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RESEARCH ARTICLE

Empowering Small and Marginal Farmers: Unveiling the Potential and Addressing Obstacles of Farmer Producer Organizations in India

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Abstract: Farmers' organizations worldwide are essential, ensuring collective bargaining power, sustainable practices, and knowledge-sharing. This supports small farms in commercializing and meeting the growing global demand for better and more diverse food choices. India is also experiencing an increase in Farmer Producer Originations (FPOs), crucial in enhancing economic opportunities for small and marginal farmers. FPOs provide a host of services to members, like input supply, procurement, marketing, technical services, financial services, etc. The study delves into the existing literature and policy landscape surrounding FPOs and their role in the economic development of small and marginal farmers in India. This study also analyses the problems and obstacles concerning the growth of FPOs and provides a future direction. Twenty semi-structured interviews were conducted with leaders of the FPOs to understand the background, issues, future goals and member expectations. The results suggest that lack of working capital, poor management, absence of skilled professionals, and dependency on external agencies are the significant problems FPOs face; there is also a need for proactive government support. There needs to be more literature concerning the auxiliary services of FPOs. As the Indian government plans to add ten thousand FPOs in the next few years, the government needs to address the issues regarding lack of working capital, develop a comprehensive database of FPOs, establish performance metrics and determinants, provide management skill assistance, streamline licensing procedures, and foster social capital building initiatives. This research sheds light on the potential of FPOs to empower small and marginal farmers and suggests vital measures for the effective implementation and sustainable growth of these organizations.

Keywords: Farmer producer companies; Farmer collectivization; Rural development; Sustainable development; India

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1. Introduction

Farmer organizations are crucial globally, particularly in the least developed and developing countries with small and marginal farmers, as they empower agricultural communities to collectively negotiate better market access, share knowledge, and advocate for policies that address their unique challenges [1]. These organizations are pivotal in fostering sustainability, resilience, and equitable development within the agricultural sector [2,3]. For a significant percentage of primary producers in India, farming is characterized by low output and income levels. The farmers often find themselves at the receiving end, and their production is threatened due to various production risks coupled with a weak rural infrastructure. Successive governments have tried to implement different policies to improve the condition of Indian agriculture, but the initiatives taken have been insufficient. Eighty-five percent of land holdings in India are small (with an area less than 2 ha) and marginal (with an area less than 1 ha); however, their share in the country's total operated area is only 44.6 percent (Agriculture Census, 2010–2011). Small and marginal land holdings result in a smaller output coupled with problems like lack of mechanization and bargaining power in marketing, which make these holdings uneconomic. Also, problems like dependency on monsoon, supply of inputs, marketing issues, number of intermediaries, and lack of price dissemination exacerbate the small and marginal farmers. To improve the condition of Indian farming and envisage the true meaning of 'united we stand, divided we fall', policies related to farmer collectivization are fundamental.

One of the recent developments in this sector is the tweaking of the Indian Companies Act and the introduction of farmer-based companies also referred to as 'Farmer Producer Companies'. Farmer Producer Organisations (FPOs) may take various forms, such as a Trust, Society, Cooperative or Company. FPOs registered under the Indian Companies Act are called Farmer Producer Companies (FPCs). The idea behind a Farmer Producer Company is a group of farmers involved in agricultural production can collectivize and register themselves as a company under the Indian Companies Act. The idea behind an FPC is that there are advantages when farmers collectivize and operate as a company. The FPC can buy inputs at a lower price, benefit from reduced marketing costs because of bulk production and transportation to the market, and have better access to institutional credit. Investing in storage facilities to avoid distress and sell as a group is easier. Farmer Producer Company might also help its members in simple activities like training, technical advisory, financial advisory and processing, or it can be a more significant part of the value chain covering a set of activities. At the policy level, the idea behind collectivization through FPOs is that farmers have been producers, but now they can act as skilled traders to fetch a higher price. Also, it will bring large chunks of land and farmers together.

Under India's 12th Five-Year Plan (2012–2017), Famer Producer Organizations were the key to achieving agricultural growth. India has witnessed an increase in FPOs formed in the last few years. Also, in the budget of 2019, the Government of India announced the plan to create 10,000 FPOs in the next five years, and the operational guidelines were introduced in July 2020 (Budget Speech, Nirmala Sitharaman, Minister of Finance 2019–2020; formation and promotion of 10,000 farmer producer organizations (FPOs), Department of Agriculture, Co-operation and Farmers Welfare Ministry of Agriculture and Farmers Welfare, 2020). This research delves into the changing landscape of farmer collectivization in India, shedding light on current issues. With the Indian government's plan to establish 10,000 more Farmer Producer Organizations (FPOs), the study critically explores the features, roles, challenges, and growth barriers of existing FPOs. Furthermore, it analyzes ongoing policy interventions, offering key insights that can shape the future trajectory of FPOs in India while providing valuable lessons applicable to the global context of small and marginal farmers.

1.1 Evolution of FPO's in India

As compared to the evolution of cooperatives in India which started in the 19th century, the concept of Farmer Producer Organizations or Farmer Producer Companies is comparatively new and began with the amendment of the Companies Act in 2002 when a special section was introduced in the Companies Act while retaining the cooperative principle of 'one vote and one share' on the recommendations of the committee led by the economist Y.K. Alagh [4]. To better understand the Farmer Producer Organisation, one needs to understand the Producer Organisation. NABARD [5] defines a Producer Organization as a legal entity formed by primary producers such as farmers, milk producers, fishermen, rural artisans, etc., and a producer organization can take various forms such as a producer company, cooperative society or even other forms which provide profit and benefit sharing among its members. Farmer Producer Organization is defined as the Producer Organisation where farmers are the members or, in other words, members producing farm items [5]. FPCs are also described as a hybrid between cooperatives and private organizations, with all the significant features of private enterprise being similar to cooperatives [6]. Other collective forms include cooperatives, self-help groups (SHGs), farmers' clubs, etc. "Agricultural cooperatives formed under the Cooperative Credit Societies Act, 1904, has long been the dominant form of farmer collectives; however, the experience with cooperatives point to many limitations that prevent effective collective action" [7]. The issue with the cooperative societies is that their operations have been mainly welfare-based rather than commercial [8]. The idea behind a Producer Organization is that individual small producers do not have large volumes of both input and output; thus, a PO (Producer Organization) can ensure better income for small producers and farmers, and the aggregation of small producers through a PO provides economies of scale by eliminating a large number of intermediaries [5]. In the World Development Report, 2008, the World Bank defines Producer Organizations as "membership-based organizations or federations of organizations with elected leaders accountable to their constituents". This further reinforces the point of responsibility of producer organizations towards their constituents. Thus, the idea here is that people should be able to liberate themselves from the locked cage involving lack of money, adequate infrastructure, health care, proper transport, educational facilities and exploitation by middlemen [9].

1.2 Number and forms of FPCs in India

The data on the number and spread of FPCs in India are scattered, and there is no consistent database to verify the number of FPCs in India. Neti et al. [10] estimate that 7,374 FPCs registered between 2003 and 2019. The study analyses this figure by compiling data from the Ministry of Corporate Affairs, NABARD and SFAC. There has been an increase in the number of FPCs in the last six years. From FY 2004 to FY 2013, only 445 FPCs were formed. This recent increase can be credited to NABARD and SFAC, as the positive trend can be seen after these organizations started the policies to support FPOs. The data on the number and spread of FPCs across the Indian region can also be verified from the NABARD and SFAC portals. Madhya Pradesh, Karnataka and Maharashtra have the highest number of FPCs.

