



ECONOMICS OF GROUNDNUT CULTIVATION ON FPO AND NON-FPO FARMS IN KURNOOL DISTRICT OF ANDHRA PRADESH

G. SUNEESHA, I. BHAVANI DEVI, Y. PRABHAVATHI AND P. LAVANYAKUMARI

Institute of Agribusiness Management, S.V Agricultural College, ANGRAU, Tirupati 517502, Chittoor Dt.
Andhra Pradesh

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ABSTRACT

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Kurnool district was selected for present study as the district is having nine actively functioning FPOs (six under NABARD and three under SFAC). The average size of the farm was 2.37 ha on Farmer producer organisation (FPO) and 2.6 ha on non-FPO farms. Total human labour was 104.38 and 100.4 man days per hectare on groundnut FPO farms and non-FPO farms respectively. On an average the total cost of cultivation per hectare of groundnut was Rs. 58,412 on FPO and Rs. 57,526 on non-FPO farms. The gross income realized on FPO farms was slightly higher with Rs. 78,804 as against Rs. 74,030 on non-FPO farms.

KEY WORDS: FPO, NABARD, SFAC

INTRODUCTION:

Agriculture has been and remains an important sector of Indian economy. Agriculture and allied activities support livelihoods of nearly 70 per cent of India's rural population. Agriculture, along with fisheries and forestry, is one of the largest contributors to the Gross Domestic Product (GDP). As per estimates by the Central Statistics Office (CSO), the share of agriculture and allied sectors (including agriculture, livestock, forestry and fishery) was 17.3 per cent of the Gross Value Added (GVA) during 2016-17 at 2011-12 prices.

Cooperatives concept is one of the options available for the farmers to get organized themselves to move up in the value-chain and having business ownership. But an analysis on the performance of cooperative system in the country concluded that they have been infected by political interference, corruption, elite capture, poor efficiency, loss-making ways and declining government support (capital constraint) (Singh, 2008). The challenges faced by the small and marginal farmers are being attempted to solve through the concept of farmer producer organisations that empowers them by economies of scale and access to information, agricultural services, technology etc. A variety of approaches has emerged in response to the problems faced by the small and marginal farmers.

At the market end of agriculture value-chain, private participation is being promoted through contract farming, particularly after the amendment of the Agricultural Produce Marketing Committee (APMC) Act in 2003. Contract farming involves agricultural production based on an agreement between a corporation and the farmer for production and supply of agreed quantities of a product meeting certain quality standards (FAO, 2014). However, contract farming arrangements tend to exclude small producers (Gill, 2004; Pritchard and Connell, 2011) and in many instances have benefited the buyers at the expense of the producers. The other approach is the facilitation of collective action by small and marginal farmers. Agricultural cooperatives, formed under the Co-operative Credit Societies Act, 1904, have long been the dominant form of farmer collectives; however, the experience with cooperative point too many limitations that prevent effective collective action. Hence the Indian government has been promoting a new form of collectives called Farmer Producer Organizations (FPOs) to address the challenges, faced by the small and marginal farmers, particularly those to do with enhanced access to investments, technological advancements, and efficient inputs and markets (Hellin *et al.*, 2009;

MATERIAL AND METHODS

The present study was conducted in Andhra Pradesh state. Purposive-cum-random sampling technique

*Corresponding author, E-mail: iabm.angrau@gmail.com

was employed for the selection of sample in the present study. Kurnool district was purposively selected, as the district is having nine actively functioning FPOs (six under NABARD and three under SFAC).

The list of the mandals along with corresponding number of FPO farmers was prepared. One mandal from the district with maximum number of FPO farmers was selected purposively. The selected FPO was found covering four villages in Dhonemandal. Hence all the four villages in the mandal were purposively selected for present study. The total sample size was 80. All the FPO farmers in selected villages were listed out and 40 farmers were randomly selected. Another sample of 40 non-FPO farmers from the same villages were also randomly selected to serve as a control group. The required data for the study were collected from the selected farmers using a pre-tested schedule for the agricultural year 2016-17.

TOOLS AND TECHNIQUES OF ANALYSIS

Simple arithmetic averages and percentages were worked out to arrive at costs, returns and farm efficiency measures.

COST CONCEPTS

Cost A₁: It includes: Value of hired human labour, value of hired and owned animal labour, value of hired and owned machine labour, value of seed (both farm seed and purchased), value of manures (owned and purchased) and fertilizers, depreciation on fixed assets, irrigation charges, land revenue, interest on working capital and miscellaneous expenses.

Cost A₂: Cost A₁ + rent paid for leased in land.

Cost B₁: Cost A₁ + interest of fixed capital (excluding land)

Cost B₂: Cost B₁ + rental value of owned land + rent for leased in land.

