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Socio-psychological Constructs and Perceived Economic Variables on Entrepreneurial Behavior among Farmer Producer Organization Members in Kerala: A Comprehensive Analysis

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Authors' contributions

This work was carried out in collaboration among all authors. Author AEJ designed the study, performed the statistical analysis, wrote the protocol, and wrote the first draft of the manuscript under the guidance of author GJ. Authors AHL and RK managed the literature searches. All authors read and approved the final manuscript.

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ABSTRACT

In the realm of the Farmer Producer Organizations (FPOs), there is a compelling need for comprehensive scholarly investigation to assess the quantitative relationship between profile characteristics and entrepreneurial behavior of members within Farmer Producer Organizations (FPOs) to address the existing knowledge gap and contribute to a deeper understanding of the dynamics that enhance livelihood security. Therefore, the present study focused on examining the relationship between the entrepreneurial behaviour of FPO members and their socio-psychological constructs and perceived economic variables. The study was conducted in Kerala. Districts from Northern, Central, and Southern Kerala having the maximum number of FPOs were selected for the study. Thus, Wayanad from Northern Kerala, Idukki from Central Kerala, and Trivandrum from Southern Kerala were selected for the study. A purposive sampling technique was used for the selection of the FPOs. Two functioning FPOs were purposively selected from the three districts based on discussion with National Bank for Agriculture and Rural Development (NABARD), Small Farmers Agribusiness Consortium (SFAC), and Krishi Vigyan Kendra (KVK). From each selected FPO, 20 farmer members were randomly selected. A total of 40 farmers were surveyed from each district. Thus, a total of 120 farmer members were selected from six Farmer Producer Organizations (FPOs) located in three districts, resulting in a sample size of 120 respondents. A random sampling technique was used for the selection of the farmer members from each FPOs. Karl Pearson Correlation Coefficient was used in the study to understand the strength and direction of the relationship between the variables. The socio-psychological constructs and perceived economic variables were age, education, annual income, scientific orientation, number of training attended, social participation, group cohesion and credit orientation. The findings demonstrated that there were positive and significant relationships between education, annual income, training, scientific orientation, group cohesion, and creativity with entrepreneurial behavior. The variables age and credit orientation exhibited non-significant correlation coefficients, suggesting no significant relationship with entrepreneurial behavior.

Keywords: Farmer producer organization; entrepreneurial behaviour; profile; correlation; training; scientific orientation; group cohesion; creativity.

DEFINITIONS

1. *Age: Age was operationally defined as the number of calendar years completed by the respondent at the time of enquiry.*
2. *Education: Education was operationally defined as the highest academic qualification owned by the respondent through formal and informal education.*
3. *Annual income: It was operationally defined as the total income earned by the respondents from farming and other allied enterprises and expressed in rupees.*
4. *Scientific orientation: It was operationally defined as the degree to which a farmer was focused to the practice of scientific methods in decision making.*
5. *Training attended: It was operationally defined as the number of trainings attended by the respondent in various production and marketing activities during the last three years.*
6. *Social participation: It was operationally defined as the extent and nature of participation of the respondent in various activities of social organization.*
7. *Group cohesiveness: It was operationally defined as the extent to which the members of the FPO perceived the level of intimacy or closeness they had among the other members of the group.*
8. *Creativity: Creativity was operationally defined as the capability of the FPO member to generate new ideas and solve problems.*

ACRONYMS

1. *DAC: Department of Agriculture and Cooperation*
2. *FPO: Farmer Producer Organization*
3. *GPD: Gross Domestic Products*
4. *KVK: Krishi Vigyan Kendra*
5. *NABARD: National Bank for Agriculture and Rural Development*
6. *SFAC: Small Farmers Agribusiness Consortium*

