



Behavioural and Organizational Dynamics of Farmer Producer Organizations in India: A Review of Genesis, Traits and Challenges

**Badigi Pavan Naik ^{a++*}, Mahamaya Prasad Nayak ^{a#},
Indira Priyadarsini Pattnaik ^{a++} and Srabani Ghosal ^{a++}**

^a *Department of Extension Education, Odisha University of Agriculture and Technology,
Bhubaneswar, Odisha, India.*

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Farmer Producer Organizations (FPOs) have emerged as transformative institutions aimed at improving the socio-economic resilience and market access of small and marginal farmers in India. This review synthesizes findings from 47 peer-reviewed studies to explore how behavioural determinants—such as innovativeness, decision-making, risk-bearing ability, achievement and economic motivation, business and communication skills, feedback usage, and credit-seeking behaviour—influence the functioning and sustainability of FPOs. Anchored in behavioural theories

⁺⁺ *Ph.D. Scholar;*

[#] *Professor;*

^{*} *Corresponding author: Email: pavanextension@gmail.com;*

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such as the Theory of Planned Behaviour, Social Identity Theory, and Social Learning Theory, the paper emphasizes the role of socio-psychological factors in shaping farmer engagement and organizational outcomes. The review also documents institutional challenges including credit constraints, governance issues, and infrastructural deficits that hinder the optimal performance of FPOs. By bridging empirical evidence with theoretical insights, the study offers a holistic perspective on how behaviour-centric approaches can enhance FPO effectiveness, informing policy design, capacity-building interventions, and extension strategies tailored to rural India's evolving agricultural landscape.

Keywords: *Farmer producer organizations; behavioural traits; social identity theory; decision-making, risk-bearing; extension; India; agricultural collectives.*

1. INTRODUCTION

Agriculture continues to be a foundational pillar of India's economy, offering livelihood support to approximately 42.3% of the population and contributing 18.2% to the nation's GDP at current prices (PIB, 2024). However, despite progressive policy measures and technological interventions, the sector remains hindered by structural issues such as fragmented landholdings, low productivity, and the widespread marginalization of smallholders. Notably, over 86% of agricultural holdings fall into the small and marginal category, averaging just 1.15 hectares in size (Agricultural Census, 2016). These limitations significantly reduce farmers' access to quality inputs, affordable credit, modern technologies, and profitable market opportunities.

To overcome these systemic barriers, Farmer Producer Organizations (FPOs) have emerged as a critical institutional innovation. Initiated and supported by agencies such as NABARD and SFAC, FPOs function as collective entities that leverage group dynamics to enhance bargaining power, streamline input procurement, improve market integration, and facilitate access to financial services (Ministry of Finance, Government of India, 2024). The Government of India's landmark scheme to promote 10,000 FPOs, launched in 2020 with a financial outlay of ₹6,865 crore, underlines a strategic commitment to farmer collectivization. As of 2025, more than 10,000 FPOs have been established, directly benefiting around 30 lakh farmers, with women constituting a significant share of the membership (PIB, 2025). Importantly, FPOs are not limited to economic aggregation; they also function as catalysts for behavioral transformation among farmers (Government of India, 2024).

Participation in FPOs has been shown to foster positive shifts in attitudes toward innovation, entrepreneurial engagement, risk management, and decision-making. These changes are deeply

rooted in peer learning, social identity, and collective experiences, aligning with conceptual frameworks such as Ajzen's Theory of Planned Behavior (1991) and Tajfel and Turner's Social Identity Theory (1979). As such, FPOs represent both economic institutions and platforms for socio-psychological empowerment in rural India. Nonetheless, FPOs continue to face considerable challenges, including financial instability, governance inefficiencies, infrastructural deficits, and regulatory complexities (Shivacharan et al., 2017).

Although various studies have explored isolated aspects of FPOs, there remains a notable lack of comprehensive analyses that investigate how behavioral characteristics of members influence organizational performance and development (Department of Agriculture, Cooperation & Farmers Welfare, 2021).

This review seeks to address that gap by consolidating empirical research on essential behavioral dimensions among FPO members such as innovativeness, decision-making capabilities, risk orientation, motivational dynamics, and communication skills, feedback receptivity, and credit-seeking tendencies. Additionally, it identifies and analyzes the constraints that hinder the effective expression of these traits. The study thus offers a holistic perspective on how behavior underpins the success, sustainability, and scalability of Farmer Producer Organizations in the Indian context.

This review article is organized as follows. First, is the classification of framework and its related conceptual themes and Second, the methodology outlines the criteria for articles included or excluded from the literature review resulting in 47 identified studies. The rest of the paper shows the results in different phases including definitions, behavioural theories and behavioural traits and constraints. The conceptual framework is presented Fig. 1.

