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A Study on Factors Influencing Farmer Satisfaction with the Services of Farmer Producer Companies in Western Districts of Tamil Nadu

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

In order to establish policies and programmes that meet the requirements of small and marginal farmers, it is necessary to assess farmers' satisfaction with the quality of services provided by the Farmer Producer Companies. Main aim of this study was to figure out what characteristics influence farmers' satisfaction with the services provided by the Farmer Producer Companies. A structured interview schedule was used to collect data from a sample of 200 farmer members of Farmer Producer Companies in the western region of Tamil Nadu. Descriptive statistics, Likert scaling technique and a logistic-regression model were used to analyse the data. The results showed that farmers had highest level of satisfaction for the items like Norms, rules and regulations in joining the FPC with a mean of 4.22 and were less satisfied with the statement financial support rendered by the FPC to its members with a mean score of 1.88. The results of the binary logistic regression model revealed that education, farm size, farming experience and membership period positively influenced the farmer satisfaction in the service provided by the Farmer Producer Companies; but as age of the farmers increased, overall farmers satisfaction with the services provided by the FPCs decreased. The results also showed that variables like annual income, family type and crop diversity were not significant predictors of satisfaction. Results of this study would be helpful to identify and overcome the shortfalls in the existing activities and services rendered by the Farmer Producer Companies.

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1. INTRODUCTION

Agriculture and its related industries have been the only sector whose uncertainties have persisted for years with no proper meaningful response. Limited landholdings, economically poor status, outbreak of pests and diseases, high cost of supplying produce to consumers, high agency price, no fair returns from produce, and dealing with restraining factors are difficult for most of the farmers in India [1]. Global competition in agribusiness is increasing, posing a challenge to small farmers' ability to adapt to the new market trends. As a result of increased fragmentation, a greater proportion of farmers with small landholdings face a range of challenges in terms of credit, consumer access, modern retailing, and technological adoption. As a result, there is a pressing need to breathe new life into the crisis. One such effort is the emergence of farmer producer companies. Inability of the cooperatives to sell agricultural products, led to the establishment of Farmer Producer Companies to provide a better market by connecting all agribusiness stakeholders.

Producer organizations are structured rural organizations, whose members coordinate themselves through increased production, marketing, and processing efforts with the intent of enhancing farm income which works with policy aspects like pricing and exporting agricultural products [2]. Producer Company is a new approach to rectify the imperfect cooperative experience and react to the social requirements of grouping small and marginal farmers, reinforce their mutual control and incorporate their livelihoods into remunerative markets [3]. FPCs are a promising opportunity for farmers, to enhance their role in relationship with supermarket chains [4]. Farmer Producer Organisations are the means to bring small and marginal farmers together to build their own enterprise, managed by professionals and offer them to participate in the market effectively [5]. Majority of the farmer's reason for formation of producer companies was to get better price for their products through direct sale, thereby excluding the middleman [6].

As a result, hand-holding assistance for rural farmers through promotion of FPCs is required, which would pave way for small farmers to grow financially. This rewards agriculture and creates a better potential in the era of competition by

utilizing the advantages of economies of scale. As a result, small farmers becoming members of Farmer Producer Companies allow them to increase investment, bargain better, step up supply chain, and gain better access to technologies and market. On the whole, these farmer-led cooperatives must be encouraged to integrate the benefits of decentralised production with centralised utilities, post-harvest management, value adding, and marketing [7-8].

2. OBJECTIVES

This study aims to analyse the farmers' satisfaction towards farmer producer companies in the western region of Tamil Nadu.

1. To profile the socio economic characteristics of the farmer members of FPC;
2. To assess the level of satisfaction of sample farmers towards FPC;
3. To analyse the factors influencing farmers' satisfaction with the services rendered by the FPCs.

3. DATA AND METHODOLOGY

The study was conducted using a well-structured questionnaire to collect data from the farmer members of the FPCs. A total of ten FPCs were sampled for this study. Twenty farmer members from each FPC, summing to a total of 200 members were selected purposively for this study.

3.1 Descriptive Analysis

Descriptive analysis i.e. frequency, percentages, mean and standard deviation was used to study the general/ socio economic characteristics of the sample farmers i.e., age, education, annual income, family type, farm size, farming experience, crop diversity and membership period. The variables or attributes were first categorized and then calculated.

$$\text{Percentage Analysis} = \frac{\text{Number of respondents}}{\text{Total sample size}} \times 100$$

3.2 Likert Scaling Technique

Likert scale is survey instrument that asks for rating of the attributes from a range of possible responses. The scale was employed where the responses may fall anywhere between two

Table 1. Five Point Scale used for the Farmers Satisfaction Level

Particulars	Highly dissatisfied	Dissatisfied	Neutral	Satisfied	Highly Satisfied
Scale	1	2	3	4	5