ABBREVIATION

1%: Per cent

1. INTRODUCTION

Agriculture and its related sectors play a crucial and indispensable role, contributing 18.30 percent to the Gross Domestic Product (GDP) of the Indian economy [1]. However, a significant portion of the agricultural population in India comprises small (holding between 1.00 ha and 2.00 ha) and marginal farmers (holding less than 1.00 ha), accounting for 86.00 percent with an average landholding size of 1.16 ha [1,2,3]. The country possesses 92 million small holdings, representing nearly 21 percent of the world's total of 450 million small holdings, making it the second largest after China [4]. Studies by Magnus and Peters [5] have revealed that smallholder farmers face challenges in accessing crucial factors required for delivering products that align with market demands. To address this, institutions such as cooperatives, farmers' organizations, and contract farming can play a pivotal role in enabling smallholder farmers to tap into expanding market opportunities and establish close linkages with various stakeholders in the value chains. This coordination between supply and demand is essential for smallholder farmers to benefit from the evolving market dynamics [6]. To prevent the isolation of small-scale farmers from the advantages of agricultural production, it is imperative to integrate them into farmer collectives [7]. Cooperative producer organizations have emerged as institutional mechanisms aimed at enhancing the performance of small and marginal farmers, particularly through improved market engagement [8,9,10]. In line with the recommendations of the Alagh Committee in 1999, which sought to establish legislation that would combine the cooperative ethos with the operational flexibility of private companies, Farmer Producer Organizations (FPOs) have emerged as an alternative to state-led or state-sponsored cooperatives since 2003. Consequently, the Department of Agriculture & Cooperation (DAC), under the Ministry of Agriculture, Government of India, initiated a pilot program in collaboration with state governments to promote member-based Farmer Producer Organizations during the 2011-12 period. FPOs serve as effective platforms for small farmers to participate in the market, leading to improvements in agricultural production, productivity, and profitability [11]. Furthermore, small-scale farmers can benefit from increased bargaining power within FPOs through collective bulk buying and supply of agricultural products and inputs, respectively [12]. FPOs act as effective platforms for small farmers to engage in the market, resulting in enhancements in agricultural production, productivity, and profitability [13].

In the current context, the significance of entrepreneurship in the development of a country is widely acknowledged. Entrepreneurship contributes to various aspects such as the efficient utilization of inputs, risk-bearing, innovation, imitation of production techniques to reduce costs and improve quality and quantity, market expansion, and effective coordination and management of manufacturing units at different levels [14].

Entrepreneurial behavior refers to the attitudes, traits, and actions displayed by individuals in their pursuit of entrepreneurial activities [15]. It encompasses a wide range of characteristics such as risk-taking propensity, innovativeness, achievement motivation, and self-confidence, which are crucial for driving entrepreneurial success. These behaviors are shaped by various profile characteristics of FPO members, including their educational background, experience in farming, access to resources, and social networks. Exploring the correlation between entrepreneurial behavior and profile characteristics of FPO members can help in identifying the key factors that influence entrepreneurial behavior within FPOs, thereby enabling the development of targeted interventions and support mechanisms. By understanding the specific profile characteristics that contribute to entrepreneurial success, policymakers and practitioners can design evidence-based programs and policies that cater to the unique needs and challenges faced by FPO members. Examining the correlation between entrepreneurial behavior and profile characteristics can shed light on the determinants of FPO members' success and performance. It can provide insights into the factors that differentiate the FPO members with highly entrepreneurial behaviour from those with lower entrepreneurial inclination. This knowledge can be leveraged to enhance the effectiveness and efficiency of FPOs by promoting and nurturing the desired entrepreneurial behaviors among their members. By identifying the profile characteristics that foster entrepreneurial

behavior among FPO members, strategies can be developed to empower smallholder farmers, promote inclusive growth, and create sustainable livelihood opportunities. In light of these considerations, the objective of this research paper is to examine the relationship between the entrepreneurial behaviour of FPO members and their socio-psychological constructs and perceived economic variables.

The study primarily targeted the farmer members, Board of Director members, and CEOs of the FPO. One challenge encountered during the research was the tendency of the Board of Director members and CEOs to provide predominantly positive information, while the regular members had limited knowledge about the FPO. Steps were taken to mitigate the influence of the Board of Director members and CEOs on the research findings, as well as to address the inherent limitations arising from constraints in terms of time, resources, and sample size. Efforts were made to minimize these limitations and ensure the reliability and validity of the study's outcomes.