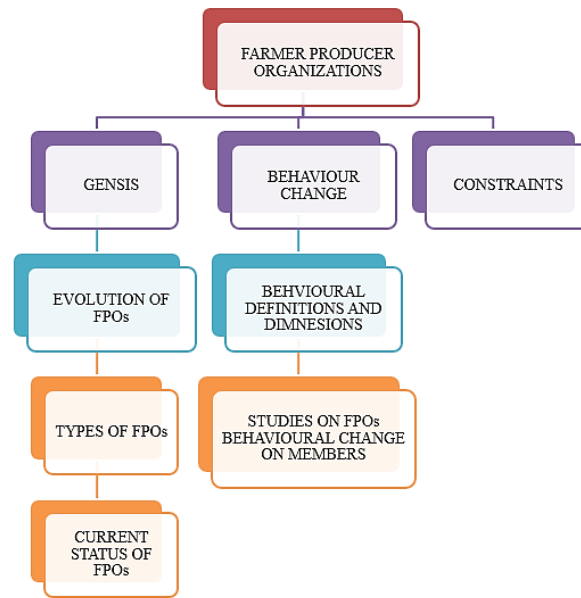


Fig. 1. Types of Farmer producer organization

2. MATERIALS AND METHODS

Systematic article searches and screenings were performed by generating keyword combinations in the several databases like Google scholar, Scopus and Science Direct. Searches were conducted using the fields 'TITLE' and 'TITLE-ABSTRACT KEYWORD' in the databases. A language restriction was applied and only

English-language articles were included in the review. Peer-reviewed journal articles from these databases were collected. Non-journal sources, such as books, book chapters, conference papers, editorials, letters, patents, reference works, research notes and trade publications were excluded. Peer-reviewed journal, articles from these databases were collected up to the year 2025.

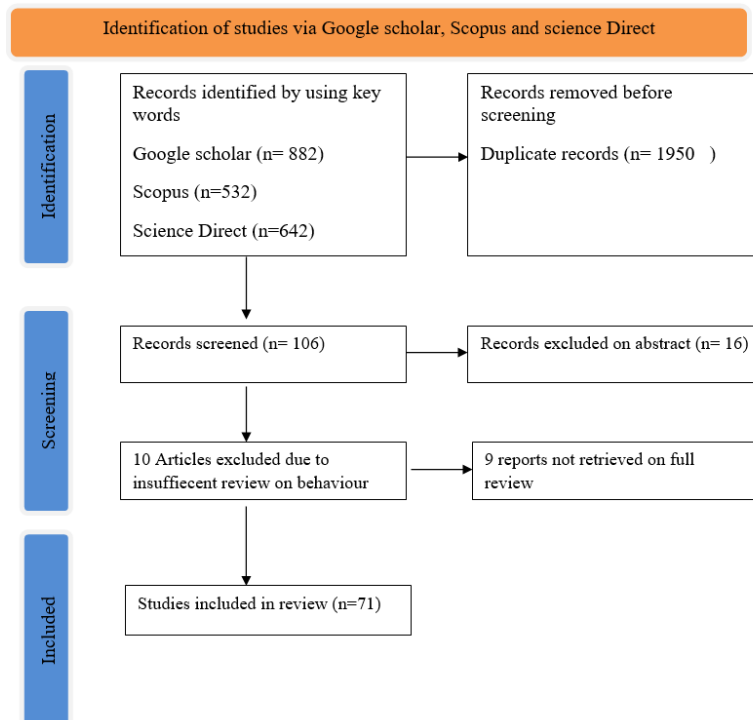


Fig. 2. Study protocol

3. RESULTS AND DISCUSSION

"Agriculture is considered as the backbone of the Indian economy as it provides livelihood support to about 42.3 per cent of the population and has a share of 18.2 per cent in the country's GDP at current prices. The sector has been buoyant, which is evident from the fact that it has registered an average annual growth rate of 4.18 per cent at constant prices over the last five years and as per provisional estimates for 2023-24, the growth rate of the agriculture sector stood at 1.4 percent" (PIB, July, 2024). "Economic Survey states that the Investment in agriculture research and support of enabling policies have contributed substantially to food security. It is estimated that for every rupee invested in agricultural research (including education), there is a payoff of ₹13.85. In 2022-23, ₹19.65 Thousand Crores was spent on agriculture research" (Economic Survey 2023-24).

"In India, the total operational landholdings were 138.35 million hectares, with an average landholding size of 1.15 hectares. Small and marginal holdings together constituted 86.08% of total land holdings" (Agricultural Census, 2016). "India is the second-largest country in the world after China, with over 92 million small holdings which account for 21% of the 450 million small holdings worldwide. The country's operational landholdings increased over the years, indicating a decline in the average landholding size" (Nagayets, 2005). Agriculture sectors play a vital role in ensuring food security, rural livelihoods, and economic development in India.

