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SOCIO ECONOMIC EMPOWERMENT OF FARMER PRODUCER ORGANIZATIONS IN TAMIL NADU: A STATISTICAL ANALYSIS

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ABSTRACT

Agriculture has always been an important part of the Indian economy, providing a living for millions of farmers. It employs around fifty-eight per cent of the Indian workforces, contributes to the standard increase of the economy, and reduces poverty with the aid of imparting employment and meal protection to the majority of the population. Even though inadequate farming and extension offerings, low degree of science adoption, lack of capital and negative commercial enterprise skills, low profits due to terrible infrastructure and low market effectivity are boundaries for small and marginal farm holders to succeed. As a result of its awareness of these problems faced by small and marginal farmers, the Department of Agriculture and Cooperation, Ministry of Agriculture and Farmers Welfare, Government of India has identified Farmer Producer Organisation as the most appropriate institutional form and mechanism to mobilize farmers and build their capacity to collectively leverage their production and marketing strengths. FPOs help small and marginal farmers integrate so that they can raise their incomes and improve their economic standing. The current study sought to analyse the socio economic impact of Farmer Producer Organisations and to discover a significant difference between the socio economic impact of beneficiaries before and after joining in FPO. It was conducted in the Tamil Nadu state's three districts of Coimbatore, Erode, and Trichy. A simple random sampling technique was used to choose 100 beneficiaries at random from each FPO. In this manner, a total of 300 beneficiaries were regarded as study respondents. The present study was analysed by using paired *t*-test to identify the significant differences in socio- economic empowerment of beneficiaries in Farmer Producer Organisation before and after joining.

The results revealed that the Farmer Producer Organisation beneficiaries had a direct impact on the socio-economic circumstances in the research area. According to overall impact, majority of the beneficiaries (57.67 percent) belonged to medium and more (31.33 per cent) levels of impact toward Farmer Producer Organisations. Based on component wise impact on the empowerment of beneficiaries after joining FPO, almost sixty percent (59.00 per cent) of the beneficiaries have experienced medium level of impact on employment generation after joining the Farmer Producer Organisation Followed by Majority (59.00 per cent) of the beneficiaries had a medium level of impact in their empowerment through Farmer Producer Organisation. Majority of the beneficiaries were found to have medium (60.00 per cent) and more (30.00 per cent) levels of impact in their educational security.

The probability 't' value was assessed on all different parameters described above and observed to be significant all at the 1 per cent level. And it confirmed that there was a high significant difference in the all three parameters of the beneficiaries before and after joining Farmer Producer Organisations. This confirms that the FPO may have a positive impact on its beneficiaries. Therefore, this model needs to be implemented in other regions of the nation.

Keywords : Farmer Producer Organisation (FPO), Empowerment, Beneficiaries.

Introduction

For about fifty eight per cent of India's population, agriculture serves as both their primary source of income and their primary means of subsistence. This agriculture industry accounted for the largest portion of India's Gross Domestic Product at the time of its independence. However, year over year, its contribution continues to decline, and at the current exchange rate, it contributes only seventeen per cent of Indian GDP. The marginal farm holdings category includes approximately 92.8 million of these individuals with individual operational land holdings of under one hectare. Small farm holdings with individual operational land holding sizes of less than two hectares made up the remaining 24.8 million. As a result, a staggering 85.00 percent of all farm holdings in India were in the marginal and small category (Paty and Gummagolnath, 2018). Due to the fact that they are small and marginal farmers, they face numerous difficulties in obtaining accurate information about the aspects of their production and productivity. Small farmers must be incorporated into contemporary competitive markets under the concept of collectivization in order to protect them from negative effects and difficulties.

To overcome this situation farmers can aggregate through a variety of legal entities, such as farmer cooperatives, farmer clubs, farmer interest groups, etc., to benefit from economies of scale. One such group of farmers is represented by Farmer Producer Organisations. Under the Indian Companies Act of 1956, Farmer Producer Organisations are registered. Producer Organisations are therefore expected to be non-political organisations founded on the idea of self-reliance and dedicated to offering business services to their smallholder farmer members.

The primary goal of the FPO is to organise small farmers for forward linkages such as collective marketing, processing, and market-led agricultural production, as well as backward linkages for inputs like seeds, fertilisers, credit, insurance, knowledge, and extension services (Mondal, 2010). The Small Farmers' Agribusiness Consortium (SFAC) was given this task by the Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India, to assist the state governments in the formation of Farmer Producer Organisations. The objective is to increase farmers' competitiveness and advantage in newly opening markets.

Keeping the above points in mind, this study was conducted with the purpose of evaluating the socio economic impact of Farmer Producer Organisations

among the beneficiaries. The results were analysed in this paper, and it was discovered that there were significant differences between the beneficiaries' impacts before and after joining FPO.

