

Contract Farming of Potatoes: A Case Study of PEPSICO Plant

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Abstract- Contract farming involves a pre-agreed price between the company and the farmer. The agreement is defined by the commitment of the farmer to provide an agricultural commodity of a certain type at a time and a price and the quantity required by a committed buyer, mostly a large company. The present paper is intended to conduct a case study of PEPSICO Plant, located in village Channo, district Sangrur, Punjab. Present study provides a detailed look on concept of contract farming and relationship between processing firm and farmers in the villages around the plant. The methodology used in the study is the interview schedule by random collection of primary data where the study subjects are the farmers practicing contract farming in the villages. Study concludes that majority of the large farm size farmers are involved in contract farming as compare to small farmers. But on the other hand contract farming provides a more reliable, regular and timely sources of income to farmers. Broadly speaking, it suggested that for the successful implementation of contract farming there should be appropriate co-ordination between the farmers and buyers both acting in organized manner and advisable for both sides.

Index Terms- Contract farming, Large and Small Farmers PEPSICO Plant, Processing firm.

I. INTRODUCTION

Contract farming is a system which refers to production and supply of agricultural produce under a forward contract. It is a commitment to provide an agricultural product at a fixed price, time and required quantity to a known buyer (Singh 2002). It basically, involves four things- pre-agreed price, quality, quantity and time. The way farmers perceive contract farming, it is a relationship with the firm while from the purchaser's point of view, it is a good quality, timely availability of material at a pre-determined price, which is the basic requirement for any successful agro-business firm whether operating at National /International market. Simply, it allows for establishing direct relationship between the farmer and firm, as substitute for open market. It is a flexible means which supports price and production and an assured market in advance. Contract farming is essentially a market driven farming, not like traditional farming, where farmers first produce a product and then search for its market. Contract farming provides provisions in three main areas are given below-

1. **Market Provision:** In this both grower and buyer agree to the terms and conditions of future sale of a product.

2. **Resource Provision:** In this buyer agrees to supply selected inputs like seeds, fertilizers, technical advice regarding the cultivation of crop.

3. **Management Specification:** The grower agrees to follow the recommended production method and input supply from the firm (Eton et al., 2001).

The essence of contract farming is production and supply of agricultural produce under advance contract in which supplier has agreed to produce certain agro-processing produce quantity under pre-decided price. Prices are fixed at planting time and firm provide proper supervision over the production process to the farmers. Generally, contracts provide benefits to both the firm and contracted growers particularly with respect to risk of crop failure conditions. On the other hand, firm also takes advantage like quantity and quality of the product. In this manner relationship between the firm and farmer is find one of the close one.

II. AIM AND OBJECTIVES

The present study explains the concept and behavior of processing firm and farmers towards Contract Farming. With this aim, the following objectives of the study are outlined.

- To explain the concept of contract farming.
- To study the profile of PEPSICO Plant.
- To study the relationship between the size of holdings and adoption of contract farming.

III. METHODOLOGY

The present study is based on an intensive fieldwork conducted in particular villages namely Banera khurd, Ageta, Ageti, Thuhi, Soja, Lalauda from Nabha Tehsil, district Patiala and Channo, Rajpura, Nadampur falling in District Sangrur, Punjab. Present study is micro level study and primarily based on primary data collected randomly through interview schedule. These villages are purposively chosen and 50 farmers are chosen through random sampling method. Most of the farmers from these villages are presently practicing contract farming with PEPSICO Plant. Considering this factor above mentioned villages are selected for the survey. First come first surveyed policy is adopted for interview schedule. It includes the data on total farm size, total area under contract farming, about the purchaser, initial and present area under contract farming, type of contract, duration of contract, price and payment schedule of company and flexibility of the contract and facilities provided by company.