FPOs can take various legal forms such as a cooperative (Under the Cooperative Societies Act, Mutually Aided Cooperative Societies Act or Multi-State Cooperative Society Act, 2002), Producer Company (Under Section 581(C) of the Indian Companies Act, 1956, as amended in 2013), Section 25 Company (Under the Indian Companies Act, 1956, as amended as Section 8 in 2013), Societies (under Society Registration Act, 1860) or Public Trusts (under Indian Trusts Act, 1882). The formation of a producer or Section 25 company is the purest form of a producer organization, as a trust or a society does not have a provision for profit sharing. However, it can procure raw materials cheaper or sell bulk produce. The organizations formed as cooperatives might have limitations such as a restricted area of operation, non-tradable and non-transferable shares, limited dividends, external interference and less autonomy than a company. Still, it is a complicated procedure to form a company compared to other legal forms, and a company might attract higher penalties as per the law [5].

1.3 Studies conducted on producer organizations in different countries

Larbi et al. [11] illustrate how producer organizations in Western Africa promote technical and organizational innovations in vegetable production to increase yield and income. Bernard and Spielman [12] show how principles of an inclusive, bottom-up approach relate to the marketing performance of rural producer organizations in Ethiopia and found an intrinsic relationship between democratic decision-making and marketing performance, which eventually influenced the lives of poor farmers in Ethiopia. Fischer and Qaim [13] investigated the impact of collectivization on smallholder banana farmers in Kenya. The study concludes that there are positive effects on income and innovation through information flows. A survey of smallholder avocado farmers in Kenya revealed various factors for farmers' participation in collectives: age, education, gender, and perceptions of knowledge and improved technology [14]. A study in Kenya and Uganda also concludes that group capacity development, risk spreading, assets management, collective marketing, and human and natural capital management benefit from collective action [15]. A study of smallholder farmer groups from Rwanda and the Democratic Republic of Congo revealed that mature farmers with internal solid structures and greater product bulking perform better [16]. Minah and Carletti [17] try to explore the mechanisms of inclusion with evidence from Zambia's farmer organizations. They discover that financial services to poorer households, promotion of social identities, or compensating disadvantaged members for being unable to access subsidized inputs help underprivileged sections of society move towards inclusion in FPOs and commit themselves to a positive change. Widadie et al. [18] analyzed value chains and concluded that producer organizations upgrade their value chains by linking with modern retail and can develop network structures.

1.4 Studies on FPOs in India

One of the first studies on FPOs was by Trebbin and Hassler [19]. The study emphasized that FPOs bridge gaps between small farmers and high-value agricultural export markets. The study highlights the services provided by Vasundhara Agri-horti Producer Company (VAPCOL) to its members, such as making landless, small producers and women producers as members, bridging gaps between bulk buyers and producers, and extension activities of the members. The study is based on various activities by the FPOs, such as marketing, market information, transportation, cold storage, irrigation, extension services, input supply, production planning and excess production marketing and branding. In a comparative study of farmer producer companies in India and Sri Lanka, Singh [20] compared various PCs (Producer Companies) and emphasized that with the rise of supermarkets, small producers need new skills and economies of scale, which is only possible through collectivization. Chauhan [21], in a study on LuvKush Producer Company, reports benefits such as savings in the cost of inputs and better quality. Other benefits include procurement of seeds, training by experts, and financial inclusion. One of the unique studies on FPOs is research on Madhya Pradesh Women Poultry Producer Company Pvt. Limited (MPWPCL) [22]. The study analyses the effectiveness of FPOs on members and non-members. It concludes that FPOs were highly effective in improving the members' human, social and political dimensions of livelihood. Jose et al. [23] studied why farmer groups formed FPCs through five dairy-based FPCs in Kerala. Direct sales and the availability of farm inputs turned out to be the main reasons small and marginal farmers formed FPCs. Studies also see FPOs as an instrument to reduce transaction costs and the number of intermediaries, leading to a higher proportion of the producer's share [24]. Some studies suggest that FPOs are innovative drivers of strengthening agricultural value chains [25]. FPOs are called gap fillers and bridge builders in rural areas where there is corporate and collective action [26]. The study by Desai and Joshi [27] uses propensity-score matching analysis in Gujarat and concludes that the poorest members of FPOs benefited the most. Kumar et al. [28] revealed that FPO membership was crucial for farmers to reduce the poverty incidence rate. Kumar [29] demonstrated that producer share in the consumer rupee was higher for the channels of FPCs than other channels.

1.5 Role and importance of FPOs in India

The literature is analyzed along with the two major components, the core services, which deal chiefly with the economic and commercial aspects like input supply, processing and packaging, marketing, financial services and technical services. The second component involves the services of the FPOs that deal with the socio-cultural and developmental factors. These services may include networking, social capital, consultancy and convenience services. The provision of input supply services has been one of the significant functions of FPOs and has been included in many studies. Input supply is the most basic form of the role of FPO, and supply quality inputs emerge as one of the primary conditions for enhancing market linkage [30]. When FPOs specifically focus on financial services, positive results are seen; Desai and Joshi [27] mention a 45% greater likelihood of knowledge of credit options among members and 10–14% more credit offtake. Another crucial role of Producer Organizations is to create effective market linkages. The various linkages can be pre-agreed contracts, like in the case of Vasundhara Agri-Horti Producer Company Limited (VAPCOL) and ITC Limited. Due to assured supply, these linkages reduce risks and transactional costs [19]. Nayak [31] suggested starting with fewer products to improve the marketing and procurement services and reduce complexities in the supply chain. Also, these organizations should be provided with licenses for better marketing of the produce [32]. The experiences of insurance services with FPOs are unfavorable due to the higher cost of insurance and less awareness [7]. FPOs provide several training programs to their member farmers and also to villagers. Technical services are essential to ensure a better service for these organizations. Knowledge sharing among peers can effectively manage information dissemination activities [33]. They provide crop-based training to their beneficiaries, including selecting quality crop seeds, best practices of raising seedlings or nursery management, best practices for transplanting, irrigation and fertigation scheduling and pest management. Besides, information on weather conditions is also provided occasionally. Both high-end and low-end technological practices can be utilized based on the level of value chain an FPO is operating [31].

Various studies have emphasized the importance of health, education and infrastructure. These actions have certain spillover benefits. So, the government should build sustainable community-based organizations [31,34]. FPOs also help member farmers and villagers fill out job application forms, and help issue Aadhaar Cards① and PANs②, avail the entitlements reserved for them, and so on. Besides, they also act as information agents. When the government announces any new scheme or subsidy, they call for meetings to disseminate the necessary information to create awareness and work towards helping people receive the benefits of those schemes and subsidies. These initiatives have paid off well for children's growth and development, education, and health. But now, there is a need to see how FPOs can go beyond their economic and commercial scope to assist poorer sections of society and affect the formation of Social Capital. In a study on 226 farmer members of a Farmer Producer Company, Pant et al. [35] conclude that social capital plays a significant role in predicting the performance of FPCs.

1.6 Obstacles and problems faced by FPOs

At the present stage, many FPOs might be nascent, but when they grow and reach the higher segments of the value chain, the demand for finance will rise [36]. Singh [32] notes that one of the problems restricting the further growth of FPCs is access to capital through banks and allied agencies. Sharma [37] also mentions that credit mobilization and infrastructure provision must be prioritized for further growth of FPCs. FPOs get less support from financial institutions and the federal and state governments than the cooperatives [38]. Also, FPOs at nascent stages might have poor economic performance and face more difficulties when financial support of the initial funding is withdrawn [31,34]. Some of the suggestions to improve the role of FPOs with regards to financial services can be innovation value chain financing like trust-based lending as these organizations might not have collateral, and these organizations can build social and financial capital and strengthen the ecosystem of FPOs that revolve around the value chain [31,36]. The FPOs have made concerted efforts to link the member farmers to consumers, traders, marketing agencies and other such agencies, as they have been unable to play these roles due to resource constraints. Young FPOs with less capacity often have weak linkages with the retailers as they cannot fulfil the demands of modern retailers with their low capacity [39]. There has been more focus on the equity principle than the organizational design and efficiency. For the success of FPOs, the focus should be on promoting the better livelihood of the members, i.e., member centrality and should also focus on patronage [40]. Further, Shah [40] raised concerns regarding free riding and opportunism among the members of FPCs.

