

Contract Farming of Cotton Seed—A case study of Maharashtra

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Abstract : Since the last one and half decades, the terms “small farmer” and “contract farming” have come into common usage in academic and policy discussions. The concern is whether small farmers would benefit from contract farming. It is very likely that since firms initiate the contract, a farmer’s participation in contract farming depends largely on firm’s criteria rather than farmer’s choice. Though some studies have discussed this issue, it needs greater attention to identify the factors that influence farmers to be in such new mode of production. In this context, the present paper seeks to identify the characteristics of contract and non-contract farmers and factors that induce farmers to participate in Seed contract farming. The analysis is based on 50 farm households (including both contract and non-contract) from Jalna districts of Maharashtra. Binary logit model was used to identify the determinants of farmers’ participation in Seed contract farming. The results indicate that contract farmers were generally from better segments of farming community in terms of education level, productive assets and access to market as compared to the non-contract ones. It could be argued that in this scenario, contract farming practice may lead to higher inequality in the agrarian economy. There is a need for better institutional mechanisms to make contract farming more inclusive.

Keywords: Small farmers, Contract farming, Seed Farming, Maharashtra, India.

Introduction

In India agriculture is still based largely on small family holdings, seasonal production and traditional cultivation and management practices. most small farmers are independent producers, who sell their produce individually and have little bargaining power with input suppliers and produce markets. Agricultural marketing is similarly underdeveloped, with overlapping marketing channels, inadequate infrastructure and price information, a lack of postharvest management expertise and poor packaging of produce. But now trends are changing.

Farmers and agribusinesses are linking up in mutually beneficial contracting arrangements that offer producers lower market risk and greater access to inputs and financing, and ensure processors a guaranteed supply of farm produce. Corporate have understood now the huge potential of agricultural sector. Moreover corporate interest in contract farming and agri-businesses could prove the magic formula for reviving rural economies. Farming based on a contract between farmers and agro-processing and/or marketing firms is catching on in Indian agriculture. The logic behind promoting this form of farming is to encourage private investment in agriculture and to reduce price risks as well as post harvest losses. The private sector may play a role in providing a range of services from input supply to crop assembly and marketing. The experience of the West as well as many African countries suggests that contract farming and

Present Scenario of Agriculture in Maharashtra:

Maharashtra is one of the progressive states in the country but it has been reported to be a deficit state for long when one considers to major pursuit of economic activity that is agriculture. Geographical area of Maharashtra State is 3.08 lakh sq. kms, out of which the net area under agriculture is about 1.77 lakh sq. kms, i.e. 57.5 per cent. This proportion at the national level is less at 43.4 per cent. However, the proportion of gross irrigated area to gross cropped area at national level is 45.3 per cent, while in Maharashtra State it is only 17.7 per cent. Thus, 83.6 percent of the area under agriculture in the state is directly dependent on monsoon. Nearly one third area of the state falls under rain-shadow region where the rain is not only scanty, but also, erratic. The soil, topography, rainfall and climate in Maharashtra are not much favorable to agriculture. As a result, the crop per hector yield in Maharashtra is generally lower than the national level.

Review of Literature:

Singh (2000)The paper focuses on the nature of contracts, and studies the perceptions of both the farmer and the firm of the working of the contract system and its effect on the local economy. Dilip(2002)The study reveals that the processing firms preferred large farmers contract farming. The cost incurred, yield and gross return obtained by contract farmers were almost double compared with that of non-contract farmers. Asokan and Singh (2003) have undertaken a study on Role and Constraints of Contract Farming in Agro Processing Industry. They stated that the contract farming is a dynamic partnership between agribusiness firms and farmers, which benefit both and it acts as vehicle for transfer of technology. Kumar and Singh(2005) observed the Success and Failure of Contract Farming in Himachal Pradesh: A Case Study of Cauliflower Seed Production. They studied success and failure of contract farming in Himachal Pradesh for cauliflower seed production in the agricultural year 2002 -2003. Sukhpal Singh (2006)In this article, the author throws light on some of the finer points of contract farming with reference to the agricultural development of India. According to the author, a farmer may prefer a contract due to the easy access to additional sources of capital or the fixed price or the free access to new technology and inputs.

Objective of study:

1. To study the coon seed contract farming.
2. To study the Cost, Benefit of seed contract farming and non-contract farming.

Research Methodology:

The study is based on primary as well as secondary data. The primary data has been collected from field survey of contract and non- contract farmers of Mahyco seed company. 25 contract farmers and 25 non-contract farmers of the same area have been the contracting companies are working on cotton seed farming Respondents are selected by using simple random sampling method and were interviewed personally using questionnaires for collection of data. Due to the time and financial constraints we randomly select Mahyco contracting company to collect the primary data. A majority of the contract growers have been associated with a leading processing and seed company. The survey data is based on recall memory of the contract growers but it is also supplemented by the data about the growers', inputs, output and prices for the production. The secondary data has also been collected from basic data on performance of contracting company, books, journals periodicals, government reports and newspapers, etc.