2. METHODOLOGY

2.1 Research Design

An ex-post facto research design was used in the study. This design was used because the study aims at measuring the phenomenon which has already occurred and is continuing. Ex-post facto research design is used when the researcher has no control over the independent variable and manipulation is not possible because variables are inherently constant [16].

2.2 Locale of the Study

The study was conducted in Kerala. Districts from Northern, Central, and Southern Kerala having the maximum number of FPOs were selected for the study. Wayanad from Northern Kerala, Idukki from Central Kerala and Trivandrum from Southern Kerala were purposively selected for the study. A purposive sampling technique was used for the selection of the FPOs.

2.3 Selection of the FPOs

Two functioning FPOs were purposively selected from the three districts based on discussion with National Bank for Agriculture and Rural Development (NABARD), Small Farmers Agribusiness Consortium (SFAC) and Krishi Vigyan Kendra (KVK). Wayanad Agriculture Spices Producer Company and Bana Agro & Allied Producer Company were selected from the Wayanad district. Neyyasseri Agro. Producer Company and Thodupuzha Farmer Agro Producer Company were selected from Idukki district. Sangamaitri Farmer Producer Organization and Sabarmati Agro. & Livestock Farmer Producer Company were selected from Trivandrum district.

2.4 Selection of the Respondent

From each selected FPO, 20 farmer members were randomly selected. A total of 40 farmers were surveyed from each district. Thus, from six FPOs located in three districts, 120 farmer members were selected. These 120 farmer members were considered as the respondents. Thus, sample size of the study was 120. Purposive sampling technique was used for the selection of the FPOs whereas random sampling technique was used for the selection of the farmer members from each FPOs.

2.5 Variables

2.5.1 Selection of independent variables

A list of 35 variables associated with socio-economic constructs and perceived economic variables of the respondents was selected based on the review of literature and informal discussion with subject experts. The list of variables along with their operational definition was sent to 30 judges for rating. The rating was done on a five- point continuum ranging from ‘most relevant’, ‘more relevant’, ‘relevant’, ‘less relevant’ and ‘least relevant’ with scores 5, 4, 3, 2 and 1 respectively. The variables were selected based on mean relevancy score. The score obtained for each variable from 30 judges were added and divided by total number of judges. The average of the total score obtained for all the variables was calculated. The variables that scored more than the mean relevancy score were selected for the study. Thus, the socio-psychological constructs and perceived economic variables selected through judges rating were age, education, annual income, scientific orientation, number of trainings attended, social participation, group cohesion and credit orientation.

TEB= ∑ Yij
Yij = Value of the i^{th} respondent on j^{th} component
(i = 1…120)
(j = 1… 10)

$$\text{EBI} = \frac{\text{TEB of the respondent} - \text{Minimum obtained score on TEB}}{\text{Maximum obtained score on TEB} - \text{Minimum obtained score on TEB}} \times 100$$

2.5.2 Computing of dependent variable

Entrepreneurial behaviour was selected as the dependent variable for the study. In the present study entrepreneurial behavior was operationally defined as the cumulative outcome of ten dimensions namely risk taking, innovativeness, manageability, self confidence, knowledgeability, persistence, feedback usage, persuasibility, hope of success and achievement motivation. Entrepreneurial Behaviour Index developed by Wankhade et al*.* [17] was selected for the study. Each component of entrepreneurial behaviour consisted of 5 statements, thus making a total of 50 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 25. There were equal number of statements for each component. So, every component had equal range of scores and there was no need of standardization. Total Entrepreneurial Behaviour (TEB) obtained for each respondent was calculated by adding the scores obtained by the respondent in each component. Entrepreneurial Behaviour Index (EBI) was obtained by calculating the ratio of the difference between total entrepreneurial behaviour of the respondent and the minimum score obtained for the entrepreneurial behaviour to the range of the total entrepreneurial behaviour.

2.6 Statistical Tools and Techniques used

Well-structured interview schedule was used for data collection which was prepared after discussion with experts in order to meet the objective of the study. Master table was prepared in excel sheet using the data collected. Karl Pearson Correlation Coefficient was used in the study. Correlation coefficient (r) helps to understand the strength and direction of relationship between the variables. In this study, correlation coefficient was used to understand the relationship between entrepreneurial behaviour of FPO members and their socio-psychological constructs and perceived economic variables.

