

Enhancing Efficiency and Sustainability of Farmer Producer Organizations in India: Challenges and Strategies



NATIONAL ACADEMY OF AGRICULTURAL SCIENCES, NEW DELHI

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Preface

India's agrarian structure is highly fragmented, with small and marginal holdings forming the backbone of the agricultural production system. In this context, collective action is essential for economies of scale in production, marketing, and processing, as well as for cost-effective access to agricultural inputs and services. Recognizing this, the Government of India has accorded high importance to revitalizing cooperatives and forming Farmer Producer Organizations (FPOs) as new-generation cooperatives for sustainable rural development.

Over the years, despite the impressive increase in FPOs, concerns regarding their long-term viability and sustainability have persisted. Only a small proportion of them is economically viable, while others continue to face structural and operational challenges, including a low equity base, limited access to credit, small operational scale and low membership base, and insufficient infrastructure for value addition. To understand these issues from the perspective of various stakeholders, the National Academy of Agricultural Sciences organized a brainstorming session (BSS). This policy paper is an outcome of the deliberations during BSS and the insights presented aim to support policymakers, practitioners, and other stakeholders in designing and implementing effective strategies for strengthening FPOs.

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1. INTRODUCTION

Farmer Producer Organizations (FPOs) serve as intermediaries, effectively bridging the gap between smallholder agri-food systems, characterized by a lack of innovation and a predominance of informal marketing and credit systems, and the modern agribusiness practices that align production portfolios with consumer preferences and advocate the application of modern agricultural technologies along the value chain. FPOs create economies of scale, which in turn enhance farmers' bargaining power in the marketplace, improve access to high-quality inputs, facilitate the adoption of modern agricultural practices, and reduce transaction costs.

FPOs can significantly impact stakeholders in the agri-food value chain. They streamline supply chains by minimizing the number of intermediaries and ensuring fair prices for both producers and consumers. Through direct market linkages, FPOs help farmers reduce post-harvest losses. They also function as hubs for sharing knowledge and advocating for sustainable farming methods. As climate change intensifies, these organizations can serve as important channels for spreading climate-smart agricultural practices and promoting sustainable resource management by leveraging collective resources.

FPOs contribute to the diversification of rural economies by encouraging entrepreneurship and creating opportunities for value addition. These include processing agricultural goods, developing specialized market products, or agri-tourism projects. Such diversification enhances farmers' incomes and generates employment opportunities outside farming, thereby supporting the resilience of rural economies.

As FPOs continue to evolve and adapt to changing agricultural and economic landscapes, their role in fostering sustainable and resilient rural economies is expected to expand significantly. In India, where the average farm size is approximately one hectare and is projected to decrease to 0.6 hectares by 2047 (BIRTHAL *et al.*, 2025), farmers will increasingly encounter diseconomies of scale in both production and marketing. This underscores the critical role of collective action in addressing these challenges.

1.1 Evolution and Growth of FPOs in India

Cooperatives have a long-standing presence in India. However, their success is limited to specific commodities and regions. They have faced challenges, including excessive government control, lack of professionalism, insufficient member participation in management, and undue political and bureaucratic interference. To address these

limitations and improve professionalism, the Y.K. Alagh Committee constituted by the Government of India in 2000 recommended the creation of new-generation cooperatives, an amalgam of principles of cooperation and professionalism of modern business. Consequently, in 2003, the concept of Farmer Producer Companies (FPCs) was introduced through an amendment to the Companies Act, 1957.

The significant emphasis on the expansion of FPOs occurred after the implementation of a national policy in 2013 and the consequent issuance of guidelines for their formation. The Small Farmers Agribusiness Consortium (SFAC) under the Ministry of Agriculture, Government of India, and the National Bank for Agriculture and Rural Development (NABARD) played significant roles in implementing various schemes and incentives of the government. By 2019, they had established over 7,000 FPOs. In 2020, the Government of India launched a Central Sector Scheme for the formation of 10,000 FPOs. These have been established and will receive technical and financial support until 2027-28. Each FPO is eligible for financial assistance of up to Rs 1.8 million over a period of three years, a matching equity grant of up to Rs 1.5 million, and a credit guarantee facility of up to Rs 20 million for project loans, provided they meet the membership criteria of 300 members in plains and 100 in difficult hill terrains. In addition, many other government schemes emphasize collective action through FPOs. The trend in FPOs has been robust (Figure 1), with their number registered under the Companies Act reaching 44,258 by 2024 (TCI, 2025).

