**Assessing Entrepreneurial Behaviour of FPO Members: Evidence from North Karnataka, India**

**ABSTRACT**

Entrepreneurial behaviour, which includes traits like innovation, initiative, risk-taking, leadership, and decision-making, is a key factor in determining how actively and effectively members engage with their Farmer Producer Organizations (FPOs). The research design adopted in the present study was *Ex-post-facto* technique to measure the entrepreneurial behaviour among members of FPOs in North Karnataka. Two FPOs in Vijayapura and two in Bagalkote district were purposively selected for the study out of which 30 members from each FPOs were randomly chosen for the study as respondents thus, totalling 120 respondents. The results pertaining to the entrepreneurial behaviour of FPO members showed that, a majority (52.50 %) of the respondents belonged to the medium category, while (21.67 %) are in the high category with Mean = 78.25 and SD = 10.80. The t-test results revealed that, when comparing Indi & Hungunda (t = 0.004\*\*) and Mudhol & Hungunda (t = 0.045\*\*), the differences are statistically significant at the 1 per cent and 5 per cent levels respectively. The relationship between the profile characteristics and the entrepreneurial behaviour showed that, the independent variables such as education, extension contact, social participation, mass media exposure and annual income are highly significant.

**Keywords:** Entrepreneurial behaviour, FPOs, Leadership, Decision-making

1. **INTRODUCTION**

Agriculture remains a cornerstone of the Indian economy, supporting a large rural population but facing challenges like fragmented landholdings, low productivity, limited credit access and weak market linkages. To address these issues, the Government of India has promoted Farmer Producer Organizations (FPOs) member-based institutions that empower farmers through collective action, enabling better procurement, input use, value addition and marketing. Recognizing their potential, the government launched the Central Sector Scheme for the Formation and Promotion of 10,000 FPOs in 2020, with support from key implementing agencies like NABARD, SFAC and NCDC (Amitha *et al.,* 2021). In agriculturally dependent regions like North Karnataka, FPOs are emerging as vital tools for strengthening the value chain and enhancing farmers' economic resilience.

Entrepreneurial behaviour, which includes traits like innovation, initiative, risk-taking, leadership, and decision-making, is a key factor in determining how actively and effectively members engage with their FPOs.

With increasing policy focus on agri-entrepreneurship, rural development, and improving farmers’ income, understanding the entrepreneurial behaviour of FPO members has become highly relevant. It is particularly important in semi-arid regions like North Karnataka, where farming communities often need stronger institutional and entrepreneurial support to overcome environmental and economic uncertainties.

* 1. **Scope of the study**

India’s rising population necessitates an increase in agricultural production, which in turn drives economic growth across various community sectors. This study investigates the attitudes and entrepreneurial behaviour of farmers involved in FPOs, analysing how organizational participation influences revenue generation. The research seeks to bridge existing knowledge gaps by assessing the level of entrepreneurial engagement among farmers and identifying opportunities for expanding business prospects in the agricultural sector.

**1.2 Implications of the study:** The government should strengthen extension services by investing in training, resources, and updated knowledge for FPO members. Support for custom hiring centres must be enhanced through subsidies or incentives to improve machinery access for smallholders. Financial inclusion can be promoted by expanding rural banking, improving financial literacy, and offering low-interest loans tailored to FPO members. To address price fluctuations, measures like MSP expansion, cooperative marketing, and contract farming should be implemented. Finally, fostering social participation and scientific innovation through grants, research collaborations, and farmer exchange programs can encourage the adoption of modern practices and collective growth.

**1.3 Future line of work:** This study was limited to Vijayapura and Bagalkote districts; similar research should be conducted in other districts for broader insights. Only a few personal, socio-psychological, and economic factors were considered; future studies should explore a wider range of variables. Due to constraints, an ex-post-facto design was used; more robust experimental designs with control groups are recommended. Training programs to enhance entrepreneurial behaviour among FPO members should be implemented and evaluated. Additionally, developing user-friendly, interactive interfaces in local languages with voice support can improve accessibility.

**2. METHODOLOGY**

**2.1 Research design**

The *ex-post-facto* research design was used for conducting study because, it was appropriate as the phenomenon already occurred. *ex-post-facto* research design is a systematic empirical enquiry in which the independent variables have not manipulated because they are already occurred and they are inherent.