"Small and marginal farmers often face significant challenges in their agricultural and activities. One critical issue is limited market access, which leads to lower price realization for their produce. Additionally, many individuals lack access to financial services like credit, insurance, and savings facilities" (Chauhan *et al.*, 2022). Adopting modern agricultural technologies remains limited due to a lack of knowledge and resources in these communities. Moreover, inadequate infrastructure, encompassing aspects such as storage, transportation, and processing facilities, further complicates the efficient handling and marketing of agricultural products" (Noopur *et al.*, 2023). The fragmented holdings and disorganization of small and marginal farmers render them uncompetitive in getting the best value of their produce.

"The lower scale of operations, poor access to cheaper credit, inadequate access to market

information, inadequate farming and extension services, low level of technology adoption, lack of capital and poor business skills, inadequate storage and transport facilities are the key concerns related to small farm holders" (NABARD 2018). These constraints restrict their capacity to invest in farming and activities and manage risks effectively.

"These multifaceted challenges collectively impact the livelihoods and economic prospects of small and marginal farmers in India. Historically, cooperative societies were promoted in agriculture to address these challenges and uplift the farming community. However, it has become evident that this traditional cooperative model faced several limitations, including difficulties accessing capital, complex management structures, limited specialization, mismanagement risks, and dependency on government support.

While existing literature offers fragmented insights into different aspects of Farmer Producer Organizations (FPOs), a comprehensive analysis that spans across time and examines their overall evolution and growth remains absent. Previous studies have explored the objectives behind FPO formation and their potential benefits. However, a thorough review is needed to critically assess the current status of FPOs and their influence on the behavioural changes of members. This study identifies a key research gap in the lack of a systematic review that connects the evolution of FPOs with their present status nationwide, along with the behavioural transformations experienced by FPO members. FPOs in India emerged in the early 2000s as a response to challenges like land fragmentation and restricted market access. Supported by institutions such as NABARD and SFAC, these organizations promote collective action, enhancing farmers' market linkages, financial access, and productivity.

3.1 Evolution of FPOs in India

"Indian farmers are proficient producers but face significant challenges in marketing their products due to lack of access to markets in rural areas, limited awareness of other markets and poor marketing skills to meet demand in accordance with price fluctuations. One of the ways to reduce their risk is mobilize farmers for organizational action, arrange inputs, farm services and collective marketing to benefit from economies of scale. The only option to address these smallholders' issues is to organize them into a

group, enabling the application of economies of scale. Government, commercial and civil society organizations have attempted to connect smallholders to input and output markets through a variety of institutional interventions. Numerous attempts have been made in the past to organize the farmers into various groups, including Commodity Interest Groups (CIGs), Self-Help Groups and Agricultural Cooperatives" (Venkatta kumar *et al.*, 2017). "In India, the primary agricultural cooperative society (PACS) is one of the most traditional types of producer associations. Apart from this, there are various other types of producer organizations that serve particular or multiple purposes, such as Farmers' Clubs (Thirunelly Farmers' Club, Kerala), CIGs (vegetable growers' CIG, Haryana), federation of SHGs (SEWA Federation, Gujarat), SHGs (Kudumbashree SHGs, Kerala), JLGs (Samunnati JLGs, Tamil Nadu)". (Yazhini *et al* 2025). However, the failure of farmer collectivization through cooperatives in the agriculture sector, the success achieved has been limited and confined to a few regions. The escalating agrarian crisis and the rapid private sector growth through corporatization sparked fresh ideas about combining the finest features of corporates and cooperatives.

The Government of India, recommended Farmer Producer Companies (FPOs) as an alternative to traditional cooperatives, under committee led by Mr. YK Alagh. FPOs, characterized as hybrids between cooperative societies and private limited companies, were considered the optimal choice to protect farmers' interests and benefit consumers (NABARD, 2015). Various organizations, including SFAC, NABARD, State Government Agricultural Departments, and NGOs/CSOs supported by the Government of India, promote FPOs in rural areas.

"As an institutional tool for enhancing smallholder agricultural performance through increased market participation, Farmer Producer Organizations (FPOs) are receiving renewed attention from donors, governments and scholars" (Bernard T, Spielman DJ. 2009). "Small-scale farmers must be integrated as farmer collectives to get the benefits of agricultural produce. "Farmer collectives are seen as a crucial component in connecting smallholders to contemporary markets. These collectives offer numerous advantages, such as reducing intermediaries in marketing channels and an increasing farmers income" (Trebbin, 2014). "Farmer's revenue from membership in

