



# Factors Contributing to the Performance of Farmer Producer Organizations (FPOs) – a Study in Medak District of Telangana State

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**Data Availability Statement:** Legal restrictions are imposed on the public sharing of raw data. However, authors have full right to transfer or share the data in raw form upon request subject to either meeting the conditions of the original consents and the original research study. Further, access of data needs to meet whether the user complies with the ethical and legal obligations as data controllers to allow for secondary use of the data outside of the original study.

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## Abstract

A study was conducted on the performance of FPOs and the factors contributing to performance of FPOs in Medak district of Telangana State, India. Three FPOs were selected randomly from 3 different promoting institutes viz., Suraksha Farmers Producer Company Ltd (SFPCL) promoted by independent research organization Centre for Sustainable Agriculture (CSA), Marpalli Kisan Kranthi Producer Company Ltd (MKKPCL) promoted by Vrutti NGO and Siddipet Kisan Agro Farmers Producer Company Ltd (SKAFPCL) promoted by International Crops Research Institute for the Semi-arid Tropics (ICRISAT). The Ex-post facto research design was adopted for the study with a sample of 90 producer members, covering three FPOs in erstwhile Medak district of Telangana State. From the analysis, it was found that overall performance of FPOs in Medak district was average to poor. The factors viz., education, group leadership, group communication, adherence to rules, group participation, and team spirit had showed positive and significant relationship with performance. The results of regression analysis inferred that all the selected twelve factors put together explained the variation to the extent of 72.47% in the performance of the FPO with leadership of officials and participation of members contributing significantly to the performance of FPOs.

**Keywords:** Farmer producer organizations (FPOs), Performance, Factors, Medak

## 1. Introduction

In India, small and marginal farmers (less than 2 ha) constituted (86.21%) of operational holding and (47.34%) of operated area (Anonymous 2015-16). Small and marginal farmers constitute the largest group of cultivators in Indian agriculture; 85% of operated holdings are smaller than or about two hectares and amongst these holdings, 66% are less than one hectare (Singh, 2012). While small and marginal farmers have the advantage of intensive knowledge of local agriculture and low cost access to family labour, they also suffer the disadvantages of high transaction costs in terms of nearly all transactions which are of non-labour nature (Poulton et al., 2010). Inability to access credit and insurance services and vulnerability to vagaries of the climate, pests and other risks further complicate the picture of small and marginal farmers (Anonymous, 2008). Recently, greater import competition

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has added to the difficulties of the smallholders in India (Desai and Joshi, 2014). Agriculture sector is facing a rapidly overflowing basket of challenges. Population has increased 3.5 times from 350 million in 1947 to 1.22 billion in 2012 hence demand for food has increased while total cultivable land has shrunk. The grain area per person has been shrinking steadily for several decades from 0.22 ha in 1950 to 0.10 ha in 2010 and it is projected to be as less as 0.06 ha per person in 2050 (Larsen, 2003). Indian farmer's market inefficiency reduces the producers share and less remunerative prices for their produce. Wide extension workers to farmer ratio, i.e. 1:5000 (Ragasa et al., 2013), bureaucratic and administrative workload and financial constraints has made the public extension services as supply driven rather than demand driven (Anonymous, 1989, Sulaiman et al., 2005). The role of public agricultural extension service has traditionally been providing the important link between agricultural research and farming communities, especially for technology transfer in support of agricultural and rural development (Anonymous, 2007). Most of the developing countries are now experiencing paradigm shift from subsistence agriculture to commercial agri-business (Mukherjee et al., 2012). In this scenario, as a market development initiative, farmer groups were formed to enable member-farmers to reap the benefits of economies of scale in purchase of inputs, processing and marketing of their produce. There is a rising optimism that the farmers organizations can act as a potential driving force for agricultural and rural development. Farmers' organizations are working as 'engines' of development that can uphold the pennon of development even ahead of local level, offering benefits to the rest of society (Blokland and Goue, 2007). FPO was the very recent concept in India and created through Indian Companies act, 1956 and act passed in parliament and became the legal entity on 2002. The main purpose of FPOs to leveraging collectives through economies of scale in production and marketing of agricultural and allied sector by strengthening the support and services in the emerging value chains (Anonymous 2020). Many FPCs formed under the new law do not have the organising logic like the value-addition model like AMUL. Notably, most FPCs were formed under some Government programme or the other, which offered to cover the promotional cost incurred by the promoting NGO (Shah, 2016).

