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Determinants of Performance and Constraints Faced by Farmer Producer Organizations (FPOs) in India

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ABSTRACT

Farmer Producer Organization (FPO) is believed to improve the livelihood of farmers by collectivizing them for input purchase and providing forward linkage. In order to understand the determinants of performance and the constraints faced by them, the study was undertaken by surveying 125 FPOs of Andhra Pradesh, Madhya Pradesh, Telangana, Maharashtra and Uttar Pradesh during April-August 2022. It was found that most of the FPOs are engaged in input supply followed by produce aggregation. The FPOs with more number of enterprising activities were able to achieve higher turnover and better net profit. Multiple regression was used to identify the determinants of paid-up capital and turnover of FPO. Members number, BOD size and years of existence were found to be the determinants of paid-up capital of FPO. Paid-up capital was found to be significant predictor of turnover of FPO. Capital requirement was found to be the biggest constraint faced by FPO in achieving better performance. It was concluded that for increasing the turnover, the FPO should focus on increasing the paid-up capital as paid-up capital can be used for scaling up and expanding the business. Extending capital loan as well as working capital loan to FPO should be made easy.

INTRODUCTION

Farmer Producer Organization (FPO) is considered to be an institution which has provision for sharing of profits/ benefits among the members (Adhikari et al., 2021). It is found to improve the livelihood of farmers by collectivizing them for input purchase and providing forward linkage. Hence, the number of FPO is increasing over the year. By participating in FPO, farmers experience advantages like avoiding market risk; access to extension and technical knowhow, improved inputs, credit, storage and processing facilities (Singh & Vatta, 2019). FPO success, however, depends on the farmers' commitment to the organization (Sawairam, 2015). Backward linkage having provision for seeds, fertilizer, pesticide, extension and other advisory service, credit and insurance; and forward linkage having provision for collective marketing, processing, and market-led agriculture production are the basic purpose envisioned for the FPO. It means more the number of farmers mobilized, better will be the performance of FPO. Additionally, the members will have increase in income as they will have access to better advisory services, machinery and input at lower cost (Rathour, 2022).

FPOs are promoted by various agencies. NABARD and SFAC are playing lead role with maximum number of FPOs promoted by them. Several state governments are also promoting FPOs. FPOs have been promoted under National Cooperative Development Corporation (NCDC) and National Rural Livelihood Mission (NRLM) also. The total number of FPO (registered under companies act) till August 2022 stands at 22,605 with Maharashtra leading in the list with 8,261 FPO followed by Uttar Pradesh with 3,106 FPO (MCA, n.d.).

FPO achieves high turnover and profit when it diversifies its activity to aggregation and provide a collective market for produce,

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and FPOs who deal with high value commodity (pulses, fruits like grapes and pomegranate; less perishable vegetable like onions) attain high turnover in lesser time as compared to the FPOs dealing only with input selling (Partiban et al., 2015; Badatya et al., 2018; Kumari et al., 2022). It has also been found that integrity and quality of the leadership, its acceptance within the community, as well as the market environment are the most crucial factors for a successful production company are (Sawairam, 2015). Attitude towards the FPO, cooperation, members' duties and responsibilities as well as entrepreneurial characteristics of the member farmers are found to be important factors contributing towards the stability of FPO (Gorai, 2022; Singh, 2022). Studies show that major hurdles for better performance of Producer Organizations are poor professional management, shortage of working capital, inability to access loan from financial institutions, awareness of producer-members, insufficient directions and visions from Board of Directors and poor infrastructure facilities (Govil et al., 2020). With the above backdrop, the study was undertaken with the objectives of assessing the performance and the constraints faced by those FPOs for survival and growth in India.

METHODOLOGY

In order to achieve the objective of study, sample survey approach for data collection was used. For sample frame, FPOs listed on the website of Ministry of Corporate Affairs' (MCA) was used. The MCA hosts list of all the companies registered under companies act. The data pertaining to total number of companies registered during January 1, 2016 and August 31, 2022 were collected. There were 7,53,203 companies registered during the period. In order to get farmer producer company, companies whose names end with "producer company limited" were selected. Among the producer companies, all those which are involved in agriculture and allied activities were finally selected. Finally, 22,605 Farmer Producer Companies (FPOs registered under the Companies Act) were found. The FPO mentioned throughout the paper pertains to FPO registered under companies act.

