The State of Farmer Producer Organizations in India

Performance, Trends, and the Role of Gender

Tata-Cornell Institute

BIRD

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Forward

The Tata–Cornell Institute for Agriculture and Nutrition (TCI), in collaboration with the Bankers Institute of Rural Development (BIRD), is happy to present this new report, representing the first major assessment of the current landscape of farmer producer organizations (FPOs) in India at the national level. India is in the midst of a massive effort to revolutionize its agricultural sector through the promotion of FPOs, empowering farmers to take advantage of growing demand for diverse food products. This report identifies noteworthy trends at the state and national levels that will help policymakers and other stakeholders improve the chances of success for FPOs.

Despite the enormous resources being poured into FPOs, data at a national scale have been difficult to obtain. The analysis presented in this report was only possible through a multi-year effort by TCI, with support from BIRD and other partners, to compile comprehensive data and build a first-of-its-kind data dashboard of Indian FPOs, the FPO Platform for India.

Using data from the FPO Platform, this report provides a snapshot of important trends related to FPOs that has been missing to date. It finds that FPO growth has surged in recent years, but that only about half of promoted FPOs continue to function after government support ends. Financially, large FPOs outperform smaller organizations, but low debt utilization across FPOs likely demonstrates uneven access to formal credit based on location. Implementing agencies and cluster-based business organizations are influencing FPO characteristics, including gender composition and agricultural focus areas. Lastly, women-led and mixed gender-led FPOs have competitive advantages over and financially outperform male-led FPOs, but they are not equally promoted across states.

Some of the report's most important findings are related to its special focus area: gender representation in leadership and FPO performance. In rural India, 76 percent of women depend on agriculture for their livelihoods, but they face barriers in accessing land, credit, and other resources. With empowerment, women can be strong economic players. This report shows how women's self-help groups (SHGs) can transform into FPOs and bolster the livelihoods of their members. With the support for civil society organizations, SHGs have the social capital and market experience to produce successful FPOs. The SHG experience provides one explanation for why FPOs with female leadership perform well and encourages more implementing agencies to explore SHG-to-FPO transformation as an opportunity for female farmer empowerment.

We hope that you enjoy reading this report, which is jointly published with BIRD Lucknow and funded through the generous support of the Walmart Foundation. We offer our special thanks to Director Nirupam Mehrotra for his leadership in making this collaboration possible by extending the resources and expertise of BIRD Lucknow to us. We hope the report's findings prompt you to dig deeper into different aspects of India's FPO ecosystem, using the FPO Platform for India as a resource to achieve a greater understanding of India's investment in small farm aggregation.

Prabhu Pingali
Director, Tata–Cornell Institute
for Agriculture and Nutrition

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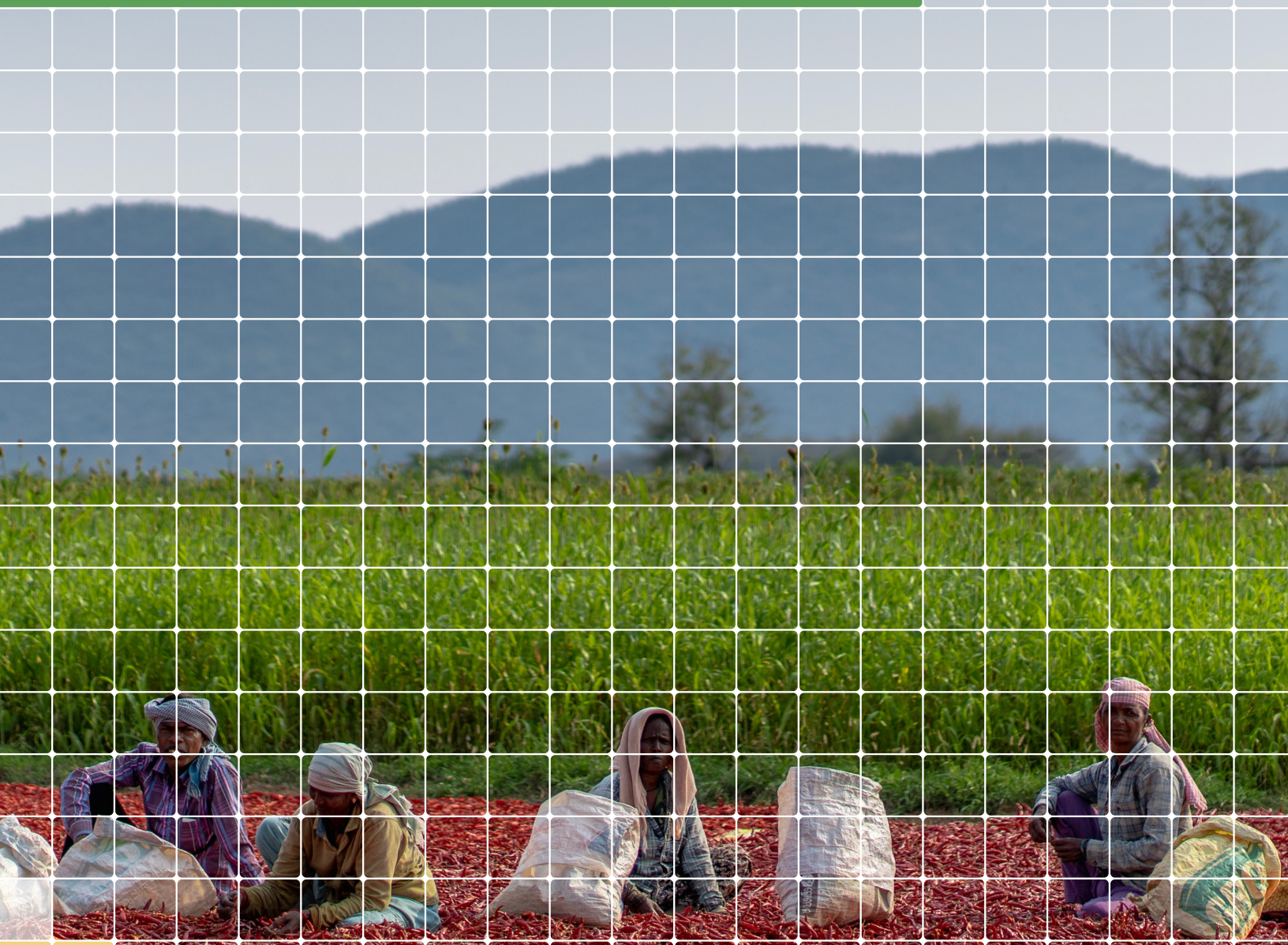
Chapter 1

India's Farmer Producer Organizations



In 2019, a group of smallholder women farmers from Wardha District, Maharashtra, formed a farmer producer organization (FPO), one of thousands created across India that year. Like many FPOs, the Damini Women's Farmer Producer Company Limited began with considerable support—government funding and technical assistance—and the aspiration to transform individual agricultural livelihoods into collective strength.

The women farmers began by growing what they knew (pulses and a specialty turmeric grown only in their area), provided low-cost inputs to members, procured processing units to produce value-added products, and developed a member purchasing plan that paid market-rate prices to their farmers while also giving the company the opportunity to turn a profit. The group has had its share of successes and challenges. A leadership group of devoted women has provided organizational stability and vision, but, perhaps, at the expense of leadership development opportunities for younger members. Finding larger buyers has been difficult, but the group is patient and enjoys the support of an non-governmental organization (NGO) that helps them identify market opportunities.

By aggregating small and marginal agricultural producers into groups, the Indian government has sought to help its rural farmers overcome the persistent challenges they face in accessing markets, inputs, and credit, thereby improving their incomes and livelihoods. However, little is known about FPO activities or performance on a national scale. How many of the FPOs that have been promoted are still operational? Have they achieved financial sustainability? What characteristics correlate with success? This report explores these fundamental questions in order to better understand India's ambitious national effort to promote FPOs and provide policymakers, FPO promoters, and other stakeholders with the information needed to support the Damini Women's Farmer Producer Company and thousands of others like it across the country.

What are farmer producer organizations, and how many are there in India?

The FPO movement in India constitutes one of the world's largest experiments in small farm aggregation in the 21st century. It has become a pivotal strategy for supporting the country's 146 million agricultural holdings, 86 percent of which are small and marginal farms.

FPOs function as institutional arrangements that enable farmers to manage resources jointly and to collectively access credit, inputs, information, and product markets. As groups of primary producers, FPOs can be registered as agricultural producer cooperatives (APCs), farmer producer companies (FPCs), societies, NGOs, or trusts.

APCs and FPCs are the two dominant forms of FPOs. An APC forms when a group of smallholders registers themselves as a cooperative, either under the Cooperative Societies Act or the Multi-State Cooperative Society Act of 2002. FPCs are groups of farmers registered as a company under the

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amended Companies Act of 1956. Members of the company are shareholders, and the organization should comply with the rules and regulations of a private limited company while also providing mutual benefits to its members, similar to a cooperative.

There are also provisions for farmer groups to register themselves as societies under the Society Registration Act of 1860, or as public trusts under the Indian Trusts Act of 1882.

Since 2020, the Government of India has significantly accelerated FPO establishment through the "Formation and Promotion of 10,000 Farmer Producer Organizations" central sector scheme, primarily as cooperatives and companies, highlighting their strategic importance for national agricultural development.

Despite the monumental effort, the FPO movement has largely eluded systematic analysis due to fragmented data across multiple ministries and implementing agencies. Following significant government investment and the incorporation of thousands of FPOs over the past decade, fundamental questions about their numbers, composition, survival rates, performance, and overall impact remain largely unanswered.

To bridge this knowledge gap, the Tata–Cornell Institute for Agriculture and Nutrition (TCI) has undertaken a comprehensive initiative to compile a unique online database, the FPO Platform for India, which is enabling unprecedented mapping of India's FPO landscape. The platform serves as a central repository and is designed to advance FPOs by providing detailed information on FPO characteristics and finances.

Drawing on data from the Ministry of Corporate Affairs, the Ministry of Cooperation, and several implementing agencies, TCI has estimated that, as of September 2024, a total of 44,547 FPCs have been promoted in India, along with 214,797 APC societies. The report herein systematically maps this landscape. It provides a nuanced understanding of operational characteristics, geographical distribution, financial health, and specific challenges and opportunities faced by FPCs and APCs, with special focus on the participation and experiences of women within these organizations.

Special focus: The state of women-led farmer producer companies in India

This report adopts gender as its primary analytical lens—a choice that offers profound insights into both women's agricultural participation and the broader FPO ecosystem. In rural India, an overwhelming 76% of all working women depend on agriculture, representing one of the highest rates of female agricultural dependence globally. Despite this significant contribution, women farmers face systemic barriers, including limited land ownership, restricted access to credit, inadequate extension services, exclusion from formal markets, and time poverty.

Women's collectives, notably self-help groups (SHGs), have proliferated since the 1990s. These groups—typically comprising 10–20 women—initially focused on microfinance to provide mutual support, accu-

mulate savings, and meet social needs. Although evidence strongly demonstrates that SHG membership produces effects attributable to social, economic, and political empowerment, including improved household food security and reduced social exclusion, evidence regarding SHGs' impact on women's agricultural livelihoods remains mixed. The limited agricultural impact stems from SHGs' inability to address fundamental constraints in accessing productive resources, like land and capital, which limit the commercialization potential for women farmers.

Aggregation models have the potential to address both general production challenges and gender-specific constraints for female farmers. The organizational guidelines of the 10,000 FPO scheme (Clause 4.4) emphasize promoting FPOs among small and marginalized women farmers and women SHGs, along with scheduled caste and tribe producers. Since 2003, 6,442 women-led FPCs have been formed in India. They constitute 14 percent of all promoted FPCs. Understanding the landscape of women's FPCs will allow for better promotion and present a significant opportunity for inclusive agricultural development.

Throughout every chapter, we disaggregate the analysis by gender composition, allowing for a comprehensive understanding of how women-led, men-led, and mixed-gender FPOs differ in their characteristics, strategies, and outcomes. Women-led FPOs have 50 percent or more women on their board, mixed FPOs have 25–50 percent women, and men-led FPOs have less than 25 percent women. This approach not only reveals the state of women's participation, but also provides crucial insights into what makes FPOs successful across the entire ecosystem.

The fragmented promotional landscape: The challenge of counting farmer producer organizations in India

The concept of farmer aggregation in India is not new—various cooperative models have existed for over a century. However, traditional cooperative structures frequently have faced significant challenges, including internal corruption, financial difficulties, political interference, inadequate infrastructure, poor management, overreliance on government support, dormant membership, and a lack of operational autonomy.

In 2003, a new policy marked a significant shift, introducing provisions for legal registration of primary producer groups as companies under Part IXA of the Companies Act. This legislative amendment formally established the farmer producer company as a distinct legal entity. FPCs were specifically designed to overcome the limitations of the cooperative model and foster more economically viable, producer-centric collectives, enhancing collective bargaining power, improving market access, and increasing income through economies of scale and scope.

Under the 10,000 FPO Scheme, the responsibility for FPO promotion rests with nine implementing agencies (IAs). The Small Farmers Agri-Business Consortium (SFAC) and National Bank for Agriculture and

Rural Development (NABARD) are the largest. Other IAs include the National Cooperative Development Corporation (NCDC), the National Agricultural Cooperative Marketing Federation of India (NAFED), the North Eastern Regional Agricultural Marketing Corporation Limited (NERAMAC), the Tamil Nadu-Small Farmers Agri-Business Consortium (TNSFAC), the Small Farmers Agri-Business Consortium Haryana (SFACH), the Watershed Development Department (WDD) in Karnataka, and the Foundation for Development of Rural Value Chains (FDRVC). Additionally, there are national and state rural livelihood missions (NRLM and SRLM, respectively), and private donors like the Walmart Foundation fund FPO promotion.

Importantly, IAs do not directly promote FPCs; instead, they disseminate funds to cluster-based business organizations (CBBOs)—civil society organizations, private companies, consulting firms, and other entities responsible for mobilizing farmers, forming groups, and providing training to enable them to operate as producer companies. The highly decentralized nature of the FPO ecosystem, involving multiple ministries, implementing agencies, and hundreds of CBBOs, has inevitably created significant information silos. There is no coordinating agency that oversees the entire ecosystem to provide a comprehensive national overview of FPOs. Although the Ministry of Agriculture and state governments provide funding, the Ministry of Corporate Affairs (MCA) registers companies, the Ministry of Cooperation oversees cooperatives, and numerous implementing agencies task CBBOs with FPO promotion.

How we collected and verified data

The consequence of the fragmentation of oversight and implementation is that stakeholders lack a clear understanding of the sector's current state. Researchers studying the impacts of collective farming struggle to determine whether successful cases represent broader trends or isolated exceptions, largely because basic information on FPO crop profiles, services, and activities is often lacking. Most critically, the farmers and rural communities that FPOs are intended to serve, along with grassroots promoting organizations, lack empirical evidence for which organizational models, support structures, and operational strategies can be devised that are genuinely effective.

Data collection and verification process

To construct a comprehensive understanding of India's FPO landscape, we employed a robust three-step process: 1) acquiring official FPO registration data from the MCA, as FPOs are legally mandated to register as companies; 2) consolidating secondary data from various implementing agencies and publicly available sources; and 3) cross-referencing and validating compiled secondary data against MCA records.

Secondary data collection and preparation

We began by identifying and consolidating publicly available FPO data from major promoting institutions, such as SFAC and NABARD, as well as from 11 other public repositories of state governments and

research institutions. The collected data underwent rigorous cleaning to correct inconsistencies, eliminate duplicates, and remove redundancies. This involved standardizing data fields, creating unified codes for crop names and locations, and ensuring correct formatting for addresses, blocks, districts, and PIN codes. This process ensured consistent, standardized, and highly usable data for subsequent analysis.

Ministry of Corporate Affairs data acquisition and search algorithms

Legally established FPOs operate as producer companies under the Companies Act, necessitating registration with the Registrar of Companies under the Ministry of Corporate Affairs and mandating submission of financial statements. To systematically collate information on registered FPCs, we utilized Probe42, a specialized information services provider for Indian companies, and developed a comprehensive search algorithm. Recognizing that producer company names are legally required to include "producer company limited, our search criteria incorporated a wide range of variants to capture all FPOs (See Table 1).

Our comprehensive search identified 44,547 FPCs from 2003 to 2024, with additional verification capturing 43 entities that the algorithm initially missed (Table 1). Following initial discovery, we conducted reverse corporate identification number searches using FPO names from SFAC, NABARD, and other databases to verify registration and operational status, further refining our search criteria.