1.2 Activities of FPOs

Most FPOs (85%) focus on field crops and horticulture. They cover a wide range of crops, including cereals, pulses, millets, oilseeds, cash crops, vegetables, fruits, flowers, and spices. Only 15% of FPOs focus on dairy, livestock, and fisheries.

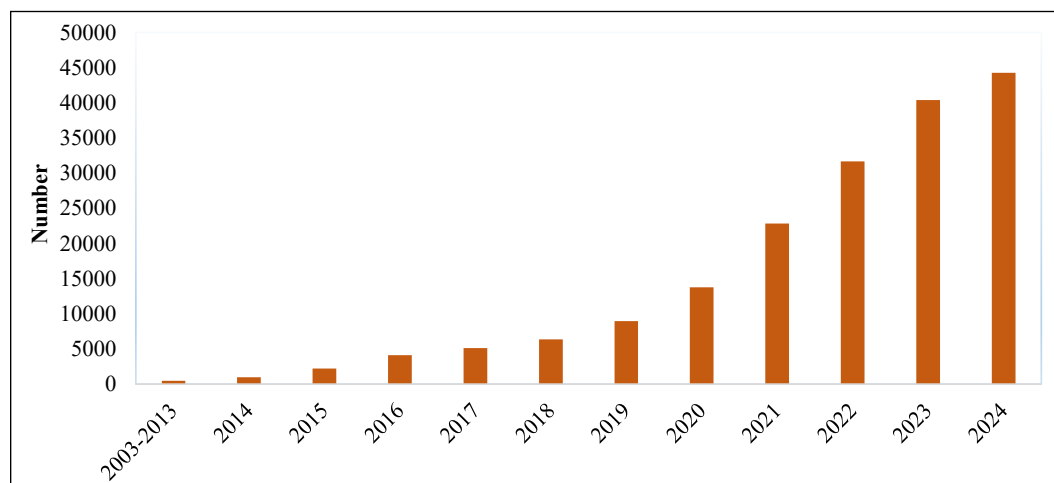


Figure 1. Trend in number of FPOs (Source: TCI, 2025)

The operational structure of FPOs reveals some interesting patterns. The majority (58%) engage in multiple commodities, indicating a diversified approach to agricultural production and marketing. In contrast, 42% of FPOs specialize in specific commodities, suggesting a focused strategy aimed at maximizing efficiency and expertise in specific domains. Regarding the services provided, marketing (50%) and input services (40%) predominate, underscoring the critical role these organizations play in facilitating farmers' access to markets and resources. Only 21% of FPOs are involved in value-added activities (Nikam *et al.*, 2023).

Despite the government's concerted efforts, many FPOs are struggling to achieve economic viability because of several factors, such as inadequate management skills, limited access to credit, weak market linkages, and insufficient technical support. These challenges highlight the need for a comprehensive assessment of FPO performance and the identification of key factors that hinder it. This policy paper addresses these critical issues. It examines the current state of FPOs, analyzes major challenges, and proposes strategies to enhance their performance and long-term sustainability. By addressing these questions, this study aims to contribute to the development of more effective policies and support mechanisms that can unlock the full potential of FPOs in transforming Indian agriculture and improving the livelihoods of small and marginal farmers.

2. PERFORMANCE OF FPOS: IMPACT AND VIABILITY

2.1 Impact of FPOs

2.1.1 Farm level : At the farm level, FPOs play a crucial role in lowering production and transaction costs while enhancing productivity, income, market prices, technology adoption, and technical efficiency. FPOs boost crop and livestock yields for their members by supplying inputs and offering extension and advisory services.

Studies on collectives in India have shown mixed results; some report a positive and significant impact on crop and livestock yields, while others find no significant impact. However, several studies have reported a significantly positive impact of FPOs on output value (Nikam *et al.*, 2023), suggesting a more active role for FPOs in marketing. Nikam and his associates (2024) arrived at similar findings from a meta-analysis of FPOs studies in India, wherein the impact was greater on the value of output of crops than on yields; however, the reverse was true in the case of dairy and livestock. Studies have also found that FPOs help reduce cultivation costs and improve the benefit-cost ratio (Manaswi *et al.*, 2019).

