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CONTRACT FARMING: AN INNOVATIVE APPROACH FOR RISK MANAGEMENT BY SMALL FARMERS

Abstract:

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. The approach has considerable potential in developing countries like India where small-scale agriculture continues to be widespread, as small-scale farmers can no longer be competitive without access to the services provided by contract farming companies. The present study was conducted in four districts of Karnataka viz., Tumkur, Kolar, Hassan and Koppal to study the economic status of farmers in contract farming and to know the problems and suggestions. Majority of the farmers practicing contract farming in the study were small and medium farmers with less than 5 acres of land and 5-10 acres of land holdings respectively. It is often difficult for small-scale farmers outside the contract-farming context to gain access to input and risk in quality production but the contractual arrangements involve considerable production support in addition to the supply of basic inputs and assist in risk management. Sponsors may also provide land preparation, field cultivation and harvesting as well as free training and extension, primarily to ensure proper crop practices in order to achieve projected yields and required qualities. Further, the results indicated that there was maximum per cent of increase in economic status of farmers from Hassan (12.12%), Tumkur (14.85%), Kolar (29.13%) and Koppal (18.34%) districts after adopting the contract farming in their fields respectively. Benefit-cost ratio of the four districts viz., Hassan (3.05), Tumkur (2.37), Kolar (2.76) and Koppal (6.18) gave positive signs towards the improvement of farmer's economic status. Results also showed that majority of the farmers faced financial and situational constraints rather than technological and extension constraints. Financial constraints involve lack of financial assistance in agriculture for initial investments and situational constraints involve non-availability of inputs in time.

Keywords:

Contract farming, risk management, small farmers

JEL Classification: O13, Q19, Q16

INTRODUCTION

In an age of market liberalization, globalization and expanding agribusiness, small-scale farmers find difficulty in fully participating in the market economy. Such farmers could become marginalized as a larger farm becomes necessary for a profitable operation. In production agriculture, the trend in India is towards fragmentation rather than consolidation. The average size of landholdings declined from 2.2 hectares in 1970-71 to 1.06 hectares in 2003. Nearly 88 percent of the farmers have less than 2 hectares of land, and account for about 44 percent of the operated area (NSSO, 2006). Although these farms are small, indications are that they are more efficient than larger farmers in terms of land productivity, presumably due to a high share of family labor on small farms. The share of marginal and small farmers (of less than 2 hectares) in the total value of agricultural output is about 51 per cent, substantially higher than their 44 percent share of area operated (Srivastava, 2008). While smallholders, by virtue of available family labor and intensive cultivation practices, can be highly productive, they typically have a small marketable surplus and face high transaction costs in marketing their produce. Small farmers often find themselves locked in a situation of income uncertainty and low risk bearing capacity, thus constraining shifts towards higher value and income generating activities. Further, contract farming can share risk and overcome resource constraints emerge as a possible approach to facilitate the transformation of small holders to high value agriculture.

Contract farming covers loose buying arrangements, simple purchase agreements, supervised production with input provision, with possibly tied loans/advance and risk coverage, and managed production with input provision and tied loans/advance. Introduction of new crops and varieties as well as techniques of production also forms a part of some contracts. Quality parameters may be integral parts of contracts, but are not always understood properly. Defaults occur mainly through availability of alternative channels of disposal to farmers and sources of supply to buyers, which mere mention of exclusivity in contracts cannot overcome. Effective reciprocity of terms and conditions is not always assured. Contract agreements range from oral deals to formal, registered written contracts. Sugar and milk co-operatives provide significant social and community services as well.

Through contract farming tie-ups of farmers with agribusiness companies, Karnataka State has made rapid strides in the production of gherkins (a variety of small cucumbers). The Karnataka State, which contributes about 90 per cent of the country's gherkin production, exported gherkins worth Rs. 140.70 crores in the 2003-2004 financial year, Rs. 105 crores in 2002-03, and Rs. 69 crores in 2001-02 (Saravanan, R and Shivalinge Gowda, N.S.,2003). Nineteen companies are engaged in the production, procurement, processing, and export of gherkins in this State. Firms enter into contracts for gherkin cultivation, and most of them are located in and around Bangalore. About 30,000 farmers have entered into contracts, and the crop is spread over 15,000 hectares in Kolar, Bangalore Rural, Chitradurga, Dharwad, Tumkur,

Bagalkot, and Hassan districts. Firms from the State have exported gherkins to France, Germany, U.S. Russia, and Australia.