**2.2 Selection of respondents**

The study employed a simple random sampling method to select 120 respondents from Farmer Producer Organizations (FPOs) across Vijayapura and Bagalkote districts, ensuring balanced representation from diverse agricultural sectors. In Vijayapura, 30 farmers were chosen from the Basavanbagewadi Horticulture Farmer Producer Company Limited in Kolhar taluk, focused on horticulture and another 30 from the Savayava Hagu Siridhanya Producer Company Limited in Indi taluk, specializing in organic and millet farming. In Bagalkote, 30 respondents were selected from the Mudhol Oilseed and Millets Farmers Producer Company Limited in Mudhol taluk and 30 more from the Hungunda Horticulture Farmers Producer Company Limited in Hungunda taluk, both engaged in oilseed, millet and horticultural crop production. This systematic approach ensured equal and diverse representation, enabling a comprehensive assessment of FPOs' impact on farmers’ entrepreneurial behaviour and income enhancement.

**Table 1: Sampling procedure used for selection of respondents**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl.****No** | **District** | **Taluk** | **FPOs** | **No of respondents** |
| 1 | Vijayapura | Kolhar | Basavanbagewadi Horticulture Farmer Producer Company Limited | 30 |
| Indi | Savayava Hagu Siridhanya Producer Company Limited | 30 |
| 2 | Bagalkote | Mudhol | Mudhol oilseed and millets farmers producer company limited | 30 |
| Hungunda | Hungunda Horticulture Farmers Producer Company limited | 30 |
| **Total** | **120** |

**2.3 Measurement of dependent variables**

**2.3.1. Entrepreneurial behaviour of members of farmer producer organizations**

Entrepreneurial behavior is the extent to which a farmer struggles to maximize his gains by forming an imaginative and innovative reaction to the surroundings by enlarging of enterprises. Entrepreneurial behaviour is defined as the ability of an entrepreneur to undertake risk, coordinate activities, take intelligent decisions and utilize the innovative ideas to maximize the profit from the enterprise. (Naveen, 2012)

## 2.3.2 Computing of entrepreneurial behaviour

##  Scale developed for entrepreneurial behaviour by Wankhade et al. (2013) consisted of ten dimensions namely innovativeness, economic motivation, risk orientation, leadership ability, decision making ability and management orientation. The dimension consisted statements, thus making a total of 36 statements. The statements were measured on a five-point continuum ranging from ‘strongly agree’, ‘agree’, ‘undecided’, ‘disagree’ and ‘strongly disagree’ with weightage of 5, 4, 3, 2 and 1 respectively. The weightage was given in the reverse order for negative statements. Thus, for each component the minimum score was 5 and maximum score was 15.

## The total entrepreneurial behaviour obtained for each respondent was calculated by adding the scores obtained by the respondent in each component.