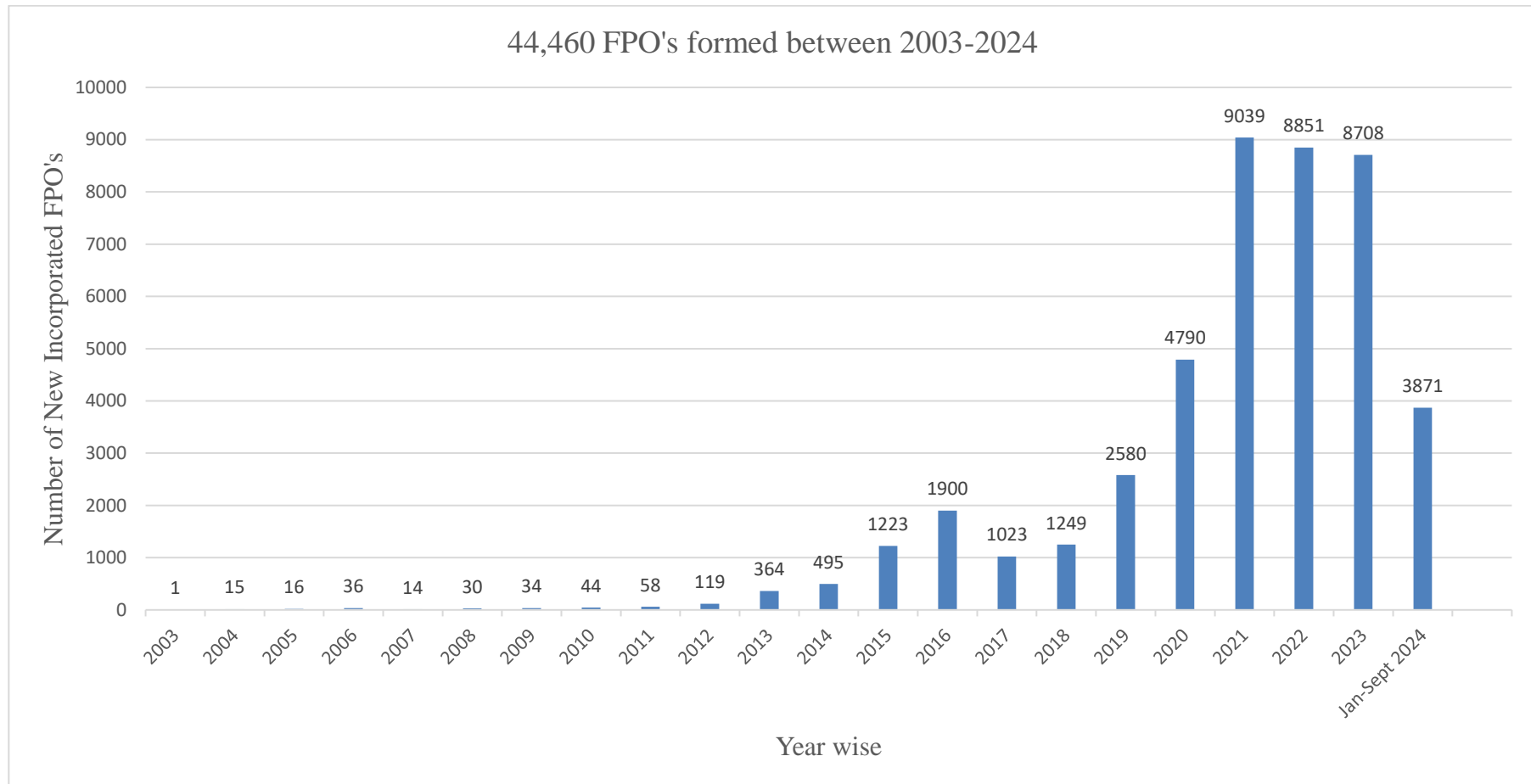
farming organizations is an essential factor in raising agricultural output levels, providing financial benefits and improving their overall welfare. "The Government of India launched the scheme to form and promote 10,000 FPOs in 2020 with a budget outlay of ₹6.86 thousand crore till 2027-28. As of 29 February 2024, 8,195 FPOs have registered under the new FPO scheme, and equity grants of ₹157.4 crore were released to 3,325 FPOs. Credit guarantee cover worth ₹278.2 crore was issued to 1,185 FPOs" (Economic Survey, 2023-2024).

