



Evolving strategies for improving the performance of farmer producer companies through field studies

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ABSTRACT

Farmer Producer Companies (FPCs) were spearheaded for the integration of resource-poor farmers with the market systems in India. However, 45% of the FPCs aged more than five years had become dormant in function. The present study was undertaken to identify, validate and prioritise the strategies which could facilitate the improved performance of FPCs and ensure their sustainability in the long run. The list of strategies was identified through focus group discussions along with personal and telephonic interviews with experts associated with FPCs, viz. FPC officials (CEO, BODs), farmers, promoting agencies, customers, and government officials. Later, it was administered as a semi-structured interview schedule to experts for validation and prioritization using the Garrett ranking technique. The prominent prioritized strategies were ‘Capacity building of BODS to manage FPC business activities on their own’, and ‘Designing a well-defined business plan for the FPC’ for the stakeholder category Promoting agencies/ CBBOs, ‘FPCs need to strive to build trust among the member farmers’, ‘Increasing the active membership strength’ were prioritized under the FPC category. Subsequently, ‘Building adequate knowledge on advantages of business association with FPC’, and ‘Motivating members of an FPC to build their own capacities such as financial literacy’ were ranked first for the farmers category. Under the category of customers, ‘Showing readiness to participate in customer satisfaction surveys,’ and ‘Updating knowledge on FPC products by discussions with friends and family’ were ranked first. ‘Reorienting the policy focus from mere formation to sustained incubation of FPCs’ and ‘Establishing platforms for FPCs to engage in policy advocacy and representation at various levels’ could ensure the sustainability of FPCs in India.

Keywords: CBBO, Farmer Producer Companies (FPCs), Farmer Producer Organisations (FPOs), Garrett ranking, Strategies

In India’s economy, agriculture is a cornerstone, contributing 18.30% to the Gross Value Added in the fiscal year 2022–23 (MoSPI 2023) of which the livestock contributes around 30.47 % (at constant prices). The agricultural landscape is predominantly characterized by a multitude of small and marginal farmers, constituting 86.08% of landholders, totaling 126 million individuals with an average per capita landholding of meagre 1.08 hec (MoA & FW 2016). Subsequently, these farmers often find themselves on the fringes of technological advancements and supportive agricultural schemes, posing a challenge for extension services to effectively reach them. Compounded by high input costs during production and vulnerability to distress sales post-harvest, small and marginal farmers struggle with low bargaining power, middlemen exploitation, and inadequate market connectivity (Padmanand *et al.* 2018, Ponnusamy and

Padaria 2021). The consequence is a disproportionate share of consumer prices realized by the farmer (Karanam *et al.* 2021), fostering a perception of the unviability of agriculture in the country.

In response to the challenges faced by the India’s agriculture, Farmer Producer Organisations (FPOs) are recognized as effective instruments for integrating smallholders into the market systems of India (Dash 2016, Malik and Khajale 2024). The enhanced emphasis on the promotion of FPOs could be observed as a major direction towards achieving the goal of doubling farmers’ income and securing the interests of small and marginal farmers (Ramappa and Yashaswini 2018). Accordingly, the Government of India (GOI) has formulated various policy guidelines and directed the formation and promotion of FPOs in India. The GOI’s enhanced emphasis on viewing FPCs as a solution to address the majority of the problems faced by the small and marginal farmers is a testament for their enhanced focus during the recent decade (Biman *et al.* 2019, Kumar *et al.* 2020).

Despite the dedicated efforts of GOI to promote and strengthen FPCs in India, around 45% of the FPCs aged

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more than 5 years were ‘struck off’ by the Ministry of Corporate Affairs (Govil *et al.* 2020, Neti and Govil 2022). NABARD (2019), in its report, stated that the weakness of FPCs was over-dependence on the promoting agencies. Moreover, FPCs are constrained by several challenges, such as poor working capital availability (Malik and Khajale 2024), lack of professional managers (Aditya 2015), poor market orientation (Shah 2016), limited storage and transportation facilities (Latynskiy and Thomas 2016) and a lack of active involvement by the members (Elsner 2005, Storbakk 2013). This emphasizes the need to make the FPCs self-reliant, farmer-driven and professional business organisations for functioning in an efficient and sustainable manner. A field investigation was warranted to identify the strategies, validate and prioritise in order to design suitable framework to ensure sustainable performance of the FPCs in India, thus safeguarding the interests of small and marginal farmers in India.