Materials and Methods

Selection of study area

The current study was conducted in the Tamil Nadu state. Three Farmer Producer Organizations were specifically chosen in Coimbatore, Erode, and Trichy purposively, based on the categories that were functioning effectively according to government certification. The State Government of Tamil Nadu has honoured these three Farmer Producer Organisations with State Award for best governed FPO of Tamil Nadu.

Selection of respondents

The selection of respondents was equitable. Hundred beneficiaries from each of the three chosen Farmer Producer Organisations were selected, obtaining a total sample size of 300. These choices were made using a simple and direct random sampling method.

Research Design and Data collection

To determine the socio- economic impact of beneficiaries in Farmer Producer Organisation before and after joining. In this study, an ex-post facto research design was used. A pretested interview schedule was used to collect the data. Individual interviews with the chosen respondents took place at their homes or workplaces, and each one's responses were carefully recorded in the schedule.

Statistical tool for the study

Empowerment was studied in terms of changes in employment generation, empowerment, and educational security which were studied as comparison between study year (current) after joining FPO and base year before joining the FPO.

A series of statements were prepared to assess changes occurred due to the FPO with scores of 1, 2 and 3 for decreased, remained same and increased respectively. By adding scores of all the statements the individual total score was worked out. The scoring procedure followed by Hanumantha (2016) was adopted in this study with slight modifications.

S.No	Components	Number of Statements
1	Employment generation	3
2	Empowerment	6
3	Educational security	3

Also, the paired *t*-test was carried out to accurately ascertain the empowerment of FPOs on the socio-economic status of the beneficiaries

Paired *t*-test:

This test was employed to study the FPO impact (before and after the joining) on the beneficiaries. Paired *t*-test was calculated by using the following formula

$$t = \frac{|\bar{d}|}{S} \sim t_{(n-1)} \text{d.f.}$$

$$\text{where } \bar{d} = \frac{\sum_{i=1}^n d_i}{n} \text{ and } S^2 = \frac{1}{n-1} \left[\sum_{i=1}^n d_i^2 - \frac{\left(\sum_{i=1}^n d_i \right)^2}{n} \right]$$

Where,

S^2 is variance of the deviations

n = sample size

$d_i = x_i - y_i$ ($i = 1, 2, \dots, n$)

Results and Discussion

Components wise impact on the socio economic position of beneficiaries after joining FPO

Employment Generation

Impact on changes in the employment generation among the respondents after joining the FPO is presented in the Table 1.

Table 1 : Distribution of beneficiaries according to change in employment generation

Sl. No.	Category	Before		After	
		Number	Percent	Number	Percent
1.	Less impact (3 to 4)	120	40.00	32	10.66
2.	Medium impact (4 to 5)	142	47.33	177	59.00
3.	More impact (5 to 6)	38	12.67	91	30.34
	Total	300	100	300	100

The Table 1 indicated that the respondents were enquired about their employment generation before and after joining the Farmer Producer Organization. According to the data in the table before joining the FPO majority (47.33 per cent) of the respondents had medium level of impact in employment generation followed by 40.00 per cent of the respondents who experienced the less level of impact and 12.67 per cent of respondents had more level of impact in employment generation. Even so, after joining the FPO, majority (59.00 per cent) of the respondents had

medium level of impact in employment generation followed by 30.34 per cent of the respondents who encountered more level of impact and only 10.66 per cent of the respondents had less level of impact regarding employment generation.

The information were analysed to Paired *t*-test to conclude the significance of the difference in employment generation before and after joining Farmer Producer Organisations, and the acquired results are accessible in Table 2.

Table 2 : Analysis of paired *t*-test on impact in employment generation

Paired Samples Test										
Before and after joining the FPO	Paired Differences					<i>t</i>	<i>df</i>	Sig. (2-tailed)		
	Mean	SD	Std. Error Mean	95% Confidence Interval of the Difference						
				Lower					Upper	
	-0.74333	0.72517	0.04187	-0.82573	-0.66094	-17.754	299	0.000**		

** indicate significance of value at $P=0.01$

Estimated probability value was found to be significant at 1 per cent level by rejecting the null hypothesis and indicated that there existed a significant difference in their employment generation of the respondents before and after joining Farmer Producer Organisation. It was clearly exhibited from the results that the mean difference was -.74333. After joining the FPO, the number of working days was gradually increased due to increase the activity such as the areas

of agricultural production, processing, and marketing which may be reason for the positive variation. These findings are in accordance with those of Chopade (2019), Gopala *et al.* (2019) and Nisha Tiwari (2021).

Empowerment

Impact on changes in the empowerment of the respondents after joining the FPO is presented in the Table 3

Table 3 : Distribution of beneficiaries according to change in empowerment.