Extension and advisory services (EAS) provided by FPOs reduce the transaction cost of their acquisition, which is often fixed. FPOs also provide information on modern technologies, inputs, markets, investment opportunities, and government policies. FPOs play a key role in the adoption of new or innovative technologies. FPOs fulfil farmers' information needs and reduce the search costs associated with obtaining that information.

The modern technologies, along with the information and consultation from the FPOs, help in improving the technical efficiency (Manaswi *et al.*, 2020)

2.1.2 Market level : FPOs increase the efficiency of the agricultural value chain by collectively procuring inputs, reducing transaction costs, aggregating produce, adding value, improving market linkages, and enhancing members' bargaining power.

Small and marginal farmers in India are constrained by limited access to assets and services, leading to higher transaction costs and reduced market participation. Collectivization strengthens market access and links farmers to national and international markets (Roy & Thorat, 2008; Bagchi *et al.*, 2021). Collective procurement helps farmers obtain inputs at lower prices (Herck, 2014). Reducing the number of intermediaries lowers transaction costs for members (Manaswi *et al.*, 2020).

Furthermore, collective marketing increases members' bargaining power, thereby securing better prices for their produce and greater profits for the members (Birthal *et al.*, 2017). The homogeneity among farmers helps them maintain product quality, enabling them to command higher prices. Value addition at the FPO level helps farmers reduce post-harvest losses and realize additional income.

2.1.3 Institution level : Accessing finance is easier for FPOs than for individual farmers, especially smallholders who lack tangible or documented assets to offer as collateral to secure finance from commercial banks. Members of FPOs can easily access institutional credit to meet their production, processing, and marketing expenses (Asante *et al.*, 2011). Farmers have better access to financing through collectives to purchase costly machines and equipment for storage and processing, which would otherwise be impossible for individual farmers. Improved access to credit through FPOs has also helped reduce farmers' dependence on informal credit (NABARD, 2021).

Farmer collectives, such as FPOs, spread fixed production, storage, and marketing costs among a large number of members (Herck, 2014). This holds true for input purchases, transport of produce, and provision of advisory services.

FPOs improve the bargaining power of small and marginal farmers (Herck, 2014). A higher volume of produce and a variety of market channels help FPOs bargain for better terms of trade. The bulk purchase of inputs also aids in price negotiations, benefiting all members. FPOs facilitate the development of linkages with the government, private sector, NGOs, and other producer organizations.

2.1.4 Society level : At the societal level, FPOs empower women and other weaker sections of society and generate employment opportunities, thereby helping to alleviate poverty. Spillovers from the agricultural sector are also transferred to other sectors. Therefore, FPOs are essential for improving rural service delivery, enhancing economic growth and employment, and reducing poverty.

FPOs facilitate women's participation in value chain activities and empower them at different stages of the value chain (Sahithi, 2024). Value addition and marketing by

FPOs promote an entrepreneurial culture at the village level. For tribal communities, the production and marketing of traditional products through FPOs provide them a unique identity and generate additional income for members.

2.2 Viability and Sustainability

Despite favorable policies and the growing number of FPOs, many do not realize their full potential and under perform. Table 1 shows the significant gap between the optimal and existing parameter values for an FPO to be economically viable. Consequently, it is imperative to consider and discuss the viability of FPOs to enhance their long-term sustainability.

2.2.1 Scale of operation : Economies of scale achieved through FPOs confer a significant advantage in agrarian economies predominantly composed of smallholders. Nikam and his associates (2025 a, b) identified the geographical coverage (number of villages covered) and membership as significant factors in the economic performance of FPOs, as bulk procurement of inputs by FPOs, including fertilizers, pesticides, and machinery, facilitates more favorable price negotiations. Similarly, on the output side, aggregating larger quantities confers collective bargaining power, thereby securing higher output prices for members.

The scale attracts larger buyers, such as exporters, supermarkets, and processors, by offering a single point of contact and assurance of consistently high-quality produce. This enables FPOs to develop market infrastructure, including precooling and cold storage units, thereby supporting the processing, export, and marketing of produce. A large membership base of FPOs also facilitates standardization, insurance, and future marketing, helping to reduce and diversify risk. Additionally, larger scales allow FPOs to employ professional management, consultants, and other staff members, thereby enhancing their professionalism. Notably, the actual farmer members associated with an FPO is about two-third of the optimal.