MATERIALS AND METHODS

Experimental site: The present study was undertaken in the states of Telangana and Andhra Pradesh, considering the predominant number of FPCs (1,172) and major share of paid-up capital (59.48%) owned by these two states among the top 20 FPCs in India (Neti and Govil 2022). A total of 8 FPCs were selected purposively from both the states in crop and dairy sectors. The crop sector FPCs (4 nos.) were selected from the districts having the highest number of FPCs in the states whereas, all the available 4 dairy FPCs from both the states were selected for obtaining the sample of dairy FPCs. Due consideration was given to FPCs promoted by various implementing agencies in the state, viz. NABARD (National Bank for Agriculture and Rural Development), SFAC (Small Farmers Agribusiness Consortium) and NRLM (National Rural Livelihood Mission) and National Dairy Development Board (NDDB). The list of selected FPCs is given in Table 1.

The strategies required to be implemented for enhancing the performance of FPCs and ensuring their sustainability were identified through focus group discussions along with personal and telephonic interviews with various stakeholders associated with the promotion of FPCs, viz. FPC officials (CEO, BoDs, etc), Farmers, promoting agencies, customers, and government officials. A list of strategies was administered as a semi-structured interview

schedule to 45 experts in the field of FPOs/ FPCs (viz. MANAGE, NAARM, ICAR-NDRI, ICAR-IARI, CBBOs such as Access livelihoods, Dhan foundation, Centre for Sustainable Agriculture, Society for Elimination of Rural Poverty, etc) for their validation and prioritization. Later, the strategies were ranked using Garrett ranking technique in order to identify the important strategies where resources and efforts need to be directed to enhance the performance of FPCs and ensure their sustainability in the long run.

The Garrett ranking method was applied to rank the strategies deemed significant for improving the performance of the FPCs within each stakeholder category. In accordance with this approach, experts were asked to assign ranks to all listed strategies within each of the five categories. The resulting ranking was then translated into score values using the formula proposed by Garrett (1979).

$$\text{Per cent position} = \frac{100(R_{ij}-0.5)}{N_j}$$

Where; R_{ij} , Rank given for the i^{th} attribute by j^{th} respondent; N_j , Number of attributes ranked by j^{th} respondent. Utilizing Garrett’s table, the percentage positions were translated into scores. Subsequently, for every strategy identified by the experts, the scores from each respondent were aggregated, and both the total and mean values were computed. The strategy within each category yielding the highest mean value was deemed the most significant, and thus receiving the lowest rank.

RESULTS AND DISCUSSION

Promoting agencies/ CBBOs (Cluster Based Business Organisations): Under the stakeholder category, i.e. Promoting agencies/ CBBOs, ‘Capacity building of Board of Directors (BoDs) to manage FPC business activities on their own’ was ranked first. Unlike the other companies, FPCs are solely run by the farmers who often have limited managerial abilities and business acumen due to which the FPCs struggle to sustain in the long run. Hence, the CBBOs could ensure that the BoDs and farmers gain the required skills to run the business on their own, through effective capacity building activities even after the withdrawal of the CBBO post-gestation period. Ranking of the strategies for the promoting agencies/ CBBOs is given in Table 2.