Sl. No.	Category	Before		After	
		Number	Percent	Number	Percent
1.	Less impact (6 to 8)	120	40.00	34	11.33
2.	Medium impact (8 to 10)	145	48.33	177	59.00
3.	More impact (10 to 12)	35	11.67	89	29.67
	Total	300	100	300	100

It could be observed from the Table 3 that the respondents were asked about their empowerment before and after joining the Farmer Producer Organisation. The collected records presented in the table specified that before joining the FPO, majority (48.33 per cent) of the respondents belonged to medium level of impact category in their empowerment subsequently 40.00 per cent of the respondents had the less level of impact and 11.67 per cent of respondents had more level of impact in their empowerment. Although after joining the FPO

majority (59.00 per cent) of the respondents had medium level of impact in their empowerment followed by 29.67 per cent of the respondents were found to have more level of impact and 11.33 per cent of respondents had less level of impact in their empowerment.

To ascertain the significance of the difference in empowerment before and after joining Farmer Producer Organisation, the data was submitted to a Paired *t*-test, and the procured results are summarized in Table 4.

Table 4 : Analysis of paired *t*-test on impact in empowerment

Paired Samples Test								
Before and after joining the FPO	Paired Differences					<i>t</i>	<i>df</i>	Sig. (2-tailed)
	Mean	SD	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
	-1.6500	1.5039	0.08683	-1.8208	-1.47913	-19.003	299	0.000**

** indicate significance of value at P=0.01

It was resolved that the probability value was significant at 1 per cent level by rejecting the null hypothesis and designated that there was a significant difference in their empowerment of the beneficiaries before and after joining Farmer Producer Organisation. It can be concluded that the Farmer Producer Organisation helped to improve their empowerment. Increasing the annual income, capacity to manage postal/bank transactions, community

interactions and the ability to take their own decisions might be the reasons for this. These findings were in agreement with those of Dewangan (2018) and Rajini Devi (2021).

Educational Security

Impact on changes in the educational security of the respondents after joining the FPO is presented in the Table 5.

Table 5 : Distribution of beneficiaries according to educational security

Sl. No.	Category	Before		After	
		Number	Percent	Number	Percent
1.	Less impact (3 to 4)	112	37.33	30	10.00
2.	Medium impact (4 to 5)	155	51.67	180	60.00
3.	More impact (5 to 6)	33	11.00	90	30.00
	Total	300	100	300	100

According to the Table 5, the respondents were asked about their educational security both before and after they joined the Farmer Producer Organisation. As per the data in the Table, before joining the FPO, majority (51.67 per cent) of the respondents stated medium level of educational security remaining 37.33

per cent of the respondents had the less level and 11.00 per cent of respondents conveyed more level of impact on educational security. On the contrary, after joining the FPO majority (60.00 per cent) of the respondents had medium level of impact on educational security followed by 30.00 per cent of the respondents had high

level and only 10.00 per cent of respondents had less level of impact on educational security.

The findings showed that after joining a Farmer Producer Organisation, the beneficiaries gradually increased their educational security. To ascertain the

significance of the difference in educational security before and after joining Farmer Producer Organisations, the data was subjected to a paired *t*-test, and the obtained results are shown in Table 6.

Table 6 : Analysis of paired *t*-test on impact in educational security

Paired Samples Test								
Before and after joining the FPO	Paired Differences					<i>t</i>	<i>df</i>	Sig. (2-tailed)
	Mean	SD	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
	-0.73667	0.76328	0.04407	-0.82339	-.64994	-16.717	299	0.000**

** indicate significance of value at P=0.01

By reversing the null hypothesis from the Table 17, the probability value was found to be significant at the 1 per cent level and showed that there was a high significant difference in the educational security of the beneficiaries before and after joining Farmer Producer Organisations.

This might be due to the increase in the income and savings level of the beneficiaries after joining FPO and majority of the respondents had greater level of mass media exposure leads to increase in awareness on education. These findings are in accordance with the findings of Dewangan (2018) and Rajini Devi (2021).

Conclusion

The results revealed that the Farmer Producer Organisation beneficiaries had a direct impact on the socioeconomic circumstances in the research area. According to empowerment used on component wise on the socio economic position of beneficiaries after joining FPO, Almost sixty percent (59.00 per cent) of the beneficiaries have experienced medium level of impact on employment generation after joining the Farmer Producer Organisation. Majority (59.00 per cent) of the beneficiaries had a medium level of impact in their empowerment through Farmer Producer Organisation. Majority of the beneficiaries had found to be medium (60.00 per cent) and more (30.00 per cent) levels of impact in their educational security.

Therefore, it supports the idea that the beneficiaries of the Famer Producer Organisations (FPO) can have a positive impact on a person's empowerment status. Therefore, this model needs to be implemented in other regions of the nation.

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