1. **RESULTS AND DISCUSSION**

**Table 2: Dimension wise distribution of entrepreneurial behaviour among members of farmer producer organizations**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl. No.** | **Entrepreneurial behaviour dimensions** | **Categories** | **Kolhar** **(n1=30)** | **Indi** **(n2=30)** | **Mudhol****(n3=30)** | **Hungunda****(n4=30)** | **Overall****(n=120)** |
| **f** | **%** | **f** | **%** | **f** | **%** | **f** | **%** | **f** | **%** |
| 1 | InnovativenessMean = 11.93SD = 2.51 | Low < (10.66) | 5 | 16.67 | 7 | 23.33 | 12 | 40.00 | 13 | 43.33 | 37 | 30.83 |
| Medium (10.66 – 13.18) | 16 | 53.33 | 21 | 70.00 | 10 | 33.33 | 5 | 16.67 | 52 | 43.33 |
| High > (13.18) | 9 | 30.00 | 2 | 6.67 | 8 | 26.67 | 12 | 40.00 | 31 | 25.83 |
|  |
| 2 | Economic motivationMean = 13.40SD = 2.29 | Low < (12.25) | 9 | 30.00 | 17 | 56.67 | 8 | 26.67 | 3 | 10.00 | 37 | 30.83 |
| Medium (12.25 – 14.54) | 16 | 53.33 | 11 | 36.67 | 11 | 36.67 | 13 | 43.33 | 51 | 42.50 |
| High > (14.54) | 5 | 16.67 | 2 | 6.67 | 11 | 36.67 | 14 | 46.67 | 32 | 26.67 |
|  |
| 3 | Risk orientationMean = 12.37SD = 2.46 | Low < (11.14) | 11 | 36.67 | 14 | 46.67 | 7 | 23.33 | 10 | 33.33 | 42 | 35.00 |
| Medium (11.14 – 13.60) | 9 | 30.00 | 11 | 36.67 | 14 | 46.67 | 8 | 26.67 | 42 | 35.00 |
| High > (13.60) | 10 | 33.33 | 5 | 16.67 | 9 | 30.00 | 12 | 40.00 | 36 | 30.00 |
|  |
| 4 | Leadership abilityMean = 21.16SD = 4.31 | Low < (19.00) | 13 | 43.33 | 11 | 36.67 | 10 | 33.33 | 3 | 10.00 | 37 | 30.83 |
| Medium (19.00 – 23.32) | 13 | 43.33 | 16 | 53.33 | 17 | 56.67 | 14 | 46.67 | 60 | 50.00 |
| High > (23.32) | 4 | 13.33 | 3 | 10.00 | 3 | 10.00 | 13 | 43.33 | 23 | 19.17 |
|  |
| 5 | Decision making abilityMean = 7.85SD = 2.39 | Low < (6.66) | 6 | 20.00 | 3 | 10.00 | 14 | 46.67 | 16 | 53.33 | 39 | 32.50 |
| Medium (6.66 – 9.05) | 16 | 53.33 | 19 | 63.33 | 8 | 26.67 | 7 | 23.33 | 50 | 41.67 |
| High > (9.05) | 8 | 26.67 | 8 | 26.67 | 8 | 26.67 | 7 | 23.33 | 31 | 25.83 |
|  |
| 6 | Management orientation Mean = 11.52SD = 3.20 | Low < (9.92) | 6 | 20.00 | 6 | 20.00 | 7 | 23.33 | 5 | 16.67 | 24 | 20.00 |
| Medium (9.92 – 13.12) | 21 | 70.00 | 21 | 70.00 | 22 | 73.33 | 18 | 60.00 | 82 | 68.33 |
| High > (13.12) | 3 | 10.00 | 3 | 10.00 | 1 | 3.33 | 7 | 23.33 | 14 | 11.67 |

The study showed six key dimensions of entrepreneurial behaviour among FPO members across four taluks: Kolhar, Indi, Mudhol, and Hungunda. These dimensions included innovativeness, economic motivation, risk orientation, leadership ability, decision-making ability, and management orientation. The results in the Table 2 indicates that among innovativeness more than two-fifth (43.33 %) of members from Hungunda fell into the low category, contributing to an overall 30.83 per cent in this category. However, 25.83 per cent of members displayed high innovativeness, indicating a potential for creative approaches among a quarter of the respondents. Economic motivation was relatively moderate, with more than two-fifth (42.50 %) falling in the medium category and 26.67 per cent exhibiting high motivation, especially prominent in Hungunda (46.67 %). This suggests a fair level of economic drive, which is essential for entrepreneurial success.

Risk orientation was balanced, with (35.00 %) each in low and medium categories and (30.00 %) in high. This distribution suggests cautious optimism among FPO members when approaching entrepreneurial ventures. Leadership ability was predominantly in the medium range (50.00 %), Hungunda led with (43.33 %) in the high category, suggesting a strong presence of leadership qualities in that taluk. Decision-making ability varied significantly, with (32.50 %) in the low category, especially from Mudhol and Hungunda. Still, (25.83 %) of respondents showed high decision-making skills, underlining a subgroup of confident decision-makers. Management orientation revealed that (68.33 %) of members had medium management skills, while only (11.67 %) had high orientation. This points to a need for capacity-building initiatives in management practices. The results are in the line with Amitha *et. al.,* (2021).

**Table 3: Overall entrepreneurial behaviour among members of farmers producer organization**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Sl. No.** | **Entrepreneurial behaviour** | **Kolhar** **(n1=30)** | **Indi** **(n2=30)** | **Mudhol****(n3=30)** | **Hungunda****(n4=30)** | **Overall****(n=120)** |
| **f** | **%** | **f** | **%** | **f** | **%** | **f** | **%** | **f** | **%** |
| 1 | Low < (72.84) | 6 | 20.00 | 11 | 36.67 | 8 | 26.67 | 6 | 20.00 | 31 | 25.83 |
| Medium (72.84 – 83.65) | 19 | 63.33 | 16 | 53.33 | 14 | 46.67 | 14 | 46.67 | 63 | 52.50 |
| High > (83.65) | 5 | 16.67 | 3 | 10.00 | 8 | 26.67 | 10 | 33.33 | 26 | 21.67 |
|  | **Mean = 78.25** | **S.D. = 10.80** |

Table 3 presents the overall entrepreneurial behaviour of FPO members. A majority (52.50 %) belonged to the medium category, while (21.67 %) are in the high category. The mean entrepreneurial behaviour score was 78.25 (SD = 10.80), indicating a moderate level of entrepreneurial inclination among members. Notably, Hungunda exhibited the highest proportion (33.33 %) of members in the high category, affirming the trend seen in individual dimensions. The results are supported by Anil K *et. al.,* (2025).