The success of producer companies depends on the farmers' commitment, integrity and quality of the leadership, its acceptance within the community, as well as the market environment (Sawairam, 2014). Majority of FPOs in the country primarily deal with marketing and input supply services but after their success they tend to widen their market opportunities by entering into processing and value addition. (Venkattakumar et al., 2019). Around 25% of FPOs are engaged in post harvest processing and about 20% FPOs apply organic production methods (Trebbin, 2014). Among 273 FPOs in Telangna, 72 FPOs formed under PRODUCE fund of NABARD where taken in to consideration as they were functioning over

five years. Among these 72 FPOs Medak district having highest number was selected. The main objective of the study is to identify the factors contributing for the performance of the selected FPOs. The null hypothesis of the study is that there will be no relationship between the factors and performance of the FPOs.

## 2. Materials and Methods

An *Ex-post-facto* research design was adopted for the study and an *Ex-post-facto* research design is a systematic empirical enquiry in which the dependent variables have not been directly manipulated because they have already occurred or they are inherently not manipulated. *Ex-post-facto* studies can be devised to identify behavioral phenomenon and to explore conditions under which a phenomenon occurs. Keeping in view of the type of variables under consideration, size of respondents and phenomenon to be studied, the *ex-post-facto* research design was selected as an appropriate research design to investigate the variables. Three FPOs were selected randomly from 3 different promoting institutes working in the Medak district, Telangana State, India. Medak, one of the Western districts of Telangana lies approximately between 17°27' to 18°19' North Latitudes and 77°28' to 79°10' East Longitudes. The district is bounded on the North by Nizamabad and Karimnagar, East by Warangal and Nalgonda, South by Rangareddy district and West by Karnataka State. The total area of the district is 2,765 Sq. Km and ranks 16<sup>th</sup> position contributing about 3.53 % area of the State. The shape of the district is rectangular from West to East. Suraksha Farmers Producer Company Ltd (SFPCL) promoted by independent research organization Centre for Sustainable Agriculture (CSA), Marpalli Kisan Kranthi Producer Company Ltd (MKKPCL) promoted by Vrutti NGO and Siddipet Kisan Agro Farmers Producer Company Ltd (SKAFPCL) promoted by International Crops Research Institute for the Semi-arid Tropics (ICRISAT) were the three FPOs selected for the study. From each of the selected FPO, thirty farmers were selected by following random sampling procedure. The sample constituted to a total of 90 producer members.

The field investigation was carried out during the year 2020. The data was collected by administering the structured interview schedule to the respondents. The questions were asked in local language i.e. Telugu. The respondents were personally interviewed by the investigator which helped in getting first hand information and gave an opportunity to observe the respondents personally. The response of each respondent was recorded in the interview schedule with due care. Every effort was made to check and cross check the data collected from all the sample respondents. Friendly atmosphere was maintained during the interview to see that the respondents were at ease and expressed their opinions freely, fairly and frankly.

To measure the performance of the FPOs, which is one of the criteria by which the effectiveness of an organization,



institution or a group is measured. Bernard et al. (2008) defined performance of village organizations as the “effectiveness of serving their members,” which they measured by the percentage of members who are said to have benefited from these organizations. It is operationally defined for this study as perceived effectiveness of services provided by FPOs to its members. It was measured with the help of index developed for the study. Performance of FPOs was worked out using the selected indicators. Each indicator to study performance consisted unequal number of statements and hence their range of scores was different and therefore, the scores of all the five indicators were normalized. The obtained index value ranged from 0 to 1. Based on these index values the FPOs were classified into different level of performance i.e. poor performance, average performance, good performance and excellent performance based on the range value obtained. The respondents were classified into four categories by adopting inclusive class interval as mentioned below.