IV. RESULT AND DISCUSSION

A. *Concept of contract farming:* Agriculture is the backbone of Punjab's economy. Punjab is known as granary of India. Punjab has emerged as the dominant state for production of wheat - rice and leads to highest productivity in the country. The most important factor behind this is the presence of good irrigation facilities and mechanization of agriculture in recent years, use of high yielding variety of seeds and chemical fertilizers. Monoculture of these two crops leads to the involvement of large number of farmers. High Yielding Variety seeds have changed the entire situation of Punjab which means traditional agriculture progressively provide way to modern and commercial agriculture. Nowadays, there is a limited possibility of exploiting the potential of these crops to increase their yield. Mono-cropping pattern has adversely affected the ecology and hence has created many problems like lowering of water level, water logging, many diseases for human beings and animals, adversely affected soil health, burning of wheat -paddy straw has lead to air pollution and declining profitability are all accompanied with the monoculture of cropping pattern under green revolution.

An urgent need was felt in mid 1980s to diversify the cropping pattern towards the high value crops considering the agro-climate conditions, availability of land and water resources and market demand both at national and international level. The Expert Committee on Diversification of Agriculture in Punjab (popularly known as Johl Committee) recommended in 1986 that at least 20 percent of the area under wheat and rice must be replaced by other competitive and profitable alternative farm enterprises. But due various reasons, the recommendations of Johl Committee 1986 were not accepted by the Government of India as well as Punjab Government although the policy makers, planners, administrators and agricultural scientists talked about the need for the diversification of Punjab's agriculture (Singh and Asokan 2003). The major decline witnessed in farm income and productivity during the last period so again, to boost the diversification of agriculture in Punjab, Chief Minister's Advisory committee on 'Agriculture Policy and Restructuring', headed by Dr.S.S.Johl submitted its report in October 2002 to Union Government of India through the state government on 'Agriculture Production Pattern Adjustment Program in Punjab for Productivity and Growth', through diversification of Punjab agriculture. The committee recommended that one million hectares of *rabi* sowing for wheat and *kharif* paddy cultivation should be diversified either in terms of variety of crops grown or technologies used. In the meantime, Punjab Government started its own scheme known as 'Contract Farming Scheme', for bringing diversification in Punjab agriculture from *rabi* season 2002-2003. Punjab Agro Food Corporation Ltd (PAFC) was made to act as only a nodal agency for implementing this scheme in the State. Under this scheme, the area was to be shifted from rice and wheat cultivation to other high valued crops like durum wheat, winter maize, hyola, sunflower, barley, basmati rice, vegetables and others. At that time government had planned to diversify four lakh acres under different crops during 2002-2003, which was targeted for increase to 25 lakh acres in

2007(Dhaliwal et.al.2004, p.2). State Government suggest only one solution for agriculture and that is contract farming which provides infrastructure in the form of cultivation, new technology and labour intensive crops and assured market. No doubt, introduction of contract farming has its roots to prevail over the problems which have emerged by mono-culture of wheat - paddy.

Contract Farming by private companies however, began in early 1990s with the entry of Pepsi Foods - a Multinational Company (PepsiCo) subsidiary into tomatoes and chillies cultivation, and a local firm, Nijjar Agro Food Ltd, into tomatoes. PepsiCo started contract farming of tomatoes in Hoshiarpur district of Punjab. It got further rooted with the selling of its tomato facility by Pepsi to Hindustan Lever Ltd, (HLL) - a multinational company which processes one -tenth of world's tomato production. Since two of the firms (Pepsi and HLL) are export oriented and the local firm (Nijjar) indirectly, through Nestle, supplies tomato paste to Nestle under contract. In 1995, Pepsi entered into potato contracting (Singh 2000). Reliance Life Sciences and McDonalds are some of prominent companies that have started contract project. PepsiCo and other companies have used the contract system for cultivation of basmati rice, chillies and as well as for vegetable crops such as potatoes. Without any central assistance, Punjab Government through the Punjab Agro-food Corporation as a nodal agency undertook the Contract Farming Programme as vehicle to achieve crop diversification.

B. *Profile of Processing firm/ PEPSICO Plant*

The PepsiCo offers contracts which are procurement and input based contracts under which the firms not only agree to pick the product under contract at a fixed time and price but also provide inputs like seed to farmers which is clearly shown in figure - 2. In return the farmers pay some amount to company in advance according to acreage under contract. The PEPSICO Plant provided two types of varieties to the farmer. One is LR and other is CH1, Duration of the LR variety is 60 days, and Duration of CH 1, is 120 days. The harvesting of crop is done only when the crop get maturity phase. Generally, after 90 to 120 days of sowing, it can be harvested. Grading of the produce is very essential. It ensures a higher income to the growers. After grading potato tubers are further graded by the firm as shown in the figure-1. But, the firm accepts only 45 mm, recommended size of the potato.