Table 2. Definition of variables

S. No.	Variables	Measurement Description
1.	Age	Age of the farmer (Years)
2.	Education	Level of education of the farmer (1- Illiterate, 2- Primary, 3- Secondary, 4- Higher Secondary & 5- Graduate)
3.	Annual Income	Income (Rupees)
4.	Family Type	Farmers' family type (1- Nuclear; 0- Joint)
5.	Farm Size	Size of landholdings (Acres)
6.	Farming Experience	Farming Experience (Years)
7.	Crop Diversity	Varied of Crops (1-If yes; 0- if mono-cropping)
8.	Membership Period	Membership period in the FPC (1- if more than 4 years; 0- otherwise)
9.	Satisfaction	Farmers' Satisfaction (1- Yes; 0- No)

extremes [9]. The respondents were asked to rate their satisfaction level with various services provided by FPCs on a five point scale i.e. Highly Dissatisfied, Dissatisfied, Neutral, Satisfied, and Highly Satisfied. The score for each factor responses is given in Table 1.

3.3 Logit Regression Model

Logit model was employed to explore the factors influencing farmers' satisfaction (dependent variable). A model is appropriate where the dependent variable was found to be dichotomous, 1 if farmers had satisfaction and 0 otherwise. The independent variables in this study included those hypothesized to influence satisfaction with services of Farmer Producer Companies [10-11].

Logistic-regression model explains the determinants of satisfaction, and is empirically specified as given below:

$$SAT = \beta_0 + \beta_1 AGE + \beta_2 EDUC + \beta_3 INCOME + \beta_4 FAMTYPE + \beta_5 FSIZE + \beta_6 FEXP + \beta_7 CROPDIV + \beta_8 MEMPERIOD + \varepsilon$$

4. RESULTS AND DISCUSSION

4.1 Socio-economic Characteristics of the Sample Farmers

Most of the farmers (32.50%) belonged to the age group of 41 to 50 years, followed by 29 per cent of the sample between 51 to 60 years of

age. About 27.50 per cent of the farmers had primary level of education and 22 per cent of the farmers were found to be graduates. Most of the farmers (39%) of the farmers belonged to the income category ranging from Rs. 90,000 to Rs. 2,00,000; followed by 38 per cent who had an annual income of Rs. 2,00,000– Rs. 5,00,000.

Majority of the farmers (69.5%) had a nuclear type of family. With regard to farm size, 41.50 per cent of the sample owned between 4 to 10 acres of land, followed by 29 per cent of the sample owning more than 10 acres. Most (40.50%) of the sample farmers had rich experience in farming with 10 to 25 years. Majority of the farmers (84%) had cultivated a variety of crops on their farm and about 53 per cent of the farmers had more than 4 years of membership in Farmer Producer Companies.

4.2 Farmers Satisfaction towards Services Provided by FPCs

A pre-tested questionnaire was employed to collect data from the sample farmer members regarding their satisfaction towards the services provided by the Farmer Producer Companies. A total 20 items were selected from past studies and data was collected for the same. The highest mean score was given for the satisfaction statement - norms, rules and regulations in joining the FPCs (4.22), followed by service rendered by the administrative staffs (4.03),

quality and quantity of production after joining the FPC (3.79), market information provided (3.54), and FPC services reducing the cost of production was the least ranked statement with a mean of 3.41.

The lowest mean score was for financial support rendered by the FPCs to its members (1.88), FPCs facilitate to avail crop insurance (2.05), strategic alliances with the other organizations (2.41), marketing services rendered by the FPCs (2.53), extension outreach programs, study tours organized by the FPCs to gain exposure and increased production efficiency (2.79), and enhanced livelihood status of its members (2.85).

4.3 Factors Influencing the Satisfaction with FPC Services

Socioeconomic characteristics were hypothesized in the logistic-regression model (Table 5) to illustrate farmers' satisfaction with

the services rendered by the Farmer Producer Companies. The chi-squared value of 75.32 showed highly significant likelihood ratio statistics ($P < 0.01$), suggesting much variation in farmer satisfaction. Pseudo- R^2 was 0.29, indicating that the model shows good fit.

The findings in Table 5 show that age, education, farm size, farming experience and membership period were significant determinants of farmer satisfaction in regard to Farmer Producer Company services, while variables like annual income, family type and crop diversity were not significant predictors. Farmers' age had a significant negative impact on satisfaction, meaning that as they become older, they were less satisfied. Respondents' education significantly influenced the likelihood of satisfaction with the services of FPC i.e., one unit increase in educational qualification was associated with around 86 per cent of the odds of satisfaction.