Sl. No.	Category	Index value
1.	Poor performance	0.42-0.51
2.	Average performance	0.51-0.60
3.	Good performance	0.60-0.68
4.	Excellent performance	0.68-0.75

Further in the present study an attempt was made to study the factors contributing to performance, twelve factors were identified and grouped into three categories based on review of literature. Three board categories of factors namely group composition, governance and management and membership commitment were identified for studying the factors contributing to the performance of the FPOs. Under each category few factors were identified based on the literature and in consultation with the subject experts. Under group composition category factors like, age, education, caste, land holding, farming experience, farm income, under governance and management category group leadership, group communication, adherence to rules factors and group participation, group cohesiveness and team spirit were studied under membership commitment category.

In order to study the nature of relationship between the factors and performance of the FPOs, regression analysis was employed to find out the contribution (or) influence of various factors on performance of FPO and multiple linear regression was used to find out the relative contribution of each of the significant factor with performance of farmer producer organizations. The data collected was analyzed and interpretations were drawn based on results. The statistical techniques correlation and multiple linear regression analysis were followed for analyzing data using Statistical Package for Social Sciences (SPSS) software.

The device used for collecting data in the present study was interview schedule. Keeping in view of the specific objective and different variables included in the study, a structured

and comprehensive interview schedule was developed in consultation with experts in the field of agricultural extension. Before giving a final shape to the interview schedule the schedule was pre tested with 30 respondents including members and officials of FPO named Araka Farmer Producer Company Limited (AFPC) located in Parigi mandal, Vikarabad District. Schedule was pre tested in Bomraspet village with members and officials actively participating in FPO. After pre testing the interview schedule was standardised and used for final data collection. To convert the results into findings few statistical tests as mentioned above were used for analyzing and interpretation of the data.

### 3. Results and Discussion

The data was collected from the members on the selected factors grouped under group composition, governance and management and membership commitment were analyzed, and correlated with the performance of the FPOs in order to assess the relationship between the factors and performance of FPOs.

#### 3.1. Performance of the FPOs

On the basis of review of literature and discussion with experts, a list of indicators relevant to measure performance of FPOs was prepared. The experts were requested to indicate whether each of the indicators selected was relevant and suitable for inclusion in the Index to measure performance of FPOs. They were also requested to add new indicators if any which tend to measure the performance. The responses were received from 30 judges and were quantified for calculation of relevancy scores which ranged from 0.58 to 0.91, the details were furnished here under.

Relevancy rating score for the indicators to measure performance of FPOs		
Sl. No.	Indicator	Score
1.	Marketing services	0.91
2.	Financial services	0.83
3.	Group leadership	0.72
4.	Social factors	0.76
6.	Technical services	0.85
7.	Group decision making	0.58
8.	Group cohesiveness	0.74
9.	Networking services	0.85
10.	Input supply services	0.88
11.	Infrastructure support	0.73

The indicators which got relevancy rating 0.80 above (more than 80 per cent of judges indicating the relevancy of the indicators) were selected for the study. The following indicators were selected to study the performance of FPOs

- i. Technical services

- ii. Input supply services
- iii. Marketing services
- iv. Networking services
- v. Financial services

Based on the performance indicators, the FPOs were categorized into four categories namely poor, average, good and excellent by using indicator wise total scores obtained on Performance Index. The results are presented in table 1. An over view of the Table 1, revealed that, on the whole, majority (34.44%) of respondents perceived the performance

of FPOs as average, followed by poor (33.33%), good (27.77%) and excellent (4.44%).

From the results in Table 1, it could be concluded that SFPCCL was rated as average whereas, MKKPCL as poor performing FPO and SKAFPCL as good performing FPO. This can be attributed to the institutional support received by the FPOs from their POPIs. Overall the performance of FPOs was average to poor. This was due to insufficient knowledge on the business concept of FPOs among farmers and their inability to generate capital to do activities and provide service to their members.