The tools of analysis that are used include simple growth rates, trend analysis, ratio analysis, percentage, average etc. For analyzing the performance of contracting crops, simple growth rates of different parameters have been calculated.

Contract Farming of Seed Industry in India:

Public seed companies (NSC, SFICI) had large captive farms on which they could multiply seed, but private seed companies could not own land to multiply their own seed. Their search for a suitable solution led to contract farming in select parts of the country. This solution was adopted by both Indian and multinational companies. The first large-scale activity started under the aegis of Mahyco in the early 1970s, mainly in the Marathwada region of Maharashtra. It spread to neighboring areas of Andhra Pradesh, Vidarbha and Karnataka. These states/areas dominate the seed business even today, save for the hybrids of cold-weather crops. The original selection may have been based on the promoters' familiarity, but it has been proven sound by the agro-climatic factors and relative isolation which make controlling conditions easier, as well as hardworking and loyal peasantry.

India's seed industry has grown in size and level of performance over the past four decades. Both private and public sector companies/ corporations are involved in seed production. Two central corporations, the National Seeds Corporation (NSC) and the State Farm Corporation of India (SFICI) and 13 state seed corporations comprise the public sector. There are around 150 national and multi-national private seed producing and selling companies.

Seed farming based on the contract is not a new concept. The Indian seed industry began experimenting with contract mode of production in the early 1960s because other options were either unviable or unavailable. The high opportunity in paddy seed motivated many MNCs and domestic companies to get involved in this particular mode of production. The leading firms are Pepsi, Cargill, Pioneer India, Sandoz, Rallis India, Indo-American Hybrid Seeds, Mahyco, Navbharat Seeds, Nath Seeds, Ankur Seeds, Namdhari Seeds, Advanta India Hybrid Rice International, Indo-American, Pro-Agro, Parry Monsanto, and Syngenta

Mahyco:

Mahyco was founded on the foresight of a man who dared to venture beyond visible possibilities and showed immense confidence in his vision. Post independence, when India was still in the process of fortifying her weak economic strength. Badrinarayan Ramulal Barwale sowed the first seeds of economic development. Breaking free from the stronghold of Nizam conservatism in the Marathwada region of Maharashtra were his family owned land, he chose to take risk and develop the immense potential that lay latent in hybrid seeds at a time when the seed industry was small. In 1963, Rockefeller foundation in association with the India council a Agriculture Research (ICAR) chose him to help create a private sector seed industry in India. Dr. Barwale produced the first hybrid corn (Maize) in 1963-64 with the seed supplied by the Rockefeller foundation. After that, there was no turning back. The Maharashtra Hybrid corporation (Mahyco) was founded in 1964 with Jalna as its headquarters and encouraged cultivators to grow seeds. Just two years later (1966), the company's first R&D center was set up. In 1985 the first cotton hybrid MECH1 was released in 1989, Mahyco became the first agro-based company to win the National Award for Research and Development from the Government of India. Various recognitions and awards on national and international level followed.

Performance of Mahyco Seeds Company:

Table 1. Shows the performance of five years of contract farming in cotton seed production. According to Mahyco's motto is that provide pure and Genetically certified seed to the farmers. Mahyco company established in the year since the time company has been providing their services to the nation. Mahyco has been involved in contract farming. Table shows that the performance of contract farming from 2006-07 to 2010-11 of Mahyco Seeds Company. Through the contract farming Mahyco company increased seed production and provided farmers sustainable income. Mahyco company engaged in cotton contract farming in 4 districts of Maharashtra particularly Marathwada region. It is observed that 4000 farmers contracted with Mahyco for cotton seed only in the year 2006-07 and 3200 farmer, contracted with company in 2010-11. Mahyco company occupied 4000 acre area through cotton seed contract farming in the year 2006-2007. But in the year 2010-2011 cotton seed contract

farming area decreased to 3200 acre; reason behind it may be climate, water and labour, etc. It is found that in the year 2006-2007 cotton seed yield was 165 kg. per acre and it was decreased upto 100 kg per acre in 2010-11. Company help to their cotton contract farmer to get the sustainable income through the contract farming. Company purchased cotton seeds at Rs. 25000 per quintal in the year 2006-2007 the purchasing amount has been increased upto Rs. 55,000 per Qt. in the year 2010-2011. year production has been high their stock already storage. Due to next year company contracting area limited operate.

Table 1
Performance of Maharashtra Hybrid Seeds Company Ltd.