Table 1. Optimal vis-à-vis current values of key parameters of FPO

Features	Current value	Optimal value
Age of FPOs (in years)	5.6	8
Number of members	610	1047
Equity capital (Rs. million)	0.8	1.8
Credit (Rs. million)	2.8	7.5
Number of enterprises	1.9	2

Source: Nikam *et al.* (2025 a, b)

Note: Optimal threshold values for key indicators to maximize FPO business turnover were obtained by integrating machine learning techniques, specifically Random Forest algorithms, with optimization methods, such as the Genetic Algorithm

2.2.2 Governance : Governance plays a significant role in FPO performance. A small cohesive group of directors is recommended to improve the professional management of FPOs (Nikam *et al.*, 2025 a, b). Good governance ensures transparency and accountability by promoting proper record-keeping. Financial aspects, such as regular monitoring, annual audits, the use of accounting and recording software, and compliance with legal requirements, are essential for building trust with members and maintaining a continuous partnership with buyers and other stakeholders. Linkages with other organizations facilitate the flow of information and technology, thereby improving performance. Good governance ensures the participation of all members in meetings, activities, and decision-making processes. Providing additional training to farmers will increase their participation in FPO activities (Veesam & Nikam, 2024).

2.2.3 Finance : Equity and credit are the fundamental pillars of FPOs' financial performance. It is recommended that members' equity contributions be at least Rs. 1.8 million (Nikam *et al.*, 2025 a, b). Equity, along with profits retained by FPOs, forms working capital, which is crucial for sustaining business operations. Increased working capital enables FPOs to expand their geographical reach and diversify their commodity portfolios. Additionally, it facilitates the diversification of FPO activities by introducing new crops and activities.

Access to credit empowers FPOs to integrate their value chain seamlessly. It is imperative to enhance their credit access to approximately Rs. 7.5 million. With better access to finances, FPOs can transcend their traditional roles and focus on value addition, processing, branding, and efficient marketing. This will enable them to extend their impact far beyond merely providing input services to the aggregation, procurement, and marketing of farm produce. Enhancing financial capability facilitates innovation and growth in the agricultural sector.

Furthermore, by leveraging financial resources through equity and credit channels, FPOs protect themselves from market and financial risks. This shields them from price volatility and establishes a contingency reserve. Such financial empowerment is indispensable for ensuring stability and resilience in an evolving market landscape.

2.2.4 Marketing : To succeed, FPOs must establish a robust marketing infrastructure, conduct comprehensive market exploration, and undertake in-depth consumer and market research in a competitive marketing landscape. Governments must seize the opportunity to collaborate with FPOs to develop grassroots-level marketing infrastructure encompassing critical components, such as pre-cooling, cooling, cold storage, and warehouses.

FPOs play a crucial role in linking small and marginal farmers to national and international markets. By offering these farmers a platform to engage in markets that would otherwise be inaccessible because of their limited marketable surpluses, FPOs empower them to thrive in a competitive landscape (Herck, 2014; Roy & Thorat, 2008). The strategic process of collectivization, coupled with the development of diversified

value chains, significantly improves market linkages for land-constrained farmers, ensuring that they are not left behind in the global market (Bagchi *et al.*, 2021).

It is imperative to conduct studies on consumer preferences for products launched by FPOs. This is the cornerstone of ensuring sustained performance. By understanding consumer needs and desires, FPOs can strategically position their products to meet market demands, thereby securing a competitive edge and fostering long-term growth. Ignoring this critical step risks alienating potential customers and jeopardizing the organization's future. An illustrative case from Kerala highlights how some FPOs that produced *Neera*, a traditional coconut-based beverage, were forced to halt operations because the market could not absorb the supply due to a lack of consumer awareness (Thamban, 2021).

2.2.5 Technology : The use of technology by both FPOs and their members facilitates sustained FPO performance. The use of blockchain technology by FPOs, such as Sahyadri Farms, enables product traceability to consumers, increasing product quality, compliance, trust, coordination, control, and disintermediation. The use of financial and database software supports proper record-keeping and transparency, thereby improving FPO governance and members' confidence in FPO activities. A database of members and their crops supports inventory management and FPO business plans, enabling better adaptation to changing market and environmental conditions. The use of artificial intelligence (AI) and Internet of Things (IoT) by FPOs enables real-time activity monitoring, operational optimization, and predictive analytics, thereby improving their performance.