Primary data were collected during the period April-August 2022 from 125 FPOs from leading states in terms of number of FPOs through telephonic survey. The list of FPOs obtained from the Ministry of Corporate affairs has been used as the sampling frame for the study. The leading states in terms of number of FPOs identified for the study were Andhra Pradesh, Madhya Pradesh, Telangana, Maharashtra, and Uttar Pradesh. The sample FPOs were distributed among the states as 17 from Andhra Pradesh, 28 from Madhya Pradesh, 32 from Maharashtra, 13 from Telangana and 35 from Uttar Pradesh. The CEOs of these FPOs were interviewed telephonically for eliciting the required information. The data so obtained were subjected to descriptive analysis. Net Profit and Profit Margin during preceding the year of study, i.e., April 2021-March 2022 were estimated for assessing the performance of FPOs.

Net profit, also known as bottom line, represents the financial standing of an FPO after all its expenses have been paid off from the revenue.

Net Profit = Total Annual Revenue - Total Annual Cost

Profit Margin is a good indicator of an FPO's financial health and is calculated by using the following formula:

$$\text{Profit Margin} = \frac{\text{Net Profit}}{\text{Total Annual Revenue}} \times 100\%$$

Multiple linear regression was used to determine the explanatory variables for paid-up capital amount and turnover of the FPO. Multiple linear regression also known as multiple regression is an extension of ordinary least-squares (OLS) regression because it involves more than one explanatory variable. Formula used:

$$y_i = \beta_0 + \beta_1 x_{i1} + \beta_2 x_{i2} + ... + \beta_p x_{ip} + \in$$

Where, for *i*: *n* observations, y_i: Dependent variable, x_i: Explanatory variables, β_0: y-intercept (constant term), β_p: Slope coefficients for each explanatory variable, $\in$: model's error term (also known as the residuals)

In order to determine the predictors for Paid-up capital of FPO, the independent variables considered were size of Board of Directors (BOD), villages covered by FPO, number of enterprising activities, numbers of farmer members and number of years of existence of FPO. For determining the predictors of turnover, the independent variables considered were size of BOD, villages covered by FPO, number of enterprising activities, numbers of farmer members, number of years of existence of FPO and paid-up capital of FPO.

RESULTS AND DISCUSSION

Enterprising activities of the FPO

For its survival and growth, FPO should yield net profit from the activities it carries out. Accordingly, it engages into many enterprising activities. The sample FPOs were found to be engaged in one or other enterprising activities. Majority of the FPOs were found to be engaged in input supply business (65%), followed by produce aggregation (35%) (Table 1). The FPOs which were in input supply business may be having other activities too. It was found that 10 per cent FPO are engaged in only input supply as major enterprising activity, and 41 per cent were involved in input supply along with some other activities like advisory service, nursery, maintaining cold storage, poultry and cattle feed, primary processing, dairy farming, etc. Majority of the sample FPOs were established in 2016 and approximately 60 per cent were promoted by NABARD and rest by SFAC. Input supply is considered to have assured income due to stable and predicted number of

Table 1. Enterprising activities undertaken by sample FPO

Enterprising Activity	Percent FPO
Input Supply	65
Aggregation	35
Retailing	10
Custom hiring centre	2
Others*	65

*Other enterprising activities include one or more activities among advisory service, nursery, maintaining cold storage, poultry and cattle feed, primary processing, dairy farming

customers. The FPO assumes that at least the member farmers will purchase the inputs from its outlet. Many FPOs provide small discount to the member farmers to motivate others for membership. Though FPOs face lot of challenges in acquiring dealership of fertilizers, pesticide dealership is acquired with relatively less effort. Aggregation is not so lucrative for many, though 35 per cent were aggregating and selling to the traders. Some were retailing too (10%). Very few, only 2 per cent FPOs were providing custom hiring service.

The FPOs start with one or 2 villages in the beginning and gradually expand their presence in nearby villages with an objective to mobilize more and more farmers for membership which will increase the equity capital for the FPO and thus the business can be scaled up. It was found that most of the FPOs could be able to reach 20-40 villages. Few FPOs have more than 100 villages in their catchment. But detailed probing revealed membership of less than 500 farmers with 2-3 enterprising activities undertaken. The number of villages covered was more or less same in both NABARD and SFAC promoted FPOs. The average number of villages was estimated to be 20.83 villages per FPO. FPOs always strive hard to increase membership so that more equity capital will be there which will help in increasing the business. It was found that 40 per cent of the sample FPOs have membership of less than 500 farmers. 34.5 per cent of the FPOs have membership between 500 to 1000. One-fourth of the sample FPOs have membership more than 1000. It is believed that membership size of 700-1000 is optimal for FPO (NABARD, 2015).