3.2 Producer Organization (PO)

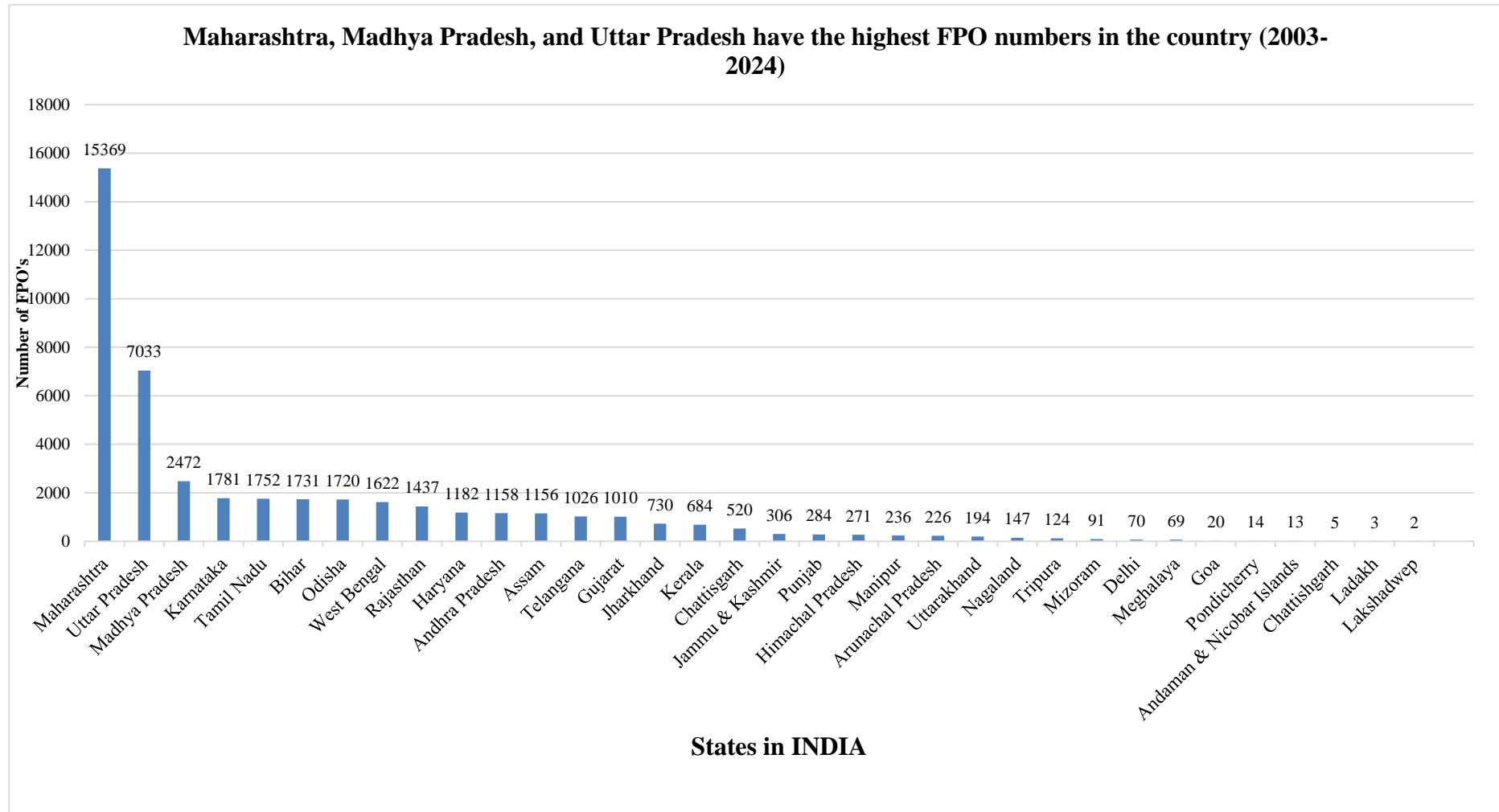
The Food and Agriculture Organization (FAO, 2013) notes that "farmers and rural producers organization (FOs) refer to independent, non governmental, membership-based rural organization of part or fulltime self employed smallholders and family farmers, pastoralists, artisanal fishers, landless people, women, small entrepreneurs and indigenous peoples. "A Producer Organization (PO) can be a producer company, a cooperative society or any other lawful system which provides for allotment of earnings and profits among the associates of its structure. In some enactment like producer companies, institutes of primary producers can also become member of producer organization. PO is a common name for an organization of makers of any produce, like farming, non farm goods, and artisan goods" (Venkatta Kumar *et al.*, 2017)

3.3 Types of FPOs in the Agricultural Sector

"Farmer Producer Organizations (FPOs) in the agricultural sector exhibit diverse forms and structures tailored to address the specific needs and characteristics of different agricultural value chains. Research in India underscores the significance of categorizing FPOs based on their focus, membership, and operational scope. This categorization helps us understand the distinct roles that various FPOs play in fostering agricultural development. FPOs share similarities with FPCs; however, FPCs have a formal legal framework, are established under the Companies Act, and primarily concentrate on increasing member farmers' incomes through enhanced manufacturing and marketing of certain agricultural goods. FPOs, on the other hand, registered under state-specific laws and usually engage in a variety of operations including processing and marketing.