This aligns with prior research indicating that collective farming models like FPOs tend to build social capital and entrepreneurial confidence among rural communities (Patil et al., 2019; Kumar & Sharma, 2020). A notable pattern emerged in the taluk-wise distribution, with Hungunda consistently demonstrating higher entrepreneurial tendencies across multiple dimensions. This could be attributed to better extension outreach, training, market exposure, or leadership initiatives in that region. Such geographic disparities suggest that localized interventions tailored to the specific needs and strengths of different FPO cluster are essential for optimizing outcomes.

**Table 4: Test of significance of members of farmer producer organization towards entrepreneurial behaviour.**

|  |  |  |  |
| --- | --- | --- | --- |
| **Sl. No.** | **Members of FPOs** | **Mean score** | **t-value** |
| 1 | Kolhar (n1=30) | 77.17 | 0.523NS |
| 2 | Indi (n2=30) | 75.53 |
|  |
| 3 | Kolhar (n1=30) | 77.17 | 0.967NS |
| 4 | Mudhol (n3=30) | 77.07 |
|  |
| 5 | Kolhar (n1=30) | 77.17 | 0.083NS |
| 6 | Hungunda (n4=30) | 83.23 |
|  |
| 7 | Indi (n2=30) | 75.53 | 0.533NS |
| 8 | Mudhol (n3=30) | 77.07 |
|  |
| 9 | Indi (n2=30) | 75.53 | 0.004\*\* |
| 10 | Hungunda (n4=30) | 83.23 |
|  |
| 11 | Mudhol (n3=30) | 77.07 | 0.045\*\* |
| 12 | Hungunda (n4=30) | 83.23 |

Note: \*\* and NS denote significance at 1 per cent and non-significant respectively.

The t-test results (Table 4) revealed no significant differences in entrepreneurial behaviour between Kolhar and other taluks individually. However, when comparing Indi & Hungunda (t = 0.004\*\*) and Mudhol & Hungunda (t = 0.045\*\*), the differences are statistically significant at the 1 per cent and 5 per cent levels respectively. This reinforces the finding that Hungunda members possess comparatively higher entrepreneurial traits. The results are similar with the findings of Kaaria *et. al.,* (2016).

**Table 5: Relationship between profile characteristics of members of FPOs with their entrepreneur behaviour.**

**(n=120)**

|  |  |  |
| --- | --- | --- |
| **Sl. No.** | **Variables** | **Correlation coefficient ‘r’** |
|  | Age | -0.96NS |
|  | Education  | 0.488\*\* |
|  | Land holding  | 0.077NS |
|  | Occupation  | 0.316\* |
|  | Extension contact | 0.405\*\* |
|  | Extension participation | 0.328\* |
|  | Social participation | 0.394\*\* |
|  | Scientific orientation | 0.299\* |
|  | Mass media exposure | 0.561\*\* |
|  | Annual income | 0.413\*\* |

**Note:** \*\* and \* denotes statistical significance at 1 and 5 per cent level, respectively

As per Table 5, education (r = 0.488\*\*), extension contact (r = 0.405\*\*), social participation (r = 0.394\*\*), mass media exposure (r = 0.561\*\*) and annual income (r = 0.413\*\*) are positively and significantly correlated with entrepreneurial behaviour. This indicates that members with higher exposure, education, and income levels are more likely to engage in entrepreneurial activities. Variables like age and landholding are not significantly related to entrepreneurial behaviour.

**Table 6: Regression of profile characteristics of members of farmer producer organizations with their Entrepreneurial behaviour**

 **(n=120)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sl.****No.** | **Variables** | **Regression coefficient (b)** | **Std error** | **‘t’ value** |
| 1 | Age | 0.029 | 0.072 | 0.401NS |
| 2 | Education  | 1.096 | 0.307 | 3.563\*\* |
| 3 | Land holding  | 0.070 | 0.302 | 0.233NS |
| 4 | Occupation  | 0.983 | 0.331 | 2.963\*\* |
| 5 | Extension contact | 0.458 | 0.139 | 3.292\*\* |
| 6 | Extension participation | 0.131 | 0.060 | 2.182\* |
| 7 | Social participation | 0.237 | 0.110 | 2.151\* |
| 8 | Scientific orientation | 0.004 | 0.2402 | 0.020NS |
| 9 | Mass media exposure | 0.239 | 0.121 | 2.183\* |
| 10 | Annual income | 0.982 | 0.338 | 2.962\*\* |