3. RESULTS AND DISCUSSION

3.1 Result of Correlation Analysis

The data presented in Table (1) clearly indicates that among the 8 independent variables, 6 variables namely education (0.534), annual income (0.333), training (0.565), scientific orientation (0.399), group cohesion (0.464), and creativity (0.683) displayed a statistically significant positive correlation with the entrepreneurial behavior of the members at a significance level of 0.01. On the other hand, the variables age and credit orientation exhibited non-significant correlation coefficients, suggesting no significant relationship with entrepreneurial behavior.

3.1.1 Education vs entrepreneurial behaviour

The result presented in Table (1) depicted that education had a positive and significant relationship with the entrepreneurial behaviour of FPO members with a co-efficient of correlation value of 0.534. The positive correlation observed in our study suggests that FPO members with higher levels of education are more likely to exhibit entrepreneurial behavior. Education equips individuals with knowledge, information, and critical thinking abilities, which are essential for identifying opportunities, making informed decisions, and effectively managing business operations (Krueger, 2000; Bruderl et al., 2008). By recognizing and leveraging the potential of education as a driver of entrepreneurial competencies, FPOs can foster an environment that encourages innovation, risk-taking, and business growth. Policymakers and development agencies can focus on enhancing educational opportunities and access to relevant training programs for FPO members. By investing in educational initiatives, such as vocational training, business management courses, and skill

development programs, FPO members can be better equipped to engage in entrepreneurial activities, thereby contributing to the growth and sustainability of their FPOs. The result is in agreement with Naveen [18], Rauch [19], and Shane [20].

3.1.2 Annual income vs entrepreneurial behaviour

The data presented in Table (1) clearly indicated that there was a strong, significant and positive correlation between the annual income and the entrepreneurial behavior of FPO members, with a correlation coefficient value of 0.333. The positive relationship between annual income and entrepreneurial behavior can be attributed to several factors. Firstly, a higher annual income provides individuals with greater financial stability, allowing them to take calculated risks and invest in entrepreneurial endeavors. Additionally, a higher income level may indicate access to resources and networks that can support entrepreneurial activities, such as business mentorship programs or capital investment opportunities. The result underscore the importance of economic factors in fostering entrepreneurial activities within the context of FPOs. Bikkinia et al*.* [3] reported that farmers' collectives like cooperatives and FPOs are anticipated to increase incomes, decrease input purchase costs and transaction expenses. Jose et al*.* [13] revealed that factors like efficient farm management, adoption of innovative techniques, market diversification, and access to supportive financial mechanisms could also contribute to higher income levels This knowledge can guide policymakers and stakeholders in designing effective interventions and support systems to promote entrepreneurial development among FPO members, ultimately contributing to the growth and sustainability of the agricultural sector. The result is in agreement with Bruderl et al*.* [21], Krueger [22], Rauch [19], Raut [23], and Shane [20].

3.1.3 Training vs entrepreneurial behaviour

The result presented in Table (1) depicted that the training had a positive and significant relationship with the entrepreneurial behaviour of FPO members with a co-efficient of correlation value of 0.565. This result suggests that training plays a crucial role in fostering and enhancing entrepreneurial behavior among FPO members. Training programs expose FPO members to new ideas, concepts, and best practices in entrepreneurship, empowering them to identify and seize business opportunities. Moreover, training enhances their problem-solving abilities, decision-making skills, and overall managerial acumen, enabling them to navigate challenges and drive business growth. Friedrich et al*.* [24] revealed that members of the training group exhibited considerably more significant advancements in their business performance compared to members of the control group. These findings underscore the need for targeted and comprehensive training programs that equip FPO members with the knowledge and skills required to engage in entrepreneurial activities effectively. By investing in training initiatives, policymakers and stakeholders can promote entrepreneurship, foster economic growth, and enhance the overall performance and sustainability of FPOs. The result is in agreement with Bruderl et al*.* [21], Krueger [22], Rauch [19], Raut [23], and Shane [20].