There are many contract firms which are operating in Karnataka. Hassan, Tumkur, Kolar and Koppal districts in Karnataka had contract firms operating for more than five years. Though many companies are in the field of contract farming for many crops, only a less percentage of farmers are venturing into contract farming. This paper examines economic impact of contract farming, constraints faced by the small scale farmers practicing contract farming and suggestions for the success of contract farming by them. Hence, this study was designed with the following specific objectives:

- Impact of economic status of farmers practicing contract farming
- To study the constraints faced by the farmers practising contract farming
- To elicit suggestions given by the farmers for the success of contract farming

Methodology

The present study was conducted in four districts of Karnataka state viz., Tumkur, Hassan, Kolar and Koppal with a taluk in each district. The crops selected under the contract farming were Gherkin in Tumkur and Kolar district, Potato in Hassan district and chilli seed production in Koppal district. Total sample size of the study was 120 out of which 30 farmers were selected from each district. The Economic index of farmers before and after contract farming was computed by converting the individual raw scores of land holding, family income and assets possession obtained into standard scores to avoid the difference of units of the variables. Benefit cost ratio of farmers practicing contract farming before and after adopting the contract farming was calculated to depict the economic impact of contract framing.

Results and Discussion

The study data (Table 1) revealed that majority of the farmers selected by the sponsors/companies under contract farming from Hassan (66.67%), Tumkur (60.00%) and Kolar (56.67%) were small farmers compared to that of the majority of the farmers of Koppal (76.67%) coming under medium farmers category. Pooled data revealed that nearly half (49.17%) of the respondents are coming under small farmer category followed by medium (46.67%) and high (5.83%).

Table 1. Categorization of farmers practicing contract farming according to land holding

<i>Land holding</i>	<i>Hassan</i> (n=30)		<i>Tumkur</i> (n=30)		<i>Kolar</i> (n=30)		<i>Koppal</i> (n=30)		<i>Pooled</i> (N=120)	
	No.	%	No.	%	No.	%	No.	%	No.	%
Small	20	66.67	18	60.00	17	56.67	04	13.33	59	49.17
Medium	10	33.33	10	33.33	11	36.67	23	76.67	56	46.67
Big	0	0.00	02	6.67	02	6.67	03	10.00	07	5.83
Total	30	100.00	30	100.00	30	100.00	30	100.00	120	100.00

It is needless to say that the fragmentation of land holdings among family members reduced the individual holdings. The small farmers are with less resources aim for adopting better technologies and new options in order to overcome the financial constraints. In addition the small family size of the respondents might have also forced them to adopt contract farming as a measure to overcome the difficulties of involved in open marketing system. Further, the inputs provided by the firms might be a motivating factor for the small farmers to opt contract farming because of resource poor nature.

1. Economic status of farmers practicing contract farming in selected districts of Karnataka

The results of pooled data in table 2 revealed that the standard score of economic status before contract farming was 250.25 which increased after contract farming to 296.25. Standard scores of economic status before contract farming was highest in Hassan (262.68) followed by Koppal (253.65), Tumkur (252.79) and Kolar (232.19) and after contract farming it was highest in Koppal (300.16) followed by Kolar (299.85), Hassan (294.52) and Tumkur (290.32).

Table 2. Economic status of farmers practicing contract farming in the selected district

(n=30)

<i>Districts</i>	<i>Mean scores</i>	<i>Per cent increase due to contract farming</i>		<i>Paired t-value</i>
		<i>Before contract farming</i>	<i>After contract farming</i>	
Hassan	262.66	294.52	12.12	6.72*(4.73)
Tumkur	252.79	290.32	14.85	8.97*(4.18)
Kolar	232.19	299.85	29.13	14.39*(4.70)
Koppal	253.65	300.16	18.34	9.92*(4.69)
Total	250.25	296.25	18.38	17.90*(2.57)

Note: Figures in bracket refers Std. Error Mean of Paired Differences

*- significant at 5

It is very interesting to know that there is maximum per cent of increase in economic status of farmers from Kolar district after adopting the contract farming in their fields. This may be due to the reasons that farmers of Kolar district were involved in to vegetable production since many years and they were facing the problem of market fluctuation. Further, the Gherkin crop for which they have entered into an agreement is a new crop and it does not require as much input and pesticides they were using for earlier crops. Koppal district also had similar changes but less compared to Kolar district. The seed production was practiced by Koppal farmers under open field cultivation since many years. But after the contract farming the farmers were made to adopt the shade nets for cultivation of chilli seed production. This has resulted in increased cost of cultivation with slight increase in income.