Table 1 - Search queries for the Ministry of Corporate Affairs database identifying farmer producer companies

Search steps	Years	Count
Queried "Producer company, producers company, producer co., producers co., corp producer company" using Probe42 Database	2003–2024	45,106
Removed search results with non-agricultural terms, such as handicrafts, handlooms, etc.	2003–2024	602
Added verified FPCs that the Probe42 algorithm missed		43
Total FPCs	2003–2024	44,547

Data validation and financial information access

We supplemented comprehensive company information with verification processes to determine the status of each company. We deemed FPCs compliant if their tax filings, mandated by MCA, were current as of 2024, and identified 15,514 compliant producer companies. However, recognizing that newly formed FPCs (21,545 FPCs formed after 2021) receiving IA funding are likely compliant as a support condition, we specifically analyzed FPCs compliant with MCA requirements for more than three and five years. We found that 16 percent of all promoted FPCs were operational after three years and 9 percent after

Table 2 - The distribution of farmer producer companies by compliance and leadership composition as of 2024

	Total promoted between 2003–2024	FPC operating 3+ years (formed in or before 2021)	FPC operating 5+ years (formed in or before 2019)	Noncompliant or stricken off FPCs (formed in 2021 and before)
Number of FPCs	44,547	7,422 (17%)	4,007 (9%)	11,663 (51%)
Women-led FPCs	6,442 (15%)	1,219 (19%)	762 (12%)	1,459 (42%)
Male-led FPCs	23,640 (53%)	4,551 (19%)	2,378 (10%)	3,504 (34%)
Mixed FPCs	5,819 (13%)	1,396 (24%)	721 (12%)	678 (24%)

five years, with minimal variation in operational status by leadership composition (Table 2). We also find that 50 percent of FPCs formed before 2021 are noncompliant or nonfunctioning.

The TCI FPO Platform for India

TCI's FPO Platform for India brings together information on thousands of FPOs to facilitate research on small-farm aggregation models and connections between FPOs and other stakeholders in the agricultural sector. It features an interactive data dashboard that includes data on FPO location, crops, activities, incorporation date, financial performance, membership numbers, leadership characteristics, and supporting organizations. Policymakers, researchers, and investors can leverage this resource to identify high-potential FPO clusters, track sector trends and growth metrics, and design targeted interventions with data-backed strategies. The platform also features a business networking site called FPOConnect, which enables FPOs to digitally market their organizations and connect with businesses and other interested parties.

Roadmap to this report

The following report is organized into four interconnected chapters:

Chapter 2: Mapping the Farmer Producer Organization Landscape provides a comprehensive portrait of India's FPO ecosystem. We examine the scale of FPOs promoted nationwide, assess the proportion that continue to operate to determine survival rates, and analyze FPOs by size to identify defining characteristics. Together, these analyses provide the empirical foundation that is currently lacking in India's FPO discourse.

Chapter 3 - Characterizing Farmer Producer Organizations and the Farmer Producer Organizational Ecosystem examines four interconnected dimensions of FPOs. We analyze the institutional architecture, comprising implementing agencies that distribute government funding and CBBOs that provide technical assistance. We examine agricultural focus, revealing geographic patterns of crop specialization and how cultivation choices relate to organizational character-

istics, particularly those related to gender and leadership. We investigate business activities from basic input supply to sophisticated processing and marketing. Throughout, we pay particular attention to gender dimensions—how women's leadership influences crop choices and business strategies, which institutions most effectively promote women-led FPOs, and whether gender-differentiated support approaches yield different outcomes.

Chapter 4 - The Financial Reality of Farmer Producer Organizations presents one of the first comprehensive analyses of FPC's financial performance in India, drawing on detailed Ministry of Corporate Affairs data from organizations that submitted financial statements between 2019 and 2024. Our analysis addresses three critical questions: How well are FPCs mobilizing and deploying financial resources? What patterns emerge across different organizational characteristics? And critically, how do women-led FPCs compare financially to men-led and mixed-gender counterparts?

Chapter 5 - From Women's Self-Help Groups to Women-Led Producer Companies examines the institutional evolution from self-help groups to producer companies through six purposively selected case studies across India. We analyze how accumulated social capital facilitates organizational transformation and addresses structural constraints to women's participation in the agricultural sector. Cases were selected using the most similar cases design, following Mill's Method of Difference, to enhance analytical rigor. All selected FPCs shared similar characteristics—women-led or women-dominated organizations emerging from established SHGs with over a decade of operational experience—while representing diverse agro-climatic, institutional, political, social, and economic contexts across six states. This chapter represents a cornerstone contribution, revealing how successful women-led FPCs emerge through the strategic conversion of bonding, bridging, and linking social capital, involving network mobilization, capability transfer, and trust translation, which enable expanded agricultural engagement.

The research demonstrates that SHGs can serve as effective incubators for agricultural collectives, with their empowerment effects and accumulated social capital helping form economically viable and organizationally sustainable FPCs that address challenges faced by women farmers in agricultural development.

Key findings

From our quantitative analysis of 44,547 FPCs and 214,797 APCs, along with a qualitative assessment of six case studies from across India, we made the following discoveries:

Farmer producer organization growth and compliance

- **There have been 259,344 FPOs promoted in India, with 44,547 promoted as FPCs and 214,797 promoted as APCs**. Overall FPO annual growth has been at its highest in the last 5–10 years, with 9,000 FPCs promoted and 6,000 APCs promoted each year.
- **Not all promoted FPOs continue to function**. We estimate that 43–49 percent of all pro-

moted FPCs continue to operate after government support has ended; 23 percent of FPCs access credit; and 72 percent of all APCs remain functional.

- **FPCs with women in leadership demonstrate superior survival rates**. Female-led and mixed representation FPCs make up only 15 percent and 13 percent of all FPCs, respectively, but have compliance rates 4–13 percent higher than their male-led counterparts.
- **Women-led FPCs are not promoted equally across Indian states**. Women-led FPCs range from 1 in 3 FPCs in Jharkhand to 1 in 20 FPCs in Haryana.
- **Small, medium, and large FPCs have similar compliance rates**. Older FPCs tend to be large and recently promoted ones tend to be small, indicating that either large FPCs tend to survive longer or that FPCs that grow over time tend to survive.
- **APC performance varies by state/union territory and sector**. Broader trends are largely indiscernible, indicating success rates may be state- or sector-specific.

Farmer producer company characteristics and support

- **The choice of implementing agency and CBBO may influence the characteristics of FPCs**, such as the gender composition of the leadership team and agricultural focus areas.
- **Large corporations and consultancies have recently begun acting as CBBOs to promote FPCs**. These include ITC, Bayer, Grant Thornton Bharat LLP, and PricewaterhouseCoopers (PwC). Their influence on FPC characteristics requires further examination.
- **FPCs exhibit distinct regional specialization patterns, driven by agroclimatic advantages and institutional approaches**. Although basic crops like grains and vegetables are widely distributed, specialized products like forest products and nuts show high geographic concentration.
- **Our limited data showed that women-led FPCs pursue distinctly different agricultural and business strategies**, focusing more on animal agriculture, traditional crops, and processing activities. They also remain underrepresented in high-value commercial crops and business activity reporting.

Financial performance

- **Large FPCs consistently outperform smaller organizations across most financial metrics**. They demonstrate better capital utilization, stronger profitability, more effective debt management, and superior operational efficiency. The performance advantages of larger FPCs suggest that policies that encourage growth, consolidation, or federation of smaller companies could improve overall sector effectiveness.
- **Women-led FPCs outperform their male-led and mixed-led counterparts in most financial metrics**. Women-led FPCs demonstrate higher profitability, improved liquidity management, more conservative yet effective debt utilization, and efficient operations.
- **Financial performance exhibits strong regional clustering**, with certain states consistently producing better results. This may suggest that local market conditions, infrastructure, policy support, and institutional ecosystems may significantly influence FPC success. The geographic clustering of suc-

cessful FPCs indicates that region-specific strategies addressing local market conditions, infrastructure, and institutional support could improve outcomes in underperforming areas.

- **Low debt utilization across FPCs likely reflects limited access to formal credit**, rather than purely conservative financial management. This constrained access may limit growth potential and operational flexibility.
- **High standard deviations across most measures indicate significant variability in performance**, suggesting that while some FPCs achieve strong results, others face substantial difficulties. Systematic performance monitoring and targeted interventions for struggling FPCs could prevent failures and improve the overall health of the sector.

Self-help group-to-farmer producer company transition

- **SHGs can serve as effective incubators for agricultural collectives, but transitioning requires external facilitation by civil society organizations**, which leverage existing trust networks to mobilize women into market-oriented enterprises. This highlights the importance of institutional intermediaries in overcoming information asymmetries and capability gaps that hinder spontaneous collective action.
- **Women-led FPCs demonstrate competitive advantages over male-led organizations** through superior group cohesion, financial discipline, and democratic governance—attributes directly traceable to SHG experience. Financial performance analysis reveals significant heterogeneity, with profit margins ranging from 0.26 percent to 86.71 percent, reflecting different value chain positioning as high-value dairy products outperform commodity markets.
- **Women-led groups show adaptability when facing structural constraints**. Land, resource, and market access barriers have led to innovative responses, including food processing, mushroom cultivation, forest product collection, and dairy procurement, which circumvented ownership requirements while maintaining an agricultural focus.
- **FPCs function as market-making institutions rather than simply aggregating existing participation**, by establishing quality standards, coordinating input procurement, and facilitating direct buyer relationships to create market conditions which individual farmers could not access independently. Although social capital effectively explains transition dynamics, external policy support, civil society organization facilitation, and market opportunities emerge as essential factors.
- **Women's collectives can serve as effective vehicles for agricultural development** when supported by appropriate policies and institutional frameworks along with sustained commitment to addressing gender-specific constraints.

Chapter 2

Mapping India's Farmer Producer Organization Landscape: A National Portrait

India's farmer producer organization (FPO) movement represents one of the world's largest experiments in smallholder aggregation in the 21st century, yet it has remained largely invisible to systematic analysis. Here, we provide the first comprehensive, nationwide analysis of India's FPO landscape, drawing on the data from the FPO Platform for India of the Tata–Cornell Institute for Agriculture and Nutrition (TCI). By combining data from the Ministry of Corporate Affairs (MCA), the Ministry of Cooperation (MoC), and FPO implementing agencies, it attempts to capture the full spectrum of formal FPO incorporation, from farmer producer companies (FPCs), registered under the Companies Act, to agricultural producer cooperatives (APCs), established under state cooperative laws.

Our assessment examines three interconnected components that collectively provide a comprehensive portrait of India's FPO ecosystem. We first examine the scale of FPOs promoted in India, revealing the number of producer organizations established nationwide. Second, we assess the proportion that continue to be compliant and functional, as determined by the MCA and MoC, respectively, to determine the survival rate of FPOs. Third, we dissect FPOs by size to identify their defining characteristics. Together, these analyses provide policymakers, researchers, and practitioners with the empirical foundation that has been missing from India's FPO discourse.

Our analysis reveals patterns that have been invisible to Indian agricultural policy for over a decade. We can now answer basic questions that have eluded policymakers and program administrators: How many FPOs have been formed in the country? How many continue to operate after government support ends? How do performance patterns vary across states and organizational characteristics? And, critically, how does gender leadership influence the trajectories of FPOs? FPC data is more expansive in India, which allows us to answer a more comprehensive set of questions about FPOs incorporated as companies, while the aggregated data for APCs is more limited and restricts our ability to address certain questions, particularly those related to gender.

Disaggregating farmer producer organizations in India

Growth of farmer produce companies has shifted from modest to explosive since 2020

India has promoted 44,547 FPCs since the scheme's inception in 2003, with an estimated 4,007 to 11,429 currently operating, representing a fundamental transformation in India's agricultural institutional landscape. This growth has been overwhelmingly concentrated within the past five years. FPC formation followed a classic innovation diffusion pattern through 2019, with steady but modest growth yielding 9,215 incorporated companies over 16 years. The inflection point came in 2020, when FPCs experienced explosive growth that produced 35,332 new FPCs in just four years—a fourfold increase that fundamentally reshaped the sector (Figure 1). The peak year of 2021 saw 9,052 new FPCs

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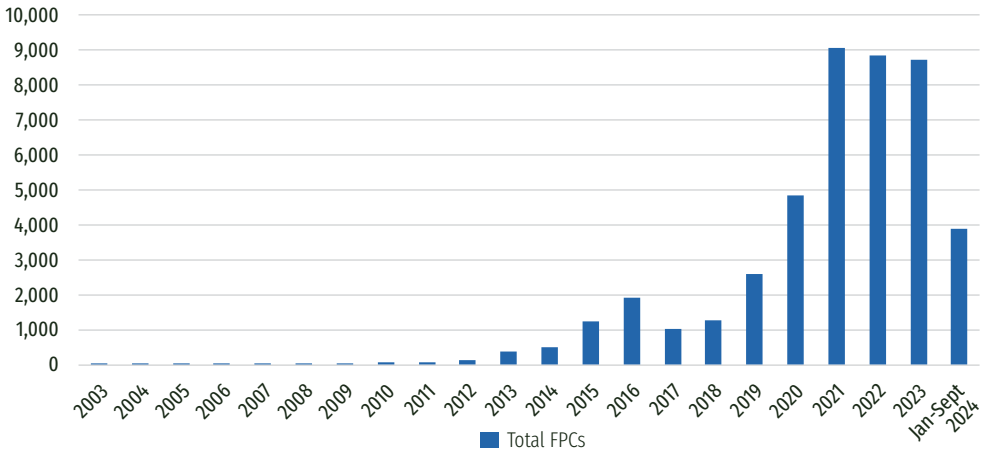
incorporated, equivalent to the entire pre-2019 sector. The acceleration reflects both policy prioritization and exponentially increased government investment. Annual FPC formation now consistently exceeds the total number that existed before 2019, indicating that aggregation models have transitioned from an experimental program to a core agricultural strategy.

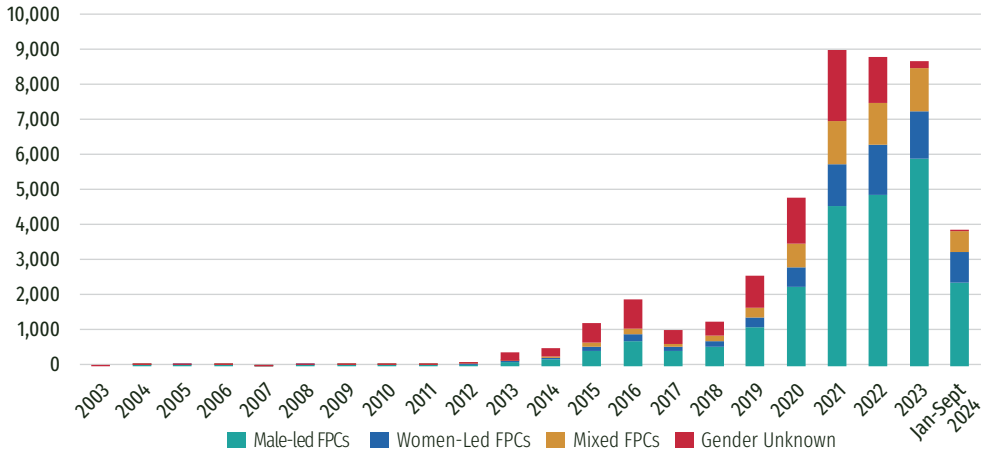
Figure 1 - Total number of farmer producer companies promoted each year between 2003-2024



Men dominate directorships but all-women farmer producer companies have grown in recent years

FPC leadership is strongly occupied by men (Figure 2). Among the 267,985 directors who have governed FPCs over time, 71 percent have been male and 24 percent have been female. Using 50 percent female board representation as the threshold, 15 percent of current FPCs are female-led (6,442 FPCs), 53 percent are male-led (23,640), and 13 percent are mixed (5,819). Among female-led FPCs, 3,675 maintain all-female leadership while 2,767 have a majority of women on their board. Significantly, more than half of all FPCs have included at least one woman on their board during their existence. Recent trends show modest improve-

Figure 2 - Farmer producer companies promoted by gender composition (2003-2024)



ment in gender composition: in 2023–2024, female-led FPC promotion reached 22 percent, compared to 65 percent male-led and 13 percent mixed. However, substantial interstate variation reveals the influence of local policy priorities and cultural factors.

Farmer producer companies are concentrated geographically by state, size, and population

The geographic concentration of FPCs is pronounced (Figure 3). Maharashtra has promoted 15,372 FPCs, more than 29 other state and union territories combined. Uttar Pradesh (7,033 FPCs) and Madhya Pradesh (2,477 FPCs) follow. Maharashtra's emphasis on FPC promotion is so overwhelming that 21 of the top 25 FPC-promoting districts nationally are located within the state. Notably, Punjab lags significantly, with only 284 FPCs despite its agricultural prominence, suggesting that highly commercialized agricultural systems may generate different aggregation incentives.