3.1.4 Scientific orientation vs entrepreneurial behaviour

The findings presented in Table (1) depicted that the scientific orientation had a positive and significant relationship with the entrepreneurial behaviour of FPO members with a co-efficient of correlation value of 0.399. This suggest that scientific orientation plays a role in influencing and promoting entrepreneurial behavior among FPO members. Scientific orientation encourages FPO members towards analytical thinking, data analysis, and make informed decisions based on empirical evidence. FPO members with a strong scientific orientation are more likely to engage in activities such as conducting market research, implementing technological advancements, and utilizing data-driven strategies. These behaviors enable them to identify market gaps, innovate their products or services, and effectively respond to changing consumer demands. Jose et al*.* [25] revealed that the presence of agricultural extension services, research institutions, and peer networks that facilitate the exchange of scientific knowledge could also play a role in promoting scientific orientation among members of FPOs. Moreover, a scientific orientation fosters a culture of experimentation and continuous learning, allowing FPO members to adapt and refine their entrepreneurial practices over time.

The findings underscore the importance of fostering a scientific mindset and promoting scientific knowledge and skills among FPO

members. Incorporating scientific principles and methodologies into training programs and capacity-building initiatives can empower FPO members to make evidence-based decisions, embrace innovation, and enhance their overall entrepreneurial effectiveness. Additionally, fostering collaborations between FPOs and research institutions can facilitate the transfer of scientific knowledge and promote the adoption of cutting-edge technologies and practices. By promoting scientific orientation among FPO members, policymakers, organizations, and stakeholders can enhance the entrepreneurial capabilities of FPOs, stimulate innovation, and contribute to the sustainable development of rural economies. The result is in agreement with Kamaraddi [26].

3.1.5 Group cohesiveness vs entrepreneurial behaviour

The result presented in Table (1) depicted that group cohesiveness had a positive and significant relationship with the entrepreneurial behaviour of FPO members with a co-efficient of correlation value of 0.464. This implies that group cohesiveness plays a significant role in influencing and fostering entrepreneurial behavior within FPOs. Harun [27] revealed that the extent of group cohesiveness is a critical factor that influences the performance of cooperative movements in steering towards their envisioned future trajectory. Group cohesiveness refers to the degree of unity, cooperation, and mutual support among FPO members. When members feel a sense of togetherness and belongingness within their group, it can have a positive impact on their entrepreneurial behavior. Group cohesiveness also facilitates effective communication, collaboration, and coordination among FPO members. Thus, it creates an environment of trust, shared goals, and mutual support, which encourages members to actively engage in entrepreneurial activities.

The findings suggest that FPOs should focus on strengthening group cohesiveness as a strategy to promote entrepreneurial behavior among their members. This can be achieved through team-building exercises, fostering a culture of inclusiveness and collaboration, and providing opportunities for members to actively participate in decision-making processes. Moreover, fostering group cohesiveness can also contribute to the overall sustainability and resilience of FPOs. When members feel a strong sense of unity and social support, they are more likely to persevere in the face of challenges, adapt to changing market conditions, and collectively address common issues. This cohesion can enhance the overall performance and competitiveness of FPOs in the marketplace. By promoting group cohesiveness, FPOs can create an enabling environment that stimulates entrepreneurial behavior, encourages innovation, and enhances the overall success and sustainability of their members. The study is in line with Bruderl et al. [21], Krueger [22], Raut [23] , and Shane [20].

3.1.6 Creativity vs entrepreneurial behaviour

The result presented in Table (1) depicted that creativity had a positive and significant relationship with the entrepreneurial behaviour of FPO members with a co-efficient of correlation value of 0.683. This implies that creativity plays a crucial role in influencing and fostering entrepreneurial behavior within FPOs. Creativity refers to the ability to generate novel ideas, think outside the box, and find innovative solutions to problems. Within the context of FPOs, entrepreneurial behavior involves taking initiative, identifying opportunities, and pursuing innovative ventures. Creativity enables FPO members to identify unique business opportunities, develop innovative products or services, and adapt to changing market dynamics. Creative individuals are more inclined to explore new ideas, experiment with different approaches, and take calculated risks, all of which are key aspects of entrepreneurial behavior. Their ability to think creatively and come up with innovative solutions can give FPO members a competitive edge and contribute to the growth and success of their ventures. Therefore, individuals with higher levels of creativity are more likely to exhibit entrepreneurial behavior within the FPO setting.