Chauhan [21] mentions that it might be the case that at the initial stage, these FPOs are only able to provide modest benefits to their members, such as essential services like aggregation, input supply and knowledge transfer. When these FPOs evolve, there will be instances of intermediation with corporate entities and, at an advanced stage, the creation of individual brands, processing facilities, and marketing channels [36]. This can be seen in the case of LuvKush, where the company started its brand named Ajeevika and sold the product as Ajeevika Chakki Fresh Aata and Ajeevika Chakki Fresh Besan [21]. Madhya Pradesh Women Poultry Producer Company Pvt. Limited (MPWPCL) has a retail brand, Sukhtava Chicken in 12 cities of Madhya Pradesh [22]. We also have the example of VAPCOL and its successful linkages with ITC Limited [19].

Noor et al. [41] in a study on 5 FPOs of Tamil Nadu emphasized the lack of capability, facilitation and capital as some of the constraints faced by FPOs. The research on 36 vegetable-based FPOs in West Bengal raises the issue of lack of trust, awareness and managerial skills as a hindrance in the supply chain of producer companies [42]. Govil and Neti [43] anticipate that FPCs will harness digital technology platforms for more equitable economic and social growth.

1.7 Gaps and research objectives

The study explores the potential forms of farmer-producer organizations and reveals their potential. The international literature indicates that the roles of the FPOs are ease of credit and financial services, capacity building, technical services, marketing of produce, enhancing income and innovation, improvement in knowledge, improved technology, enhanced group capacity, human and natural capital management, subsidized inputs and upgradation of value chains. The studies on FPOs in India reveal the benefits like easy and cheaper input supply, financial services, market linkages, insurance services, training programs, tech-

① Aadhaar is a unique identity number that can be obtained voluntarily by all residents of India, based on their biometrics and demographic data.

② PAN is a ten-digit unique number issued by the Income Tax Department of India.

nical services, knowledge sharing, health, education, social capital and other spillover benefits (Figure 1).

Different studies in India have highlighted some of the obstacles and problems of FPOs in various phases of their development, such as the initial phase, growth phase, and future expansion. The issues highlighted include compliances, consistent database, working capital, support at different phases of development, resource constraints, capacity building, member centrality and patronage, trust and social capital, modest benefits to members at the initial stage, and awareness and management skills.

The contribution of this study to the body of the literature is twofold. Firstly, it integrates and systematically validates challenges faced by Farmer Producer Organizations (FPOs), bridging existing research gaps that often focus on isolated aspects. Through rigorous field observations, this study aims to provide empirical evidence that substantiates the identified challenges. Secondly, the research goes beyond validation, offering a unique contribution by suggesting a future direction by applying relevant theories such as Collective Action, Social Capital, Resource-Based View, Cooperative, Agency, and Institutional theories. Notably, this holistic approach distinguishes the study by presenting a roadmap for the future development and sustainability of collective organizations in the agricultural sector.

The research objective is to systematically validate the literature-related challenges related to Farmer Producer Organizations (FPOs). Through field observations, the study aims to assess and verify these issues while capturing and documenting diverse experiences encountered by various FPOs. This approach seeks to contribute valuable insights into the practical realities and nuances faced by FPOs, fostering a more comprehensive understanding of their operational challenges. Additionally, the findings guide countries with small and marginal farmers considering or embarking on the journey of collectivization, extending the study's relevance beyond India. Collective dynamics are similar worldwide, emphasizing the universal applicability of the insights for fostering sustainable Farmer Producer Organizations (FPOs) globally.

2. Materials and methods

Based on the literature review, The research questions employed in this study aim to comprehensively explore the challenges encountered by Farmer Producer Organizations (FPOs) throughout different stages of their evolution: the formation phase, growth phase, and future plans. To uncover the problems in the evolution phase, CEOs/Directors of the FPOs were interviewed to discover the background story of the organizations. Specifically, inquiries were made regarding the process of member collectivization and the identified gaps that prompted the initiation of the FPO [19]. This information was sought to understand the foundational aspects of FPOs and the problems faced during their establishment. Moving to the initial and growth phases, participants were further probed on current obstacles faced and any anticipated support required from the government [37,42,44,45]. This inquiry aimed to identify the practical challenges and external factors influencing the operational efficiency of FPOs during their early and growth phases. Given that the selected FPOs are in their initial or development stages, the study delved into their future plans. It sought insights into the participants' perspectives on the future trajectory of FPOs [21,36,43]. This question was included to uncover the strategic vision of FPOs and provide a forward-looking perspective, crucial for understanding their long-term sustainability and potential impact on the agricultural sector (Figure 1).

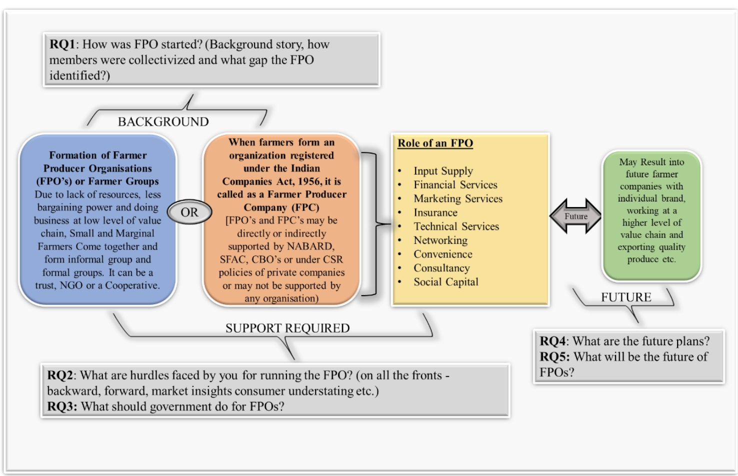

Figure 1. Analytical framework of the study.

Data and methods

The state of Maharashtra as the area of study is selected as the state has one of the highest growth of FPOs in India. Different districts were meticulously selected as strata to ensure a representative portrayal of the diverse landscape of FPOs across the state, considering the varying concentrations of these organizations in each region. The sampling process was conducted within each chosen district using the convenience sampling technique. Initially, FPOs were identified based on accessibility and availability. Subsequently, the snowball sampling method was applied, wherein additional FPOs were referred to or identified by the initially selected organizations. Twenty semi-structured interviews were conducted with the leaders (Director/CEO) of the selected Farmer Producer Companies to understand the evolution, problems, future goals and expectations of Farmer Producer Companies in the Maharashtra state of India. Given their critical involvement in the founding and growth phases of the FPOs, these leaders are uniquely positioned to provide profound insights into the organizational dynamics. Some studies have reported that for such a sample, saturation was reached after 9–17 interviews [46]. The interviews were conducted from 1 October 2022 to 3 December 2022. On average, the field interview lasted 30–35 minutes for every FPC leader, ensuring a detailed and comprehensive understanding of their perspectives. Table 1 demonstrates the details of the sample FPCs considered for the study. It is important to note that this study's scope of Farmer Producer Organizations (FPOs) pertains explicitly to those formally registered as companies. The authors intend to extrapolate the findings to apply broadly to comparable organizations. While our sample size may be limited, it facilitated the collection of in-depth data, offering novel insights, predominantly qualitative, that would remain inaccessible otherwise. The significance of such detailed information has been acknowledged by Saunders et al. [47]. Additionally, including FPOs from different districts enhances the study's robustness, as the leaders possessed a broader perspective, being aware of the dynamics and challenges faced by other FPOs in proximity. This contextual awareness contributes to the potential generalizability of the results, offering a more comprehensive understanding applicable to a broader range of Farmer Producer Organizations.