Jharkhand and Odisha lead the country in women's leadership promotion, with 30 percent or more of FPCs being female-led (Figure 4). Tamil Nadu, Chhattisgarh, Himachal Pradesh, and Manipur all achieved at least 20 percent female-led FPCs. Conversely, some major agricultural states exhibit an underrepresentation of females that is concerning: Gujarat, Uttar Pradesh, and Haryana fall significantly below the national average. Gujarat's 81 women-led FPCs represent only 8 percent of its 1,011 total FPCs, Uttar Pradesh's 505 women-led FPCs accounts for only 7 percent of its 7,033 total FPCs, and Haryana's 73 women-led organizations comprise just 6 percent of its 1,182 total FPCs.

Figure 3 - Farmer producer companies promoted by state since 2003

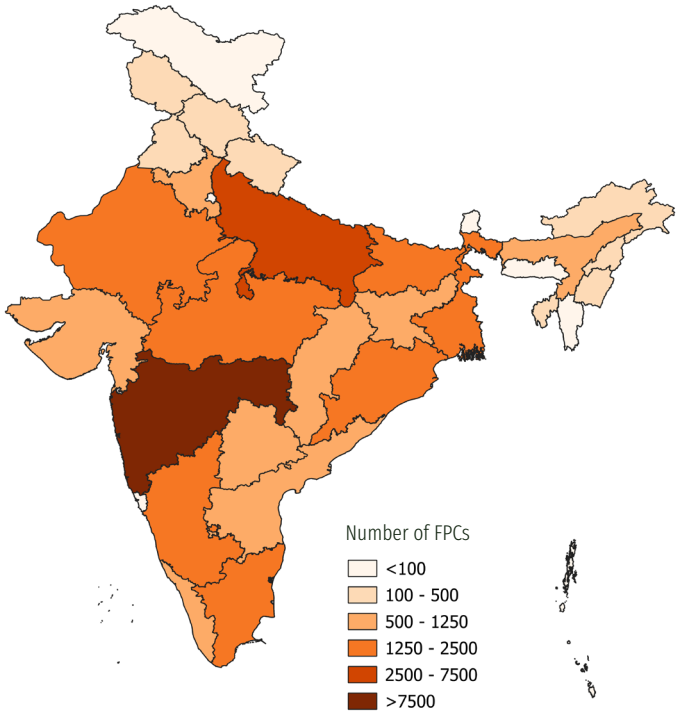
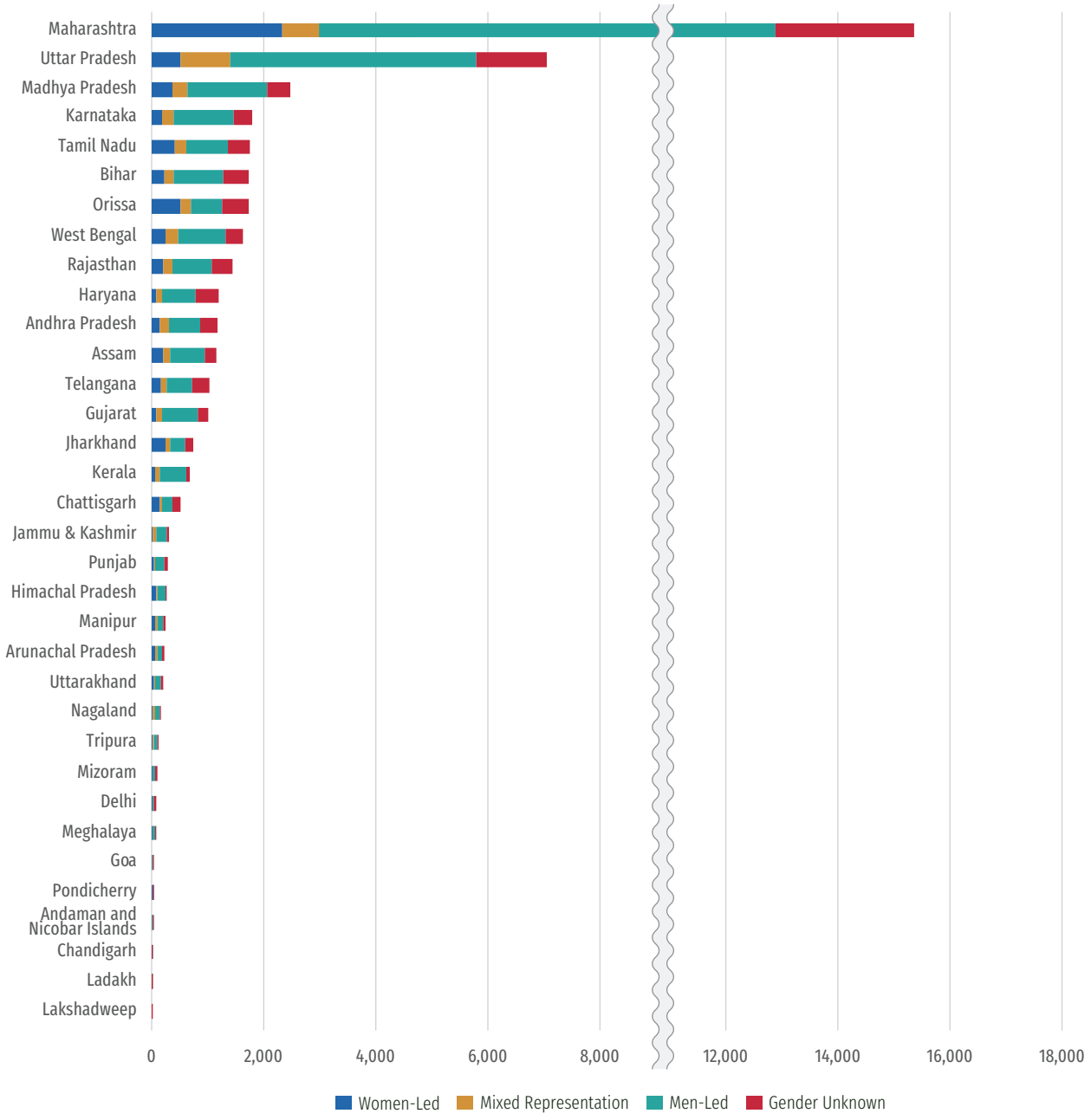


Figure 4 - Number of farmer producer companies by state and gender of leadership from 2003–2024



The number of agricultural producer cooperatives has steadily grown since 1970

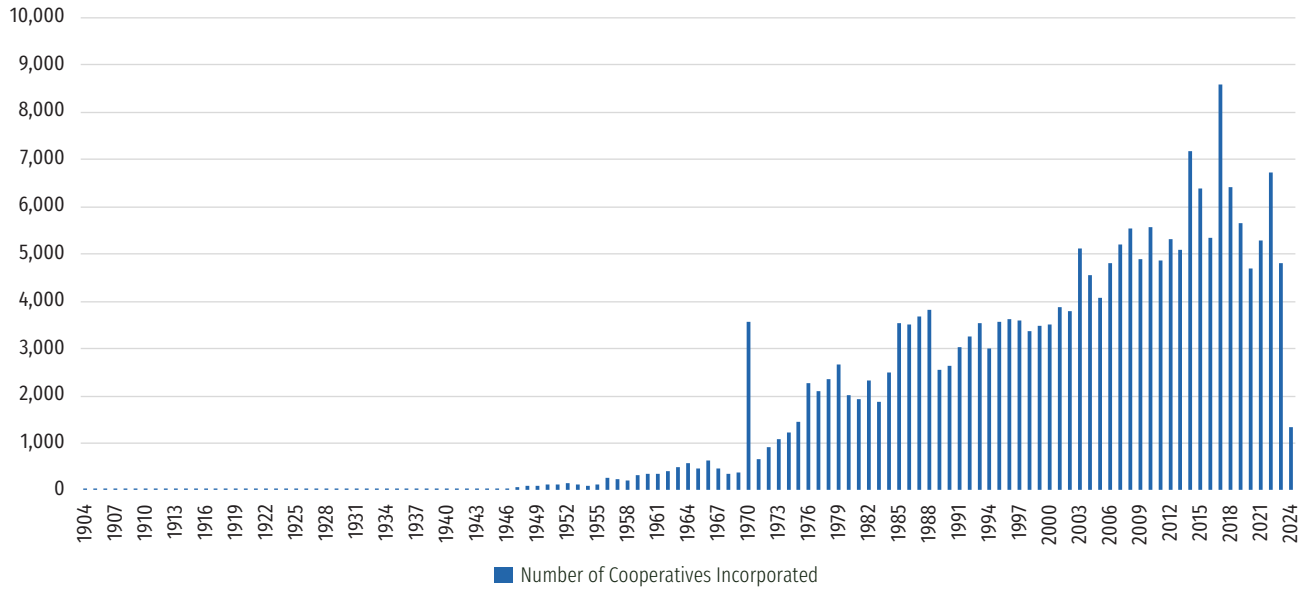
The cooperative sector represents India's oldest and largest form of farmer organization, with 214,797 APCs promoted since 1900. Unlike the recent surge in FPCs, cooperative formation has maintained steady growth since the 1970s, experiencing particularly high expansion during the 2000s (Figure 5). Peak formation has occurred more recently, however, with 8,589 new cooperatives formed in 2017. Overall, annual promotion has averaged 6,000 cooperatives since the 10,000 FPO Scheme was launched in 2016, beginning the highest 10-year average in the history of APCs.

Promotion of APCs exhibits different geographic patterns than FPCs, reflecting longer institutional development timelines and varying state capacities or prioritization for cooperative management (Figure 6). The growth trajectory suggests that cooperatives continue to be a preferred organizational form in many contexts, particularly, in sectors such as dairy and fisheries, where cooperative models have proven effective.

The National Bank for Agriculture and Rural Development (NABARD)-promoted agricultural producer cooperatives indicate high female representation but few board majorities

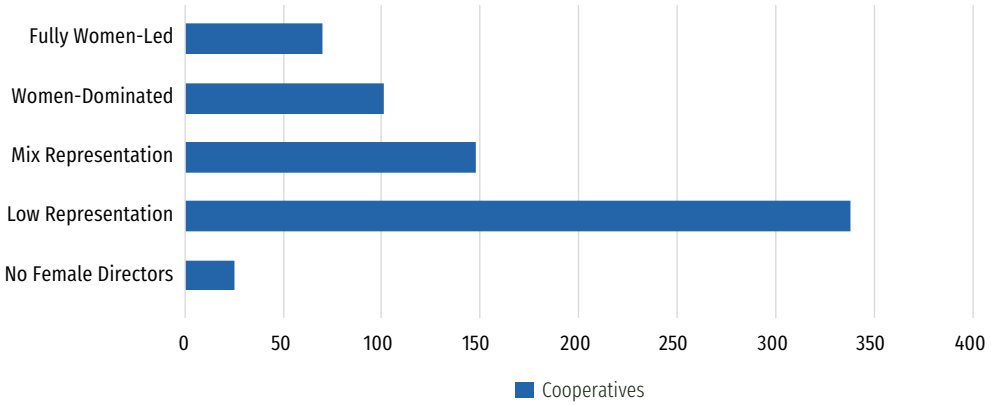
Agricultural producer cooperatives' membership and leadership by gender remains unclear since data availability is highly

Figure 5 - Total number of agricultural producer cooperatives promoted between 1900 and 2024



limited.[1] However, it is possible to get some insight using a NABARD-promoted subset of cooperatives (n=682). This sample reveals that, while "Low Representation" constitutes the largest category for female participation, the vast majority of cooperatives include some women members (Figure 6). Nearly half demonstrate "Mixed Representation" or higher female participation, suggesting potentially greater gender inclusion than FPCs. As noted above, however, robust analysis requires expanded data collection.

Figure 6 - Gender composition of agricultural producer cooperatives in India (n=682)



Operational status and sustainability of farmer producer organizations

Approximately half of all farmer producer companies remain compliant post-government support

FPC compliance status reveals interesting patterns about the sustainability of FPCs after government support has finished. According to MCA data, 49 percent of FPCs incorporated in 2021 or before remain compliant. This figure declines to 43 percent for tax-compliant FPCs incorporated in 2019 or earlier (Figure 7).[2] These figures demonstrate room for policy and programmatic changes to improve FPC retention. However, it is difficult to gauge overall FPC performance without benchmarking it against broader small enterprise survival rates and the specific challenges facing agricultural collectives.

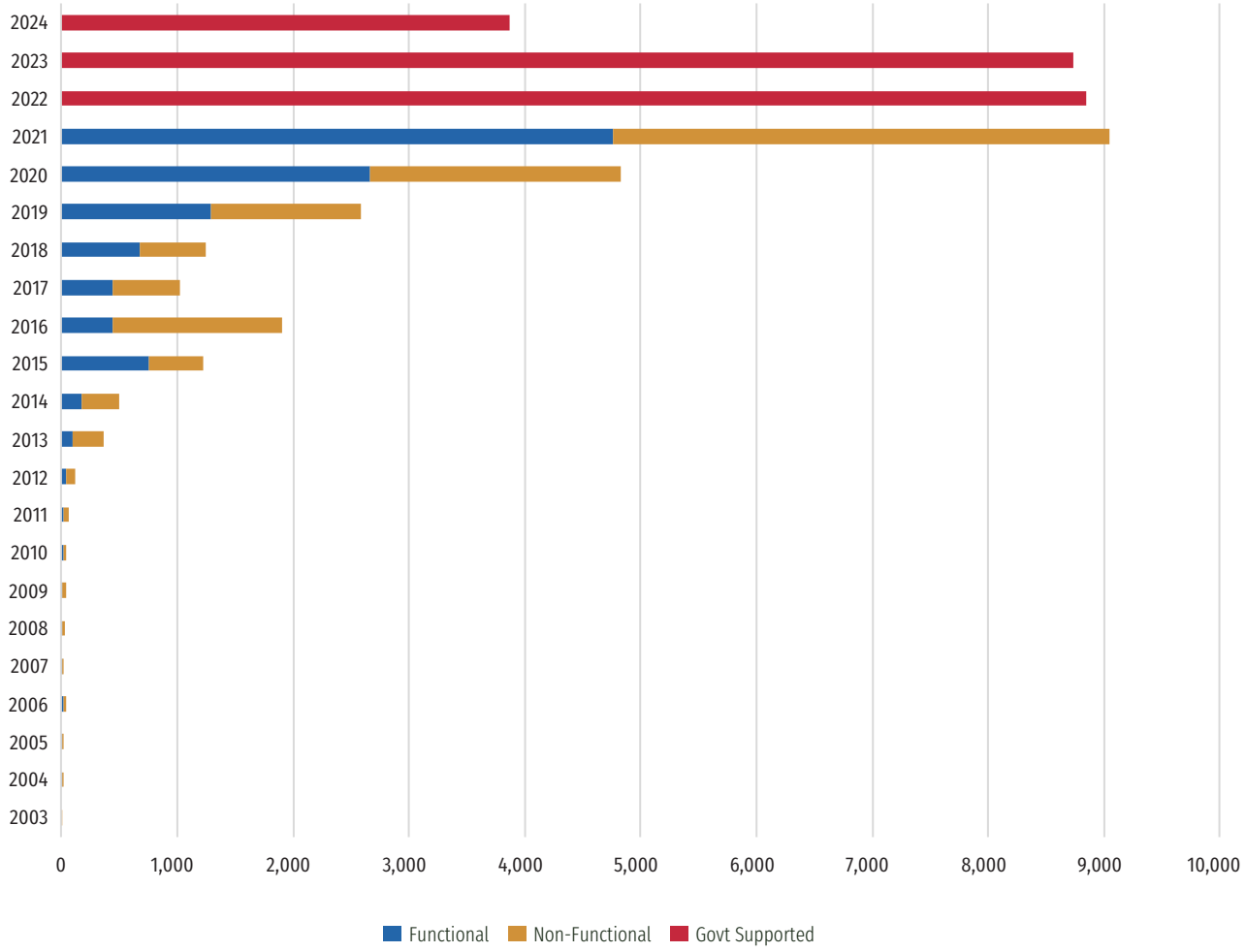
Female-led and mixed farmer producer companies maintain compliance at higher rates than male-led farmer producer companies post-government support

Mixed and female-led FPCs show the highest levels of retention following 3–5 years of government support. For Mixed FPCs,

1 The Ministry of Cooperation does not currently publish any gender statistics related to cooperative societies.

2 We are missing gender data for 4 percent of FPCs incorporated in 2021 or in 2019 or before that are still operating. Since all gender categories overperform the national percentages, it indicates that our results are likely to be slightly biased towards FPCs remaining compliant. This makes sense given that compliant FPCs regularly file their data with the Ministry of Corporate Affairs while defunct companies do not. However, it is likely that those biases affect all three FPC's gender categories, though it is unclear if it affects them equally. Since the percentage is so small, it is unlikely to shift our results considerably.