2.2.6 Leadership : Research indicates that successful FPOs have leadership capable of establishing connections with other FPOs, public institutions, private enterprises, and traders. Leadership can play a crucial role in enhancing the visibility of FPOs, securing increased credit, strengthening market linkages and exploration, and improving the pricing of agricultural produce. Regarding the functioning of FPOs, detailed rules and regulations are not available; instead, capable leaders manage them in accordance with ethical and professional standards. Effective leadership fosters transparency, coordinates with other stakeholders, builds trust among members, and plans FPO activities to improve performance. Actively operating FPOs have leaders with persuasive power, the ability to build personal relationships with members, and the capacity to earn farmers' trust (Patil & Mehta, 2024).

2.2.7 Business acumen : Deep and broad business knowledge of FPOs helps improve their performance and success (Roy & Thorat, 2008). It includes the ability to understand FPOs' business operations, identify opportunities (in terms of commodities, activities, and markets), develop short- and long-term plans, and manage resources, such as working capital, manpower, and credit, efficiently. The inability of FPOs to prepare a sound business plan is identified as one of the main factors contributing to their poor performance (Nikam *et al.*, 2024). Establishing institutional linkages with leading management institutions is essential for the viability of FPO business plans.

3. CONSTRAINTS AND CHALLENGES

The fragmented stakeholder approach, limited technical support, inadequate market access, governance issues, limited scale of operations, lack of member participation, and infrastructure gaps are important constraints and challenges faced by FPOs.

3.1 Limited Scale of Operations and Market Access

Many FPOs struggle to achieve the economies of scale required for profitability. These problems stem from FPOs' low membership base. A small membership base constrains equity and working capital; limits the scale of procurement, aggregation, processing, and marketing activities; and constrains credit access and market infrastructure at the FPO level.

Most FPOs face challenges in connecting to profitable markets and value chains. Identifying, establishing, and maintaining market linkages is difficult for most FPOs. Few FPOs with dynamic leaders can successfully establish linkages; most rely on promoting institutions to do so. Stringent regulatory and procedural requirements in countries also prevent FPOs from connecting to international markets. The availability of market infrastructure (cold storage, transport, etc.) at the FPO level, along with low trade volumes and the inability to aggregate standardized products, also hinders their marketing linkages. Moreover, most FPOs are not engaged in market research or brand building, which are required to build consumer confidence and increase their income. Proper market research helps identify the type of product and target consumer segments, enabling production to be diverted accordingly.

3.2 Limited Technical Support

Insufficient support from promoting agencies in capacity building, market linkages, and financial management is one of the primary reasons for FPOs' poor performance. It has been observed that FPOs function well until promoting institutions provide handholding and technical support. When these institutions withdraw support, their performance begins to decline. Thereafter, a lack of technical knowledge, market research, linkages, and contracts leaves FPOs blind and without support. Therefore, assistance to FPOs must be extended beyond three years to ensure their sustainability beyond the initial support phase. Mechanisms or institutions can be established at the district level to provide sustained technical guidance to FPOs during the incubation and post-incubation periods.

3.3 Financial Constraints and Low Infrastructure at the FPO Level

FPOs face difficulties in obtaining bank credit without collateral. The absence of strong business plans and an initially low turnover volume further reduces their chances of obtaining credit. FPOs' boards of directors are often unaware of or unable to avail themselves of the financial assistance provided by the government and other public

agencies. In addition to the credit issue, lack of working capital is a major financial challenge for FPOs. Working capital is required for scaling up business activities, such as aggregation, procurement, processing, and marketing. The low membership base of FPOs does not accrue sufficient equity capital, further straining their financial position.

Pre-cooling, cooling, cold storage, processing, and transportation facilities help FPOs adapt to uncertain situations, such as those arising from the COVID-19 pandemic, and aid in the export of produce. The lack of such facilities at the FPO level limits their export potential and value addition. Most FPOs do not have these facilities. FPOs also lack office space to handle official day-to-day work, which hampers the establishment of other facilities, such as Custom Hiring Centers. Although schemes such as the Agriculture Infrastructure Fund are beginning to take off in this direction, provisions within these schemes prevent FPOs from accessing the benefits.

3.4 Governance Issues

Weak organizational structures, devoid of transparency and accountability, hinder good governance and management practices in some FPOs. The conduct of annual financial audits, distribution of annual reports to members, distribution of minutes of board meetings to members, and holding regular general meetings are frequent challenges faced by FPOs and their members, limiting their participation and trust in FPOs' activities and affecting their performance. The absence of effective leadership further exacerbates governance problems, challenging FPOs' sustainability.