This paper adopts a qualitative data collection approach to support the findings by field observation. The subsequent content analysis aimed to identify key themes and patterns from the recorded statements, contributing to a thorough examination of the challenges and aspirations of FPOs in the selected districts. The utilization of similar methods in other exploratory inquiries attests to the reliability and appropriateness of this approach for investigating novel subjects [48–50]. The method can cope with an extensive evidence base, allows flexibility and can be used for theory-building. However, transparency, absence of standard methodologies, and dependence on the skills of researchers are some of the limitations of the method considered [51].

3. Results

The results section is structured into three distinct subsections, highlighting the challenges and impediments encountered during the initial formation phase, the growth stage, and the future plans of the Farmer Producer Organizations (FPOs) considered. The problems, obstacles, potential reasons, and solutions provided by the theory at each stage are summarized in Tables 2–4.

3.1 Formation phase

In the sample considered for the study, 4 FPCs were formed by NGOs and Government organizations. They didn't have a background story of informal collectivization or collectivization. The FPCs that the government and NGOs started had an average revenue of Rs. 1,45,00,000, and others had an average revenue of Rs. 1,62,00,000. The 16 other FPCs were formed due to various gaps and problems and were initially started as an informal organization (Farmer Groups of Self-Help Groups). Many studies found that if governments or NGOs form FPOs, the farmers lose interest and do not perform the organization's activities. This can also create a lack of trust among the farmers, and once the supporting organization limits the handholding, FPCs start to underperform. But some FPOs naturally form due to some common reason that collectivizes the members.

Participant 1 revealed that most of the farmers in their village are small and marginal and have farm sizes of 1–2 acres. The purchase of tractors and other equipment was complicated for the farmers. So, they formed three farmer groups in our village (SHGs) and collectivized these groups and groups from two different villages to form an FPC. Participant 2 said transportation charges for boiling, polishing and marketing turmeric were very high. To solve the problem, they decided to create FPC, and went to the farmer's

Table 1. District-wise FPCs considered for the study.

District	Participant #	Name of the FPC	Age of the respondent	Number of members	Paid-up capital (INR)	Revenue (2021–2022) in INR
Ahmednagar	Participant 3	Real Orgo Farmer Producer Company Limited	43	800	₹ 9,98,000	₹ 76,00,000
Ahmednagar	Participant 4	Bhairavnath Farmers Producer Company Limited	23	343	₹ 3,85,000	₹ 5,00,00,000
Ahmednagar	Participant 5	Gitai Farmer Producer Company Limited, Pargaon	55	550	₹ 8,50,000	₹ 9,57,00,000
Nashik	Participant 13	Sinnar Poultry Producer Company Limited	42	392	₹ 5,00,000	₹ 1,85,00,000
Nashik	Participant 16	Rokdeshwar Farmer Producer Company Ltd	34	538	₹ 4,50,000	₹ 80,00,000
Nashik	Participant 8	Devnadi Valleydevnadi Valley Agricultural Producer Company Limited	40	837	₹ 24,37,000	₹ 4,70,00,000
Nashik	Participant 9	Utkarshabharati Farmers Agro Producer Company Limited	48	250	₹ 3,50,000	₹ 60,00,000
Ratnagiri	Participant 14	My Konkan Agro Producer Company Limited	63	1000	₹ 4,50,000	₹ 20,00,000
Satara	Participant 1	Krushi Sagar Agro Producer Company Limited	53	367	₹ 5,00,000	₹ 23,00,000
Satara	Participant 2	Krishna Koyna Agro Producer Company Limited	48	422	₹ 4,00,000	₹ 10,00,000
Satara	Participant 11	Venna Valley Agro Producer Company Limited	55	1035	₹ 4,23,000	₹ 35,00,000
Pune	Participant 10	Yogneel Agro Farmer Producer Company Limited	41	255	₹ 25,00,000	₹ 3,50,00,000
Pune	Participant 6	Vaishnavdham Parunde Farmers Producer Company Limited	50	750	₹ 15,50,000	₹ 4,00,00,000
Pune	Participant 7	Shivtej Farmer Producer Company Limited	50	508	₹ 24,00,000	₹ 2,00,00,000
Pune	Participant 12	Amrut Sanjivani Farmer Producer Company Limited	36	37	₹ 7,00,000	₹ 22,00,000
Pune	Participant 17	Nathson Farmers Producer Company Limited	44	1200	₹ 13,00,000	₹ 1,75,00,000
Pune	Participant 15	Baramati Agrostar Farmer Producer Company Limited	39	320	₹ 5,00,000	₹ 50,00,000
Beed	Participant 18	Nagad Narayan Farmer Producer Company Limited	22	518	₹ 5,00,000	₹ 12,00,000
Akola	Participant 19	Hirkani Farmers Producer Company Limited	39	300	₹ 5,32,000	₹ 10,00,000
Nagpur	Participant 20	Lodeshwar Agro Producer Company Limited	43	350	₹ 40,00,000	₹ 7,00,00,000

land directly for boiling and polishing of turmeric through a portable boiler and polisher and later procured the same; they were able to capture the market of 700–800 acres in the first year itself. Participant 3 also expressed that the marketing of produce was a big problem for all of them. Also, they didn't have information regarding prices. So, they decided to aggregate the produce through forming a farmer-producer organization. They started with 20 self-help groups and later formed a farmer's collective. Participant 17 also stated that it is vital that the government supports us at the ideation stage. They initially thought of starting milk processing but later found that they did not have a scale. Participant 11 also echoed that they originally started with strawberry marketing with the help of supporting organizations. They couldn't sustain the same, and later, entered into procurement, milling, and marketing of rice. Members do not understand how a company functions, states Participant 18.

3.2 Growth phase

If the supporting organizations provide the support, it comes with many challenges. Participant 15 said that the rules to get grants are similar for everyone, but the government should see FPCs as unique identities. Every FPC cannot have high profits or a high number of members. If the grant's eligibility has a standard parameter for all, it will lead to low innovation. Also, as FPCs involve small and marginal farmers, the government needs to ease up the taxes and complications related to licenses. Participant 3 mentioned that they have faced problems concerning compliances, filing of taxes etc. So, they want the government to work on easing up the compliance for FPOs. Participant 8 requested the government to form easy, simple and transparent policies for subsidies and support. There should be fewer ifs and buts in the policy. Participant 13 mentioned that they think members have innovative ideas, but problems arise during implementation. So, they need handholding and support at the implementation stage. Participant 9 added that instead of monetary support from the government, they are looking for more handholding in processes and procedures, yearly filings and regulatory requirements. Participant 16 raised the concern that though they have certain plans, they are waiting for their existing businesses to scale up to use the generated capital on new plans. So, working capital is currently a problem. Also, FPOs don't receive the support provided to cooperative institutions, and without any collateral or government backing, financial institutions don't find these FPOs worthy customers. Participant 4 mentioned that their initial plan in 2015 was to procure and market soybeans, but they could not secure a loan for the same. After years of having a good balance sheet, last year they booked a Rs. 50 Lakh Loan for the procurement of soybeans. So, it delayed their plans. Even if some FPOs can hire a skilled workforce, retaining them becomes difficult due to a lack of working capital.