Figure 7 - Number of farmer producer companies promoted annually between 2003–2024



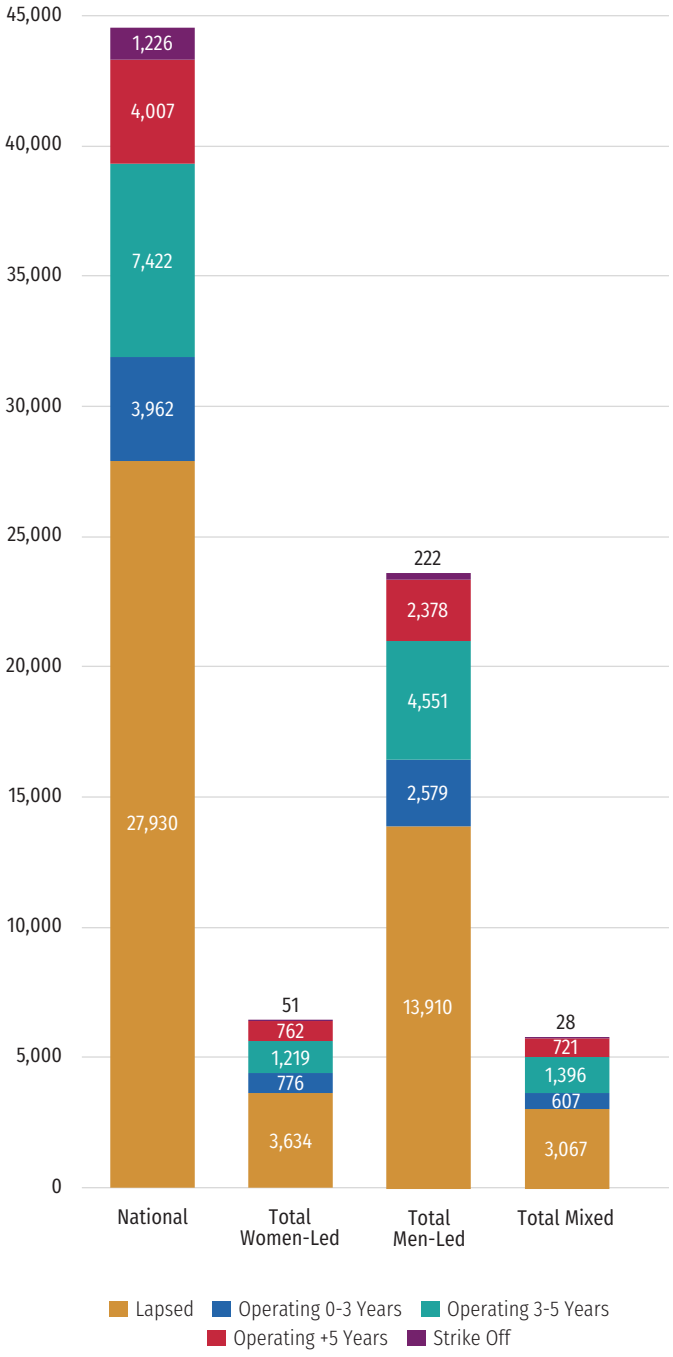
75–80 percent and 71–75 percent of female-led FPCs continue to operate beyond their support period, compared to 66–67 percent of male-led FPCs (n=35,901).[3] These findings challenge conventional assumptions about leadership composition and organizational resilience and persist across multiple survival metrics.

States with a greater number of farmer producer companies older than 3 years have higher rates of compliance

State-level survival rates vary, but states that promote more FPCs tend have a higher percentage of FPCs that remain compliant overall (Table 1). States with the most FPCs

3 Thirty-one percent of FPCs (7,101) have unknown gender status, of which only 4 percent remain compliant after their government support has ended. If we assume that unknown FPCs divide along the gender percentages of FPCs in 2021, then mixed and female-led outperform male-led FPCs even more.

Figure 8 - Compliance status of farmer producer companies by gender



incorporated in 2021 or earlier all have 50 percent or more compliance. Larger states with lower percentages include Bihar (38 percent) and Assam (37 percent). Most smaller states had difficulty maintaining compliance, with rates between 0–40 percent. This indicates that states may require a critical mass of FPCs or a higher capacity to support agricultural programs in order to achieve higher compliance.

Another metric to determine if an FPC is functioning is whether they have taken credit. Our analysis shows that only 2,593 compliant FPCs (23 percent) have taken advantage of loans in the last year (a detailed analysis is provided in Chapter 4). Those loans break down evenly between short- and long-term loans. However, male-led and mixed FPCs take out two and three times as many short- and long-term loans, respectively, as do women-led FPCs (Table 2).

The geographic concentration of loans mirrors overall FPC distribution. Maharashtra accounts for 28 percent of all loans; Uttar Pradesh, 12 percent; Tamil Nadu, 8 percent; and Madhya Pradesh, 8 percent. Several northeastern states—Mizoram, Manipur, and Arunachal Pradesh—recorded no loan access, which may be due to financial inclusion challenges in remote regions.

Agricultural producer cooperatives functionality rates vary widely across states with no discernable pattern

APC functionality rates demonstrate the resilience of established cooperative networks, with 154,489 of 214,797 cooperatives (72 percent) remaining functional. How-

Table 1 - Distribution of compliance status by state for farmer producer companies incorporated 2003–2021

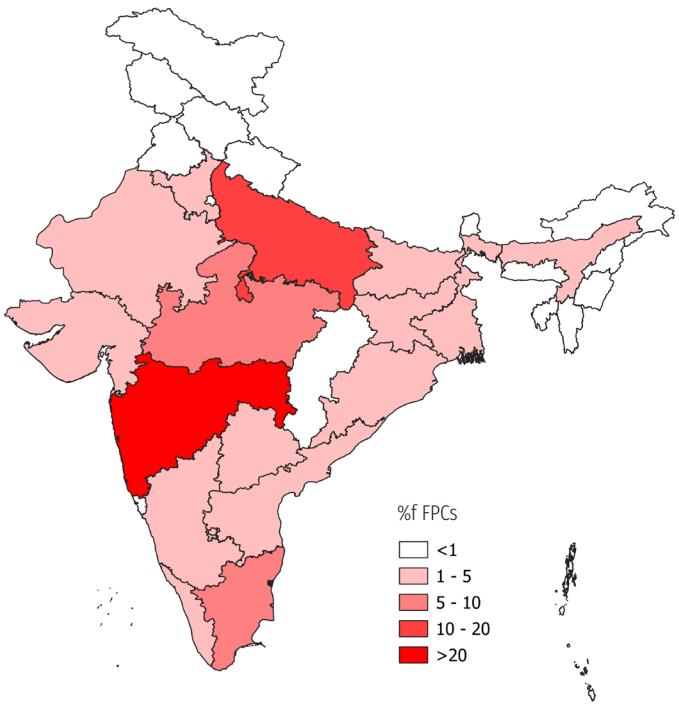
State/UT	Compliant FPCs	Non-compliant	Percent compliant	Total FPCs
Maharashtra	3,824	3,801	50%	7,625
Uttar Pradesh	1,639	1,406	54%	3,045
Madhya Pradesh	702	529	57%	1,231
Tamil Nadu	659	611	52%	1,270
Karnataka	568	475	54%	1,043
West Bengal	466	338	58%	804
Odisha	461	481	49%	942
Haryana	413	554	43%	967
Telangana	373	357	51%	730
Bihar	359	590	38%	949
Rajasthan	324	434	43%	758
Gujarat	311	283	52%	594
Andhra Pradesh	300	399	43%	699
Jharkhand	221	164	57%	385
Kerala	210	220	49%	430
Assam	173	296	37%	469
Chattisgarh	95	183	34%	278
Himachal Pradesh	65	74	47%	139
Uttarakhand	43	62	41%	105
Jammu & Kashmir	40	50	44%	90
Punjab	39	71	35%	110
Manipur	36	58	38%	94
Tripura	24	48	33%	72
Nagaland	23	22	51%	45
Mizoram	19	35	35%	54
Delhi	16	46	26%	62
Arunachal Pradesh	9	41	18%	50
Meghalaya	8	13	38%	21
Pondicherry	4	4	50%	8
Chandigarh	2	3	40%	5
Goa	1	8	11%	9
Andaman and Nicobar Islands	1	5	17%	6
Ladakh	1	1	50%	2
Lakshadweep	0	2	0%	2

Table 2 - Borrowing by gender for farmer producer companies

Borrowing	Women-led	Mixed	Male-led	All
Short-term	174	623	429	1,226
Long-term	183	686	498	1,367
Total	357	1,309	927	2,593

ever, substantial interstate variation indicates that cooperative success depends heavily on state-level institutional capacity and policy support. Tamil Nadu leads with 95 percent functionality, followed by Gujarat (91 percent), Telangana (91 percent), and Karnataka (89 percent). Conversely, Uttar Pradesh manages only 36% functionality, despite having the second largest cooperative population, while Haryana achieves just 39 percent.

Figure 9 - Distribution of farmer producer companies that received loans by state



Functionality depends on both the state and sector

Sectoral analysis reveals that farmer service societies maintain consistently high functionality across states, while dairy cooperatives show strong but variable performance. Fishery, sericulture, and agriculture and allied activity cooperatives show moderate but variable performance (Table 4). Sugar mills, livestock and poultry, and bee farming cooperatives demonstrate the greatest interstate variation, with some states achieving excellent results

Table 3 - Functional status of agricultural producer cooperatives by state

State/UT	Functional	Non-functional/dormant/ under liquidation	Percent functional	All
Gujarat	22,369	2,311	91%	24,680
Uttar Pradesh	7,858	13,836	36%	21,694
Maharashtra	17,909	2,537	88%	20,446
Karnataka	17,948	2,213	89%	20,161
Madhya Pradesh	9,730	7,411	57%	17,141
Rajasthan	10,348	6,671	61%	17,019
Telangana	14,648	1,409	91%	16,057
Tamil Nadu	10,779	571	95%	11,350
Bihar	7,380	2,727	73%	10,107
Haryana	3,150	5,021	39%	8,171
Punjab	4,420	3,151	58%	7,571
Andhra Pradesh	4,726	616	88%	5,342
Kerala	3,905	546	88%	4,451
Manipur	1,611	1,848	47%	3,459
Uttarakhand	2,259	1,169	66%	3,428
Nagaland	1,339	2,006	40%	3,345
Assam	1,844	1,292	59%	3,136
West Bengal	1,411	1,277	52%	2,688
Jammu & Kashmir	1,977	681	74%	2,658
Chhattisgarh	2,187	466	82%	2,653
Jharkhand	1,045	1,063	50%	2,108
Odisha	1,930	77	96%	2,007
Tripura	781	368	68%	1,149
Meghalaya	660	125	84%	785
Himachal Pradesh	597	155	79%	752
Mizoram	534	137	80%	671
Sikkim	400	120	77%	520
Goa	247	74	77%	321
Arunachal Pradesh	139	97	59%	236
Andaman & Nicobar Islands	89	135	40%	224
Puducherry	193	1	99%	194
Delhi	7	90	7%	97
Ladakh	25	60	29%	85
Dadra and Nagar Haveli and Daman and Diu	34	35	49%	69
Chandigarh	1	11	8%	12
Lakshadweep	10	0	100%	10

Table 4 - Functional status of APCs by state and sector

State/UT	Functional							
	Agriculture & allied cooperative	Bee farming cooperative	Dairy cooperative	Farmers service societies (FSS)	Fishery cooperative	Livestock & poultry cooperative	Sericulture cooperative	Sugar mills cooperative
Gujarat	88%	100%	92%	97%	79%	89%	–	86%
Uttar Pradesh	56%	14%	32%	100%	72%	0%	75%	96%
Maharashtra	96%	–	86%	94%	91%	60%	100%	91%
Karnataka	66%	76%	90%	100%	88%	86%	80%	66%
Madhya Pradesh	40%	0%	59%	100%	71%	28%	44%	25%
Rajasthan	29%	40%	63%	82%	10%	15%	0%	0%
Telangana	67%	–	71%	53%	98%	95%	20%	0%
Tamil Nadu	19%	100%	97%	100%	87%	37%	36%	92%
Bihar	31%	87%	82%	–	93%	2%	–	14%
Haryana	52%	–	38%	100%	19%	23%	–	83%
Punjab	46%	50%	60%	83%	0%	4%	–	50%
Andhra Pradesh	75%	–	99%	92%	96%	79%	–	40%
Kerala	–	–	98%	100%	53%	–	–	–
Manipur	43%	78%	42%	50%	54%	48%	15%	–
Uttarakhand	63%	80%	68%	–	72%	35%	48%	100%
Nagaland	39%	62%	54%	44%	48%	34%	–	–
Assam	51%	0%	67%	38%	63%	52%	86%	0%
West Bengal	43%	50%	52%	88%	57%	26%	100%	–
Jammu And Kashmir	65%	67%	81%	25%	79%	61%	100%	–
Chhattisgarh	78%	0%	72%	–	87%	100%	89%	83%
Jharkhand	33%	50%	49%	100%	74%	30%	0%	–
Odisha	67%	–	98%	100%	98%	100%	98%	0%
Tripura	74%	0%	66%	100%	73%	60%	95%	–
Meghalaya	81%	87%	81%	–	73%	93%	25%	–
Himachal Pradesh	64%	100%	83%	100%	88%	56%	–	–
Mizoram	79%	83%	63%	100%	66%	85%	73%	–
Sikkim	52%	25%	84%	–	50%	37%	–	–
Goa	62%	–	92%	–	35%	0%	–	–
Arunachal Pradesh	65%	–	27%	–	43%	80%	–	–
Andaman & Nicobar Islands	46%	–	18%	–	47%	40%	–	–
Puducherry	100%	–	100%	75%	100%	–	–	100%
Delhi	6%	–	11%	–	–	0%	–	–
Ladakh	100%	–	28%	–	0%	33%	–	–
DNHDD	7%	–	61%	–	59%	--	–	–
Chandigarh	100%	–	0%	–	–	–	–	–
Lakshadweep	–	–	–	–	100%	–	–	–

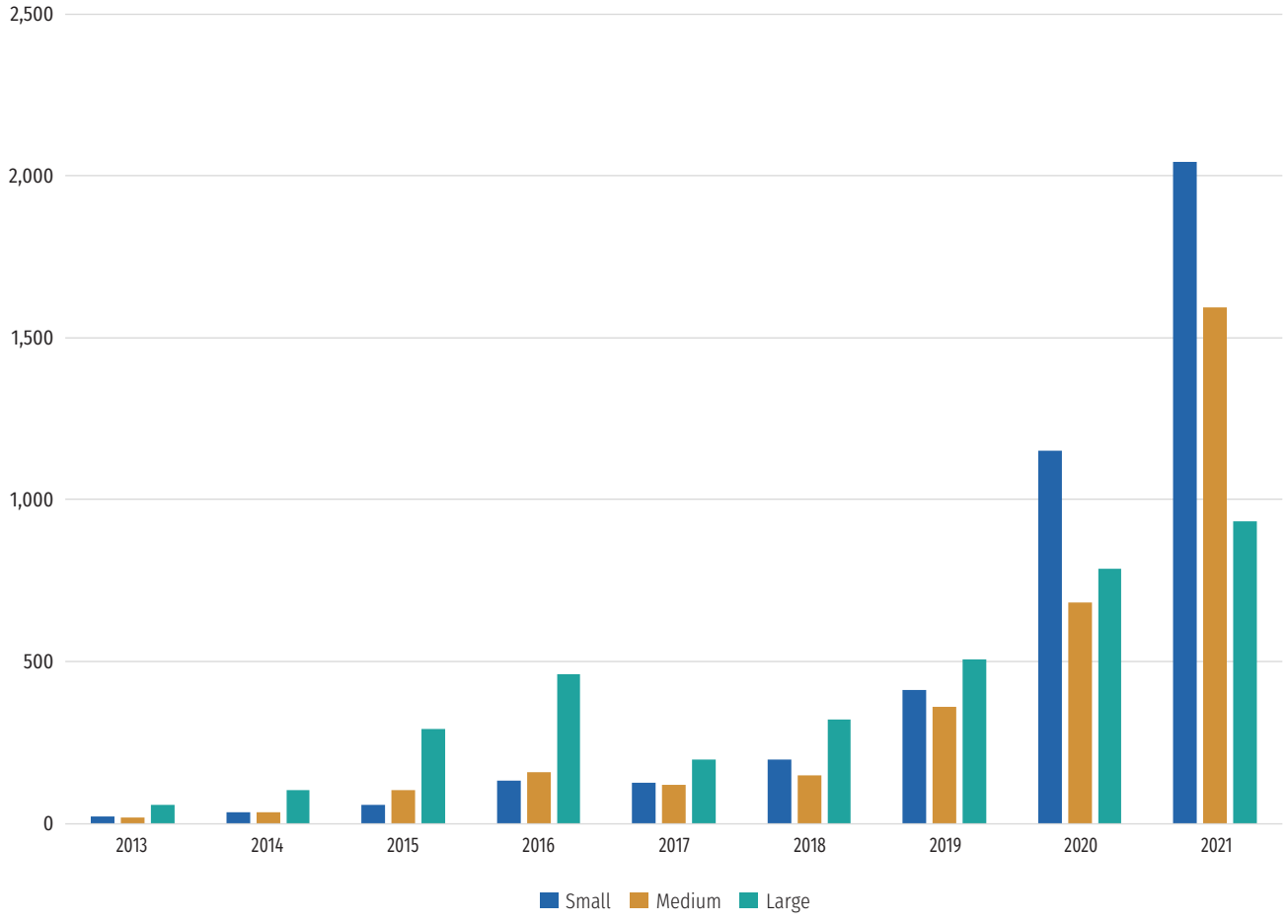
while others struggle significantly. Similarly, while a few states perform consistently well in maintaining functional APCs across sectors, most see wide variation.