The findings suggest that fostering creativity within FPOs is vital for promoting entrepreneurial behavior among their members. Creating an environment that encourages and nurtures creativity can be achieved through various strategies. FPOs can provide training and workshops on creative thinking and problem-solving, promote a culture of openness to new ideas and experimentation, and provide resources and support for members to pursue innovative projects. Thus, by fostering a culture of creativity, FPOs can enhance the entrepreneurial potential of their members and drive the growth and success of their collective enterprises. The study is in line with Bruderl et al. [21], Rauch [19], Raut [23], and Shane [20].

Table 1. Correlation analysis of between entrepreneurial behaviour of FPO members and their socio-psychological constructs and perceived economic variables. (n=120)

Independent variable	Correlation coefficient
Age	-0.52^{NS}
Education	0.534**
Income	0.33**
Training	0.565**
Scientific orientation	0.399**
Group cohesion	0.464**
Credit orientation	-0.14^{NS}
Creativity	0.683**

4. SUMMARY AND CONCLUSION

The research paper aimed to investigate the correlation between entrepreneurial behavior and various socio-psychological constructs and perceived economic variables among Farmer Producer Organization (FPO) members. The findings demonstrated the significant and positive relationships between education, annual income, training, scientific orientation, group cohesion, and creativity with entrepreneurial behavior. Whereas, the variables age and credit orientation exhibited non-significant correlation coefficients, suggesting no significant relationship with entrepreneurial behavior. These results contribute to our understanding of the factors that influence entrepreneurial behavior within the FPO context.