Participant 12 expressed that the government should do something to provide initial capital support for FPOs. As start-ups get the funding, they should also be given a chance to present their ideas and have some initial capital support, and the paid-up capital is not enough to scale. One of the common problems of Producer organizations is the lack of management skills and the inability to hire professional staff. Many FPOs work without a skilled workforce. This creates problems like non-maintenance of records, lack of accountancy skills or lack of transparency. Participant 8 stated that it is difficult to hire a qualified CEO due to

Table 2. Problems and obstacles, potential reasons and solutions at the formation stage.

Problems and obstacles identified in the formation stage	1) Identification of gaps for initial formation 2) Lack of member participation and initial trust 3) Lack of support at the ideation stage 4) Awareness of the objectives of FPCs
Potential reason for the problems	1) Insufficient research or needs assessment before initiating the FPO 2) Inadequate efforts in community engagement and building relationships among potential members and lack of transparency in the formation process. 3) Inadequate collaboration or weak networks 4) Insufficient outreach efforts to educate farmers about the goals and benefits of FPOs
Solutions provided by the theory	1) Collective action theory proposes selective and social incentives, interdependency, intrinsic benefits and critical mass as solutions to enhance participation, gain initial trust and increase awareness and collective efforts to pursue ideation having common interests and goals [52]. 2) Recent research concludes that cooperative theory in its modern form is based on a contradiction of individuality and community, awareness of cooperative ideology and democratising society will enhance the performance of FPOs [53].

a lack of funds. Without a CEO, it is difficult for a company to have a vision for good future plans. Participant 15 also stated that they must learn the basic economics of products, marketing, production process etc. Participant 12 said that winning the trust of the members is a must. So, FPCs can start with small activities that will help win members' trust. Awareness and trust are a big issue. Participant 6 mentioned that they initially faced payment delays when they collectively sold their produce to the mill owner, and the members were not ready to wait. Still, once member trust was created, they were prepared to wait. Lastly, they also need metrics and determinants to analyze the performance of these organizations. Such metrics will help the producer and promoting organizations have an evident growth and expansion strategy. The government can create certain yardsticks to assess our performance. That will increase the awareness of the goals and missions of the company amongst the members mentioned in Participant 18.

3.3 Future plans

Adopting the policy change took a lot of time, and the spurt of FPCs has happened recently. Many FPCs are young and operating at a lower value chain level. There are successful examples of older FPCs that provide their members with various services like processing, finance, technical advisory, marketing, etc. In contrast, the young ones deal with lower-level activities like input supply and aggregation. Only four of the 20 FPCs considered for the study performed at the processing, branding, and advertising stages. The rest of the FPCs are only involved in cleaning, sorting, grading and packaging. Participant 15 revealed that they want to start an animal hospital as the village produces a lot of milk, and members must go to the city for treatment and buy medicines. Also, they plan to use drones for pesticide spray if the scale allows it. They may plan to do something with the wastage of their processed products when the calendar is vacant in the year. Participant 17 mentioned that they will start vacuum-dried vegetable chips in the future. These products have considerable margins in the international market. They want to create their own brand for vacuum-dried vegetable chips and need help conducting market research. The government plans to boost the FPO ecosystem with 10000 new FPOs in the next few years. A few factors need a resolution to implement the policy successfully. One of the factors is a database of FPOs. One of the participants in the study echoed the same. Participant 20 mentioned that they wish the government would open a portal to read about schemes and grants and connect with other FPCs and companies to expand their business. However, with the lack of a consistent nationwide database, it would be challenging to track the growth of FPOs in different regions of the country.

Table 3. Problems and obstacles, potential reasons and solutions at the growth stage.

Problems and obstacles identified in the growth stage	1) FPCs are seen as a homogeneous unit 2) Complications regarding compliances 3) Lack of handholding support for implementation at the growth stage 4) Lack of working capital 5) Lack of management skills 6) Lack of trust among members 7) Metrics and determinants of performance
Potential reason for the problems	1) Inadequate efforts to recognize and address the diversity of FPCs 2) Limited access to legal expertise or support services 3) Little collaboration with supportive organizations and institutions 4) Lack of sustainable revenue generation strategies or inefficient management practices 5) Limited access to training on organizational development and challenges in hiring skilled professionals 6) Communication gaps or lack of transparency or ineffective mechanisms for conflict resolution 7) Limited data-driven decision-making processes or lack of clarity on key performance indicators
Solutions provided by the theory	1) Social Capital theory reveals that social capital is directly associated with building trust, networks and relationships [54,55]. 2) Resource-based view theory offers a plausible solution for identifying internal resources and combining and integrating these resources to create unique and dynamic capabilities. FPOs can manage resources to ensure compliance, optimize resources and manage performance [56]. 3) Agency theory emphasizes the alignment of interest between principals (leaders) and agents (members). Agency Theory suggests implementing governance structures that cater to the specific characteristics of each FPC and ensuring that the skills of the management align with the interests and objectives [57].

Table 4. Problems and obstacles, potential reasons and solutions for the future plans.

Problems and obstacles identified for the future	1) FPCs operating at lower levels of the value chain 2) Lack of activities throughout the calendar 3) Lack of viable plans 4) Inconsistent database for networking
Potential reason for the problems	1) Insufficient strategic planning to move up the value chain or limited understanding of the broader value chain 2) Limited knowledge or resources for planning 3) Insufficient long-term strategic planning or limited capacity 4) Challenges in data accuracy, completeness, and consistency hindering effective networking efforts
Solutions provided by the theory	1) The latter stages of the Resource-based view theory involve identifying unique resources for collaborative advantage and strategic alliances [56]. 2) The institutional theory reveals how small changes in the value chains can lead to higher levels of the value chain and new opportunities [58].

4. Discussion

Bikkina et al. [7] argue that FPCs need government support for the formation stage. Policymakers need to ensure that there isn't excessive state control. FPOs should be able to get a start-up environment where they shouldn't be gazed at with astonishment even if they fail. The support should be divided into the handholding, scaling, and mature stages of development [59,60]. There is a need to establish incubators to handhold and support [60]. Also, when the supporting organizations limit their support for young FPOs, it is observed that they tend to perform poorly [20,61]. The same was seen in the coconut producer's federation in Kerala, where the withdrawal of institutional support led to the closure of 82 out of 95 federations [62]. Often, many farmers join FPOs due to pressure from the government and don't participate in the organization's activities [45].

During the growth phase of FPOs, many studies have found that working capital is a big challenge for these FPOs [63]. One of the most common problems stated in many studies is the lack of funds and support for the FPOs [64,65]. This phenomenon can also be confirmed in the study conducted by Neti et al. [10] that the median paid-up capital per producer company in India is only Rs. 110,000, there are 86% of FPCs with a paid capital less than Rs. 1 Million, 99% of FPCs in India have less than 1,000 shareholders with an average of 582 shareholders. The sample taken in the study had an average paid-up capital of Rs. 10,86,250 and an average member size of 538. These organizations will require working capital and increased membership to perform higher value chain activities and reach economies of scale. Kakati and Roy [66] concluded that FPCs should be allowed to incorporate second-class shareholders to improve the problems related to working capital. Contrary to this, Kappil et al. [67] mentioned that reducing the number of shareholders in FPCs in Kerela may increase the efficiency of these FPCs. Also, there is no study on the optimum number of board sizes for FPCs. Chintala and Mani [68] raised concerns regarding the selection of a CEO, as it can be a critical factor for the success of FPCs. Gireesan [69] has suggested capacity-building programs from various management perspectives as a way forward. Bijman et al. [70] emphasize developing the farmers' management and marketing skills to make them skillful traders. Still, they lack working capital and cannot hire management professionals. Lack of trust and awareness among the members is also one of the problems of FPO [42,71]. Dey [72] highlighted some of the determinants of performance and viability, such as governance structure, external network, access to capital and technology, member contribution to the business, and financial performance.