Size dynamics, organizational characteristics, and growth trends

Older farmer producer companies tend to be larger

In this analysis, we explore size variation across FPCs and APCs. Size is defined by the number of FPO shareholders or members. We used quartiles to determine size categories. Among compliant FPCs, size distribution shows roughly equal proportions of small (4,198), medium (3,254), and large (3,725) organizations. However, temporal patterns reveal important shifts. Prior to 2020, FPCs tended toward larger sizes, while higher proportions of small FPCs were promoted post-2020 (Figure 10).

Figure 10 - Size of farmer producer companies promoted annually since 2013



Since it is possible for FPOs to gain members over time, older, more established FPOs may simply benefit from a longer period of time to recruit new shareholders or members.

Women-led farmer producer companies are slightly larger; male-led farmer producer companies are slightly smaller

FPCs operating over three years maintain balanced size distributions regardless of gender composition, though women-led FPCs tend to be larger while male-led FPCs are likely to be smaller (Table 5). Among FPCs operating over five years, large organizations predominate, with twice as many large FPCs compared to small ones across all gender categories.

Table 5 - Size of farmer producer companies by age and gender

	Small	Medium	Large
FPCs operating 3+ years	4,198	3,254	3,725
Women-led	601	536	795
Mixed	741	620	713
Male-led	2,667	2,012	2,101
FPCs operating 5+ years	1,002	978	2,005
Women-led	191	170	395
Mixed	172	164	384
Male-led	593	616	1,159

Size is distributed evenly or with many more large or small farmer producer companies across states

Interstate size patterns reveal strategic preferences and capacity constraints. Maharashtra shows even distribution across all sizes in different leadership gender groups. Uttar Pradesh, Madhya Pradesh, and Bihar have twice as many small organizations as medium or large ones (Table 6). Uttar Pradesh has a smaller number of small, medium, and large FPCs in each gender category compared to male-led and mixed FPCs. South Indian states demonstrate opposite preferences: Kerala, Telangana, Karnataka, and Tamil Nadu disproportionately promote more large FPCs, with Tamil Nadu showing four times as many large FPCs as small or medium ones. Haryana promotes many small and very few large FPCs, particularly women-led organizations. Gujarat promotes a relatively similar number of small, medium, and large FPCs; it has many more male-led and mixed FPCs than women-led ones.

Farmer producer company and agricultural producer cooperative growth rates are highest in northeastern states

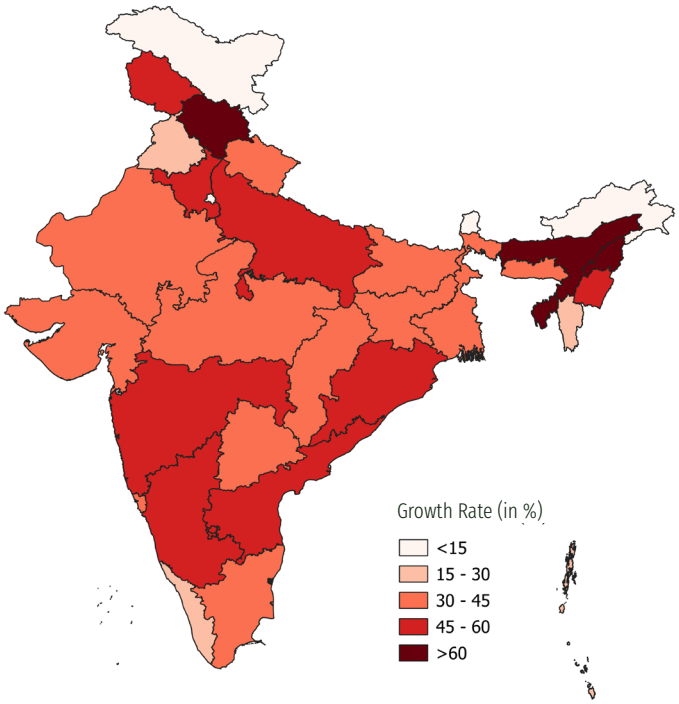
Despite lower absolute numbers, northeastern states demonstrate the highest FPC growth rates nationally, ranging from 28–65 percent, over the past decade.

Table 6 - Farmer producer company size distribution by state and leadership

	Male-led			Mixed			Women-led		
State/UT	Small	Medium	Large	Small	Medium	Large	Small	Medium	Large
Maharashtra	842	754	559	308	288	239	197	207	195
Uttar Pradesh	617	261	204	142	68	81	71	37	53
Madhya Pradesh	203	96	83	37	28	30	42	49	83
Haryana	153	114	25	26	20	11	22	14	1
Bihar	117	44	43	24	16	21	19	27	30
West Bengal	111	40	137	32	4	41	28	14	37
Gujarat	90	81	68	16	16	11	8	5	6
Karnataka	78	74	248	12	20	66	10	13	23
Odisha	69	62	76	24	22	21	44	37	88
Rajasthan	60	65	66	30	15	17	25	9	27
Andhra Pradesh	46	59	64	12	22	33	16	7	27
Telangana	40	61	92	15	9	30	9	13	66
Assam	34	36	31	10	11	7	15	5	17
Tamil Nadu	32	66	286	11	23	66	29	21	93
Jharkhand	29	25	36	7	12	22	23	28	25
Kerala	28	80	52	5	12	10	5	12	6
Chhattisgarh	27	13	14	6	3	5	9	9	6
Himachal Pradesh	25	23	5	1	5	0	4	2	0
Punjab	15	8	2	3	5	0	1	4	0
Manipur	9	7	1	3	3	1	5	2	3
Tripura	9	4	0	2	3	0	0	5	0
Uttarakhand	8	8	6	5	2	0	4	6	2
Nagaland	6	2	1	3	3	0	1	4	2
Delhi	5	3	0	2	0	0	6	0	0
Mizoram	5	7	0	0	1	1	0	4	1
Jammu & Kashmir	4	12	0	4	9	0	2	1	1
Arunachal Pradesh	2	4	0	0	0	0	2	1	0
Meghalaya	2	1	1	0	0	0	2	0	2
Chandigarh	1	0	0	0	0	0	1	0	0
Andaman & Nicobar Islands	0	0	0	0	0	0	1	0	0
Goa	0	0	0	1	0	0	0	0	0
Ladakh	0	1	0	0	0	0	0	0	0
Puducherry	0	1	1	0	0	0	0	0	1
TOTAL	2,667	2,012	2,101	741	620	713	601	536	795

Arunachal Pradesh increased from zero to 226 FPCs during this period. Jammu and Kashmir (59 percent), Haryana (53 percent), Karnataka (53 percent), and Maharashtra (51 percent) also show robust expansion rates. Among states with substantial FPC populations, Punjab and Kerala show the lowest growth at 27 percent and 28 percent, respectively, reinforcing questions about collective action incentives in highly developed commercial cropping systems.

Figure 11 - Annual growth rate of farmer producer companies promoted (2014–2024)



The emerging financial picture and its implications

Using the dataset from the TCI FPO Platform for India, we have deduced that there are 259,344 FPOs in India, with 44,547 promoted as FPCs and 214,797 promoted as APCs. We estimate that 43–49 percent of all promoted FPCs continue to operate after government support has ended, and 72 percent of all APCs remain functional. Although promotion has accelerated dramatically, particularly for FPCs post-2020, compliancy rates suggest that promoting large numbers of FPCs does not guarantee sustainability.

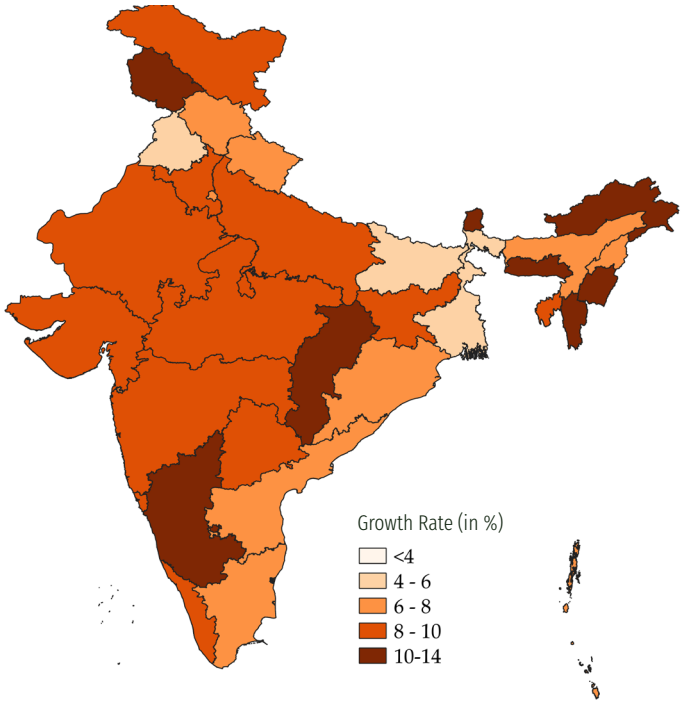
Female-led FPCs make up 15 percent of all FPCs and comprise anywhere from 10–20 percent of all FPCs promoted annually. Women-led FPCs are not promoted equally across Indian states. Women-led FPCs range from 1 in 3 FPCs in Jharkhand to 1 in 20 FPCs in Haryana. Women-led FPCs make up less than 20 percent of all FPCs in half of all states and union territories. Despite systematic underrepresentation in leadership, female-led and mixed FPCs demonstrate superior survival rates, challenging conventional assumptions about women's roles in agricultural organizations.

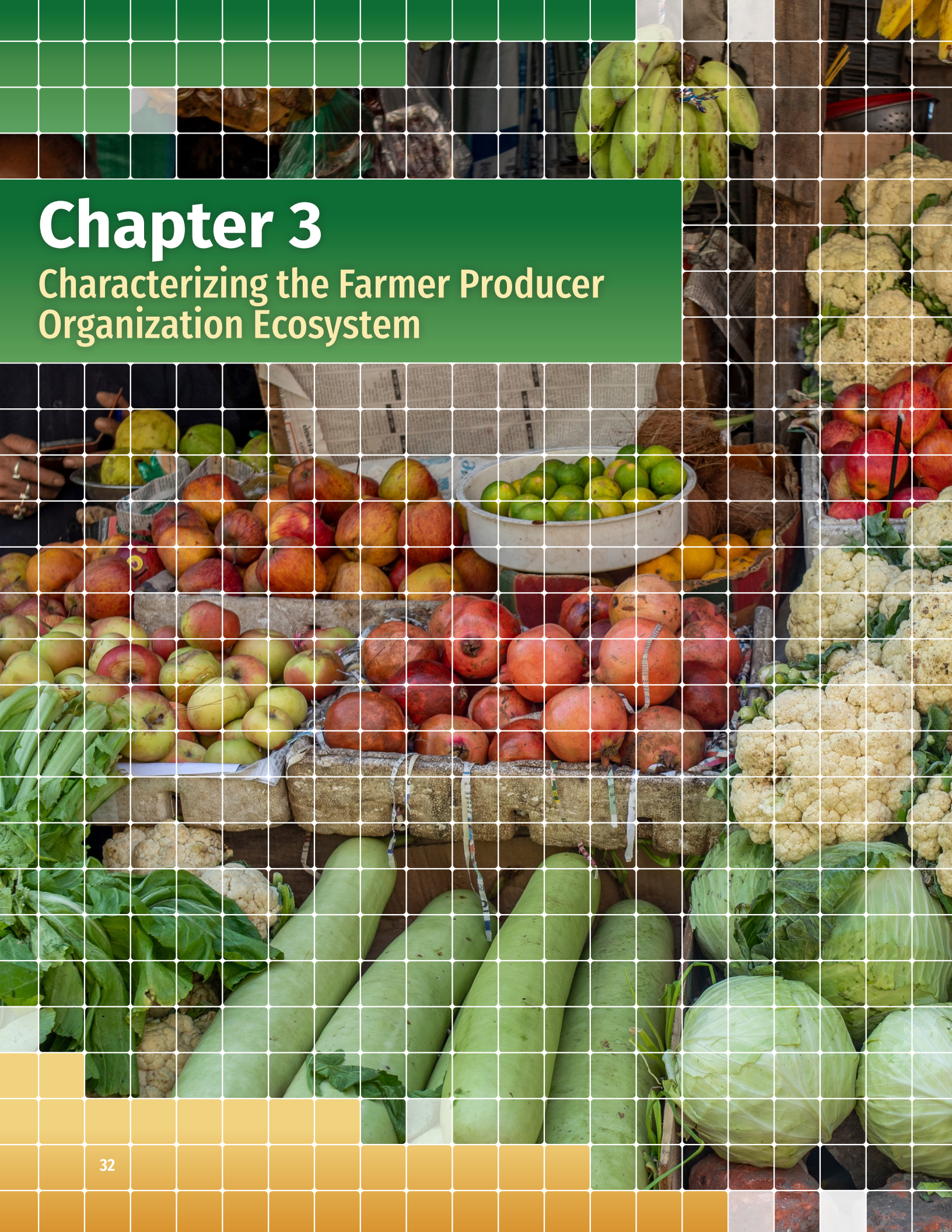
The size of self-sufficient FPCs is evenly split between small, medium, and large. However, older FPCs tend to be large and recently promoted ones tend to be small. These trends also hold for women-led, mixed, and male-led FPCs. Larger FPCs demonstrate advantages in financial management and survival, though optimal sizing may vary by context and sector.

The 23 percent credit access rate among FPCs represents a critical constraint requiring targeted intervention, particularly given the relationship between financial access and organizational sustainability.

Lastly, APCs have increased since the 10,000 FPO Scheme in 2016, with an average of 6,000 APCs promoted each year. Their performance varies by state/union territories and sector. Few trends are discernible. Some larger agricultural states perform better across one or more sectors. Gujarat, Maharashtra, Karnataka, Odisha, Andhra Pradesh, and Puducherry have consistently high numbers of functional APCs across the sectors that they promote. Sectors are highly variable, with some states having high percentages of functional APCs and others having very low percentages. Farmer service societies are the only sector to have consistently strong percentages of functional APCs across states.

Figure 12. State agricultural producer cooperative annual growth rate from date of first cooperative promoted to present





Chapter 3

Characterizing the Farmer Producer Organization Ecosystem

In the previous chapter, we explored the scale and survival patterns of India's farmer producer organization (FPO) landscape, and in this chapter, we examine what these organizations actually do by analyzing their agricultural focus areas, business activities, and institutional support systems. This chapter addresses the following critical questions: Which institutions promote FPOs, and how do their approaches differ? What crops do FPOs cultivate? What services do they provide to members?

Our analysis draws on datasets from key promoting institutions—the National Bank for Agriculture and Rural Development (NABARD), the Small Farmers' Agri-Business Consortium (SFAC), and the National Institute of Agricultural Extension Management (MANAGE)—covering institutional support for 8,899 farmer producer companies (FPCs), crop cultivation patterns for 3,938 FPCs and 1,043 agricultural producer cooperatives (APCs), and detailed business activities for 110 FPCs. Although these samples represent approximately 18–20 percent of all registered FPCs, they provide sufficient scale for reliable analysis, though with potential bias toward FPCs, supported by larger, more systematic implementing agencies. For cooperatives, our data is more limited. However, we can provide meaningful analysis of geographic and sectoral patterns where data permits. This chapter focuses primarily on FPC patterns, while noting differences within cooperatives, where our data allows for reliable comparisons.