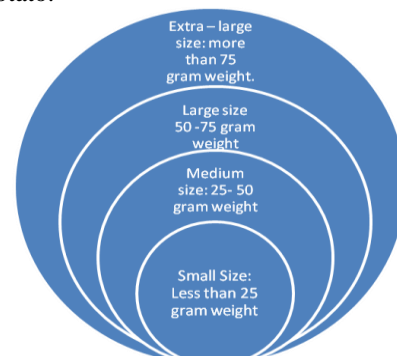


Figure 1: size of potato

PepsiCo Plant also provides a kit which includes chemical fertilizers, pesticides, used as liquid spray on the crop. For kit the

firm also takes some payment in advance from the farmers. Besides this, the firm provides certain facilities and technical advice to the farmers such as inspection by the field officer after fifteen days, arrangement of meetings and lectures through seminars by technical staff members in the villages, to promote contract farming. And in seminars, discussions about the problems related with contract farming and their solutions. Communication links between farmer and manager is also good as described by the selected farmers. Local knowledge gained from the farmer is accepted by the field inspector. Among these facilities, PepsiCo Plant has also a provision of broadcasting of weather information about rain and frost conditions which is harmful for the potato crop. This information is provided through the tower which is installed at suitable place in the village. These facilities are made available to the farmers free of cost.

In fact the contracts are only written commitments. But farmers are not aware about the written proof which includes acreage and quality conditions. Only the educated farmers are keeping this type of written agreement. In the case of PEPSICO Plant, the acreage for potato crop under PepsiCo Plant's contract should not be less than 5 acres in the region. This is strictly followed by firm. These are the requirements for the farmers to enter in to contract farming. The contract price for contracted crop is fixed by the firm in the beginning. The firm also fixes the time, quality and quantity of the produce with the farmer. Produce testing and quality checking function is also performed by the firms with sophisticated equipments, which causes a lot of tension between the farmers and the firm. Payment schedule is made within week after delivery by cheque in the bank account of the farmer.

The firms do not allow the farmers to sell the produce in open market. But only at certain conditions like, company allows part of the acreage produce to be sold outside if enough procurement is available and the production is higher from the desired expectation. If, company finds farmer's cheating or negative behavior with company and he selling the produce in open market or else, then company declares him as a defaulter and a blacklisted that farmer. Company has not gone in for legal action against the defaulters.

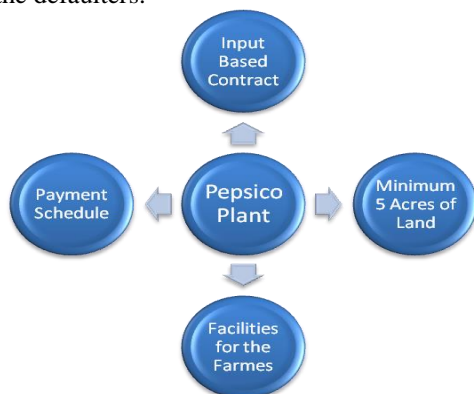


Fig: 2, Profile of PEPSICO Plant

C. *Relationship between the size of holdings and adoption of contract farming:* As already discussed earlier PEPSICO Plant also has its own terms and conditions for signing agreement with the farmers. Table-1, reveals the size distribution of sample owner farmers contracting with

PEPSICO Plant. Clearly the involvement of marginal farmers is totally ignored by the firm. Participation of small farmers is also very less as compared to the semi- medium, medium and large farmers. The firm sets some rules and regulation for contract farming scheme like the acreage for potato should not be less than 5 acres. So the minimum acreage required for contract farming is 5 acres and it is strictly followed by the firm. This firm also favours larger farmers as compared to small -holders. The main reason is behind this is the economic motive of firm. According to the firm, small farmers' lack knowledge about modern inputs; modern technology and proper use of modern inputs are also difficult because of lack of land. So working with the small – scale farmers is difficult for the company. Through the interviews with small farmers it has been found that small farmers earn more profit by leasing -out land on rent than doing agriculture. And off- farm and other opportunities are also attracting them towards the non-agricultural sector. So the firm is biased against the small-holders. There are many scholars like Singh 2000; Glover 1987, who have also argued that firms is biased in their nature in the selection of farmers under contract.