Cost C₁: Cost B₁ + imputed value of family labour.

Cost C₂: Cost B₂ + imputed value of family labour.

Cost C₃: Cost C₂ + 10 per cent of cost C₂ as management cost.

FARM EFFICIENCY MEASURES

Farm business income = Gross income – Cost A₁

Family labour income = Gross income – Cost B₂

Net income = Gross income – Cost C₃

Farm investment income = Farm business income – imputed value of family labour

or

Net income + imputed rent value of owned land + interest on owned fixed capital invested.

RESULTS AND DISCUSSIONS

It is observed from Table.1, that the average family size was 4.79 and 4.13 in the case of FPO and non-FPO farmers respectively. The number of males, females and children was larger on FPOs compared to non-FPOs. On an average 1.45 male members were available for farm work on FPO, whereas it was 1.12 on non-FPO. The number of females participating on the farm was 1.0 on FPO farms, whereas, it was 0.9 on non-FPO. There was no participation of children on the farms.

Total cost of cultivation per hectare of groundnut was Rs. 58142 on FPOs and Rs. 57526 on non-FPO farms (Table.2). The break-up of total costs into operational costs and fixed costs indicated that the operational costs were Rs.43612 for FPO farmers and Rs.42910 on non-FPO farms. The break-up of total costs into operational costs and fixed costs indicated that the operational costs were Rs. 43612 (75 per cent) for FPO farmers and Rs.42910 (74.5 per cent) for non-FPO farmers, while the fixed costs were Rs. 14530 (25 per cent) and Rs. 14616 (25 per cent) for the corresponding farms. Human labour is required to perform various cultural practices viz., land preparation, sowing, application of manures and fertilizers and plant protection chemicals, weeding, harvesting and stripping. Of the total costs, human labour was the highest costing input service in the cultivation of groundnut. The expenditure incurred towards this resource service was Rs. 16250 (26 per cent) for FPO farmers and Rs.15380 (27 per cent) for non-FPO farmers. The FPO farms used hired bullock labour with an expenditure of Rs. 4,175 (7.1 percent) whereas for non-FPO farms it was Rs. 3,094(5.3 percent). Of the total costs the expenditure on

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machine power in the cultivation of groundnut was Rs. 3,098 (5.3 per cent) on FPO farms and Rs. 1,447 (2.5 per cent) on non-FPO farms. Seed was the major item in cost of the cultivation of selected enterprise amounting to Rs. 8,700 (15 per cent) for FPO farmers and Rs. 10,750 (19 per cent) for non-FPO farmers. The cost of seed for FPO farmers was less when compared to non-FPO farmers. This is because the seed obtained by FPO farmers was at the subsidized price. On manures and fertilizers the FPO farmers incurred Rs. 4,771 (8 per cent) while for non-FPO farmers it was Rs. 5,284 (10 per cent). The non-FPO farmers incurred little more expenditure on plant protection chemicals with Rs. 3,476 (6.5 per cent) over FPO farmers Rs. 3,285 (6 per cent). Among the fixed costs, rental value of owned land was the major item. It was Rs. 12,500 accounting for 21.5 and 22 per cent in FPOs and non-FPOs respectively. The other items of fixed costs were land revenue, depreciation and interest on fixed capital. The analysis of cost structure of groundnut cultivation revealed that it was more for FPO farmers over non-FPO farmers. The difference was evidently due to the higher use of human labour and machine labour.

It is clear that from Table.3 there was no leasing in activity among the selected farmers and hence the cost A1 and cost A2 were the same. On an average, the total cost of cultivation (Cost C2) was more or less same on FPOs and non-FPO farms with Rs. 58412 and 57526 respectively

The details of physical output and gross returns per hectare of groundnut crop are presented in Table 4. On an average, the yield of main product was 17.58 and 16.9 quintals, while the yield of by-product was 2.35 and 2.14 cart loads on FPOs and non-FPO farms respectively. The FPO and non-FPO farms realized a gross income of Rs. 78804 and Rs. 74030 respectively. The net income was high on FPO farms with Rs. 20661 compared to Rs. 16503 on non-FPO farms. FPO farms realized higher net income in the cultivation of groundnut in the study area.

It is clear that from Table.5 the gross income realized on FPO farms was slightly higher with Rs. 78804 as against Rs. 74030 on non-FPO farms. Net income too exhibited similar trend, with FPO recording Rs. 20661 against Rs. 16503 by non-FPO farms. FPO farms were able to secure Rs. 1.35 per every rupee spent, while non-FPO farm received Rs. 1.28. Family labour income was

another measure of farm efficiency which represents returns to farmers own labour and family labour. FPO farms derived more family labour income of Rs. 23,201 compared to non-FPO farms (Rs. 19,203). It was noticed that the FPO farms were efficient in utilization of resources in the cultivation of groundnut. Farm investment income was a measure that indicated returns to fixed capital. It was Rs. 34,164 on FPO farms and Rs. 30,007 on non-FPO farms.