The chapter examines four interconnected dimensions of FPO characteristics. First, we analyze the institutional architecture supporting FPCs, comprising the implementing agencies (IAs) that distribute government funding and the cluster-based business organizations (CBBOs) that provide direct technical assistance. Second, we examine agricultural focus, revealing geographic patterns of crop specialization and how cultivation choices relate to organizational characteristics, particularly leadership gender. Third, we investigate business activities in which FPCs engage, from basic input supply to sophisticated processing and marketing operations. Throughout this analysis, we pay particular attention to gender dimensions— which institutions most effectively promote women-led FPOs, how women's leadership influences crop choices and business strategies, and whether gender-differentiated support approaches different yield outcomes.

Institutional architecture supporting farmer producer organizations

Understanding FPO performance requires examining the institutional architecture that promotes and supports these organizations. This support typically flows through two key entities: IAs, which distribute government funding made available through policy, and CBBOs, the civil society organizations, corporations, and consulting agencies that receive funding from IAs to form, provide technical assistance, and operationalize FPOs for 3–5 years. For this analysis, we examine IA data for 8,095 FPCs and combined IA–CBBO data for 8,085 organizations. This represents

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approximately 18–20 percent of all registered FPCs—a substantial sample that enables reliable analysis, while acknowledging potential biases, as institutional data primarily comes from major IAs. We do not have data on supporting organizations for cooperatives.

Implementing agencies: The funding backbone

Our dataset includes seven IAs supporting 8,899 FPCs, which represents 20 percent of all registered FPCs (Table 1). Two agencies dominate FPC support: SFAC promotes 4,275 FPCs (9.6 percent of the total FPCs) while NABARD promotes 3,731 FPCs (8.4 percent of the total). The State Agriculture Marketing Board and self-promoted FPCs account for much smaller shares at 1.5 percent and 0.3 percent, respectively. The remaining agencies—National Rural Livelihood Mission (NRLM), Horticulture Department, and State Rural Livelihoods Mission (SRLM)—support fewer than 100 FPCs each in our data. State-level agencies likely promoted a larger number of FPCs; however, as they are not reported, we are unable to determine their numbers.

Table 1 - Implementing agencies and farmer producer companies supported

Implementing agency	Number of FPCs	Percentage of all FPCs*
Small Farmers' Agri-Business Consortium (SFAC)	4,275	9.59
National Bank for Agriculture and Rural Development (NABARD)	3,731	8.37
State Agriculture Marketing Board	653	1.47
Self-promoted	139	0.31
National Rural Livelihood Mission (NRLM)	85	0.19
Horticulture Department	14	0.03
State Rural Livelihoods Mission (SRLM)	2	0.004

*Percentage of all FPCs is the number of FPCs divided by the total number of FPCs (44,546) in our sample. There is not information on the implementing agency on 80% of the FPCs.

Implementing agencies without explicit mandates have similar trends in leadership gender for promoted farmer producer companies

The dominance of SFAC and NABARD means that their institutional philosophies and approaches significantly shape India's FPO landscape. However, these agencies demonstrate markedly different approaches to gender inclusion, as revealed in Figure 1. The gender composition analysis reveals institutional differences in promotion. NRLM and SRLM stand out, with 62 percent and 100 percent of their supported FPCs having all-women boards, respectively. This reflects their explicit mandates to promote women's economic participation through self-help group federations. In contrast, SFAC and NABARD show more conventional patterns: both promote a low number of women-led FPCs, a high number

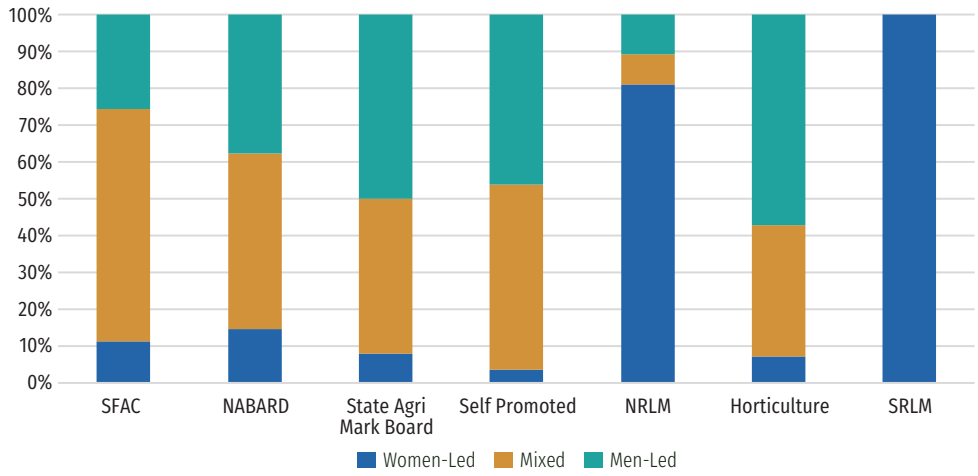
of mixed FPCs, and a medium number of male-led FPCs. For both, approximately 5 percent of FPCs promoted were fully women-led. However, NABARD supported a higher proportion of FPCs with no female representation (30 percent), compared to SFAC (14 percent).

Cluster-based business organizations: The implementation layer

Our dataset includes 1,468 CBBOs that formed and supported 2,288 FPCs. Our analysis shows that the CBBOs are made up of private companies, consulting agencies, and civil society organizations. Although CBBOs average only a little more than one FPC promoted, a small number of CBBOs operate on a significant scale (Table 2). Four CBBOs—ITC Limited, Bayer CropScience Limited, Patanjali Foods Limited, and CSC e-Governance Services India Limited—support over 100 FPCs. Also noteworthy is the number of consultancies, such as Grant Thornton Bharat LLP (35 FPCs) and Pricewaterhouse-Coopers (21 FPCs), who promote FPCs. In all, we identified over 157 FPCs promoted by consultancies.

The CBBO concentration pattern reveals important dynamics in FPO promotion. The top three FPC-promoting CBBOs in our dataset are all private companies with substantial agricultural or technological footprints, suggesting that large-scale FPO promotion increasingly relies on corporate partnerships rather than traditional development organizations. These corporate CBBOs bring different capabilities, such as supply chain access, technology platforms, and market connections, that may fundamentally alter FPO business models.

Figure 1 - Board composition by gender across implementing agencies



A gender analysis of CBBO approaches reveals similar variation to implementing agencies. Most top CBBOs predominantly support mixed and male-led FPCs, with a few outliers (Figure 2). The two exceptions stand out are Samunnati Agro Solutions (7), in which all 65 FPCs they promoted were women-led, and Grant Thorton Bharat (20)

Table 2 - List of the top 20 farmer producer company-promoting cluster-based business organizations

Rank	CBBO	Implementing agency	Number of FPCs
1	ITC Limited	SFAC	398
2	Bayer CropScience Limited	SFAC	318
3	Patanjali Foods Limited	SFAC	183
4	CSC e-Governance Services India Limited	SFAC	146
5	Indian Society of Agribusiness Professionals (ISAP)	SFAC, NABARD	81
6	Indian Grameen Services (IGS)	SFAC	76
7	Samunnati Agro Solution Pvt. Limited.	SFAC	65
8	Sahabhagi Vikash Abhiyan	NABARD	57
9	Nature Bio Food Pvt. Limited.	SFAC	56
10	Satmile Satish Club O Pathagar	NABARD, SFAC	50
11	Javik Aahar Farmers Producer Company Limited	SFAC	49
12	Access Development Services (ADS)	SFAC, NABARD	48
13	Samarth Agro	SFAC	48
14	Evangelical Social Action Forum (ESAF)	NABARD, SFAC	44
15	Vitro Biotechnologies Limited	SFAC	43
16	Green Agrevolution Private Limited (DeHaat)	SFAC	40
17	National Federation of Farmers' Procurement, Processing & Retailing Cooperatives of India Limited (NACOF)	SFAC	40
18	North East Organized Floritech Pvt. Limited	SFAC	40
19	DHAN Foundation	NABARD, SFAC	37
20	Grant Thornton Bharat LLP	SFAC	35

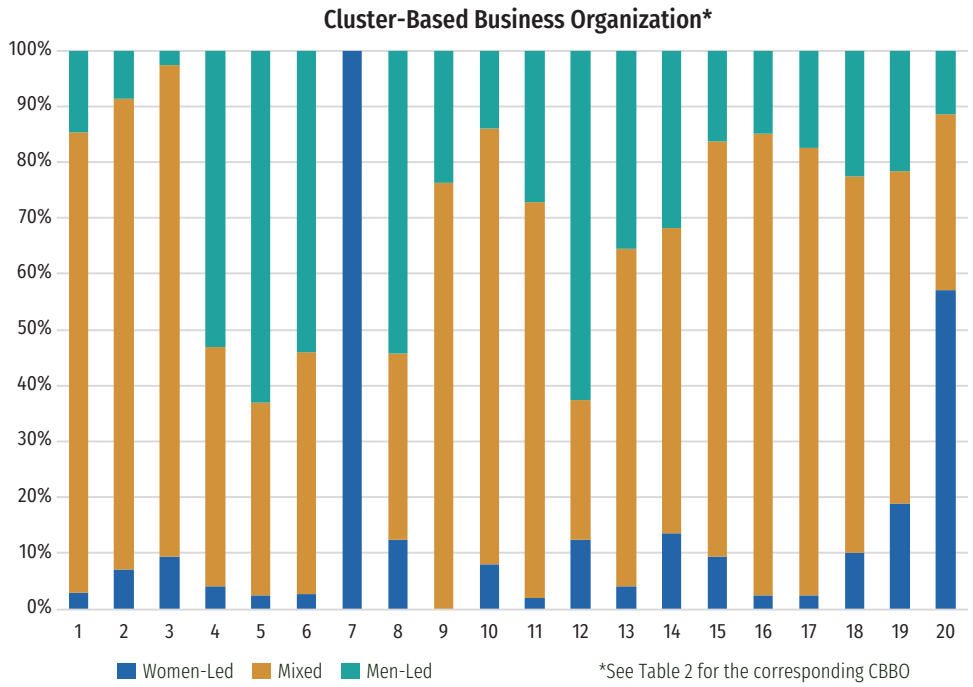
in which 20 out of 35 FPCs promoted were women-led. These outliers suggest that specific CBBOs can achieve high levels of women's leadership when it is given priority.

Agricultural focus

Crop patterns and specialization

The 2,311 compliant FPCs within our dataset produced 236 different crops across 20 general crop categories, such as vegetables, fruits, cereals, livestock, and oilseeds.[1] We created 20 crop groups from the 236 original crop names to facilitate the analysis and to make it more tractable. The original 236 crop names and their corresponding crop groups can be found in the TCI FPO database (https://fpo.tci.cornell.edu).

Figure 2 - Board gender composition of farmer producer companies supported by the top 20* cluster-based business organizations



Crop Groups		
Cash crops	Grains	Plantation
Dairy	Herbs	Poultry
Fiber crops	Legumes	Seeds
Fishery	Livestock	Spices
Flowers	Millets	Tree fruits
Forest products	Nuts	Vegetables
Fruits	Oil Seeds	

A majority of farmer producer companies produce more than one crop group

FPCs demonstrate varying degrees of agricultural specialization. Among operational FPCs with crop data, 42% focus on a single crop group, 27% cultivate two crop groups, and 17% work with three crop groups. Only 14% of FPCs engage with four or more crop groups, with the most being 11 different crop groups (Figure 3). This pattern

1 The dataset containing crop information consists of 2,312 observations, of which one observation could not be referenced to an FPC, making the total number of identifiable FPCs with crop data 2,311. This total consists of 20 percent of all compliant FPCs and 5 percent of total FPCs.

Figure 3 - Number of different crop groups produced by compliant farmer producer companies

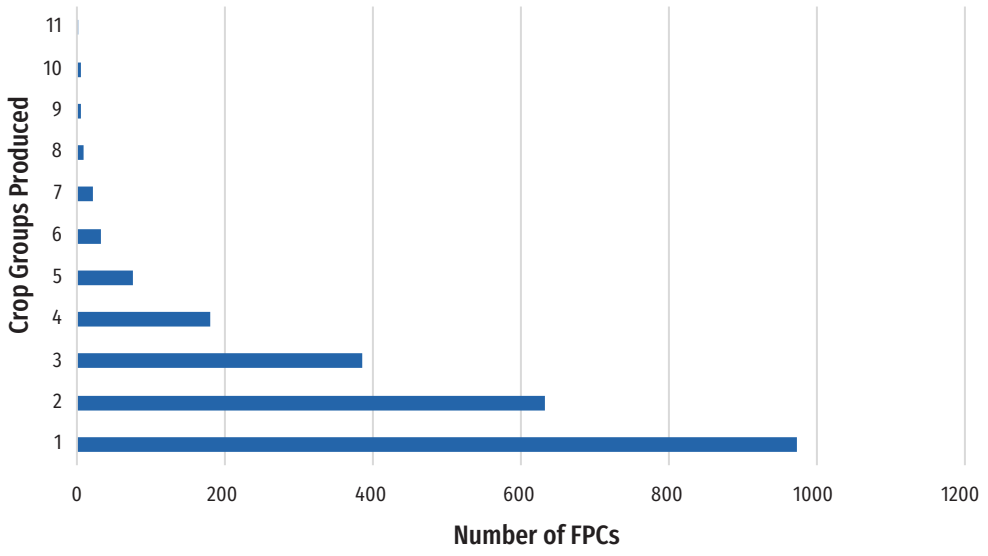
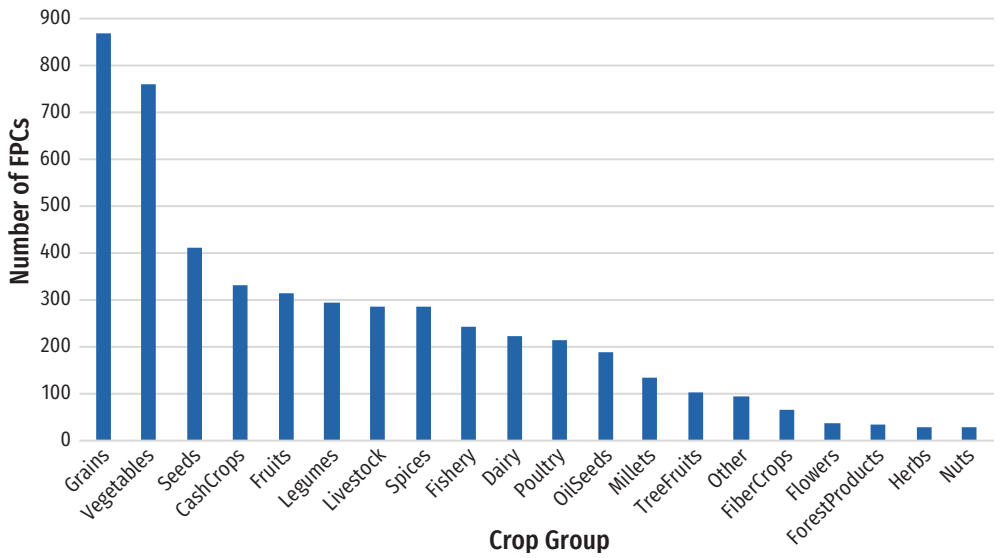


Figure 4 - Number of compliant farmer producer companies producing each crop group



crop groups, with the most being 11 different crop groups (Figure 3). This pattern suggests that most FPCs pursue focused agricultural strategies rather than broad diversification.

Farmer producer companies and agricultural producer cooperatives produce similar crop groups in similar proportions

Among compliant FPCs with crop data, the most common crop groups were grains and vegetables, which far surpass other crop groups (Figure 4). While most other crop groups were relatively similar, the lowest four crop groups—flowers, nuts, herbs, and forest products—were notably fewer.

A similar analysis of the crop groups produced by cooperatives is presented to compare production patterns between these two groups. Out of the 1,043 APCs with crop data, 46 percent (n=490)

grow only one crop group, 45 percent (n=456) grow two to four crop groups, and only 9 percent (n=97) of cooperatives with crop data produce five or more crop groups (Figure 5).

The proportion and distribution of crop groups produced by the APCs is similar to compliant FPCs. Among the cooperatives with crop data, the most common crop groups produced were vegetables and grains, which 18 percent (n = 391) and 15 percent (n = 337) of all APCs with crop data grew, respectively (Figure 6). Flowers, herbs, nuts, and forest products were similarly the least produced crop groups by APCs.