**Note:** \*\* and \* denotes statistical significance at 1 and 5 per cent level, respectively and NS- Non significant

Regression results (Table 6) supported the correlation findings. Education (b = 1.096, t = 3.563\*\*), occupation (b = 0.983, t = 2.963\*\*), extension contact (b = 0.458, t = 3.292\*\*), extension participation, social participation, mass media exposure, and annual income are all significant predictors of entrepreneurial behaviour. The non-significance of age, landholding, and scientific orientation highlights the nuanced role these characteristics play in entrepreneurship within FPOs. The results are supported with the findings of Nandini H M *et. al.*, (2022).

The significant positive correlation between education and entrepreneurial behaviour supports established literature that emphasizes education as a fundamental enabler of innovation, financial literacy, and business acumen among farmers. Educated farmers are more likely to interpret market signals, adopt technology, and engage in informed risk-taking.

Extension contact and participation were also strong predictors. The finding confirms the pivotal role of agricultural extension services in shaping entrepreneurial mindsets. Regular interactions with extension personnel expose farmers to new ideas, government schemes, training programs, and market opportunities. However, the moderate proportion of farmers with high extension participation also signals that access or engagement is still suboptimal in some regions highlighting a critical area for improvement.

Mass media exposure was another influential factor. This reinforces the potential of using mass media platforms such as radio, mobile apps, community FM stations, or digital advisory tools as vehicles for promoting entrepreneurial knowledge and success stories. Mass media can act as both motivator and mentor when conventional extension systems are overstretched. Interestingly, landholding size and age were not significantly associated with entrepreneurial behaviour. This challenges the assumption that larger farms or younger age groups are inherently more entrepreneurial. It points to the possibility that entrepreneurial behaviour in FPOs may be more influenced by mindset, knowledge, and institutional linkages than traditional demographic indicators.

Targeted Capacity Building can be induced as the high proportion of members in the medium entrepreneurial category suggests a latent potential that can be activated through training in leadership, decision-making, and financial management. Customized entrepreneurship development programs (EDPs) focusing on FPO-specific challenges could be effective. Strengthening Extension Systems can be provided through policies that incentivize public-private extension collaborations and digital advisory services can increase both reach and relevance. Emphasizing entrepreneurial skill-building during farmer training sessions is recommended. Enhancing Market Exposure to farmers can be done by supporting forward and backward linkages through organized value chains, exposure visits, or partnerships with agribusinesses can stimulate economic motivation and risk-taking ability among FPO members.

1. **CONCLUSION**

The findings indicate that a majority of the respondents possessed medium to high levels of entrepreneurial behaviour, which was significantly influenced by variables such as education, landholding size, extension contact, social participation and annual income. Among these, extension contact and education emerged as particularly critical in shaping the entrepreneurial outlook of farmers. It was evident that better-informed and more socially engaged farmers showed higher inclination towards adopting innovative practices and managing risks efficiently.

The correlation analysis revealed that education, extension contact, social participation, mass media exposure and annual income had a highly significant positive relationship with entrepreneurial behaviour. Based on these findings, it is recommended to strengthen educational and training initiatives, enhance extension services, promote social participation, and utilize mass media effectively. Improving income-generating opportunities and access to financial resources can further support entrepreneurship. Additionally, encouraging scientific orientation through exposure visits and technical workshops can enhance innovative thinking. Policies should prioritize variables with significant influence to effectively foster entrepreneurial behaviour among FPO members.

In conclusion, the study emphasizes the need for strengthening FPOs through targeted policy interventions, improving extension mechanisms and fostering skill development among farmers. Enhancing social participation and providing timely market intelligence can further encourage entrepreneurial behaviour.

**Limiting circumstances of the study:**

The scope of the study was limited to the opinions and perceptions provided by the respondents, as the findings were entirely based on their responses. The research encountered certain constraints, including limitations in time, funding, and access to research infrastructure. An ex-post facto research design was adopted, which may not have completely addressed the issue of memory bias among respondents. Furthermore, the study was based on primary data collected from a relatively small sample of stakeholders, which may affect the generalizability of the findings.

**DISCLAIMER (ARTIFICIAL INTELLIGENCE)**

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

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