



RESEARCH ARTICLE

## A Farmers Perception on Farmer Producer Organisation (FPO) and Extent of its Services to Farmers: A Case of DMillet

Gokul Vignesh. U<sup>1</sup>, Balaji P<sup>1</sup>, Venkatesa Palanichamy.N<sup>1</sup> and Ashok.K.R<sup>2</sup>

<sup>1</sup>Department of Agricultural and Rural Management, Tamil Nadu Agricultural University, Coimbatore-641 003.

<sup>2</sup>Central for Agricultural and Rural Development Studies, Tamil Nadu Agricultural University, Coimbatore - 641 003.

### ABSTRACT

Farmer producer companies can be considered as a hybrid between private companies and co-operatives (Trebbin 2014). The present study aims to identify the services provided by the FPO and also to analyze the member farmers' perception on FPO. The primary data was collected from a sample of 60 farmers. Data were collected using a pretested well-structured interview schedule. The services provided by the FPO were identified using Garrett Ranking Technique. The perception of farmers on FPO were identified using factor analysis. The results of the study revealed that the FPO provided price-related information and the farmers perceived that FPO provides service-related factors to the farmers

Received : 30<sup>th</sup> August, 2019

Revised : 12<sup>th</sup> September, 2019

Revised : 29<sup>th</sup> October, 2019

Accepted : 04<sup>th</sup> November, 2019

**Keywords:** FPO, Perception, Service.

Farmers' collectives such as co-operatives and farmer producer organizations emerged as alternatives for increasing market participation and reducing transaction costs through collective action (Markelova et al., 2009; Valentinov 2007). The farmer producer organization (Dharmapuri District Minor Millet Producer Company Limited) was established in 2015 under the guidance of the department of agricultural marketing in the district of Dharmapuri. There are about 1000 farmers in the FPO. The FPO provides technical assistance to the farmers, supplies inputs (seed and machineries) for rent at subsidized rates to the member farmers, Procured the produce from the farmers at the reasonable price while compared with open markets and also FPO engaged in the value addition of millets such as cookies, flour, sprouted flour, rice etc... They have their retail outlet at Pennagaram and also sells their products to other retailers in Hosur, Chennai and Coimbatore on a pre-order basis. The objective of the study is to identify the details of services provided by the FPO and also to analyze the perception of member farmers' on FPO.

### MATERIAL AND METHODS

The research was carried out in the Pennagaram block of the Dharmapuri District of Tamil Nadu. The Farmer Producer Organization namely Dharmapuri District Minor Millet Farmers Producers Company Ltd, was established in the year 2015 with registered member farmers of about 1000 in the surrounding villages and supporting them in the cultivation of various crops particularly millets. The primary

data was collected using pretested well-structured interview schedule by personal interview. The survey was conducted in villages of Pennagaram block namely Arangapuram, Ballinjarahalli, Gowrisettipatty, Kadamadai, Mamarathupallam, and Sigaralahalli. A total of 60 farmers with the Farmer Producer Organization and three retailers of the Farmer Producer Organization were selected for this study. The stakeholders were interviewed using a separate interview schedule.

### Factor Analysis

Mathematically, factor analysis explains the relationship between the k variables. The formula used for the factor analysis is given below,

The general form of a factor is,

$$F = X_1 + X_2 + \dots + X_k$$

Factor loadings = correlation of each variable with the underlying factor

Factor score = subject response x-factor loadings

In this study, factor analysis was used to identify the perception of farmers on the Farmer Producer Organization namely "Dharmapuri District Millet Farmers Producers Company Ltd". The interrelationship between large numbers of variables can be determined and grouped under dimensions by the factor analysis. To test the sampling adequacy, the Kaiser-Meyer-Olkin measure of sampling adequacy was calculated. The Varimax normalized rotation method was used to find a new factor. The variables with commonalities of greater

than 0.60 were obtained. The factor with Eigenvalue greater than 1.0 was considered and analysis was carried out.