Bringing people from different backgrounds (such as caste, religion, and political affiliation) together is a significant challenge for FPOs. If this diversity is poorly managed, it leads to low participation in FPO activities. The influence of some members on group activities affects the functioning and participation of all members. Failure to meet members' expectations of FPOs would also lead to lower member participation. Weak organizational structures and leadership also hinder members' participation in FPOs' activities.

In addition to the key constraints faced by FPOs, some concerns require special attention. FPOs must look beyond procurement and marketing. Only one-fifth of FPOs are involved in value-added activities (Nikam *et al.*, 2023). One of the objectives of forming FPOs was to promote value addition in agriculture at the farmer level and capitalize on the growing demand for value-added products in the market. However, most FPOs deviate from their primary objectives and focus solely on procurement and marketing, resulting in lower risks and profits. Approximately half of the FPOs (42%) provided input services to their members. Most promoting organizations also promote input activities among FPOs to make them more effective. Moreover, it is one of the best strategies for building trust and rapport with members during the initial phase of FPOs. However, sticking only to input provisions gives FPOs a lower margin, as there is less margin for less risky activities. Conversely, the output side has more risk, but with a higher margin. In addition, failure to prepare a viable business plan is a major reason for FPOs' poor performance.

4. DRIVERS OF EFFICIENCY AND SUSTAINABILITY

4.1 Rural Logistics at the FPO Cluster Level

Improving cold storage and supply chain infrastructure will enhance FPO participation in formal retail and export chains. Moreover, market infrastructure, such as pre-cooling, cooling, and cold storage, available at the FPO level, is an important determinant of FPO success (Nikam *et al.*, 2014). Therefore, policymakers must prioritize rural logistics and cold chain investments that target FPO clusters. Compliance with export standards for grading and packaging helps farmers improve their competitiveness and income. To boost export potential, it is imperative to deliver comprehensive training on global standards, such as Global GAP, directly at the FPO or FPO cluster levels. This will empower FPOs with essential knowledge of quality certification procedures and introduce them to pivotal export-facilitation institutions, including APEDA and the Spices Board. Moreover, organizing frequent buyer-seller meetings is crucial because these interactions forge vital connections between FPOs and a diverse array of prospective buyers, thereby expanding their market reach and enhancing their competitive edge.

4.2 External Financial Support

Policy and regulatory barriers sometimes hinder FPOs' access to institutional credit. Simplified documentation and relaxed collateral rules facilitate access to credit from formal sources by small FPOs. Capacity building for FPOs in financial management enhances transparency, thereby improving credit uptake and financial viability. Awareness of government schemes, particularly the nature of the benefits available to FPOs, would help them take full advantage of these schemes and secure financing for their business activities.

In addition to external financing, FPOs must focus on improving internal financing, equity, and working capital. By building a strong membership base, FPOs can raise equity capital to support their various activities. Similarly, retaining profit margins from FPOs' business activities would help accumulate more working capital, which, in turn, would enable FPOs to scale up other business activities.

4.3 Risk Management

Financial, market, and weather risks are the most prominent risks faced by FPOs. FPOs that use digital innovations and modern technologies, such as information and communication technology (ICT), artificial intelligence (AI), and the Internet of Things (IoT), improve farmers' adaptive capacity and overcome weather-related and other biotic risks during the production and post-production phases. Through group-based insurance, FPOs can reduce weather-related risks and stabilize the income of their members.

The futures market is a promising yet underexplored option for FPOs to hedge against price risk. NABARD provides financial assistance to FPOs engaged in futures trading,

enabling them to participate in futures trading. Revenue diversification is a major risk driver that requires FPOs to have diversified income streams. The extension advisory and market intelligence provided by FPOs would improve farmers' adaptive capacity to cope with various risks associated with production and post-production activities.

4.4 Post-harvest Management

In addition to input provision and marketing activities, FPOs need to focus on post-harvest management and integrated business models, including small-scale processing and branding at the FPO level. FPOs with processing, branding, and market linkages outperform those that sell only raw produce. This also requires market infrastructure, such as pre-cooling, cold storage units, and drying yards. Investment by FPOs in such infrastructure would help reduce post-harvest losses, increase resilience, and boost farmers' incomes. FPOs can play an important role in training members in post-harvest management. Specialized training in fruit bagging, harvesting techniques and in value addition through primary processing plays a key role in FPOs' impact on members' output value. Moreover, additional digital technologies can be used in post-harvest management to build an efficient FPO value chain, facilitate internal coordination, and minimize waste.