The strategy ‘Ensuring that a well-defined business plan is designed for the FPC’ obtained second rank followed

Table 1. List of Farmer Producer Companies

| FPC | Location |
|---|--|
| Shreeja Mahila Milk Producer Company Limited (SMMPCL) | New Indira Nagar, Tirupati district, A.P. |
| Karimnagar Milk Producer Company Limited (KMPL) | Padmanagar, Karimnagar district, Telangana |
| Sangam Milk Producer Company Limited (SMPCL) | Jagarlamudi, Guntur district, A.P. |
| Sri Vijaya Visakha Milk Producers Company Limited (SVVMPCL) | Gajuwaka Mandal, Visakhapatnam, A.P. |
| Attaluru Palem Organic Farmers Producer Company Limited (AOFPL) | Amaravathi mandal, Guntur district, A.P. |
| Indervelly Farmers Producer Company Limited (IFPL) | Indervelly, Adilabad district, Telangana |
| Kodangal Farmers Services Producer Company Limited (KFSPCL) | Kodangal, Mahbubnagar district, Telangana |
| Santhosha Women Farmers Producer Company Limited (SWFPCL) | Jagadevapur, Medak district, Telangana |

Table 2. Ranking of the strategies for the promoting agencies/ CBBOs

| Strategy | Garret mean score | Rank |
|--|-------------------|------|
| Capacity building of BODs to manage FPC business activities on their own. | 66.78 | 1 |
| Ensuring that a well-defined business plan is designed for the FPC. | 56.42 | 2 |
| Employing a competent and capable CEO for the FPC preferably belonging to the same geographical location. | 55.80 | 3 |
| Conscious selection of the Board of Directors (BODs) during formation stage who could contribute to the FPC growth without any political considerations. | 54.98 | 4 |
| Conducting monthly meetings of the BoDs and publishing the proceedings leading to good governance. | 51.31 | 5 |
| Periodical inspection and evaluation at different stages of functioning of FPC. | 50.27 | 6 |
| Devising a vision or long-term plan for the sustainability of FPCs. | 35.53 | 7 |
| Identifying financial sources to provide credit facilities to FPC and arranging for their collaboration. | 34.91 | 8 |

by 'Employing a competent and capable CEO for the FPC preferably belonging to the same geographical location' (Rank III) and 'Conscious selection of the Board of Directors (BODs) during formation stage who could contribute to the FPC growth without any political considerations' (Rank IV). The CBBOs may ensure that a clear blueprint of business activities is designed for the FPCs to generate profits and independently meet their operational costs. Dairy sector FPCs face significant challenges related to high initial investments and operational expenses. A well-defined business plan for short, medium, and long-term activities would help these FPCs navigate market risks, compete with private dairies, and manage shareholders and customers efficiently. Moreover, the CEO (Chief Executive Officer) acts as a fulcrum of the organization especially till the FPCs reach the maturity stage. The FPCs may stumble in their business operations or even become dormant with the sudden withdrawal/ change of the CEO especially during initial and growth phases. Similarly, the selection of BODs who does not harbour political aspirations would be crucial for the smooth functioning and better performance of the FPCs.

Farmer Producer Company (CEO and BODs): For the stakeholder category, i.e. FPCs (CEO and BoDs), 'Striving to build/ sustain the trust of the member farmers' obtained

the highest Garrett mean score (Rank I). Building trust is essential to ensure that the farmers actively participate in the decision-making process and have confidence that their interests are being represented and protected. Besides that, FPCs can help farmers access larger markets and negotiate better prices for their produce by aggregating the supply. Trust is crucial in this aspect, as farmers need to believe that the FPC is working diligently to get them the best deals and not exploiting their vulnerability. Also, the FPCs must ensure transparency in their operations and financial dealings. Farmers should be able to access information about the company's performance, market low of their produce, and profits sharing. This ensures credibility of the FPC and fosters long-term relationships. Dairy sector FPCs outperformed due to their establishment of "Brand name of their products," among both producers and consumers, exhibiting the trust and pride of FPC. Ranking of the strategies for the Farmer Producer Companies (FPCs) is depicted in Table 3.

Further, 'Increase in the active membership strength and share capital' obtained the second highest Garrett mean score (Rank II). As the number of active members' increases, the FPC can benefit from economies of scale. It can aggregate a larger volume of produce, enabling bulk purchasing and better negotiation power with buyers.