2. Cost and Returns under contract farming

It is clear from the table 3 that benefit cost ratio after contract farming is higher when compared with that of the before contract farming in all the four districts. It is not surprising to observe that B:C ratio of Hassan, Tumkur, Kolar and Koppal districts (13.15, 12.89, 9.24 and 7.00 respectively) before contract farming was less than that of the after contract farming (16.20, 15.26, 12.00 and 13.18 respectively).

Table 3. Cost and Returns of contract farming farmers in the selected district

<i>Districts</i>		<i>Gross returns</i>	<i>Total cost</i>	<i>Net returns</i>	<i>B:C ratio</i>	<i>Difference in B:C ratio</i>
Hassan (n=30)	Before contract farming	80,733	6,139	73,133	13.15	3.05
	After contract farming	146,383	9,031	154,990	16.20	
Tumkur (n=30)	Before contract farming	57,700	4,474	48,087	12.89	2.37
	After contract farming	108,667	7,119	91,535	15.26	
Kolar (n=30)	Before contract farming	77800	8419.83	69380.17	9.24	2.76
	After contract farming	112066.7	9,706	100444	12.00	
Koppal (n=30)	Before contract farming	110,733	15,340	103,770	7.00	6.18
	After contract farming	266,000	20,180	245,783	13.18	
Pooled (n=120)	Before contract farming	81,741.5	8593.20	73592.50	10.57	3.59
	After contract farming	1,58,279.7	11509	1,48,188	14.16	

3. Constraints faced by the farmers practising contract farming

It was observed from the results that there were more financial and situational constraints than technological and extension constraints. Reason for this result is that the contract firms are efficiently providing the technical guidance and extension services time to time to all the farmers involved in contract farming to ensure maximum out put with good quality. Further, it is mandatory on the part of the firms to provide the

technical guidance as par of the agreement made in the contract or other wise the company will also be loss (table 4).

The contract firms will not compromise on the quality and recommended quantity of inputs to be used by the farmers and naturally the cost of such inputs will be more. Any compromise by the company in supplying the inputs will reduce the yield and quality of produce. This might have prompted the farmers to indicate that the cost of inputs supplied was more.

Farmers had a major problem of availability of labours in time as well as the requirement of labours in field was very high. This may be because the maintenance of quality of the produce is the major consideration of contract firms which requires more labours than usual. Further, the small family size restricts the availability of family labours and the migration of labours from rural areas to urban in search of employment might aggravate the problem of labour.

Table 4. Problems faced by farmers in practicing contract farming

Problems	Tumkur (n =30)		Hassan (n =30)		Kolar (n =30)		Koppal (n =30)		Combined (n=120)	
	No	%	No	%	No.	%	No.	%	No.	%
I. Technological constraints										
The popularity of crop itself is low	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Varieties used are susceptible to pests and diseases	2	6.67	1	3.33	3	10.00	4	13.33	10	8.33
The yield levels of the crop is low	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
No constraints	28	93.33	29	96.67	27	90.00	26	86.67	110	91.67
II. Financial Constraints										
Non availability of loans in required time	29	96.67	27	90.00	26	86.67	25	83.33	107	89.17
Non availability of loans in required amount	30	100.00	28	93.33	28	93.33	27	90.00	113	94.17
Initial investment is high	21	70.00	17	56.67	20	66.67	19	63.33	77	64.17

Payments after delivery is delayed	11	36.67	8	26.67	14	46.67	10	33.33	43	35.83
High interest rate for loan	22	73.33	17	56.67	20	66.67	19	63.33	78	65.00
High cost of inputs	30	120	30	100	30	100	30	100	120	100
No constraints	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00