Table-1: Size of holdings and adoption of contract farming

Land owned(in acres)	No. of farmers
Less than 2.5	Nil
2.5-5.00	3
5-10	7
10-25	11
25+	29
Total	50

Source: Field work

Change in area under contract on Farms: The farmers who adopted contract farming in different years have increased their area under contract with PEPSICO Plant. Table-2, shows that in year 1990-91, the initial area under contract with sample growers was only 16 acres. In fact, this was the starting year of contract farming in region. On those farms now 200 acres is under contract. The sample growers who joined in 1992-93 had only 7 acres and presently it has increased to 105 acres. Earlier farmers were not much aware about the contract farming and they were not involving themselves in contract farming. But with time, they became aware about the benefits from the contract farming and slowly and steadily, more and more farmers started involving in contract farming. In 1994 – 95, area under contract farming was 44 acres, which was much larger area as compared to previous year. The similar expansion was recorded in the

following years. Credit goes to the Johl committee which was established in 2002, and it set the target under which minimum 20 percent area was diversified from traditional crops to commercial crops. This triggered the increase in area under contract. After that increase in area under contract farming has been significant. It is quite obvious, that there is a regular increase in the contracted area as compared to the initial area year after year. It has been observed during field visits and interaction with the farmers that the company was reaping huge benefits from the scheme and they promoted potato farming through their favorable policies. This certainly indicates that the potato cultivation under contract farming has been equally profitable for farmers.

Table-2: Change in contract area on different farms under contract farming by selected farmers-

Year	Initial area (in acres)	Present area (in acres)
1990-91	16	200
1992-93	7	105
1994-95	44	110
1996-97	9	50
1998-99	2	7
2000-01	32	131
2002-03	48	256
2004-05	61	176
2006-07	35	215
2008-09	20	51
2010	3	10

Source: Field work

V. CONCLUSION

Potato crop is cultivated in Patiala, and Sangrur districts of Punjab. Irrigation is mainly done with the tube- wells. And only large famers have sprinkler in their fields. All farmers are well versed in growing and harvesting conditions of the crops. Firm signed written contract with farmers. But some farmers have reported that the firm signed written contract but no written proof is given to farmers. On the whole, this fact created awareness among the farmers. Some educated farmers have the written agreement with them. All the farmers were well aware regarding the duration of the contract. Firm provided technical knowledge, motivation and other extension services to the farmers. Firm also

provided chemical fertilizers kit to the farmers and took payment in advance from the farmers as per acre under contract. Irrigation mainly operated with help of tube- wells and only 12 percent farmers have sprinklers in their field. Firm also gave incentives to farmers who have sprinklers in their fields. Field officers' mutual understanding with the farmers is congenial and supporting. Transportation is mainly arranged by the farmers who are located near the firm, but farmers who are located far-away from the firm, for them firm provided incentive regarding their transportation cost. Area under contract farming has been gradually increased from the initial area under contract farming by all farmers. Farmers are getting benefit from the contract farming that's why area under contract system has been increasing. The biased nature of the firms against the small holders has a negative effect. These biased contracts create the social problems in the society. These types of contracts also create social differentiation and unrest. The capacity of small scale farmers to participate in the commercial market is much different than large scale farmers. Especially, vegetables are labour incentive, production cost is higher, overhead supervision of labour and paid labour all main factors that enables the farmers to adopt contract farming. Due to these constraints, the companies find difficult to work with small scale farmers. But in spite of these, contract farming has maintained its interaction and advantages for both buyers and consumers. It is also suggested that for successful implementation of contract farming there should be proper co-ordination between farmers and firm then both will be acted in organised manner and advisable for sides.

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