The members pay on the basis of share value at the time of joining FPO which may range from Rs. 10 to Rs. 1000. The most common share value is Rs. 100 per share. The share money so collected builds the paid-up capital for the FPO, though authorized capital could be much more. The paid-up capital is considered to be the easiest source of money required by the FPO. It was found that the average paid-up capital of the sample FPO was Rs. 6.14 lakhs. Majority have paid-up capital less than Rs. 5 lakhs. Though, some FPOs were able to get grants under government schemes. The General Body of FPO elects Board of Director (BOD) under whose direction the day-to-day operation of FPO is carried out by the professionals. The Board can have minimum 5 to maximum 15 Directors. Among the sample FPO, 39 per cent have BOD size of 5 followed by 10 in 32 per cent FPOs.

It was found that input supply and produce aggregation are the two most common enterprising activities of FPO. There were FPOs engaged in only one enterprising activity and others were engaged in several activities. It has been found that 27 per cent FPO were engaged in only one enterprising activity (Table 1). Majority (81%) have two enterprising activities. It has been attempted to assess the performance of these FPO in terms of turnover, net profit and profit margin. The FPO with only one enterprising activity are able to achieve an annual turnover of per cent 36.4 lakhs and a net profit of per cent 1.2 lakhs (Table 2). These FPOs achieve a profit margin of per cent 4.7 per cent. The average turnover was found to be maximum where 3enterprising activities were carried out by FPO (Rs. 55.2 lakhs). The average net profit of approximately Rs. 2.5 lakhs with a profit margin of 6 per cent is achieved by these FPOs. It can be inferred here that profit margin increased with increase in activity. It could be because of more value adding activity resulting into better margin for FPO.

Table 2. Performance of sample FPO, 2020-21

No. of enterprising activity	Average turnover (Rs. lakh)	Average net profit (Rs. lakh)	Profit margin (%)
1	36.4	1.2	4.7
2	41.5	2.2	6.5
3	55.2	2.5	6.0
4	51.2	3.3	8.5
5	44.4	2.9	12.3

In order to identify the determinants of paid-up capital of FPO, multiple linear regression was used. The paid-up capital was the dependent variable here. The independent variables or predictors considered were size of BOD, villages covered by FPO, number of enterprising activities, numbers of farmer members and number of years of existence of FPO.

It was hypothesized that these predictors influence the paid-up capital amount of an FPO. The independent variables were checked for multicollinearity before performing multiple linear regression. The independent variables were not found to be multicollinear (VIF < 5 in all cases) (Table 3). The result revealed that number of members in the FPO, years of existence of FPO and BOD size significantly predict the paid-up capital amount of an FPO, $F(5, 94) = 10.543$, $p < .0005$. The unstandardized coefficient, B, for membership number was equal to 502.460. This means that for each one number member increase, there was an increase in paid-up capital of Rs. 503. It clearly indicates that for increasing the paid-up or equity capital, the FPO needs to increase the number of members. Again, the unstandardized coefficient, B, for size of BOD was equal to -32404.243. This means that for each one number increase in size of BOD, there was a decrease in paid-up capital of Rs. 32,404. It infers that more number of BOD may hinder in the growth and expansion of the FPO. Lesser number with focussed approach of BOD would be beneficial for the FPO in long run. Similarly, the unstandardized coefficient, B, for years of existence of FPO was equal to -56696.468. This means that for each one-year increase in existence of FPO, there was a decrease in paid-up capital of Rs. 56,697. It indicates that the FPO which were incorporated early could not be much active and not able to increase the paid-up capital. Those FPO which came up later could be more active and thereby have more paid-up capital.