Table 3. Ranking of the strategies for the Farmer Producer Companies (FPCs)

| Strategy | Garret mean score | Rank |
|--|-------------------|------|
| Striving to build/ sustain the trust of the member farmers through transparent operations, inclusive-decision making, social responsibility, etc. | 67.33 | 1 |
| Increasing the active membership strength and share capital | 49.96 | 2 |
| From the initial capital pooled by the FPC (<i>viz.</i> , paid-up capital and support from the funding agencies), enough working capital may be allocated to undertake and establish business instead of investing excessively in fixed assets. | 49.76 | 3 |
| Planning and executing customer-need-based production of products for enhancing the sales. | 48.07 | 4 |
| Ensuring widespread representation of farmers in FPC as well as its BoDs instead of restricting membership to family or friends | 45.40 | 5 |
| Utilising the digital marketing platforms such as e-NAM, Amazon, Flipkart, own FPC website, etc. | 45.31 | 6 |
| Value-addition and marketing of products to capture major share in consumer (₹) | 43.58 | 7 |
| Utilising the government-sponsored schemes and training for capacity building of FPC members. | 41.24 | 8 |
| Involving member farmers in attracting customers, selling FPC products by providing incentives. | 39.42 | 9 |
| Tapping the potential sources of CSR funds for effective service delivery to farmers. | 28.51 | 10 |

Table 4. Ranking of the strategies for the farmers

| Strategy | Garret mean score | Rank |
|--|-------------------|------|
| Building adequate knowledge on how the constant association and business with the FPC could be profitable through regular interaction meets and farm literature. | 65.24 | 1 |
| Motivating members of an FPC to build their own capacities such as financial literacy, cooperative management, digital literacy, etc. to contribute to the FPC. | 57.38 | 2 |
| Clarity of roles and responsibilities as a shareholder of the company right at the time of membership enrolment itself. | 49.33 | 3 |
| Farmers should focus on maintaining high-quality standards of their produce to create a strong market presence and gain the trust of customers. | 47.58 | 4 |
| Strengthening the sense of ownership for the FPC through periodical management training. | 46.22 | 5 |
| Inculcating the sense of inclusiveness among the farmers towards fellow members in the FPC through training/ sharing success stories of other FPCs. | 46.04 | 6 |
| Comparison of own FPC with successfully running FPCs in other areas. | 43.56 | 7 |
| Participation in outlets of FPC for marketing of products to understand the competitiveness. | 39.76 | 8 |
| Gaining knowledge of democratic principles and legal provisions of formation and functioning of an FPC. | 36.33 | 9 |

Besides that, the FPC is likely to have a diverse range of skills and expertise which can foster innovation and problem-solving leading to better operational outcomes. The states of Andhra Pradesh and Telangana collectively contribute 59.48% of the paid-up capital among the top 20 FPCs in India, majority of which are in dairy sector (Govil *et al.* 2020). This indicates the livelihood opportunities of millions of farmers who depend on livestock. Additionally, a strong membership base and robust share capital attracts potential investors, lenders and development agencies contributing to a stable and sustainable business growth. Similar findings and views were reported by Nikam *et al.* (2019).

Successively, 'Allocation of enough working capital to undertake and establish business instead of investing excessively in fixed assets' obtained the third highest Garret mean score followed by 'Planning and executing customer-need-based production of products for enhancing the sales' (Rank IV). Neglecting the working capital needs can lead to liquidity problems, causing business disruptions and potential closure. While fixed assets are important for the long-term growth and stability of an FPC, allocating enough working capital is critical for maintaining day-to-day operations, flexibility, and resilience. Also, adequate working capital empowers the FPC to respond to market dynamics, support farmers effectively, and build a

sustainable and successful business in the crop and dairy sectors.