CONCLUSIONS

The average size of the farm was 2.37 ha on FPO and 2.6 ha on non-FPO. The per hectare value of assets for FPO farms was Rs. 13,13,069 and the same for non-FPO farms was Rs. 13,35,000. Total human labour was 104.38 and 100.4 man days per hectare on groundnut FPO farms and non-FPO farms. On an average the total cost of cultivation per hectare of groundnut was Rs. 58,142 on FPO and Rs. 57,526 on non-FPO farms. The price per quintal was more on FPO farms with Rs. 4,482 compared to Rs. 4,380 on non-FPO farms. The gross income realized on FPO farms was slightly higher with Rs. 78,804 as against Rs. 74,030 on non-FPO farms. Net income too exhibited similar trend, with FPOs.

**Table.1 Family composition and family labour contribution on selected farms
(in number)**

S. No	Particulars	FPO	Non-FPO
1	Family Composition		
	a. Male	1.89 (39.45)	1.77 (42.85)
	b. Female	1.69 (35.28)	1.32 (31.96)
	c. Children	1.21 (25.26)	0.99 (23.97)
	Total	4.79 (100)	4.13 (100)
2	Farm Family Workers		
	a. Male	1.45 (59.18)	1.12 (55.44)
	b. Female	1.0 (40.81)	0.9 (44.55)
	c. Children	-	-
	Total	2.45 (100.00)	2.02 (100.00)

Note: Figures in parentheses indicate percentages to the total

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Table.2 Cost of cultivation of groundnut component wise on FPO and non-FPO farms (in rupees per ha)

S. No.	Particulars	FPO	Non-FPO
1	Operational costs		
A	Human labour	2540 (4)	2700 (5)
	Owned	16250 (26)	15380 (27)
	Hired		
b	cattle power	-	-
	Owned	4175 (7.1)	3094 (5.3)
	Hired		
c	Tractor		
	Owned	3098 (5.3)	1447 (2.5)
	Hired	8700 (15)	10750 (19)
d	Seed	617 (1)	880 (1.5)
e	Manures	4154 (7)	4404 (8.5)
f	Fertilizers	3282 (6)	3476 (6.5)
g	Plant protection chemicals	794 (1.3)	777 (1.4)
h	Interest on working capital	43610 (75)	42910 (74.5)
	Total operational costs	2540 (4)	2700 (5)
2	Fixed costs		
a	Land revenue	150 (0.2)	150 (0.2)
b	Rental value of owned land	12500 (21.5)	12500 (22)
c	Depreciation	876 (1.5)	962 (1.7)
d	Interest on fixed capital	1003 (1.8)	1003 (1.7)
e	Total fixed capital	14529 (25)	14616 (25)
3	Total costs	58139 (100)	57526 (100)

Note: Figures in parentheses indicate percentages to the total.

Table 3 Cost concepts in groundnut production on FPO and Non-FPO farms (Rs per ha)

S.No	Particulars	Groundnut	
		FPO	Non-FPO
1	Cost A1/ A2	42099	41322
2	Cost B1	43102	42326
3	Cost B2	55602	54826
4	Cost C1	45642	45026
5	Cost C2	58142	57526
6	Cost C3	63956	63279

Note: Figures in parentheses indicate percentages to the total c3 = Total cost of cultivation

Table 4. Output and returns per hectare of groundnut on FPO and non-FPO farms (Rs. per ha)

S. No	Particulars	Units	Groundnut	
			FPO	Non-FPO
1.	Yield in Physical terms			
a.	Main Product	Quintals	17.58	16.9
b.	By-Product	Cart Loads	2.35	2.14
2.	Monetary Units			
a.	Main Product	Rs.	66804	62530
b.	By-Product	Rs.	12000	11500
3.	Gross Returns	Rs.	78804	74030
4.	Cost of Cultivation	Rs.	58142	57526
5.	Net Returns	Rs.	20662	16504
6.	Returns per rupee of Expenditure	Rs.	1.35	1.28

Table 5. Measures of farm income in groundnut production on FPO and non-FPO farms (Rs. per ha)

S. No	Particulars	Groundnut	
		FPO	Non-FPO
1	Gross income	78804	74030
2	Net income	20662	16504
3	Farm Business Income	36704	32707
4	Family Labour Income	23201	19203
5	Farm Investment Income	34164	30007
6	Returns per rupee of expenditure	1.35	1.28

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