III. Extension Constraints

Poor technical assistance by the agency.	3	10.00	6	20.00	6	20.00	5	16.67	20	16.67
Non availability of technical assistance in required time	3	10.00	6	20.00	6	20.00	5	16.67	20	16.67
Lack of technical competency by extension workers	1	3.33	2	6.67	4	13.33	4	13.33	11	9.17
No fixed schedules of visit by extension workers.	4	13.33	6	20.00	6	20.00	5	16.67	21	17.5
Lack of training on proper time and methods of harvesting	2	6.67	5	16.67	3	10.00	2	6.67	12	10.00
Lack of knowledge on grading and packaging	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
No constraints	27	90.00	24	80.00	23	76.67	25	83.33	80	66.67

IV. Situational Constraints

Non availability of inputs in required quantity	19	63.33	25	83.33	27	90.00	27	90.00	98	81.67
Non availability of inputs in required time	19	63.33	24	80.00	27	90.00	26	86.67	96	80.00
Lack of storage facilities	0	0.00	2	6.67	2	6.67	3	10.00	7	5.83
Lack of transportation facilities	1	3.33	2	6.67	2	6.67	3	10.00	8	6.67
Lack of information on marketing channels	1	3.33	5	16.67	6	20.00	8	26.67	20	16.67

Non availability of labors	30	100	30	100	30	100	30	100	120	100
Non availability of custom hiring services	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
Labor requirement for operations is very high	30	100	30	100	30	100	30	100	120	100

(Multiple response possible)

4. Suggestions given by the farmers practising contract farming on beneficial aspects of contract farming in future

Majority of the farmers suggested that settling of payments should be in time, depicted in table 5. They also suggested that Cost of inputs should be reduced by the contract firms and Increase the price for the produce. Half of the respondents suggested that there should be Government intervention for making strict laws to legalize the contracts. Few of the farmers suggested that More MNC's should be allowed to do agribusiness.

It was very interesting to know that farmers gave suggestions very critically to improve the contract framing in the country and to raise the economic status the farmers in the country. Cost of the inputs provided by the contract firms should be reduced was the suggestion by majority of the farmers. It was also suggested that the payments should made in time since they were facing problems due to delayed payments. Government intervention for making strict laws to legalize the contracts was the important legal suggestion given by the farmers to improve the present status of the contract farming in the research areas.

Table 5. Suggestions of farmers practicing contract farming

Sl. No.	Suggestions	Hassan (n=30)		Tumkur (n=30)		Kolar (n=30)		Koppal (n=30)		Combined (n=120)	
		No	%	No	%	No	%	No	%	No	%
1.	Cost of inputs should be reduced by the contract firms	26	86.67	24	80.00	22	73.33	30	100	102	85.00
2.	Settling of payments should be in time	22	73.33	30	100	26	86.67	30	100	108	90.00
3.	Increased price for the	28	93.33	30	100	27	90.00	9	30.00	94	78.33

	produce										
4.	Government intervention for making strict laws to legalize the contracts	16	53.33	19	63.33	20	66.67	14	46.67	69	57.5
5.	More MNC's should be allowed to do agribusiness	25	83.33	0	0.00	0	0.00	0	0.00	25	20.83

(Multiple responses possible)

It was very much interesting to know that farmers wanted more of the contract firms to be allowed to do contract farming since they had improved their economic conditions due to these contracts and wanted to gain more profits.

Conclusion

Contract farming is found to be more ideal to enhance the income level of farmers. The B:C ratio worked out for both before and after adoption of contract farming indicated that contract farming is most profitable in improving the economic status of the farmers. Hence, extension workers need to educate interested farmers regarding contract farming for adoption. It was observed from the results that there were more financial and situational constraints than technological and extension constraints. This may be because the contract firms were efficiently providing the technical guidance and extension services time to time to all the farmers involved in contract farming to ensure maximum output with good quality and it is mandatory on the part of the firms to provide the technical guidance as par of the agreement made in the contract or other wise the company will also be loss. Further, it was very much interesting to know that farmers wanted more of the contract firms to be allowed to do contract farming since they had improved their economic conditions due to these contracts and wanted to gain more profits. Hence it may be concluded that contract farming is a boom in agriculture and government needs to assist for initial investment through schemes and programmes of government and other financial institutions. Also, Government interventions are necessary for making strict laws to legalize the contracts and there is scope for multinational companies to enlarge their area of coverage in any such similar locations.

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