Finally, for a sustainable future plan, it is observed that there is limited literature related to the auxiliary services provided by the FPO, i.e., consultancy, convenience, social capital and networking that result in socio-cultural development. In a study on the Tamil Nadu Banana Producer Company, Srinithi et al. [73] concluded that respondents felt increased information sharing and seeking, an aspect of social capital. Also, Latitha et al. [74] highlight that Sahyadri Farmers Producer Company Ltd is improving the farmers' livelihoods by increasing social capital. Future studies can be performed on these topics. Widadie et al. [18] state that producer organizations upgrade their value chains by developing network structures.

5. Conclusions

This paper attempted to understand the evolution of farmer-producer organizations and related policies. The study also highlights critical challenges at various stages of Farmer Producer Organizations (FPOs) and offers practical insights for policymakers and supporting organizations. The history of collectivization started with farmers' agitation in the late 19th century, and the cooperative structure began to evolve at the beginning of the 20th century. Though cooperatives were seen as an ideal development structure in the 20th century, the cooperative structure started to fade with privatization and globalization at the end of the 20th century. A new era marked the beginning of the 21st century for farmers with the changes in the Companies Act and the introduction of the Farmer Producer Companies. The demand for agricultural products has become advanced and globalized. On the supply side, there is an increase in the number of small and marginal farmers yearly and decreasing economies of scale due to land fragmentation in developing countries like India. It will become unviable for small producers to find linkages in the advanced private markets. So small and marginal farmers can come together, initially in informal groups and form legal entities later. These legal entities can start with lower value chain activities and reach an advanced stage as they grow. Advance-stage activities might include creating brands, processing, linkages with corporates, fixed price arrangements, or trading commodities on e-platforms. The study discussed the obstacles and problems in achieving these objectives. Also, the support of external agencies should not be restricted to a certain number of years as, due to variations in certain conditions, FPOs might take more than or less than a certain number of years to stabilize. In the future, the government can work on a consistent national database, metrics, determinants of performance, and auxiliary services like social capital.

This study uniquely bridges the gap between theoretical insights and practical realities by compiling challenges identified in existing literature and validating them through field observations. The findings of this study transcend national borders, offering insights applicable to diverse agricultural contexts globally. Policymakers and development agencies worldwide can draw lessons on supporting FPOs and collective action for small and marginal farmers. One limitation of this study is the relatively small sample size, which, while providing in-depth insights, may limit generalizability.

Future research should aim for more extensive and diverse samples to enhance the external validity of findings. Expanding the study to include FPOs from different regions, crops, and activities could offer a more comprehensive understanding of challenges and solutions. Further exploration of auxiliary services, social capital dynamics, and socio-cultural impacts remains uncharted, providing avenues for future investigations.

Author Contributions

Study conception and design: Sushant Malik, Dilip Kajale; data collection: Sushant Malik; analysis and interpretation of results: Sushant Malik, Dilip Kajale; draft manuscript preparation: Sushant Malik; manuscript revision: Dilip Kajale. All authors reviewed the results and approved the final version of the manuscript.

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Data Availability

All data used in the study are available from the author upon request.

Conflict of Interest

All authors disclosed no conflict of interest.

References

[1] Hellin, J., Lundy, M., Meijer, M., 2009. Farmer organization, collective action and market access in Meso-America. Food Policy. 34(1), 16–22. DOI: https://doi.org/10.1016/j.foodpol.2008.10.003

[2] Moustier, P., Tam, P.T.G., Anh, D.T., et al., 2010. The role of farmer organizations in supplying supermarkets with quality food in Vietnam. Food Policy. 35(1), 69–78. DOI: https://doi.org/10.1016/j.foodpol.2009.08.003

[3] Bizikova, L., Nkonya, E., Minah, M., et al., 2020. A scoping review of the contributions of farmers' organizations to smallholder agriculture. Nature Food. 1, 620–630. DOI: https://doi.org/10.1038/s43016-020-00164-x

[4] Planting the Seeds of Prosperity [Internet]. Livemint [cited 2022 Jun 15]. Available from: https://www.livemint.com/Politics/fW2Pw8ziSw8mFsElM8AEnM/Planting-the-seeds-of-prosperity.html

[5] Vahoniya, D.R., Vahoniya, N.D., Halpati, J.R., 2022. Farmer producer organisation (FPO): A conceptual study about farmer producer company (FPC). Asian Journal of Agricultural Extension, Economics & Sociology. 40(10), 1185–1197.

DOI: https://doi.org/10.9734/AJAEES/2022/v40i101676

[6] Mukherjee, A., Singh, P., Ray, M., et al., 2018. Enhancing farmers income through farmers' producers companies in India: Status and roadmap. The Indian Journal of Agricultural Sciences. 88(8), 1151-1161.
DOI: https://doi.org/10.56093/ijas.v88i8.82441

[7] Bikkina, N., Turaga, R.M.R., Bhamoriya, V., 2018. Farmer producer organizations as farmer collectives: A case study from India. Development Policy Review. 36(6), 669–687.
DOI: https://doi.org/10.1111/dpr.12274

[8] Prabhakar, I., Manjunatha, B.L., Nithyashree, M.L., et al., 2012. Farmers producer company—An innovative farmers' institution. Environment and Ecology. 30(2), 427–430.

[9] Agriculture for Development [Internet]. World Bank [cited 2022 Nov 19]. Available from: https://openknowledge.worldbank.org/server/api/core/bitstreams/8d8ad2dd-5c98-5042-8aad-744fdd7b034f/content

[10] Neti, A., Govil, R., Rao, M.R., 2019. Farmer producer companies in India: Demystifying the numbers. Review of Agrarian Studies. 9(2), 92–113.

[11] Larbi, T. O., Cofie, O., Amoah, P., et al., 2014. Strengthening urban producer organizations for innovative vegetable production and marketing in West African cities: experiences from Accra, Chana and Ibadan, Nigeria. Acta Horticulturae. 1021, 167-180.
DOI: https://doi.org/10.17660/ActaHortic.2014.1021.14

[12] Bernard, T., Spielman, D.J., 2009. Reaching the rural poor through rural producer organizations? A study of agricultural marketing cooperatives in Ethiopia. Food Policy. 34(1), 60–69.
DOI: https://doi.org/10.1016/j.foodpol.2008.08.001

[13] Fischer, E., Qaim, M., 2012. Linking smallholders to markets: determinants and impacts of farmer collective action in Kenya. World Development. 40(6), 1255–1268.
DOI: https://doi.org/10.1016/j.worlddev.2011.11.018

[14] Gyau, A., Mbugua, M., Oduol, J., 2016. Determinants of participation and intensity of participation in collective action: Evidence from smallholder avocado farmers in Kenya. Journal on Chain and Network Science. 16(2), 147–156.
DOI: https://doi.org/10.3920/JCNS2015.0011

[15] Ombogoh, D.B., Tanui, J., McMullin, S., et al., 2018. Enhancing adaptation to climate variability in the East African highlands: A case for fostering collective action among smallholder farmers in Kenya and Uganda. Climate and Development. 10(1), 61–72.
DOI: https://doi.org/10.1080/17565529.2016.1174665