Farmers: The ranking of the strategies for the farmers is given in Table 4. For the stakeholder category, i.e. Farmers, the highest Garret mean score was obtained by the strategy 'Building adequate knowledge on how the constant association and business with the FPC could be profitable through regular interaction meets and farm literature' (Rank I). Farmers may not be fully aware of the range of services and support available through the FPC, and hence, the interaction meets provide a platform to understand how they can profit from being associated with the company. Further, building adequate knowledge through regular interaction meets and farm literature facilitates informed decision-making, improved productivity, increased profitability, and stronger bonds between the FPC and its farmer members, ultimately contributing to the overall success in the performance of the producer company.

Subsequently, 'Motivating members of an FPC to build their own capacities such as financial literacy, cooperative management, digital literacy, etc.' was ranked as second most important strategy. The capacitated farmers can represent themselves and their communities more effectively which allows them to advocate for their rights and access resources (Bernard and Spielman 2009, Ponnusamy *et al.* 2021). Additionally, farmers can leverage

Table 5. Ranking of the strategies for the customers

| Strategy | Garret mean score | Rank |
|--|-------------------|------|
| Showing readiness to participate in customer satisfaction surveys conducted by FPCs to improve the service/product quality of FPC. | 66.67 | 1 |
| Updating the knowledge on FPC products by discussions and information sharing with peer group, family members and friends. | 52.76 | 2 |
| Embracing 'seasonal eating' which are locally available from the farmers of the FPCs in one's locality. | 50.71 | 3 |
| Participating in 'marketing/ awareness campaigns' about the producer-owned company products. | 41.71 | 4 |
| Utilisation of social media platforms, viz. Instagram, Facebook, Twitter, YouTube, etc for product and market comparison. | 36.16 | 5 |

digital tools and platforms to access market information and streamline their operations.

Further, the 'Clarity of roles and responsibilities as a shareholder of the company right at the time of membership enrolment' obtained the third highest Garret mean score (Rank III) followed by 'Maintaining high-quality standards of the produce by the member farmers to create a strong market presence and gain the trust of customers' (Rank IV).

Customers: Ranking of the strategies for the customers is depicted in Table 5. Under the stakeholder category, i.e. Customers, 'Showing readiness to participate in customer satisfaction surveys conducted by FPCs to improve the service/ product quality of FPC' was identified as an important strategy (Rank I) contributing to the performance enhancement of the FPCs. The FPCs can achieve higher customer satisfaction, loyalty, and business growth by leveraging customer feedback to improve products, services, and overall customer experience.

The second highest Garret score was obtained by 'updating the knowledge on FPC products by discussions and information sharing with the peer group, family members and friends' (Rank II). The happy customers are more likely to recommend the FPC to others through word-of-mouth thus, disseminating knowledge on the FPC products (viz. jeera butter milk, basundi, mango lassi, tea special milk of Karimnagar Milk Producers Company Limited). Also, positive reviews and recommendations from satisfied customers can lead to business growth and new customer acquisition for the FPCs. The third rank under this category was obtained for the strategy- 'Embracing seasonal eating which are locally available from the farmers of the FPCs in one's locality'. An increased demand for locally grown produce directly benefits farmers by providing them with a stable market for their products. It also encourages farmers to grow a diverse range of crops, promoting sustainable farming practices and long-term agricultural productivity. When customers choose to buy locally grown produce from FPCs, it probably encourages community support

for the FPC's initiatives and thus, strengthen the FPC's business performance.

Government: Ranking of the strategies for the government is given in Table 6. Under the stakeholder category, i.e. Government, 'Reorienting the policy focus on "Promotion and incubation of FPCs" besides their formation to ensure sustainability' obtained the highest Garret mean score (Rank I). Incubation emphasizes assisting FPCs in developing their business models, accessing new markets, and creating linkages with buyers to achieve better market penetration and higher sales. Besides that, incubation focuses on building the capacity of FPCs. This includes providing training, skill development, and knowledge-sharing opportunities to the members and leadership in the FPC. Enhanced capacity improves their management skills, financial literacy, and overall understanding of running a successful FPC. Thus, by shifting the focus from mere formation to sustained incubation, the policy encourages the existing FPCs to plan for long-term sustainability, which is essential for the business growth of the companies.