Sr. No.	Particulars	2006-07	2007-08	2008-09	2009-10	2010-11
1	No. of Farmers	4000	3700	1700	1600	3200
2	Districts	2	2	2	2	4
3	Taluka	3	3	3	3	6
4	Village	147	170	245	250	236
5	Seed Distribution (Kg/Qu)	female 120 gm male-40 gm	female 120gm male 40gm	female 120 gm male-40 gm	female 120 gm male-40 gm	female 120 gm male-40 gm
6	Average Seed / Acre	female 480 gm male 160gm	female 480gm male 160gm	female 480 gm male 160 gm	female 480 gm male 160 gm	female 480 gm male 160gm
7	Contract Farming in Acre	4000	3700	1700	1600	3200
8	Received cotton qts	3080	3000	1500	1200	2400
9	Purchase Rate Rs. /Qt	25000	27000	32000	41000	55000
10	Cotton yield Kg/Acre	165	170	225	145	100

Source : Office record of Mahyco Seed Pvt. Ltd., Company. **Table no.02 Cost of cultivation of contracting crop and non-contracting**

Crop (Cotton seed) in 1 acre land

Sr. No.	Particular	Contract Farming	Non- contract Farming
A	Input Cost		
1	Coon Seeds	792 (4.04)	1048 (6.19)
2	Fertilizers	4280 (21.88)	2740 (16.19)
3	Pesticides	4780 (24.43)	2608 (15.41)
4	Management	968 (4.94)	920 (5.43)
	Sub Total	10820 (55.31)	7308 (43.19)
B	Labour Cost		
I	Ploughing	872 (4.45)	776 (4.58)
Ii	Showing	968 (4.94)	860 (5.08)

Iii	Weeding	2052 (10.49)	904 (5.34)
Iv	Pesticides	512 (2.61)	492 (2.90)
	Sub Total	4404 (22.51)	3032 (17.91)
C	Marketing cost	4336 (22.16)	6580 (38.88)
	A+B+C Total	19560 (33.65)	16920 (48.73)
	Gross Returns	58120	34720
	Net Returns	38560 (66.34)	17800 (51.26)

Source: Filed Survey –2012

Cost Structure in Cotton Seed Production:-

The cost of cultivating cotton seed crop per acre under contract and Non-contract farming are presented in table no. 2. Among the input cost, expenditure pesticides (Rs.4780/- acre) was the major cost (24.43%) of total cost of cultivation followed by fertilizer (21.88%), seed (4.04%) and cost on management(4.94). The labour costs included expenditure on ploughing (4.45), sowing (4.94), weeding (10.49), pesticides(2.61) and other cost of marketing is (Rs. 4336/- acre) calculated total cost (22.16%) on the contrary, their counterpart non-contract farmers the input cost expenditure on fertilizer cost (Rs.2740/- acre) was the major cost (96.19%) of the total cost of cultivation followed by pesticides (15.41%) seed (6.19%) and Management (5.43%). The labour cost expenditure marketing also very high in the non-contracted farming is (Rs. 6580/- acre) calculated total cost of cultivation (38.88%).

The per acre yield and gross returns under contract farming were also 40.26% high that of non-contract farmers. The net returns were also high 53.83% in the case of contract farmers compared to that of non-contract farmers which was due to difference in their yields more profits from cultivation of cotton seeds. Though the per rupee returns over total cultivation costs were much higher in the case of contract farmers, the returns over total cost were slightly lessor than those of non-contract farmers which may be attributed to exorbitant marketing charges. Thus it can be concluded contract farming for cotton seed was high net return (66.34%), from cotton cultivation, compared to non-contract farmers (51.26).

Finding:

1. Per acre gross returns of cotton seeds under contract farming was Rs. 58,120 which is 1.67 times more than per acre gross returns of non contract farming. The net returns of cotton seeds was 66.34 percent in case of contract farming with compared to 51.26 percent of non-contract farming
2. After contract farming the cropping pattern has been changed. After contract farming the area under Jawar crop decreased from 48.5 percent to 33 percent, Bajara 13.5 to 9.25 percent, tur 10.5 to 7.5 240 percent whereas, the area under wheat, sugarcane, cotton, onion, onion seed crop increased due to contract farming. It means contract farmers moved towards the cash crops in comparison with non-contract farmers.
3. In the contract farming farmer use new irrigation instrument like drip, sprinkler by provided contracting company.

4. Selected farmers participate in contract farming for many reasons like access to assured market, assured price, access to better seeds, access to better extension services, higher returns inspired by other contract farmers and contracting companies personal relation etc.

5. The contract farming gives benefits to farmers like increasing income, higher contract price, minimum transport cost, quality inputs and technical guidance etc.

Conclusion: The total cost of cultivation for crops grown by contract farmers was reported to be higher as compared to non-contract farmers due to excess expenditure incurred on costly variable inputs by contract farmers compared to non-contract farmers. This was because of modern farming adopted and more focused and efficient management practices by the contract farmers. Assured price realization, supply chain with improved market outlets, increased cash flow, and access to irrigation were the most influencing factors for adopting the contract farming by the sample farmers. The experiences across the global on contract farming indicated that crops grown under contract production are generally capital-intensive and so progressive farmers find it easier as compared to others. However, it may not be true when contract crops are labour-intensive. We observed that contract farmers are from better off segments of the farming population, for example, they have higher education level, hold productive assets and have better access to markets than non-contract ones. Further, the average family and landholding size is higher among contract farmers as compared to non-contract ones. In addition, the results of estimated logit model indicated that large farmers with better irrigation facilities are more likely to participate in contract farming. Farmers having better non-farm income are also more likely to participate in contract farming.

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