Table 3. Socio-economic characteristics of the sample farmers

S.No	Characteristics	Category	Number of farmers	Percentage
1.	Age (Years)	Less than 30	13	6.50
		31-40	24	12.00
		41-50	65	32.50
		51-60	58	29.00
		More than 60	40	20.00
2.	Education	Illiterate	24	12.00
		Primary	55	27.50
		Secondary	39	19.50
		Higher Secondary	38	19.00
		Graduate	44	22.00
3.	Annual income (Rupees)	Less than 90,000	18	9.00
		90,001-200000	78	39.00
		200001 - 500000	76	38.00
		More than 500000	28	14.00
4.	Family Type	Nuclear	139	69.50
		Joint	61	30.50
5.	Farm Size (Acres)	Less than 2	9	4.50
		2 – 4	50	25.00
		4 – 10	83	41.50
		Above 10	58	29.00
6.	Farming Experience (Years)	Less than 10	67	33.50
		11 – 25	81	40.50
		More than 25	52	26.00
7.	Crop Diversity	Yes	168	84.00
		No	32	16.00
8.	Membership Period (Years)	Less than 4	106	53.00
		More than 4	94	47.00

Table 4. Statements regarding satisfaction towards FPC services

S. No.	Statements	Mean	Rank
1.	Norms, rules and regulations in joining the FPC	4.22	1
2.	Variety of services rendered by the FPC	3.20	10
3.	Transparency in FPCs' activities and services	3.30	7
4.	Financial support rendered by the FPC to its members	1.88	20
5.	FPC facilitate to avail crop insurance	2.05	19
6.	Price of inputs offered by the FPC	2.99	13
7.	Quantity and quality of inputs provided by FPC	3.05	11
8.	Market information provided by FPC	3.54	4
9.	Marketing services rendered by the FPC	2.53	17
10.	Level of processing and value addition done by the FPCs	2.93	14
11.	Members' participation in the decision-making process	3.03	12
12.	Administrative staffs in FPC	4.03	2
13.	Trainings conducted by the FPCs for skill development	3.23	9
14.	Programs conducted to enhance knowledge	3.32	6
15.	Extension outreach programs and study tours organized by the FPC to gain exposure, and increase production efficiency	2.79	16
16.	Quality and Quantity of production after joining the FPC	3.79	3
17.	FPCs services reduces the cost of production	3.41	5
18.	Cooperation and relationship with the member farmers of your FPC	3.27	8
19.	Strategic alliances with the other organizations	2.41	18
20.	Enhanced the livelihood status of its member	2.85	15

Table 5 Logistic regression of the factors influencing farmer satisfaction

Satisfaction	Coefficient	Std. Err.	z	P> z	Odds Ratio
Age	-0.07873	0.021403	-3.68	0.000	0.924293
Education	0.624044	0.159118	3.92	0.000	1.866461
Farmsize	0.094951	0.049089	1.93	0.053	1.099605
FamilyType	0.075512	0.447688	0.17	0.866	1.078436
FarmingExperience	0.783789	0.312773	2.51	0.012	2.189753
Income	2.53E-06	1.56E-06	1.63	0.104	1.000003
MembershipPeriod	1.050738	0.376012	2.79	0.005	2.859762
CropDiversity	-0.39878	0.493061	-0.81	0.419	0.671136

Farm size significantly influenced the likelihood of satisfaction; specifically an increase in farm size of one hectare was related to about 9 per cent of the odds of satisfaction when all other factors were kept constant. Furthermore, farmers' experience and tenure of membership had a major impact on their chances of being satisfied with the services provided by Farmer Producer Companies. Increase in experience and membership tenure of two units was linked to 18 per cent and 85 per cent of the chances of satisfaction, respectively.

5. CONCLUSION

This study examined the determinants of members' satisfaction with the activities of FPCs in the western region of Tamil Nadu using data collected from 200 farmers who were members of FPCs. The statements examined the level of

satisfaction in the services provided by FPC, and concluded that the farmers were satisfied with the norms, rules and regulations in joining the FPCs and were less satisfied with the financial support rendered by the FPC to its members. The study also explored factors explaining variation in the level of satisfaction of farmers with respect to the services of FPCs. Socio-economic factors like age of the farmer, level of education, annual income, family type, farm size, farming experience, membership period and crop diversity were considered to examine the extent of influence on satisfaction. Empirical results of the binary logistic regression model revealed that education, farm size, farming experience and membership period positively influenced farmer satisfaction with regard to FPC services. It was also found that as the age of farmers increased, the probability of overall farmer satisfaction decreased. The results also showed that

variables like annual income, family type and crop diversity were not significant predictors of satisfaction.

Credit facilitation services like arranging loans and crop insurance for its members should be focused more by the Farmer Producer Companies, as the farmers' level of satisfaction was low in this case. Government agencies can encourage financial services that meet their requirements through supporting measures. Members should be kept up to date on the actions and activities done by the FPCs on a regular basis, as it is a vital way to encourage their involvement and satisfaction. Relationships between FPCs and other organisations should be taken seriously by policymakers and agencies as they are the important channels for transferring services, information, technical knowledge, and marketing opportunities for members, all of which are important strategies for building a successful FPC.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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