Graph 1. FPOs Growth trend from 2003 to September 2024 (TCI Policy Brief, 2024)



Graph 2. Sate wise Current Status of FPOs till September 2024 (TCI Policy Brief, 2024)

Based on activities, FPOs are classified into commodity-specific and multipurpose FPOs. Commodity-specific FPOs primarily concentrate on a single agricultural product to enhance production, processing, and market access. On the other hand, multipurpose FPOs engage in various agrarian activities, spanning multiple products and value chains (Kumar *et al.*, 2019). Furthermore, FPOs can be classified based on the membership profile, such as those focused on women farmers, landless labourers, or small and marginal farmers. (Gummagolmath & Lakshmi (2021) explore the role of FPOs exclusively formed by women farmers, addressing gender disparities and promoting women's participation in agriculture. India had many registered FPOs, with a considerable proportion falling under commodity specific categories, focusing on products like cereals, fruits, vegetables, and dairy (Chandegara *et al.*, 2023).

3.4 Current status of FPO in India

The Government of India launched the Central Sector Scheme for the Formation and Promotion of 10,000 FPOs in 2020 with a budget of ₹6,865 crores. As of 2025, over 10,000 FPOs have been registered, benefiting approximately 30 lakh farmers, with 40% of them being women (Press Information Bureau, 2025). Recently, on the occasion of the release of the 19th installment of PM-KISAN in Bhagalpur, Bihar, Prime Minister Shri Narendra Modi launched the 10,000th FPO. The 10,000th FPO has been registered in Khagaria district and focuses on maize, banana, and paddy.

FPOs are not just organizations but an unprecedented force to increase farmers' income and provide small farmers with direct access to significant market benefits, bargaining power and improving market access. Approximately 30 lakh farmers in the country are connected to FPOs, with around 40 percent of them being women. These FPOs are now conducting business worth thousands of crores in the agricultural sector. Despite rapid growth, concerns persist regarding their financial sustainability and operational efficiency. Data suggests that while 26,938 FPOs are classified as active and compliant, only 57% have submitted financial statements, indicating potential operational struggles (TCI Policy Brief, 2024).

Behavioural science is the science of human decision making and behaviour, and draws upon a range of interconnected fields including

psychology, sociology, behavioural economics and marketing (Colman, 2015). **Human behaviour** is influenced by a range of socio-psychological and environmental factors.

Behavioural theories stated by various authors are given Table 1.

3.5 Theoretical Underpinnings of Behaviour in FPO Contexts

The behaviour of individuals, including members of FPOs, is essentially governed by two overarching factors: intrinsic individual disposition and perceived social pressure (Gaffney *et al.*, 2019). The first termed "attitude toward the behaviour" reflects the individual's evaluation, whether positive or negative, regarding the performance of a specific action. This is influenced by personal feelings and values. The second termed the "subjective norm" is the individual's perception of social pressure to engage or not engage in a particular behaviour. In the FPO context, both these dimensions significantly shape participation, commitment, and adaptation to group norms.

Understanding these dynamics is crucial for extension professionals and policymakers aiming to support behavioural change in FPOs.

The Social Identity Approach, introduced by Tajfel & Turner (1979) and further developed by Hogg & Turner (1987), posits that individuals derive part of their identity from membership in various social groups, such as occupational or geographical groups. This sense of belonging profoundly shapes their behaviour, beliefs, and values. For FPO members, their identification with the farming community or with the FPO itself influences their inclination toward collective goals, adoption of best practices, and alignment with group norms.

Research by Jetten *et al.* (2017) and Sparkman & Walton (2019) reveals that group identity not only boosts self-esteem but also dictates what is considered "normal" behaviour. Historical insights by Tully (1964) and contemporary studies like Fielding *et al.* (2008) demonstrate that farmers are heavily influenced by peer norms when deciding whether to adopt new practices. The Social Cognitive Theory by Bandura & Walters (1977) supports this by explaining that individuals model the behaviours they observe within their social group, reinforcing the spread of new practices.

Table 1. Authors compilation on behavioural theories

S.No	Authors	Definitions
1	Skinner (1972)	Behaviour is learned gradually, starting from simple actions. People often pick up behaviour by observing others and copying them. Rewards or reinforcement play a key role, as they encourage people to repeat good behaviour. Over time, as this process continues, more complex behaviour patterns begin to develop.
2	Ajzen and Fishbein (1980)	Once verbal communication is learned, individuals can start learning by understanding rules instead of just trial and error. This means not all behaviour has to be shaped through direct consequences; people can also follow instructions or rules they learn through language.
3	Ajzen (1991) Theory of Planned Behaviour	According to the Theory of Planned Behaviour, the strongest predictor of someone's actions is their intention. This intention is shaped by their attitude toward the behaviour, what they believe others expect of them (subjective norms), and how much control they feel they have over performing the behaviour. The more positive these three factors are, the more likely the person is to carry out the behaviour.
4	Social learning theory (Bandura's (1997)	Behavioural change depends on a combination of environmental, personal, and behavioural factors. Each of these influences the others. For example, a person's thoughts can affect their actions, and their personality can influence how others respond to them. At the same time, the environment can shape a person's traits and behaviour. People can also change their surroundings through their behaviour and thinking.
5	Bergevoet <i>et al.</i> , (2004)	A person's behaviour is influenced by their goals, intentions, attitudes, control over their actions, and social norms. The pressure they feel from others to act in a certain way comes from normative beliefs , which are based on how much they believe important people around them expect them to behave in a certain manner.