4.5 FPO-Industry Linkages

Robust linkages between FPOs and the industry effectively support the strategies of consolidation, capability, and capital. This ensures the sustainability of FPOs, creating a win-win situation for both FPOs and the industry. Stronger industry linkages would help FPOs connect with untapped markets, access capital and finance, and adopt advanced technology. The industry may guide FPOs in operational management and compliance at the FPO and member levels and help build capacity for FPOs and members across different standards and certifications. Organizations such as Corteva Agriscience, Samunnati, and ITCMAARS are enhancing the capabilities of FPOs and their member farmers by providing training, financial assistance, crop advisory services, market linkages, AI-driven pest identification, soil nutrition recommendations, and crop monitoring.

4.6 Integration of Digital Technologies

Technologies such as blockchain, IoT, and AI can help FPOs adapt to various challenges. Traceability, enabled by blockchain technology, increases transparency and improves the efficiency of the FPO value chain, fostering greater consumer trust. Big data and IoT applications improve precision farming, logistics management, operational efficiency, and decision-making at the FPO and member levels.

Similarly, the use of financial management software enhances FPO efficiency and promotes transparency, thereby improving governance. Digital database management

of members and products will help manage inventory, payments, and other operations, thereby improving FPO business planning. Moreover, the use of digital technologies in FPO advisory services can provide market updates, localized weather conditions, and pest alerts, thereby increasing farmers' productivity.

4.7 Government Policy and Support

Government policies, particularly FPO formation procedures, taxation, capacity building, compliance requirements, incubation, and post-incubation support, are crucial for the success and sustainability of FPOs. FPOs expect reduced compliance and noncompliance costs. FPOs must comply with GST every month, and failure to do so incurs penalties. Additionally, various annual compliance requirements must be adhered to (NAFPO, 2025). Therefore, there is a need to reduce the number of forms, compliance requirements, and late penalties for FPOs during the first five to eight years.

Although FPOs are exempted from income tax for a turnover of up to Rs. 1000 million, they have to pay the minimum alternate tax. Some state governments also levy taxes, increasing the complexity and multiplicity of taxes. This process can be streamlined, and to advance FPOs, taxes need to be restructured and reduced during the initial few years.

Government support in terms of capacity building for officials, boards of directors, and members is crucial during the initial period of FPO development to address procedural and technical matters. Promoting institutions must engage with various agencies to provide such training. Financial support, such as credit, subsidies, and grants, helps FPOs scale up their activities. Therefore, the convergence of multiple government schemes at the FPO level helps to secure financing. Figure 2 presents a framework outlining the stages and steps for all stakeholders to improve the efficiency, inclusiveness, and sustainability of FPOs.

5. RECOMMENDATIONS

- ◆ *Simplification of compliance* : FPOs are required to periodically submit various compliance documents. The Ministry of Agriculture needs to collaborate with the Ministry of Corporate Affairs to review and simplify these compliance requirements, thereby facilitating straightforward implementation by FPOs. Further, a single-window system for all relevant FPO issues should be created to ease FPO operations.
- ◆ *Financial awareness* : Enhancing financial awareness among financial institutions and FPOs to address the credit and financial hurdles they face. Initiatives such as training programs for bank staff on FPO schemes, establishing a dedicated unit or desk within banks for FPOs, and the collaborative development of business plans by FPOs and banks would support this.