[16] Ochieng, J., Knerr, B., Owuor, G., et al., 2018. Strengthening collective action to improve marketing performance: Evidence from farmer groups in Central Africa. The Journal of Agricultural Education and Extension. 24(2), 169–189.
DOI: https://doi.org/10.1080/1389224X.2018.1432493

[17] Minah, M., Malvido Pérez Carletti, A., 2019. Mechanisms of inclusion: Evidence from Zambia's farmer organisations. The European Journal of Development Research. 31, 1318–1340.
DOI: https://doi.org/10.1057/s41287-019-00212-8

[18] Widadie, F., Bijman, J., Trienekens, J., 2021. Value chain upgrading through producer organisations: Linking smallholder vegetable farmers with modern retail markets in Indonesia. International Journal on Food System Dynamics. 12(1), 68–82.
DOI: http://dx.doi.org/10.18461/ijfsd.v12i1.76

[19] Trebbin, A., Hassler, M., 2012. Farmers' producer companies in India: A new concept for collective action? Environment and Planning A. 44(2), 411–427.
DOI: https://doi.org/10.1068/a44143

[20] Singh, S., 2016. Smallholder organization through farmer (producer) companies for modern markets: Experiences of Sri Lanka and India. Cooperatives, economic democratization and rural development. Edward Elgar Publishing: Cheltenham. pp. 75–100.
DOI: https://doi.org/10.4337/9781784719388.00011

[21] Chauhan, S., 2016. Luvkush crop producer company: A farmer's organization. Decision. 43, 93–103.
DOI: https://doi.org/10.1007/s40622-015-0121-1

[22] Mukherjee, A., Singh, P., Rakshit, S., et al., 2019. Effectiveness of poultry based farmers' producer organization and its impact on livelihood enhancement of rural women. Indian Journal of Animal Sciences. 89(10), 1152–1160.
DOI: https://doi.org/10.56093/ijans.v89i10.95024

[23] Jose, E., Meena, H.R., Meena, B.S., 2019. Genesis of dairy based farmer producer companies in Kerala. Indian Journal of Dairy Science. 72(2), 218–222.
DOI: https://doi.org/10.33785/IJDS.2019.v72i02.015

[24] Kumar, P., Manaswi, B.H., Prakash, P., et al., 2019. Impact of farmer producer organization on organic chilli production in Telangana, India. Indian Journal of Traditional Knowledge (IJTK). 19(1), 33–43.
DOI: https://doi.org/10.56042/ijtk.v19i1.30839

[25] Kumari, S., Bharti, N., Tripathy, K.K., 2021. Strengthening agriculture value chain through collectives: Comparative case analysis. International Journal of Rural Management. 17(1_suppl), 40S–68S.
DOI: https://doi.org/10.1177/0973005221991438

[26] Tagat, V., Tagat, A., 2016. The potential of farmer producer organizations in India. SSRN.
DOI: http://dx.doi.org/10.2139/ssrn.2972488

[27] Desai, R.M., Joshi, S., 2014. Can producer associations improve rural livelihoods? Evidence from farmer centres in India. Journal of Development Studies. 50(1), 64–80.
DOI: https://doi.org/10.1080/00220388.2013.849339

[28] Kumar, K.N.R., Reddy, M.J.M., Shafiwu, A.B., et al., 2023. Impact of farmer producer organizations on price and poverty alleviation of smallholder dry chillies farmers in India. Research on World Agricultural Economy. 4(3), 46–62.
DOI: https://doi.org/10.36956/rwae.v4i3.880

[29] Kumar, M., Singh, R., Kumar, K., 2021. Marketing efficiency of different marketing channel of mustard crop in Swai Madhopur District of Rajasthan. Economic Affairs. 66(1), 143–147.
DOI: https://doi.org/10.46852/0424-2513.1.2021.18

[30] Yadav, V. K., Mukharjee, A., Roy, et al., 2022. Analyzing the constraints as perceived by the board of directors in the initial development phase of the farmer producer organizations. Indian Research Journal of Extension Education. 22(3), 170-175.
DOI: https://doi.org/10.54986/irjee/2022/jul_sep/170-175

[31] Nayak, A.K., 2016. Farmer producer organizations in India: Policy, performance, and design issues. Organised retailing and agri-business. India studies in business and economics. Springer: New Delhi. pp. 289–303.
DOI: https://doi.org/10.1007/978-81-322-2476-1_17

[32] Singh, S., 2008. Producer companies as new generation cooperatives. Economic and Political Weekly. 43(20), 22–24.

[33] Cherukuri, R.R., Reddy, A.A., 2014. Producer organisations in Indian agriculture: Their role in improving services and intermediation. South Asia Research. 34(3), 209–224.
DOI: https://doi.org/10.1177/0262728014544931

[34] Vicziany, M., Plahe, J., 2017. Extending traditional food knowledge into new marketing institutions for small farmers in India. South Asia: Journal of South Asian Studies. 40(3), 645–668.
DOI: https://doi.org/10.1080/00856401.2017.1342183

[35] Pant, S.C., Kumar, S., Joshi, S.K., 2022. Social capital and performance of farmers' groups in producer organizations in India: Examining the mediating role of self-efficacy. Journal of Agribusiness in Developing and Emerging Economies.
DOI: https://doi.org/10.1108/JADEE-07-2022-0155

[36] Murray, E.V., 2008. Producer company model-current status and future outlook: Opportunities for bank finance. Financing Agriculture. 40(4), 18–26.

[37] Sharma, P., 2013. Leveraging farmer producer organizations to boost production, mitigate risk and strengthen food security: Lessons and challenges. Journal of Land and Rural Studies. 1(1), 41–48.
DOI: https://doi.org/10.1177/2321024913487270

[38] Huang, Z., Vyas, V., Liang, Q., 2015. Farmer organizations in China and India. China Agricultural Economic Review. 7(4), 601–615.
DOI: https://doi.org/10.1108/CAER-02-2015-0013

[39] Trebbin, A., 2014. Linking small farmers to modern retail through producer organizations—Experiences with producer companies in India. Food Policy. 45, 35–44.
DOI: https://doi.org/10.1016/j.foodpol.2013.12.007

[40] Shah, T., 2016. Farmer producer companies: Fermenting new wine for new bottles. Economic & Political Weekly. 51(8), 15–20.

[41] Noor, R., Lily, N.S., Mia, M.R., et al., 2020. The

paradigm shift-India's journey of corporative act to producer company act; How sustainable the farmers' producer organization model has been so far? Journal of Social and Political Sciences. 3(1), 277–286.
DOI: https://doi.org/10.31014/aior.1991.03.01.166

[42] Deka, N., Goswami, K., Thakur, A.S., et al., 2020. Are farmer producer companies ready to behave as business entities? Insights from the vegetable-based farmer companies in West Bengal, India. International Journal of Agricultural Sustainability. 18(6), 521–536.
DOI: https://doi.org/10.1080/14735903.2020.1794213

[43] Govil, R., Neti, A., 2022. Strengthening rural economy through farmer producer companies. Smart villages. Springer: Cham. pp. 247–262.
DOI: https://doi.org/10.1007/978-3-030-68458-7_18

[44] Nikam, V., Singh, P., Ashok, A., et al., 2019. Farmer producer organisations: Innovative institutions for upliftment of small farmers. The Indian Journal of Agricultural Sciences. 89(9), 15–24.
DOI: https://doi.org/10.56093/ijas.v89i9.93451

[45] Farmer Producer Companies: Preliminary Studies on Efficiency and Equity from Maharashtra [Internet]. The Hindu Centre for Politics and Public Policy [cited 2022 Jan 7]. Available from: https://www.thehinducentre.com/publications/policy-report/65808942-Policy-Report-No.-27.pdf

[46] Hennink, M., Kaiser, B.N., 2022. Sample sizes for saturation in qualitative research: A systematic review of empirical tests. Social Science & Medicine. 292, 114523.
DOI: https://doi.org/10.1016/j.socscimed.2021.114523

[47] Saunders, B., Sim, J., Kingstone, T., et al., 2018. Saturation in qualitative research: exploring its conceptualization and operationalization. Quality & Quantity. 52, 1893–1907.
DOI: https://doi.org/10.1007/s11135-017-0574-8

[48] Bharti, N., 2021. Role of cooperatives in economic empowerment of women: A review of Indian experiences. World Journal of Entrepreneurship, Management and Sustainable Development. 17(4), 617–631.