Table 2. Constraints faced by Farmer Producer Organizations (FPOs) as stated by various authors

Author(s) & Year	Key Constraints Identified
Prabhakar et al. (2012)	Need for margin money, lack of collateral, no business credentials, unequal treatment compared to cooperatives, donor hesitation due to for-profit status.
Chopade et al. (2019)	Non-inclusion of local leaders (72.86%), lack of group coordination (69.28%), lack of govt. support (55%), political affiliations (40%), limited bank access (30.71%), inadequate profit (21.43%), lack of scheme awareness (10.71%).
SFAC (2019)	Delayed farmer mobilization, weak management capacity, need for incubation support, policy constraints, difficulty in processing/storage investments, limited access to institutional credit.
Prishila Kujur et al. (2019)	Poor management, shortage of working capital, difficulty in accessing loans, unawareness among members, weak Board of Directors guidance, poor infrastructure.
Navaneetham et al. (2019)	Market access issues (0.93), inability to raise funds from farmers (0.82), complex registration process (0.77), no license fee waivers (0.73), and difficulty obtaining bank loans (0.60).
(Singh & Kumar, 2019).	Institutional and policy constraints: Complicated registration processes and governing obstacles could hinder the growth and operation of FPOs. For example, a survey conducted in many Indian states discovered that almost 40 per cent of FPOs had difficulty acquiring necessary permits and clearances because of administrative red tape
Chandegara et al. (2023)	Highlights the critical problem of capacity and skill gaps within Farmer Producer Organizations (FPOs) and emphasize the importance of overcoming these gaps through training and skill development.
Verma et al. (2021)	Inadequate storage & transportation, lack of grading & packaging skills, rivalry among members for leadership, internal conflicts.
Chauhan et al. (2021)	Poor storage & processing facilities, lack of ICT knowledge, lack of packaging awareness, labour shortages, insufficient finance, price fluctuations, lack of market info, middlemen involvement, inadequate infrastructure.
(Gurung & Choubey, 2023).	Many FPOs struggle to get enough credit, with only 38 per cent having access to official credit sources. Therefore, nearly 63 per cent of FPOs perceive inadequate infrastructure as a significant constraint, with storage and transportation being the most critical issues. These findings support the urgent need to solve infrastructural deficiencies and financial conditions to support the growth and potential of FPOs

Terry et al. (1999) emphasize that people look to their peer groups for cues on behaviour, and over time, interaction among FPO members leads to shared norms, values, and beliefs. This process facilitates the adoption of innovations and best practices within FPOs. Thus, behavioural science provides a powerful foundation for designing extension strategies that promote peer interaction and shared identities within FPOs.

This review highlights the pivotal role of behavioral traits in enhancing the functionality and sustainability of Farmer Producer Organizations (FPOs) in India. Core traits such as innovativeness, decision-making, risk-bearing, motivation, business acumen, communication, and credit orientation significantly influence member participation and organizational performance. These behaviors shaped by social identity and reinforced through peer learning and observational mechanisms, are essential for fostering effective collective action. Understanding their role is crucial for developing behavior-centric interventions and policy frameworks that strengthen FPOs as both economic and social institutions.

1. Innovativeness

Innovativeness, defined as the propensity of individuals to adopt novel technologies, practices, and approaches, is a critical determinant of progressive agricultural behavior within Farmer Producer Organizations (FPOs). Jose et al. (2023) reported that 76.67% of FPO members in Kerala exhibited moderate levels of innovativeness, suggesting a balanced receptiveness to innovation. Consistent findings by Wankhade et al. (2013).

2. Decision-Making Behaviour

Decision-making behaviour within FPOs is pivotal for institutional governance and strategic functioning. Revanth and Praveen et al., (2024) Nearly half (42.50%) of members belong to medium level of decision making followed by 30.83 per cent of members belong to high level of decision making and 26.67 per cent of members belong to low level of decision making. As they were FPO members, it made simple for the members to make accurate choices regarding the activities needed throughout all phases of agricultural production with the assistance of the FPO authorities. Studies by Haque (2015). This behavioural trait is notably

shaped by educational attainment, experiential learning, and access to accurate and timely information, thereby influencing the quality and effectiveness of collective decisions.