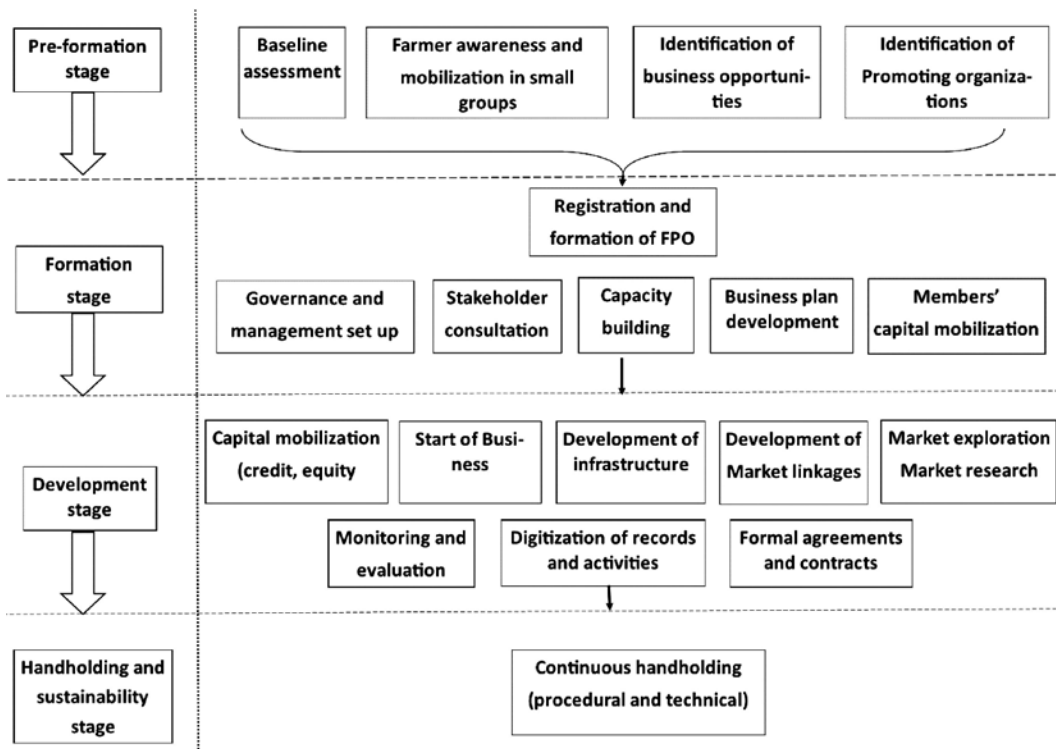


Figure 2. Framework for sustainable development of FPOs

- ◆ *Digitization of data* : Data digitization at both the FPO and national levels is essential. At the FPO level, comprehensive information on shareholders, commodities, and infrastructure enables FPOs to enhance their planning, logistics, and marketing strategies. FPOs can employ specialized database management software or portals to facilitate data digitization. At the national level, digitizing data for all FPOs would enable effective monitoring, identification of FPOs with limited beneficiaries, and detection of FPOs with recurring beneficiaries under government schemes. Furthermore, it streamlines the processes of granting, licensing, and clearance for FPOs. Similar agencies at the state level can also be established to provide localized support.
- ◆ *Promotion of FPO-industry linkages* : A national-level business development agency or mechanism is required to facilitate connections between FPOs and industries. Promoting organizations can organize FPO-industry meetings at various locations to foster these connections, thereby benefiting both parties.
- ◆ *Diversification into emerging opportunities* : FPOs can capitalize on opportunities in emerging sectors, such as climate finance, climate-smart agriculture, future markets, artificial intelligence (AI), the Internet of Things (IoT), and drone

technology. FPOs have significant potential and opportunities for future trading, thereby mitigating marketing risks.

- ◆ *Differential support based on developmental stages* : The requirements for FPOs vary with their developmental stage. Therefore, a district-level mechanism or agency could be established that involves the agriculture department, Krishi Vigyan Kendras, and district-level financial and management institutions.
- ◆ *Think of a new form of FPO* : To facilitate the infusion of private equity, new entities similar to Farmer Producer Companies (FPCs) under the Companies Act may be established.
- ◆ *Link institutional buyers with FPOs* : Institutional buyers, including the Railways, the Military, and the Food Corporation of India (FCI), must prioritize FPOs in the procurement of both food and non-food commodities. This will ensure the consistent delivery of high-quality goods and significantly reduce transaction costs associated with market searches.
- ◆ *Member engagement and participation* : To ensure farmers' active participation in FPO activities and build trust and transparency, translating the Memorandum of Association (MoA) and Articles of Association (AoA) into regional languages and providing training and capacity building are indispensable for enhancing community engagement.
- ◆ *Strengthening the linkages of FPOs with R&D* : ICAR and NAAS have the potential to accelerate research and initiatives focused on FPOs, thereby enhancing their promotion and operations. In certain instances, such as in the Farmer FIRST project, FPOs can be integrated as research collaborators. The ICAR can use FPOs to extend effective advisory and extension services. It can identify collaborative opportunities that benefit both ICAR and FPOs. Simultaneously, they can collaborate with regional- and state-level entities that work with FPOs.

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