[49] Tisdell, C., Ahmad, S., Agha, N., et al., 2019. Microfinance for wives: Fresh insights obtained from a study of poor rural women in Pakistan. Journal of Research in Gender Studies. 10(1), 9–37.
DOI: https://doi.org/10.22381/JRGS10120201

[50] Tripathi, A., Bharti, N., Sardar, S., et al., 2023. Covid-19, disrupted vegetable supply chain and direct marketing: experiences from India. Journal of Agribusiness in Developing and Emerging Economies. 13(1), 1–15.
DOI: https://doi.org/10.1108/JADEE-04-2021-0095

[51] Dixon-Woods, M., Agarwal, S., Jones, D., et al., 2005. Synthesising qualitative and quantitative evidence: A review of possible methods. Journal of Health Services Research & Policy. 10(1), 45–53.
DOI: https://doi.org/10.1177/135581960501000110

[52] Gram, L., Daruwalla, N., Osrin, D., 2019. Understanding participation dilemmas in community mobilisation: Can collective action theory help?. Journal of Epidemiology and Community Health. 73(1), 90–96.
DOI: https://doi.org/10.1136/jech-2018-211045

[53] Puusa, A., Hokkila, K., Varis, A., 2016. Individuality vs. communality A new dual role of co-operatives? Journal of Co-operative Organization and Management. 4(1), 22–30.
DOI: https://doi.org/10.1016/j.jcom.2016.02.002

[54] Gijselinckx, C., Bussels, M., 2014. Farmers' cooperatives in Europe: Social and historical determinants of cooperative membership in agriculture. Annals of Public and Cooperative Economics. 85(4), 509–530.
DOI: https://doi.org/10.1111/apce.12049

[55] Hightower, L.S., Niewolny, K.L., Brennan, M.A., 2013. Immigrant farmer programs and social capital: Evaluating community and economic outcomes through social capital theory. Community Development. 44(5), 582–596.
DOI: https://doi.org/10.1080/15575330.2013.838975

[56] Black, J.A., Boal, K.B., 1994. Strategic resources: Traits, configurations and paths to sustainable competitive advantage. Strategic Management Journal. 15(S2), 131–148.
DOI: https://doi.org/10.1002/smj.4250151009

[57] Cuevas-Rodríguez, G., Gomez-Mejia, L.R., Wiseman, R.M., 2012. Has agency theory run its course?: Making the theory more flexible to inform the management of reward systems. Corporate Governance: An International Review. 20(6), 526–546.

DOI: https://doi.org/10.1111/corg.12004
[58] Mohan, S., 2016. Institutional change in value chains: Evidence from tea in Nepal. World Development. 78, 52–65.
DOI: https://doi.org/10.1016/j.worlddev.2015.10.004
[59] Singh, G., Budhiraja, P., Vatta, K. 2018. Sustainability of farmer producer organisations under agricultural value networks in India: A case of Punjab and Gujarat. Indian Journal of Agricultural Economics. 73(3), 70-85.
[60] Surendran-Padmaja, S., Ojha, J.K., 2023. Beyond the number games: Understanding the farmer producer companies in India and the way forward. Journal of Asian and African Studies.
DOI: https://doi.org/10.1177/00219096231192332
[61] Sarkar, R., Sinha, A., 2014. The business of development: A case study of participation and dependence. Decision. 41, 193–203.
DOI: https://doi.org/10.1007/s40622-014-0039-z
[62] Thamban, C., Jayasekhar, S., Chandran, K.P., et al., 2020. Sustainability of farmer producer organisations—The case of producer organisations involved in the production and marketing of "neera" in the coconut sector in Kerala India. Journal of Plantation Crops. 48(2), 150–159.
DOI: https://doi.org/10.25081/jpc.2020.v48.i2.6376
[63] Kumar, S., Kumar, R., Meena, P.C., et al., 2023. Determinants of performance and constraints faced by Farmer Producer Organizations (FPOs) in India. Indian Journal of Extension Education. 59(2), 1–5.
DOI: https://doi.org/10.48165/IJEE.2023.59201
[64] Trivedi, P.K., Ali, M., Satpal, 2022. Farmer producer organisations in North India: Potentials and challenges. International Journal of Rural Management. 19(3), 379–398.
DOI: https://doi.org/10.1177/09730052221107730
[65] Bhuyan, R., Das, B., Khound, S., 2022. Understanding farmer producer company (FPC) ecosystem in Assam: Issues and challenges. Journal of Asian and African Studies.
DOI: https://doi.org/10.1177/00219096221120921
[66] Kakati, S., Roy, A., 2022. Financial performance of farmer producer companies of India: A study from 2013–2014 to 2018–2019. International Journal of Rural Management. 18(3), 410–428.
DOI: https://doi.org/10.1177/09730052211034700
[67] Kappil, S.R., Sahoo, A.K., Samuel, L.C. (editors), 2022. Relative efficiencies of farmer producer companies in India-Slack-Based model approach. 4th International Conference on Advances in Computing, Communication Control and Networking; 2022 Dec 16–17; Greater Noida, India. New York: IEEE. p. 108–114.
DOI: https://doi.org/10.1109/ICAC3N56670.2022.10074574
[68] Chintala, G.R., Mani, G., 2022. Collectivisation of farmers and farm produces through 'Farmers Producers Organisations' (FPOs) is benefitting farmers: Some field level observations. Indian Journal of Agricultural Economics. 77(2), 232–242.
[69] Gireesan, K., 2022. From agricultural co-operatives to farmer producer companies: Analysing the transition of co-operativism in India. Deepening democracy. Routledge India: London. pp. 197–209.
[70] Bijman, J., Muradian, R., Schuurman, J., 2016. Cooperatives, economic democratization and rural development. Edward Elgar Publishing: Cheltenham.
[71] Abhishek, R.S., Kumari, R., 2020. Farmers' Producer Organization (FPO) of Kaushalya foundation: Enabling social inclusion of women through technology. Socio-Tech innovation. Palgrave Macmillan: Cham. pp. 203–221.
DOI: https://doi.org/10.1007/978-3-030-39554-4_11
[72] Kushankur, D., 2018. Farmer producer companies in India-determinants of performance and viability. Economic and Political Weekly. 53(35), 44–52.
[73] Srinithi, S., Balasubramaniam, R., Mohanraj, V., et al., 2022. Study of impact of the members of Tamil Nadu Banana Producer Company (TNBPC) in Tiruchirappalli District—A socio-economic analysis. Economic Affairs. 67(2), 131–135.
[74] Lalitha, N., Viswanathan, P.K., Vinayan, S., 2022. Institutional strengthening of farmer producer organizations and empowerment of small farmers in India: Evidence from a case study in Maharashtra. Millennial Asia.
DOI: https://doi.org/10.1177/09763996221098216