Garrett's Ranking Technique was used to rank each other factor and those ranks were converted into per cent position by using the following formula,

Where,

$$\text{Per Cent Position} = \frac{100 \times (R_{ij} - 0.5)}{N_j}$$

$R_{ij}$  - Ranking given to the  $i^{\text{th}}$  attribute by the  $j^{\text{th}}$  individual

$N_j$  - Number of attributes ranked by the  $j^{\text{th}}$  individual.

By referring to Garrett's table, the per cent positions estimated were converted into scores. Thus, for each factor, the scores of various

respondents were added and the mean values were estimated. The mean values thus obtained for each of the attributes were arranged in descending order. The attributes with the highest mean value were considered as the most important service provided by the FPO and the others followed in that order.

## RESULTS AND DISCUSSION

### Socio-Economic Characteristics of the Sample Farmers

From Table 1., it could be seen that the majority of the farmers belonged to the middle age groups' viz., age group of 41-60 (60.00) and as of education nearly 38.33 percent of the farmers were of with primary education. Most of the farmers had agriculture and allied activities such as livestock and goat, sheep rearing as their primary occupation. Around 85 per cent of the farmers come under the small and the marginal farmer category.

**Table 1. Socio- economic characteristics of the sample farmers (n= 60)**

Factors	Respondents(in numbers)	Percentage(%)
<b>Age (years)</b>		
<30	5	8.33
31-40	13	21.67
41-50	24	40.00
51-60	12	20.00
>61	6	10.00
<b>Education Status</b>		
Primary	23	38.33
High school	19	31.67
Higher secondary	10	16.67
Diploma/graduate	8	13.33
<b>Annual income (Rs.)</b>		
<1,00,000	19	31.67
1,00,001 – 2,00,000	16	26.67
2,00,001 – 4,00,000	14	23.33
>4,00,001	11	18.33
<b>Family size (in numbers)</b>		
Less than 4	17	28.33
4-5	34	56.67
More than 5	9	15.00
<b>Farming experience (years)</b>		
<10	3	5.00
11-20	13	21.67
21-30	28	46.67
>30	16	26.66
<b>Land holding</b>		
Marginal farms (<1 hec)	31	51.67
Small farms (1-2 hec)	20	33.33
Medium farms (2-4 hec)	9	15.00

### Perception of Member Farmers on FPO

Reliability statistics was used to analyze the originality of the data. The Cronbach's Alpha was 0.933. Kaiser-Meyer -Olkin (KMO) measures of sampling adequacy and Bartlett's test of sphericity were used to test the adequacy of the data and are presented in Table 2.

**Table 2. KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy		0.800
Bartlett's Test of Sphericity	Approx. Chi-Square	839.59
	Df	190
	Significance	0.000

KMO measure of sampling adequacy was 0.800. The data reduction was effective as values over 0.6 indicate the suitability of the data. The Kaiser-Meyer-Olkin (KMO) and Bartlett's test, measures the strength

**Table 3. Total Variance Explained**

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	Variance (%)	Cumulative (%)	Total	Variance (%)	Cumulative (%)	Total	Variance (%)	Cumulative (%)
1	8.999	44.995	44.995	8.999	44.995	44.995	3.700	18.501	18.501
2	1.735	8.674	53.670	1.735	8.674	53.670	3.596	17.982	36.483
3	1.411	7.053	60.722	1.411	7.053	60.722	2.805	14.023	50.506
4	1.246	6.231	66.953	1.246	6.231	66.953	2.202	11.009	61.514
5	1.096	5.482	72.435	1.096	5.482	72.435	2.184	10.921	72.435
6	.970	4.852	77.288	-	-	-	-	-	-
7	.713	3.567	80.855	-	-	-	-	-	-
8	.630	3.148	84.003	-	-	-	-	-	-
9	.567	2.833	86.836	-	-	-	-	-	-
10	.524	2.619	89.455	-	-	-	-	-	-
11	.418	2.091	91.546	-	-	-	-	-	-
12	.341	1.706	93.252	-	-	-	-	-	-
13	.326	1.631	94.882	-	-	-	-	-	-
14	.275	1.376	96.258	-	-	-	-	-	-
15	.207	1.037	97.295	-	-	-	-	-	-
16	.156	.780	98.074	-	-	-	-	-	-
17	.146	.732	98.806	-	-	-	-	-	-
18	.121	.604	99.411	-	-	-	-	-	-
19	.082	.412	99.823	-	-	-	-	-	-
20	.035	.177	100.000	-	-	-	-	-	-

