of the Agriculture Group (X 7)	-1.250**
Constant	-5.980*

No. of Observation = 93; Chi Square Value = 61.25*, Log Likelihood = 66.79, Pseudo R² = 0.482, n = 93

*= Significant at 1% **= Significant at 5% ***=Singnificant at 10%

The strong predictive power is shown by the membership of the group at significant level, which shows that the membership of the agriculture group decreases the participation in contract farming. This can be partially explained as farmers have facility specially to get credit in co-operative society and hence did not need to go for the contract farming. Increasing total land holding size increases the chances of participating in contract farming which was expected. It can be explained that the large farmers exemplify economies of scales and more land holding would increase the volume of the production and the higher returns can be achieved so, large farmers would be more interested in achieving higher returns.

Table 2. Marketing costs for contract and non-contact farmers (per ha):

Activity	Cost for non-contract (INRs) (N=41)	Cost for contract Farmers (INRs) (N=52)
Grading and packaging	1030 (5.35)	2774(20)
Baggage	1287.7(6.7)	1324. 4(9.7)
Transport	4635(24)	6855(50)
Loading and unloading	2575(13.39)	2648(19.46)
Commission	6380.1(33.2)	0
Market Tax	2126.7(11.05)	0
Weighing	1200 (6.2)	0
Total	19234	13603

Figures in the parenthesis indicate respective percentage

Further, the results suggested that the non-contract farmers incurred more marketing cost/ha than contract farmers as the farmer had to pay a large sum to the commission agent (33.2%) of the total marketing cost (Table 2). The results of Mann-Whitney U test show that there is significant difference between the satisfaction level of the contract and non-contract farmers for the extension services provided for seed, fertilizers, protection chemicals, technical and market (at 5% level of significance). Due to space restriction the detailed tables for these tests have not been included here. The satisfaction level among the non-contract farmers was found low for all aspects. The reason behind providing very good extension and information services to contract farmers could be that for getting high quality of production farmers have to be updated in terms of quality seed and other inputs that would ultimately maintain quality levels of company's processed product. Hence, company has an incentive in

providing good services which on the contrary not the case with public extension services available for non-contract farmers.

Conclusion:

The results show that the contract-farming model like one being implemented in the case study area was beneficial for the farmers. However, from the detailed analysis it has been found that the farmers who lived in remote places from the credit institutes, who had less opportunity to find subsidiary jobs other than agriculture were found to participate more in contracting scheme, so also was the case with the farmers who were not the members of agriculture group. This implies that the farmers who are willing to participate are those who lack access to various resources and information, and contract farming can be an intermediate institution in order to offer necessary services to them. Through the comparison of costs and returns it was found that farmers who joined the contract had higher yields and returns. Another important factor was marketing channel. The involvement of many actors was the cause behind the complication of the marketing channels used by non-contract farmers where the farmers didn't have bargaining power in price determination and had to give large share of returns to the commission agent and middleman. This system increased price uncertainty for the farmers. On the contrary in contract farming, farmers had bargaining power in the price determination, which was decided at the start of the contract itself. It also can be due to the fact that the in this situation company was equally dependant on the farmer, as it needs the sufficient procurement of the raw material for its chips processing plant. The satisfaction level study reflects overall performance of both the systems. The farmers from the contract farming found to be more satisfied with the system of input provision, mainly with seed supply. In the context to present study, it is observed that contract farming is performing well in the region of study so far but its fate in near future truly depends on consistency in transparent contracts, marketing channels and price fixing and the interlinkage and interdependence between different actors involved. Assured markets and less complicated marketing channels with least involvement of middlemen could help farmer fetch real benefits of his produce and contracting somehow facilitates in reducing the complexity in marketing channels.

References:

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