3. Risk-Bearing Ability

Risk orientation, a foundational entrepreneurial characteristic, reflects the willingness of members to engage in uncertain or high-stakes ventures. Revanth and Praveen et al., (2024) nearly half (43.33%) of the members belong to medium level of risk orientation followed by 30.00 per cent of members belong to low and 26.67 per cent of members belong to high level of risk orientation. These was because of members were taken part in trainings which improve a person's self-esteem and willingness to undertake risks. Jose et al. (2023) observed that 71.67% of members reported medium levels of risk-bearing ability. Esakkimuthu and Kameswari (2017) highlighted that economically constrained farmers tend to demonstrate higher risk orientation due to necessity-driven decision-making. Factors such as access to credit, livelihood security, and enterprise diversification significantly influence risk-bearing behaviour.

4. Achievement Motivation

Achievement motivation, the internal drive to excel and realize individual and organizational objectives, is a key motivational trait. According to Jose et al. (2023), 72.50% of members exhibited moderate levels of achievement motivation. Pooja et al. (2022) classified 53.60% of respondents under medium, 29.60% under high, and 16.80% under low levels of motivation.

5. Economic Motivation

Economic motivation, denoting the aspiration for financial improvement and socio-economic mobility, plays a vital role in driving entrepreneurial engagement. As reported by Bhagyalaxmi et al. (2003), this motivation is positively correlated with landholding size and education level. Sahoo et al. (2022) majority FPO members (60.76 per cent) had medium level motivation followed by low (24.19 per cent) and high level (15.05 per cent) of motivation. Singh et al. (2021) found that functional FPO members displayed higher levels of economic motivation. Jose et al. (2023) revealed that 74.17% of members reported moderate economic motivation, with 25.83% exhibiting low motivation and none demonstrating high motivation,

reflecting a potential area for motivational enhancement.

6. Business Skills

Business skills, encompassing marketing, negotiation, enterprise planning, and financial management, are critical for enhancing the viability and sustainability of FPOs. Singh et al. (2021) found that members of functional FPOs exhibited superior business and managerial skills compared to their non-functional counterparts, reinforcing the importance of institutional support and training.

7. Communication Behaviour

Effective communication is fundamental to collective functioning, information exchange, and participatory decision-making within FPOs. Sahoo et al. (2022) found that due to member of FPOs there was 22 percent increase in overall communication of the members.

8. Information-Seeking Behaviour

Information-seeking behaviour refers to the proactive efforts of FPO members to access knowledge and market intelligence. Revanth and Praveen et al., (2024). Nearly half (45.00%) of members belong to medium level of information seeking behaviour followed by 30.00 per cent of members belong to low and 25.00 per cent of members belong to high level of information seeking behaviour. Since most members only have a basic understanding of knowledge, they can get information that is helpful to them and relevant to their farming activities from a wide range of sources. Jose et al. (2023) reported that 69.20% of dairy farmers exhibited a medium level of this trait.

9. Feedback Usage

The utilization of feedback is essential for iterative learning, adaptive behaviour, and performance enhancement. Jose et al. (2023) found that 57.50% of FPO members reported medium levels of feedback utilization. Wankhade et al. (2013) observed that 75% of respondents demonstrated medium, 14% high, and 11% low feedback usage, indicating a general openness to learning and refinement.

10. Credit-Seeking Behaviour

Credit-seeking behaviour serves as an indicator of financial agency and access to institutional

credit systems. Jose et al. (2023) reported that 50.83% of FPO members exhibited medium credit orientation. This trait reflects not only access to resources but also members' willingness to leverage financial instruments for agricultural growth

4. CONCLUSION

Farmer Producer Organizations (FPOs) have emerged as vital institutional mechanisms to empower smallholder farmers in India by addressing market asymmetries, fostering collective action, and promoting sustainable livelihoods. This review underscores the importance of understanding and nurturing behavioral dimensions such as innovativeness, decision-making, risk orientation, motivation, and communication skills that critically influence the performance and longevity of FPOs. Empirical evidence affirms that functional FPOs consistently report higher behavioral maturity among members compared to non-functional ones, validating the role of behavior-centric interventions in organizational success.

However, despite policy push and financial investments, challenges like credit constraints, skill deficits, infrastructural inadequacies, and policy bottlenecks continue to hinder FPO development. Addressing these issues requires an integrated strategy grounded in behavioral science, institutional strengthening, and enabling policy frameworks. The future of FPOs lies not just in aggregating production but in catalyzing a mindset shift among farmers from passive beneficiaries to proactive entrepreneurs and decision-makers. Thus, behavioral transformation should be central to all future programs and policies aimed at promoting inclusive, resilient, and self-reliant Farmer Producer Organizations in India.

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 writing or editing of this manuscript.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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