Figure 5 - Number of crop groups produced by agricultural producer cooperatives (n=1,043)

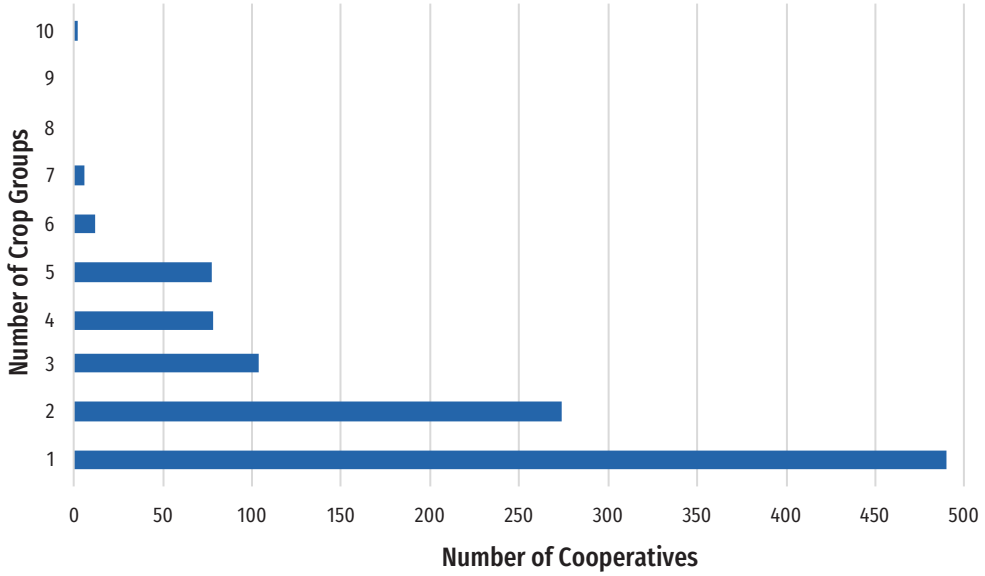
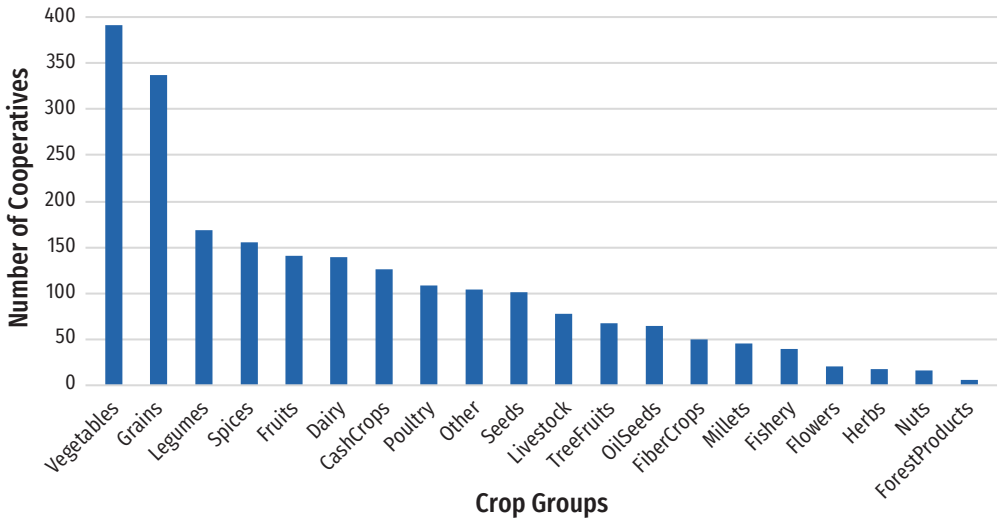


Figure 6 - Number of cooperatives producing each crop group



Geographic concentration and crop specialization

Crop production patterns reveal distinct regional specializations across India. Some crops show a high geographic concentration of FPCs while others are more dispersed (Table 3).

Table 3 - Crop production by the top five states measured as percentage of compliant farmer producer companies producing each crop

Crop	1st state	2nd state	3rd state	4th state	5th state
Vegetables (n=730)	Odisha (17%)	West Bengal (12%)	Karnataka (11%)	Telangana (9%)	Uttar Pradesh (8%)
Tree fruits (n=102)	Karnataka (31%)	Maharashtra (13%)	Andhra Pradesh (11%)	Odisha (10%)	Jharkhand (6%)
Nuts (n=28)	Karnataka (43%)	Andhra Pradesh (18%)	Maharashtra (14%)	Odisha (11%)	West Bengal (7%)
Cash crops (n=312)	Telangana (18%)	West Bengal (12%)	Odisha (12%)	Karnataka (11%)	Kerala (8%)
Other (n=86)	Odisha (17%)	Kerala (16%)	Madhya Pradesh (14%)	Uttar Pradesh (8%)	Tamil Nadu (7%)
Grains (n=832)	Madhya Pradesh (13%)	Karnataka (10%)	Telangana (9%)	Odisha (8%)	West Bengal (8%)
Legumes (n=272)	Madhya Pradesh (19%)	Karnataka (15%)	Maharashtra (12%)	Uttar Pradesh (10%)	Odisha (8%)
Fruits (n=296)	Karnataka (16%)	Odisha (14%)	West Bengal (10%)	Kerala (8%)	Andhra Pradesh (8%)
Millets (n=120)	Bihar (31%)	Madhya Pradesh (17%)	Karnataka (13%)	Andhra Pradesh (9%)	Maharashtra (8%)
Herbs (n=30)	Uttar Pradesh (37%)	Rajasthan (20%)	Madhya Pradesh (13%)	Haryana (10%)	West Bengal (7%)
Spices (n=276)	Karnataka (16%)	West Bengal (10%)	Odisha (9%)	Uttar Pradesh (9%)	Kerala (8%)
Oil seeds (n=174)	Madhya Pradesh (36%)	Karnataka (15%)	Maharashtra (8%)	Tamil Nadu (8%)	West Bengal (6%)
Flowers (n=37)	Karnataka (16%)	Tamil Nadu (14%)	Telangana (11%)	Uttar Pradesh (11%)	Maharashtra (8%)
Fiber crops (n=65)	Madhya Pradesh (23%)	Maharashtra (18%)	Telangana (18%)	Gujarat (17%)	Karnataka (6%)
Dairy (n=194)	Uttar Pradesh (16%)	West Bengal (13%)	Tamil Nadu (11%)	Rajasthan (10%)	Maharashtra (7%)
Poultry (n=122)	West Bengal (38%)	Uttar Pradesh (11%)	Odisha (7%)	Tamil Nadu (7%)	Madhya Pradesh (7%)
Fishery (n=146)	West Bengal (45%)	Odisha (10%)	Uttar Pradesh (8%)	Tamil Nadu (8%)	Andhra Pradesh (6%)
Forest products (n=28)	Odisha (46%)	Madhya Pradesh (25%)	Jharkhand (7%)	Kerala (7%)	Maharashtra (7%)
Livestock (n=141)	West Bengal (36%)	Uttar Pradesh (9%)	Tamil Nadu (8%)	Karnataka (6%)	Bihar (6%)
Seeds (n=392)	Telangana (13%)	Odisha (11%)	West Bengal (11%)	Uttar Pradesh (10%)	Jharkhand (9%)

Note: Parentheses includes the percentage of FPCs producing each crop within the state listed.

Odisha has the most significant number of FPCs for a single crop group, with 46 percent of all forest product FPCs. Additionally, nut and fruit tree FPCs in Karnataka, millet FPCs in Bihar, herb FPCs in Uttar Pradesh, poultry and fishery FPCs in West Bengal, and oilseed FPCs in Madhya Pradesh all compose more than 30 percent of the FPCs in their crop categories.

Some crops are more dispersed, however. In general, crop group concentration has an inverse relationship to the number of FPCs producing that crop group. For example, grain-producing FPCs, which have the largest number of FPCs (832), have a five-state FPC concentration of 49 percent. Spice, fruit, seeds, and vegetable-producing FPCs follow a similar trend with high numbers of FPCs (276–730 FPCs) and low five-state concentrations (52–57 percent).

The geographic distribution of the crop groups with the largest and smallest numbers of compliant FPCs is illustrated in Figures 7 and 8. Figure 7 presents the top four crops with the largest number of FPCs. These crops are: grains (n=865), vegetables (n=760), seeds (n=412), and cash crops (n=339). Figure 8 presents the four crops with the smallest number of FPCs. These crops are: nuts (n=16), forest products (n=36), herbs (n=30), and flowers (n=39).

Gender leadership and agricultural choices

The relationship between gender and leadership choices in crop selection reveals important patterns that may reflect both social norms and market opportunities. Women-led FPCs often produce livestock (30 percent), millets (30 percent), poultry (28 percent), legumes (25 percent), and tree fruits (25 percent) (Table 4). These patterns align with traditional gender roles in Indian agriculture, where women often manage small livestock, kitchen gardens, and postharvest processing. However, they could also suggest that women-led FPCs may focus on crops that allow for value addition and direct marketing. Conversely, women rarely lead FPCs focused on cash crops (8 percent), fruits (12 percent), and commercial flower production (13 percent). This pattern may reflect differential access to capital, markets, or the technical knowledge required for these higher investment crop categories. Compliant FPCs consistently show higher percentages of mixed gender leadership across most crop categories, compared to women-led and men-led FPCs.

Institutional influence on crop patterns

The implementing agencies of FPCs also show interesting relationships to crop patterns. NABARD and SFAC, the two largest agencies, show markedly different crop portfolios (Table 5). NABARD-promoted FPCs grow grains (19 percent), vegetables (17 percent), and seeds (11 percent), while also supporting significant animal agriculture—dairy, poultry, fishery, and livestock. SFAC-promoted FPCs produce legumes (19 percent), vegetables (18 percent), and grains (15 percent), with minimal animal agriculture. NABARD's support for animal agriculture aligns with women's traditional roles and may explain some regional variations in women's leadership patterns. SFAC's focus on legumes supports nutritional security and soil health

Figure 7 - Number of farmer producer companies producing the largest four crop groups

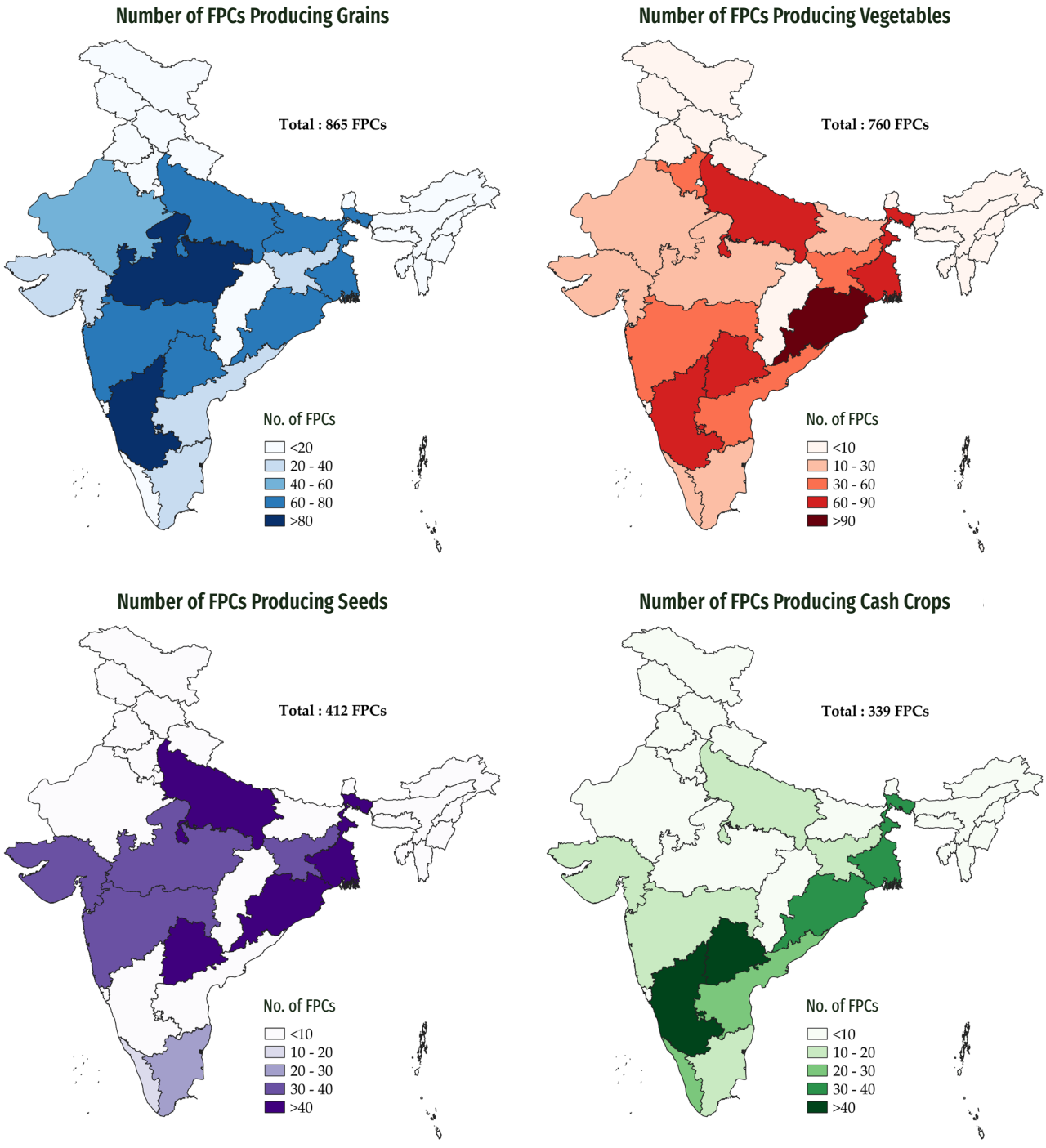


Figure 8 - Number of farmer producer companies producing the smallest four crop groups

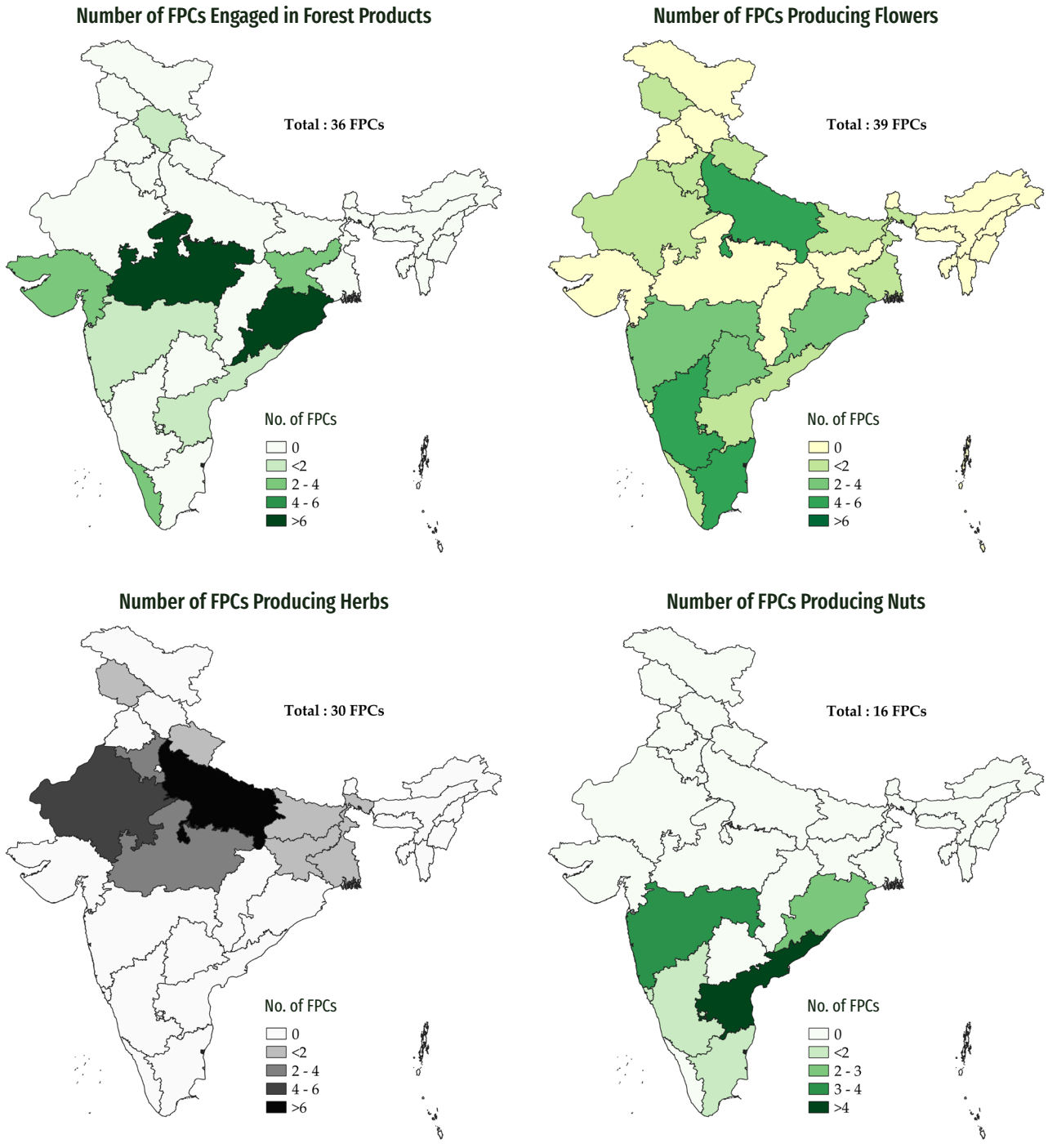


Table 4 - Number of farmer producer companies by crop group, compliance status, and board gender composition

Crop	Operating +3 years	Operating +5 years	Women-led[1]	Men-led[1]	Mixed[1]
Grains	851	786	172	291	388
Vegetables	751	704	119	286	346
Seeds	405	374	63	154	188
Cash crops	334	308	28	139	167
Fruits	305	287	38	129	138
Legumes	287	263	73	94	120
Spices	283	270	44	102	137
Livestock	247	162	73	75	99
Dairy	220	159	53	72	95
Fishery	205	116	43	69	93
Oil seeds	185	166	48	59	78
Poultry	176	96	49	60	67
Millets	137	121	41	46	50
Tree fruits	103	101	26	41	36
Other	94	79	22	34	38
Fiber crops	65	64	12	30	23
Flowers	37	35	5	11	21
Forest products	32	27	8	11	13
Herbs	30	28	5	12	13
Nuts	16	16	4	5	7

[1] Corresponds to FPCs operating +3 years. FPCs may produce more than one crop.

but may offer different income generation potential.