It was also attempted to identify the determinants of turnover of FPO for which multiple linear regression was used again (Table 4). The turnover of FPO was the dependent variable here. The independent variables considered were size of BOD, villages covered by FPO, number of enterprising activities, numbers of farmer members, number of years of existence of FPO and paid-up capital of FPO. It was hypothesized that these predictors influence the turnover of an FPO. The independent variables were not found to be multicollinear (VIF < 5 in all cases). The result revealed that paid-up capital of FPO significantly predict its turnover, $F(6, 74) = 2.004$, $p < .05$. The unstandardized coefficient, B1, for paid-up capital was equal to 3.77. This means that for each one rupee

Table 3. Multiple linear regression result for explaining paid-up capital of FPO

Model summary			
R	R square	Adjusted R square	Std. error of the estimate
0.599	0.359	0.325	3.9×10^{5}

ANOVA					
	Sum of squares	df	Mean square	F	Sig.
Regression	8.1×10^{12}	5	1.63×10^{12}	10.543	.000
Residual	1.45×10^{13}	94	1.54×10^{11}		
Total	2.26×10^{13}	99			

Coefficients and collinearity statistics			
Independent variable	Unstandardized coefficient (B)	Sig.	Collinearity statistics (VIF)
BOD size	-32404.24	.035	1.011
No. of villages	1126.52	.554	1.061
No. of enterprising activities	52598.50	.148	1.082
Membership no.	502.46	.000	1.189
Age of FPO	-56696.47	.030	1.082

Table 4. Multiple linear regression result for explaining turnover of FPO

Model summary			
R	R square	Adjusted R square	Std. error of the estimate
.374	.140	.070	4.39×10^{6}

ANOVA					
	Sum of squares	df	Mean square	F	Sig.
Regression	2.31×10^{14}	6	3.85×10^{13}	2.004	.046
Residual	1.42×10^{15}	74	1.92×10^{13}		
Total	1.65×10^{15}	80			

Coefficients and collinearity statistics			
Independent variable	Unstandardized coefficient (B)	Sig.	Collinearity statistics (VIF)
BOD size	86299.38	.856	.943
No. of villages	-8868.978	.655	.939
No. of enterprising activities	-22796.10	.708	.904
Membership no.	-648.98	.960	.616
Age of FPO	479532.52	.603	.879
Paid-up capital	3.78	.149	.641

increase in paid-up capital, there was an increase in turnover of Rs. 3.77. It can be concluded that for increasing the turnover, the FPO should focus on increasing the paid-up capital as paid-up capital can be used for scaling up and expanding the business.

Constraints in achieving better performance

The FPOs face many constraints in achieving better performance and confronted with many challenges. Literature shows that poor capitalization, managerial capability, control over business, regulatory compliances, well defined business plan and many other challenges were impeding the growth of FPOs (Trebbin, 2014; Nikam, 2019; Kumar et al., 2021). The list of identified challenges are rated on a scale of 1 to 5 (1 being least affecting, 5 most affecting). The average rating of all the challenges is presented in Table 5. It was found that capital requirement was the biggest constraint for the FPO. FPOs were not able to get sufficient fund to run the business. Poor equity capital coupled with tough-access to formal loan from financial institution affects the FPO performance badly. Banks ask for comprehensive business plan which most of the FPO lacks, thereby hindering access to loan. Banks also don't find the loan product to FPO as lucrative

Table 5. Constraints faced by sample FPO

Challenge	Average rating	Ranking
Capital requirement	4.03	1
Mobilization of farmer	3.08	2
Marketing problem	3.04	3
Competition in business	2.79	4
Lack of experience	2.62	5
Manpower issues	2.18	6
Government support	2.03	7
Business efficiency	1.76	8

business. Mobilizing farmers for membership was found to be second most affecting constraint with overall rating of 3.08. It has already been found that majority of FPOs didn't have large number of members. Even if number was more, active members were less. It means, the FPOs need more of active members so that the business, be it input sale or produce purchase both can be at higher level resulting into better business performance. Marketing problem is pervasive in nature in agribusiness and so is for FPO. FPOs were not having any differentiated product and the enterprising activity undertaken by them is common in nature. That was the reason, the FPOs feel competition in business. Lack of experience is rated least affecting with a score of 2.62. Reason being, few FPOs which have diversified into number of activities perceive lack of experience as one of the challenges. FPOs which didn't have much aspiration didn't see experience as big challenge.

CONCLUSION

Most of the FPOs were engaged in input supply as the only enterprising activity. More number of enterprising activities helps the FPO to achieve higher turnover and in turn better net profit. Hence, FPO should diversify into more number of business activities. With the objective of surviving and eventually growing and scaling -up, FPOs need to increase business turnover. Members number is found to be significantly affecting the paid-up capital of FPO which in turn affects the turnover of FPO. It indicates FPO should continue membership drive to bring more farmers into its fold as active members. Capital requirement is found to be the biggest constraint faced by FPO. Hence, extending capital loan as well as working capital loan to FPO should be made easy.

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