Table 1: Distribution of FPOs based on their performance as perceived by the respondents (n=90)

Sl. No.	Category	SFPCCL		MKKPCL		SKAFPCL		Total	
		F	P	F	P	F	P	F	P
1.	Poor (0.42-0.51)	9	30.00	16	53.33	5	16.67	30	33.33
2.	Average (0.51-0.60)	13	43.33	9	30.00	9	30.00	31	34.44
3.	Good (0.60-0.68)	7	23.33	5	16.67	13	43.33	25	27.77
4.	Excellent (0.68-0.75)	1	3.33	0	0	3	10.00	4	4.44
	Total	30	100	30	100	30	100	90	100

FPO wise performance revealed that the FPO promoted by the ICRIASAT was perceived as a good performing FPO to average which signifies their high external linkages, group leadership, high frequency of group participation, team spirit, training opportunities which helped the FPO to perform good than compared to other FPOs promoted by CSA and Vrutti. In case of FPO promoted by Vrutti NGO the poor performance could be attributed to their poor leadership, group participation, team spirit and training opportunities. The performance of FPO promoted by CSA was found to be average to poor, this could be because of their poor leadership abilities, team spirit and group participation, high cohesiveness among members and their restriction to limit their services focusing on organic farming.

### 3.2. Relationship between the factors and performance of the FPOs

It is revealed from the Table 2, the calculated 'r' value of SFPCCL for the variables group leadership, group communication, adherence to rules, group cohesiveness and team spirit were greater than table 'r' value at 0.01 level of probability. In case of MKKPCL the calculated 'r' value for the variables group leadership, group communication, adherence to rules and group participation were greater than the table 'r' value at 0.01 level of probability where as calculated 'r' value for the variable age was greater than table 'r' value at 0.05 level of probability. In case of SKAFPCL the calculated 'r' value for the variables age, education, farm income, group leadership, group communication, adherence to rules, group participation, group cohesiveness and team spirit were greater than table 'r' value at 0.01 level of probability. On the whole it could be noticed that the calculated 'r' value for the variables age, education, farm income, group leadership, group

Table 2: Relationship between factors with Performance. (n =90)

Sl. No.	Selected factors	S F P C L (r) value	MKKPCL (r) value	SKAFPCL (r) value	FPO (r) value
<b>Group composition</b>					
1.	Age	0.110 <sup>NS</sup>	-0.374*	-0.513**	-0.325**
2.	Education	0.218 <sup>NS</sup>	0.268 <sup>NS</sup>	0.569**	0.343**
3.	Caste	0.161 <sup>NS</sup>	0.587 <sup>NS</sup>	-0.152 <sup>NS</sup>	0.146 <sup>NS</sup>
4.	Land holding	0.233 <sup>NS</sup>	0.142 <sup>NS</sup>	0.334 <sup>NS</sup>	0.192 <sup>NS</sup>
5.	Farming experience	0.165 <sup>NS</sup>	0.100 <sup>NS</sup>	-0.461 <sup>NS</sup>	-0.256 <sup>NS</sup>
6.	Income	0.136 <sup>NS</sup>	0.303 <sup>NS</sup>	0.622**	0.376**
<b>Governance and management</b>					
7.	Group leadership	0.630**	0.684**	0.712**	0.707**
8.	Group communication	0.603**	0.684**	0.712**	0.708**
9.	Adhering to rules	0.490**	0.573**	0.664**	0.639**
<b>Membership commitment</b>					
10.	Group participation	0.133 <sup>NS</sup>	0.684**	0.555**	0.518**
11.	Group cohesiveness	0.630**	0.108 <sup>NS</sup>	0.648**	0.447**
12.	Team spirit	0.587**	0.108 <sup>NS</sup>	0.696**	0.457**

\*\* : Significant at ( $p=0.01$ ) level; \* : Significant at ( $p=0.05$ ) level; NS: Non significant





communication, adherence to rules, group participation, group cohesiveness and team spirit were greater than table 'r' value at 0.01 level of probability.

It could be inferred that there was a significant relationship between the selected factors and performance of the FPOs. Whereas variables like caste, land holding and farming experience had non-significant relationship with the performance of FPOs. A reason for this type of pattern can be attributed to services provided by FPOs doesn't depend on land size of member but on their interest in availing the benefits. As FPOs main concept was to transform farming into a business mode and realize more benefits for farmers, the farming experience of members doesn't concern to their knowledge on business activities hence it showed negative non significant relation with performance. It can also be inferred that young aged members tend to participate in FPO activities more pro actively than old aged members resulting in high group participation and communication, which explained the reason for negative significant relationship of age with performance.