From the Table 4, it could be inferred that Factor (1) had four variables loading namely 'FPO provides marketing and input service' (0.763), 'FPO enabled awareness on value addition' (0.750), 'FPO helps to improve profit' (0.687) and 'FPO makes way for easy access to subsidy' (0.648) and the factor was named as "Service Factor". The farmers perceived that the FPO had provided several services to the farmers to improve the profit. Factor (2) showed high loading on three variables such as 'Better communication between FPO and Farmers' (0.838), 'FPO makes way to interact with other farmers' (0.790) and 'Decisions are taken with knowledge of FPO and farmers' and the variables were named as "Interactive". Factor (3) showed loading on four attributes such as 'FPO cannot sustain without Government' (0.788), 'FPO had mutual relationship with government department' (0.753), 'FPO had mutual relationship

of the relationship among the variables. KMO is used for assessing the sampling adequacy and evaluate the correlation and Partial correlation to determine if the data are likely to correlate or not on factors. The KMO measures the sampling adequacy which should be greater than 0.5 for satisfactory factor analysis. The Barlette text evaluate whether or not the correlation matrix is an identity matrix that is 1 on the diagonal and 0 on the off-diagonal

Varimax rotation was applied for the 20 variables. The factor loading of the 20 variables were observed and grouped into five factors. A total of five factors with Eigenvalue more than one were extracted in the first iteration. The factors explained the total variance of 72.43 per cent. The factor loadings of the factors greater than 0.6 were considered significant.

From the Table 3, it could be inferred that the total variance explained by the five factors were 72.435 per cent.

with Agricultural University' (0.707), 'FPO had mutual relationship with traders' (0.646) and it was termed as "Participatory" of FPO with others. Factor (4) showed loading on two variables such as 'All farmers are treated equally' (0.883) and 'FPO accepted farmers' suggestion' (0.819), the variables were named as "Priority" of FPO to farmers. Factor (5) showed loadings on two variables such as 'No political Involvement' (0.856) and 'FPO conducts meeting democratically' (0.855), these were named as "Transparency" of the FPO. It could be concluded as the farmers perceived that FPO had provided services to the farmers such as input and marketing services. Farmers also perceived that FPO had better interaction with the farmers and had encouraged the farmers. FPO also had a better participatory relationship with the resource institutes. It had given priority to the farmers and are transparent with them without any political involvement.

**Table 4. Rotated Component Matrix of Farmers Perception**

Variables	Factor loadings				
	Service factor	Interactive	Participatory	Priority	Transparency
FPO provides marketing and input service	0.763	-	-	-	-
FPO enabled awareness on value addition	0.750	-	-	-	-
FPO helped to improve profit	0.687	-	-	-	-
FPO makes way for easy access to subsidy	0.648	-	-	-	-
Better communication between FPO and Farmers	-	0.838	-	-	-
FPO makes way to interact with other farmers	-	0.790	-	-	-
Decisions were taken with knowledge of FPO and farmers	-	0.744	-	-	-
FPO cannot sustain without Government	-	-	0.788	-	-
FPO had mutual relationship with government department	-	-	0.753	-	-
FPO had mutual relationship with Agricultural university	-	-	0.707	-	-
FPO had mutual relationship with Traders	-	-	0.646	-	-
All farmers are treated equally	-	-	-	0.883	-
FPO accepted farmers suggestion	-	-	-	0.819	-
No political Involvement	-	-	-	-	0.856
FPO conducts meeting democratically	-	-	-	-	0.855

Extraction method: Principal Component Analysis; Rotation Method: Varimax with Kaiser Normalization; Rotation converged in 6 iterations.