The positive and significant correlation coefficients between the variables indicated that they play a crucial role in shaping entrepreneurial behavior among FPO members. Education was found to be positively related to entrepreneurial behavior, suggesting that individuals with higher levels of education are more likely to exhibit entrepreneurial tendencies within the FPO setting, which highlights the importance of providing educational opportunities and training programs to enhance entrepreneurial skills among FPO members. Similarly, annual income was positively correlated with entrepreneurial behavior, indicating that individuals with higher income levels are more likely to engage in entrepreneurial activities, which suggests that access to financial resources can facilitate entrepreneurial endeavors within FPOs. Efforts should be made to provide financial support and access to credit for FPO members to encourage and enable their entrepreneurial aspirations. Training was found to be positively related to entrepreneurial behavior, suggesting that the training programs enhance business and managerial skills, scientific and technical knowledge, and promote teamwork and collaboration can contribute to the development of entrepreneurial capabilities within FPOs. The positive correlation between creativity and entrepreneurial behavior highlights the significance of fostering a creative and innovative environment within FPOs. The significant positive relationships between education, annual income, training, scientific orientation, group cohesion, and creativity with entrepreneurial behavior emphasize the importance of these factors in fostering entrepreneurial mindset and behavior among FPO members. Overall, the findings provide valuable insights for FPOs and policymakers to design interventions and strategies that promote and support entrepreneurial activities within the agricultural sector. By recognizing and nurturing the factors identified in this study, FPOs can harness the entrepreneurial potential of their members, enhance agricultural productivity, and contribute to the overall development and well-being of rural communities.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. PIB. Livelihood of farmers. Accessed 05 March 2023. Available:https://pib.gov.in/PressReleaseIframePage.aspx?PRID=1906888. 2023.
2. Rauch A, Frese M. Let's put the person back into entrepreneurship research: A meta-analysis on the relationship between business owners' personality traits, business creation, and success. European Journal of Work and Organizational Psychology. 2007;16(4):353-385.
3. Bikkina N, Turaga RM, Bhamoriya V. Farmer producer organizations as farmer collectives: A case study from India. Wiley-Blackwell: Development Policy Review. Available:https://doi.org/10.1111/dpr.12274
4. Oksana A. Entrepreneurial behaviour of safed musli farmers of Tikamgarh district. MSc. (Ag.) Thesis, Jawaharlal Nehru Krishi Vidyalaya, Jabalpur; 2005.
5. Magnus E, Peters BS.Dealing with small scale producers: linking buyers and producers. KIT Publishing, Amsterdam; 2010.
6. Birthal PS, Joshi PK. Smallholder farmer's access to markets for high value agricultural commodities in India, Cornel University, New York; 2007.
7. Wankhade PT. Entrepreneur behaviour of dairy farmers of Anand district in Gujarat. M.Sc. (Ag.). Thesis. Anand Agricultural University, Gujarat, India; 2005.
8. Bernard T, Spielman DJ. Reaching the rural poor through rural producer organizations: A study of agricultural marketing cooperatives in Ethiopia. Food Policy. 2009;34(5):60-69.
9. Fischer E, Qaim M. Gender, agricultural commercialization and collective action in Kenya. Food Security.2012b;49(10):441-453.
10. Fischer E, Quaim M. Linking smallholders to markets: Determinants and impacts of farmer collective action in Kenya. World Development Journal. 2012a;40(6):1255-1268.
11. Vadivelu A, Kiran BR. Problems and prospects of agricultural marketing in India: An overview. International Journal of Agricultural and Food Science. 2013;3(3):108-118.
12. NABARD. Farmer Producer Organizations, Frequently Asked Questions (FAQs). Accessed 05 April; 2023. Available:https://www.nabard.org/demo/auth/writereaddata/File/FARMER%20PRODUCER%20ORGANISATIONS.pdf.2015
13. Jena D, Mohapatra D, Pani et. al., S.K. E-Marketing of agriculture commodities: Challenges and prospects for marginal and small farmers in India. Journal of Agriculture and Crops. 2022;4(5):116-120.
14. Ramappa D, Singh MK, Jayaram L. Entrepreneurial Behaviour of women entrepreneurs of Imphal of Manipur. Ind. Res. J. of Ext. Edu. 2013;13(2):31-35.
15. Jose AE. Entrepreneurial behaviour of FPO members for livelihood security. M.Sc. (Ag) Thesis. Kerala Agricultural University. Thrissur; 2020.
16. Kerlinger FN. Foundations of Behavioral Research, Chicago, United States of America;1964.
17. Yashaswini P, Varma SK. Women empowerment through entrepreneurial activities of Self Help Groups. Indian Research Journal of Extension Education. 2008;8(1):46- 51.
18. Naveen CD. Entrepreneurial behaviour of pomegranate farmers in Chitradurga district of Karnataka. Ph.D. Thesis. Acharya N G Ranga Agricultural university, Hyderabad, India;2012.
19. Raut AA, Sankhala G. Entrepreneurship among commercial dairy farmers in Maharastra. Ind. J. of Dairy Science. 2014;67(6):335- 342.
20. Shubhangi S. Farmer Producer Organization for effective linkage of small producers with market. Int. J. Appl. Res. 2016;2(10):142-146.
21. Bruderl J, Preisendörfer P, Ziegler R. Survival chances of newly founded business organizations. American Sociological Review. 2008;73(1):81-101.
22. Krueger NF. The cognitive psychology of entrepreneurship. In G. D. Meyer (Ed.), Handbook of entrepreneurship research; 2000. Springer.
23. Shane S. A General Theory of Entrepreneurship: The Individual-Opportunity Nexus. Edward Elgar Publishing; 2003.
24. Friedrich C, Glaub M, Gramberg K, Frese M. Does training improve the business performance of small-scale entrepreneurs? Industry and Higher Education.2006;20:75-84.
25. Jose AE, Jayalekshmi G, Lade AH. Socio-psychological constructs and perceived

economic variables impacting the farmer producer organization members in Kerala: A quantitative analysis. Asian J. Agric. Ext. Econ. Soc. 2023;41(8):266-276.

26. Kamaraddi. Entrepreneurial behaviour of pomegranate farmers in Koppal district of Karnataka. M.Sc. (Ag.) Thesis. Acharya N G Ranga Agricultural University, Hyderabad, India;2011.

27. Harun MZ, Mahmood RB. The relationship between group cohesiveness and performance: An empirical study of cooperatives movement in Malaysia; 2012. Available:https://www.semanticscholar.org/paper/The-Relationship-between-Group-Cohesiveness-and-An-Harun-Mahmood/0b7c52196a5cf4bae4375ce3e23f5d57f75b3ddb

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