The second highest Garret mean score was obtained by 'establish platforms for FPCs to engage in policy advocacy and representation at various levels' (Rank II). Engaging in policy advocacy raises awareness about the challenges faced by smallholder farmers and the potential of FPCs as a solution. This can garner public support for the FPC's initiatives and gain recognition for their contributions to rural development. Further, FPCs engagement in policy advocacy and representation at various levels could be instrumental in enhancing their performance by influencing policies, accessing government support, and addressing regulatory barriers.

The FPCs can create a more favourable operating environment, expand market opportunities, and effectively represent the interests of smallholder farmers. Policy advocacy strengthens FPCs as influential stakeholders in the farm sectors, contributing to their overall impact on farmers' livelihoods.

Table 6. Ranking of the strategies for the government

| Strategy | Garret mean score | Rank |
|--|-------------------|------|
| Reorienting the policy focus on "promotion and incubation of FPCs" besides their formation to ensure sustainability. | 53.64 | 1 |
| Establish platforms for FPCs to engage in policy advocacy and representation at various levels. | 52.18 | 2 |
| The differences in the selection criteria of FPCs, procedural formalities in the formation of new FPCs need to be streamlined in order to avoid confusion among the stakeholders and maintain uniformity in providing funding support to the FPCs. | 51.60 | 3 |
| Policies encouraging partnerships between FPCs, research institutions, and agricultural universities/ veterinary universities for improved farming practices, higher productivity, and better-quality produce. | 49.13 | 4 |
| An exclusive recognition by the government for the products sold by FPCs to easily create awareness and interest among the customers. | 46.96 | 5 |
| Nudging financial institutions to give working capital loans to the FPC on a predefined, but easy terms. | 46.60 | 6 |
| Setting the minimum membership size benchmark higher than the existing 300 to enable scalability in operations for the FPCs. | 44.40 | 7 |
| Tax exemptions for the FPCs with an annual turnover of less than 1 crore. | 40.09 | 8 |
| Periodical review of incentives to eliminate non-performing or dormant FPCs. | 37.98 | 9 |

Subsequently, the strategy ‘differences in the selection criteria of FPCs, procedural formalities, in the formation of FPCs need to be streamlined in order to avoid confusion among the stakeholders and maintain uniformity in providing funding support to the FPCs’ was ranked third followed by the need for ‘policies encouraging partnerships between FPCs, research institutions, and agricultural universities/ veterinary universities for improved farming practices, higher productivity, and better-quality produce’ (Rank IV).

The long-term viability of Farmer Producer Companies (FPCs) in both crop and dairy enterprises is crucial for the holistic growth and advancement of farming. This study explored various strategies for ensuring the sustainability and effectiveness of FPCs. While success of FPCs depends upon a distinct yet interconnected role played by each stakeholder, sustaining them in India necessitates the collaborative efforts of various stakeholders engaged in their formation and promotion. Since contribution of livestock sector is increasing in the overall growth of farm sector, the learnings especially meticulously outlined business plan from dairy based FPCs would ensure their sustainability. Educating the farmers about the benefits and prospects of FPC membership and management of business operations is important to initial momentum in their performance. Further, the initiation of an exclusive scheme for promotion of FPCs in other sub-sectors of livestock could be pivotal in ensuring remunerative prices for resources - poor farmers.