**Importance of Farmers Perception on FPO**

From the Table 5, it could be inferred that the farmer perceived the FPO mainly as a service factor such as provides marketing and input service,

enables awareness on value addition, helps to improve profit, makes way for easy access to subsidy were found to be four attributes and followed by FPO Interactive process having three attributes,

**Table 5. Importance of farmers perception on FPO**

S.No	Particulars	No.of Attributes	Eigen Value	% of Variance	Cumulative % of Variance
1	Service factor	4	8.999	44.995	44.995
2	Interactive	3	1.735	8.674	53.670
3	Participatory	4	1.411	7.053	60.722
4	Priority	2	1.246	6.231	66.953
5	Transparency	2	1.096	5.482	72.435

Participatory having four attributes, Priority having two attributes, Transparency having two

attributes. The attributes had mentioned in Table 4. The cumulative variance of the variables were presented in the Table 6.

**Table 6. Farmers Perception on FPO**

S.No	Factors	Farmers Perception on FPO	Component	Cumulative Variance Explained (%)
1	Service factor	FPO provides marketing and input service	.763	44.995
		FPO enabled awareness on value addition	.750	
		FPO helped to improve profit	.687	
		FPO makes way for easy access to subsidy	.648	
2	Interactive	Better communication between FPO and Farmers	.838	53.670
		FPO makes way to interact with other farmers	.790	
		Decisions were taken with knowledge of FPO and farmers	.744	
3	Participatory	FPO cannot sustain without Government	.788	60.722
		FPO had a mutual relationship with the government department	.753	
		FPO had a mutual relationship with Agricultural university	.707	
		FPO had a mutual relationship with Traders	.646	
4	Priority	FPO accepted farmers suggestion	.883	66.953
		No political Involvement	.819	
5	Transparency	No political Involvement	.856	72.435
		FPO conducts meeting democratically	.855	

## SERVICES PROVIDED BY THE FPO

### **Dissemination of Price related Information**

The FPO helped the farmers by disseminating the price at different markets so as to make a timely decision in order to obtain maximum monetary benefits from their produce. The FPO provided price-related information to the farmers under the guidance of the Department of Agricultural Marketing and Agribusiness.

### **Information related to Inputs**

The input related information are being provided by the FPO to the farmers with assistance from the Department of Agriculture and the KVK, Pappalapatti.

### **Information related to Subsidy**

The subsidy related information is provided with the assistance of the Department of Agriculture and the Department of Agricultural Marketing and Agribusiness.

### **Information related to Technology**

The technology-related information is disseminated with the help of the Department of Agricultural Engineering and with assistance from TNAU.

### **Capacity Building Training to the Farmers**

The training were conducted to the farmers on value addition and other farming based training with the technical guidance of resource persons from KVK, Pappalapatti, and officials from the Department of Agriculture

From the Table 7, it could be inferred that the FPO farmers were provided with the Training on dissemination of price-related information which has gained the Garette's Mean Score value of 88 and stood first among all other services such as information related to inputs(85.62), Subsidy related information(86.88), Technology related

information(79.62), Market and dealers related information(79.40) and conducts training to the farmer members(78.42).

**Table 7. Services Provided by the FPO**

Services Provided by the FPO	Garett's Mean score	Rank
Dissemination of Price related information	88.07	I
Information related to Inputs	85.62	II
Information related to Subsidy	86.88	III
Information related to Technology	79.62	IV
Information related to Market and dealers	79.40	V
Capacity building training to the farmers	78.42	VI

The FPO provided price-related information to the farmers under the guidance of the Department of Agricultural Marketing and training were conducted to the farmers on value addition and other farming based training with the technical guidance of resource persons from KVK, Pappalapatti and officials from the Department of Agriculture. The technology-related information was provided with the help of Tamil Nadu Agricultural University.

## CONCLUSION

Based on the results of the study, it could be inferred that the FPO helps the farmers by disseminating the price details and also on the information related to the inputs. The member farmers of the FPO namely Dharmapuri District Minor Millet Producer Company Limited perceived that the FPO had provided several services to the farmers to improve the profit.

## REFERENCES

- Trebbin, A. (2014). Linking small farmers to modern retail through producer organizations—Experiences with producer companies in India. *Food policy*, **45**: 35-44.
- Valentinov, (2007). Why are co-operatives important in agriculture? An organizational economic perspective. *Journal of Institutional Economics*. **3(1)**: 55-69