It could be inferred from the results that the governance and management and membership commitment factors of the FPO had more significant and positive relationship with the performance of the FPO than the group composition factors except of age which is negatively significant and education positively significant. Hence building up the FPO with young and educated members with strong leadership, adherence to rules, group participation, team spirit and group communication characteristics helps in developing the good performing FPOs. Empowerment analysis done using the criteria of ≥75% of maximum attainable score showed significant differences between the empowerment status of SHG and non-SHG farmers. About 62% of SHG farmers found empowered because of their participation in SHGs whereas very few (2%) of the non-SHG farmers showed empowerment (Shinogi et al., 2017). The results were in conformity with Anika and Markus (2012) and Venkattakumar *et al.*, (2019), who reported that, socio- economic variables like age of the household head, education and landholdings were found to be significant at 1%.

### 3.3. Contribution of selected factors to performance of the FPOs

Further regression analysis was done to delineate the factors contributing to performance of FPOs. On the whole it could be observed from the Table 3 that, the selected independent variables such as age, education, caste, land holding, farming experience, farm income, group leadership, group communication, adherence to rules, group participation, group cohesiveness and team spirit together explained the variation to the extent of 72.47%. The unexplained variation to the extent of 27.53% may be attributed by the variables which were not included in the study. The 'F' value 12.603 was found to be showing significant variation. Group

Table 3: Multiple linear regression analysis of factors with performance (n =90)

Sl. No.	Selected factors	't' Value
<u>Group composition</u>		
1.	Age	-1.320
2.	Education	0.312
3.	Caste	1.108
4.	Land holding	1.997
5.	Farming experience	0.272
6.	Income	0.196
<u>Governance and management</u>		
7.	Group leadership	2.708**
8.	Group communication	1.963*
9.	Adhering to rules	1.832*
<u>Membership commitment</u>		
10.	Group participation	2.370**
11.	Group cohesiveness	1.601
12.	Team spirit	1.978*

F value= 12.603; R<sup>2</sup>=0.7247; \*\*: Significance at (p=0.01) level; \*: Significant and (p=0.05) level of probability

leadership and group participation were most important determinants of performance of FPOs, since it was most visible and tangible aspect that made variation in the performance of FPOs at 1% level of significance and adhering to rules, group communication and team spirit among the members significantly contributed for the variation in performance of FPOs at 5% level of significance. Hence null hypothesis was rejected and empirical hypothesis was accepted.

From the results it could be inferred that strong Governance and management, membership commitment were playing a significant role in influencing the performance of FPOs as with the strong leadership, presence of strong internal governance rules and good communication within the organization can enhance the performance of producer organizations. While members' participation and their team spirit in the FPO activities which make them aware with the benefits of the FPO and in turn increase the performance of the FPO. Hence this variable out of the 12 independent variables found be strong and positive predictor of performance of the FPO. The results were in conformity with Ragasa and Jennifer (2012) who reported that, Governance and management are found to be significant factors affecting the performance of RPOs and the presence of governance rules and registration as a legal entity are positive and have a significant effect on performance. The results were also supported by Catherine and Jennifer (2012) who concluded that membership commitment was highly and positively correlated with performance of rural producer organizations and in order to sustain financial

contributions from members and operations of rural producer organizations, support would have to focus on the economic viability and increasing incomes for the members. Marketing training and extension approaches, including training on value chain approaches, is the important strategy for supporting rural producer organizations. The study results of Sautier and Bienabe (2005) also supported that farmers organizations require effective communication channels to access policy and market related information from both within the country and worldwide, disseminate within the beneficiaries and other organizations of the same nature. The study conducted by Devi et al. (2020) also proposed a strategy to create awareness among the members of FPOs is the need of the hour. The member has to realize the strengths of the organization and utilize the existing opportunity in decision making and move forward towards better standard of living by means of eliminating the middlemen, dependency on private money lenders, colluded traders and unorganized marketing practices.

#### 4. Conclusion

A significant relationship existed between the factors and performance of the FPOs. Major determinants influencing the performance of the FPOs were leadership of the officials and members participation in FPOs. The government can take steps to mobilize young and educated farmers who can actively participate in FPOs. The FPOs strengths realized members utilize the opportunity in decision making and move forward towards better standard of living. The unique interventions of the FPOs may be extracted and popularized for adoption by other FPO's as well.

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