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REFERENCES

- Aditya R L S. 2015. ‘Study on organisational structure of farmer producer organisations for effective value chain analysis –A case analysis of Telangana and Karnataka.’ M.Sc.Thesis, Acharya N.G. Ranga Agricultural University, Telangana.
- Bernard T and Spielman D J. 2009. Reaching the rural poor through rural producer organizations? A study of agricultural marketing cooperatives in Ethiopia. *Food Policy* **34**: 60–69.
- Biman P, Parida A and Choudhury S C S. 2019. Augmenting Farmer Producer Company through Aligning Indigenous Community Based Beliefs and Practices: Learnings from Abotani Community of Eastern Himalayan Region. In Proceedings of the 2nd International Conference on Information Systems & Management Science (ISMS).
- Dash S K. 2016. Producer companies and small holder’ inclusion in the market system; Emerging issues, opportunities and challenges in India. *Journal of Research Innovation and Management Science* **2**(1): 35–40.
- De Morree D. 1998. El rol de organizaciones económicas campesinas en proceso de desarrollo y estrategias campesinas. *Compiled in Estrategias Campesinas en el Surandino de Bolivia* 305–37.
- Elsner D M. 2005. Organizaciones económicas campesinas y políticas públicas, La Paz: Plural editores.
- Garrett H E. 1979. Statistics in Psychology and Education. Vakils Feffer and Simons Ltd., Bombay, India.
- Govil R, Neti A and Madhushree R R. 2020. Farmer Producer Companies: Past, Present and Future. Azim Premji University, Bangalore.
- Karanam S D, Achar A P and Kulkarni R V. 2021. Design of a digital Kissan hub prototype for Farmer Produce Organizations to empower agribusiness. In opportunities and strategic use of agribusiness information systems. *IGI Global*. pp. 207–233.
- Kumar S. 2020. ‘An appraisal of dairy based farmer producer companies in India.’ Ph.D. Thesis, ICAR-National Dairy Research Institute, Karnal, Haryana.
- Latynskiy E and Thomas B. 2016. Networks of rural producer organizations in Uganda: What can be done to make them work better? *World Development* **78**: 572–86.
- Malik S and Kajale D. 2024. Empowering small and marginal farmers: Unveiling the potential and addressing obstacles of farmer producer organizations in India. *Research on World Agricultural Economy* **5**(1): 32–47.
- MoA & FW. 2016. Agricultural Census 2015-16. All India Report on Number and Area of Operational Holdings. Government of India, New Delhi, India.
- MOSPI. 2023. Ministry of Statistics and Programme Implementation, Government of India. Retrieved from <https://www.mospi.gov.in/>, Accessed on 16th June, 2023.
- NABARD (National Bank for Agriculture and Rural Development). 2019. Annual Report 2019–20. NABARD, Mumbai.
- Neti, Annapurna and Richa Govil. 2022. Farmer Producer Companies: Report II, Inclusion, Capitalisation and Incubation. Azim Premji University, Bangalore.
- Nikam V, Singh P, Ashok A and Kumar S. 2019. Farmer producer organisations: Innovative institutions for upliftment of small farmers. *The Indian Journal of Agricultural Sciences* **89**(9): 1383–392.
- Padmanand V and Khodwekar S K S. 2018. Manual on entrepreneurship and management for farmer producer companies. pp. 2–25.
- Ponnusamy K and Padaria R N. 2021. Research in agricultural extension: Review of its contribution and challenges. *Indian Journal of Agricultural Sciences* **91**(5): 659–65.
- Ponnusamy K, Singh V and Chakravarty R. 2021. Research in agricultural extension: Review of its contribution and challenges. *Indian Journal of Animal Sciences* **91**(6): 430–37.
- Ramappa K B and Yashashwini M A. 2018. Evolution of farmer producer organizations: Challenges and opportunities. *Research Journal of Agricultural Sciences* **9**(4): 709–15.
- Shah T. 2016. Farmer producer companies: Fermenting new wine for new bottles. *Economic and Political Weekly* **51**(8): 15–20.
- Shree D N and Vaishnavi P. 2022. Challenges faced by farmer producer organisations (FPOs)-A review. *Journal of Agricultural Extension Management* **23**(1): 131–40.
- Storbakk A. 2013. ‘Social capital and Rural Producer organisations: An assessment of the relevancy of social capital in the functioning of rural producers organisations in Bolivia.’ M.Sc. thesis, Faculty of economics and Social Sciences, Department of Development Studies, University of Agder.