Business activities and services

An analysis of FPO business activities faces significant data limitations, with only 61 FPOs (0.1 percent of the total) reporting detailed activity information. This small sample may not allow for comprehensive conclusions, but it offers important insights into the range of services provided. Among FPCs reporting activities,

Table 5 - Number of compliant farmer producer companies supported by the National Bank for Agriculture and Rural Development and the Small Farmers' Agri-Business Consortium producing specific crop groups

Crop	NABARD	% of NABARD	SFAC	% of SFAC
Grains (n=851)	715	17.5%	86	13.3%
Vegetables (n=751)	618	15.1%	107	16.6%
Seeds (n=405)	411	10.1%	1	0.2%
Cash crops (n=334)	310	7.6%	23	3.6%
Fruits (n=305)	266	6.5%	41	6.4%
Legumes (n=287)	150	3.7%	118	18.3%
Spices (n=283)	224	5.5%	49	7.6%
Livestock (n=247)	245	6.0%	36	5.6%
Dairy (n=220)	219	5.4%	0	0.0%
Fishery (n=205)	238	5.8%	6	0.9%
Oilseeds (n=185)	115	2.8%	49	7.6%
Poultry (n=176)	213	5.2%	0	0.0%
Millets (n=137)	98	2.4%	39	6.0%
Tree fruits (n=103)	49	1.2%	43	6.7%
Other (n=94)	90	2.2%	0	0.0%
Fiber crops (n=65)	32	0.8%	29	4.5%
Flowers (n=37)	37	0.9%	1	0.2%
Forest products (n=32)	33	0.8%	2	0.3%
Herbs (n=30)	10	0.2%	11	1.7%
Nuts (n=16)	10	0.2%	4	0.6%
Total crops produced	3,547		607	

Note: Because many FPCs produce more than one crop group, the number of total crops produced is larger than the number of FPCs supported by the implementing agencies. % of NABARD and % of SFAC represent the percentage of total crops produced for each crop.

marketing and input procurement emerge as the most common services, provided by 34 and 27 FPOs, respectively. Processing and networking follow with 21 FPOs and 10 FPOs, respectively (Table 7).

This pattern suggests that most FPCs begin with basic marketing and input

aggregation—leveraging collective selling and purchasing power to reduce costs for seeds, fertilizers, and other agricultural inputs. Processing activities, while less common, represent important value addition opportunities that can significantly increase farmer incomes.

Table 6 - Activities by implementing agencies, board gender composition, and number of farmer producer companies

Activities	Number of FPCs	Women-led	Men-led	Mixed
Inputs	27	1	14	12
Processing	21	2	13	6
Networking	10	1	5	2
Marketing	34	5	17	11

Note: Women-led FPCs have 75 percent or more female board members. Men-led FPCs have 25 percent or fewer female board members. FPCs are mixed when women make up to 25-74 percent of their board.

The gender patterns revealed by our limited data on business activities reveals women-led and mixed groups involved in all four activities with an emphasis on marketing input provisioning.

Table 7. Activities by implementing agencies, board gender composition, and number of farmer producer companies

Note: Women-led FPCs have 75 percent or more female board members. Men-led FPCs have 25 percent or fewer female board members. FPCs are mixed when women make up to 25-74 percent of their board.

NABARD emerges as the primary supporter of business activities across all categories, supporting 15 FPCs for input provision, 17 for processing, 6 for networking, and 18 for marketing (Table 8). Self-promoted FPCs also engage across all activity categories, suggesting that organizational autonomy may support business diversification.

SFAC's limited support for business activities (only 1 FPC total) contrasts sharply with its large portfolio of supported FPCs, suggesting different institutional approaches to FPC development. This pattern may reflect SFAC's focus on formation and basic operations rather than advanced business development.

How farmer producer organizations' support and characteristics shape their outcomes

This analysis reveals that FPO functionality emerges from interactions between institutional support, agricultural focus, and organizational characteristics. We find that three key patterns emerge.

First, the choice of implementing agency and CBBO may influence the characteristics of FPCs. NRLM's focus on women's leadership, NABARD's support for animal agriculture, and SFAC's emphasis on legumes create distinct FPC typologies. The emergence of large corporate and consultancy CBBOs, such as ITC, Bayer, Grant Thornton Bharat

LLP, and PricewaterhouseCoopers, points to interesting developments; however, whether it helps in FPC commercialization and sustainability needs to be explored.

Table 7 - Farmer producer companies with stated activities by implementing agency

Activities	NABARD	SFAC	Self-promoted	NRLM
Inputs	15	1	10	0
Processing	17	0	4	0
Networking	6	0	4	0
Marketing	18	0	16	0

Second, FPCs demonstrate clear regional specialization patterns that reflect both agroclimatic advantages and institutional approaches. Although basic crops like grains and vegetables are widely distributed, specialized products like forest products and nuts show high geographic concentration.

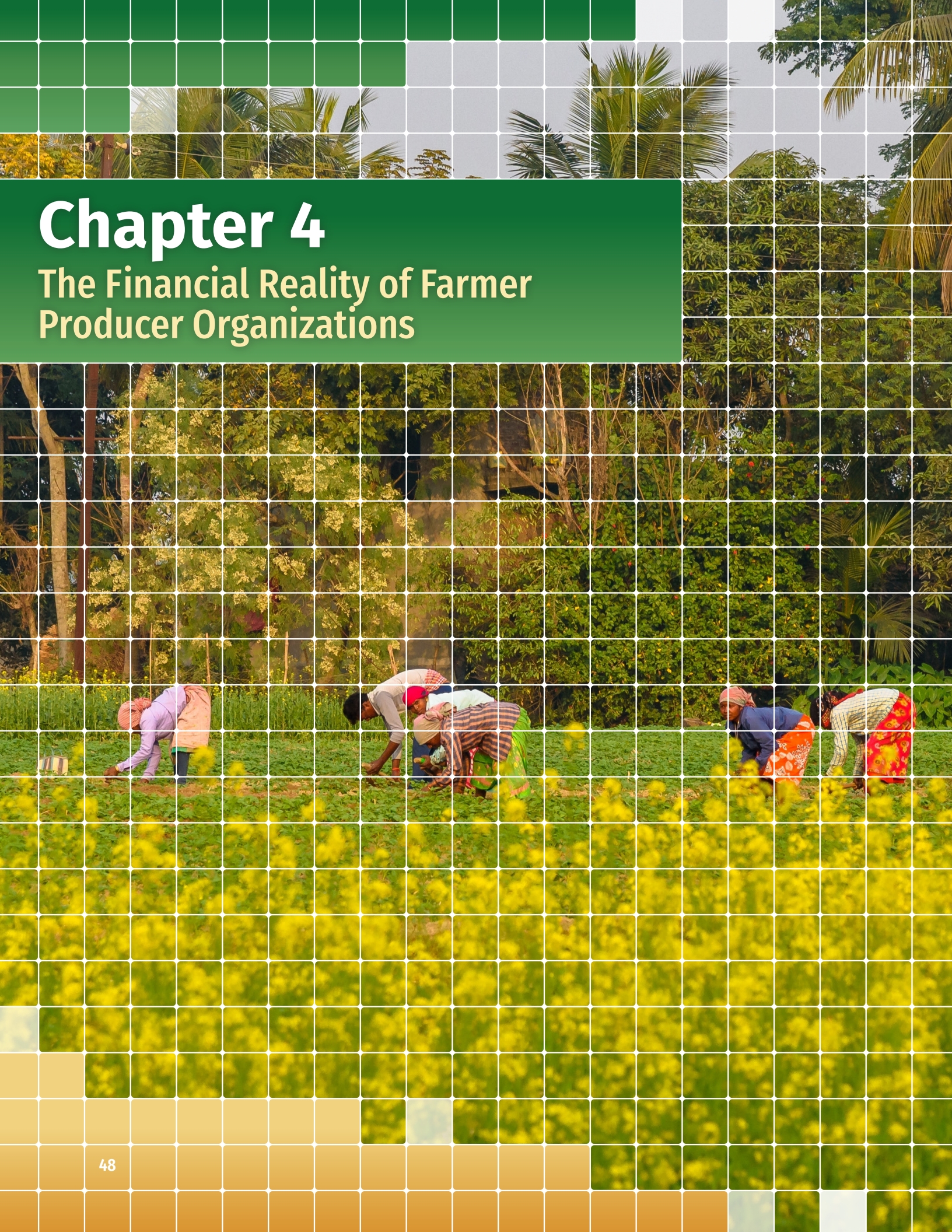
Lastly, women-led FPCs pursue distinctly different agricultural and business strategies, focusing more on animal agriculture, traditional crops, and processing activities. They also remain underrepresented in high-value commercial crops and business activity reporting.

The substantial variation in approaches across implementing agencies and CBBOs suggests that institutional choice can be crucial for achieving specific development outcomes. Organizations seeking to promote women's leadership, agricultural diversification, or business development should carefully consider their institutional partnerships and support strategies.

These findings highlight both the potential and limitations of India's FPO movement. Although the institutional architecture provides substantial support, the concentration of support among a few large players and persistent gender gaps suggest areas for policy attention and institutional innovation.

Chapter 4

The Financial Reality of Farmer Producer Organizations



Evaluating the financial performance of farmer producer companies (FPCs) presents unique challenges. Unlike traditional companies driven primarily by profit maximization, FPCs pursue dual objectives: generating returns for farmer members while remaining financially viable and providing services that may not be immediately profitable but create long-term value. This dual mandate complicates standard financial analysis and raises fundamental questions about appropriate benchmarks and success metrics. The relative novelty of the FPC model compounds the challenge. Although the legal framework for FPCs was established more than two decades ago, significant formation has occurred only in recent years. Therefore, the analysis focuses on organizations still in their formative stages, many of which have yet to reach operational maturity or complete their initial government support cycles. Traditional corporate financial metrics may not capture the full value these organizations create, yet they remain essential indicators of long-term sustainability.

This chapter presents one of the first comprehensive analyses of FPC financial performance in India, drawing on detailed data from the Ministry of Corporate Affairs, which includes organizations that submitted financial statements between 2019 and 2024. Our analysis addresses three critical questions: How well are FPCs mobilizing and deploying financial resources? What patterns of financial performance emerge across different organizational characteristics? And critically, how do women-led FPCs compare financially to their men-led and mixed-gender counterparts?

We approach these questions through a systematic examination of financial fundamentals. We begin with the financial foundations of FPCs—authorized and paid-up capital—and their success in mobilizing resources from members and external sources. We then examine capital utilization ratios to understand how effectively these organizations deploy their financial resources across different sizes and maturity stages. The core of our analysis focuses on four dimensions of financial health that determine long-term sustainability: profitability (can FPCs generate sufficient returns?), liquidity (can they meet short-term obligations?), solvency (can they manage long-term debt?), and operational efficiency (how effectively do they convert inputs to outputs?). By disaggregating results across organizational characteristics—particularly, gender composition of leadership—we illuminate patterns that have remained invisible to policymakers and practitioners. Our analysis examines whether women-led FPCs exhibit systematically different financial patterns—in capital mobilization, operational efficiency, or performance outcomes—and what these differences reveal about barriers and opportunities in the aggregation ecosystem.

We employ standard financial ratios to facilitate comparison and interpretation of these metrics within the unique context of FPC objectives and constraints. An FPC that maintains lower profit margins while providing critical services to members may be more successful than one that maximizes short-term returns at the expense of member benefits. Similarly, organizations that invest heavily in member capac-

Photo by Abir Roy Barman/Shutterstock

ity building or market infrastructure may show lower immediate returns but greater long-term sustainability. This analysis, therefore, seeks to understand not only whether FPCs are financially viable but also what financial patterns indicate about their effectiveness in serving farmer members and their potential for sustained impact.

The capital foundation

Understanding an FPC's financial performance begins with an examination of the capital structure upon which the organization builds its operations. This foundation has two key components: authorized capital (the maximum amount an FPC is legally permitted to raise) and paid-up capital (the actual money members have contributed). The relationship between these figures reveals both the ambitions and realities of collective farming in India.

Most FPCs demonstrate considerable ambition in their authorized capital structures. Our analysis of 11,423 FPCs reveals that over 81 percent have authorized capital above ₹7 lakh, with 43 percent falling in the ₹7–10 lakh range and 38 percent exceeding ₹10 lakh (Table 1). This suggests that most FPCs structure themselves to accommodate future growth through equity funding. Women-led FPCs show the highest proportion (46 percent) with authorized capital above ₹10 lakh, compared to 34 percent for male-led and 38 percent for mixed-led organizations. This pattern suggests that women-led FPCs envision more ambitious scaling.

Paid-up capital—the actual money raised from members—helps examine the gap between reality and ambition. Here, the picture is more sobering. Nearly 40 percent of FPCs operate with less than ₹3 lakh in paid-up capital, highlighting the minimal financial resources available to nearly half of these organizations (Table 2). This creates immediate challenges in scaling operations, accessing credit, and investing in critical infrastructure. However, the distribution reveals essential variations. At the upper end, 21 percent of FPCs have raised more than ₹10 lakh, positioning

Table 1 - Number of farmer producer companies grouped by authorized capital and board gender composition in real terms and percentages (n=11,423)

Authorized capital	Men-led FPCs	Mixed FPCs	Women-led FPCs	All FPCs
Less than ₹3 lakh	179 (4%)	139 (3%)	49 (3%)	367 (3%)
₹3 to 7 lakh	687 (16%)	965 (18%)	187 (11%)	1,839 (16%)
₹7 to 10 lakh	1,944 (46%)	2,289 (42%)	667 (40%)	4,900 (43%)
More than ₹10 lakh	1,447 (34%)	2,104 (38%)	766 (46%)	4,317 (38%)
Total	4,257	5,497	1,669	11,423

Table 2 - Distribution of paid-up capital by board gender composition in real numbers and percentage (n=11,423)

Paid-up capital	Men-led FPC	Mixed FPC	Women-led FPC	Total
Less than ₹1 lakh	1,238 (29%)	1,371 (25%)	326 (20%)	2,935 (26%)
₹1–3 lakh	607 (14%)	724 (13%)	208 (12%)	1,539 (13%)
₹3–7 lakh	1,190 (28%)	1,600 (29%)	485 (29%)	3,275 (29%)
₹7–10 lakh	473 (11%)	619 (11%)	204 (12%)	1,296 (11%)
More than ₹10 lakh	749 (18%)	1,183 (22%)	446 (27%)	2,378 (21%)
Total	4,257	5,497	1,669	11,423

them for competitive market participation. Between these extremes, roughly 29 percent occupy intermediate categories (₹3–10 lakh), representing organizations with moderate financial capacity and growth potential. Women-led FPCs show the strongest performance in the highest paid-up capital category, with 27 percent having raised more than ₹10 lakh, compared to 18 percent of male-led and 22 percent of mixed-led organizations. This suggests that when women-led FPCs can raise capital, they often do so more effectively than their counterparts.

Size matters: The membership effect on paid-up capital

Analyzing paid-up capital by organizational size (measured by member count) reveals stark disparities. We omitted two FPCs with over ₹1 crore paid-up capital—almost 90 percent larger than the next FPC. Large FPCs average ₹23.1 lakh in paid-up

Table 3 - Summary statistics of paid-up capital (lakhs) by farmer producer company size (based on membership) (n=11,423)

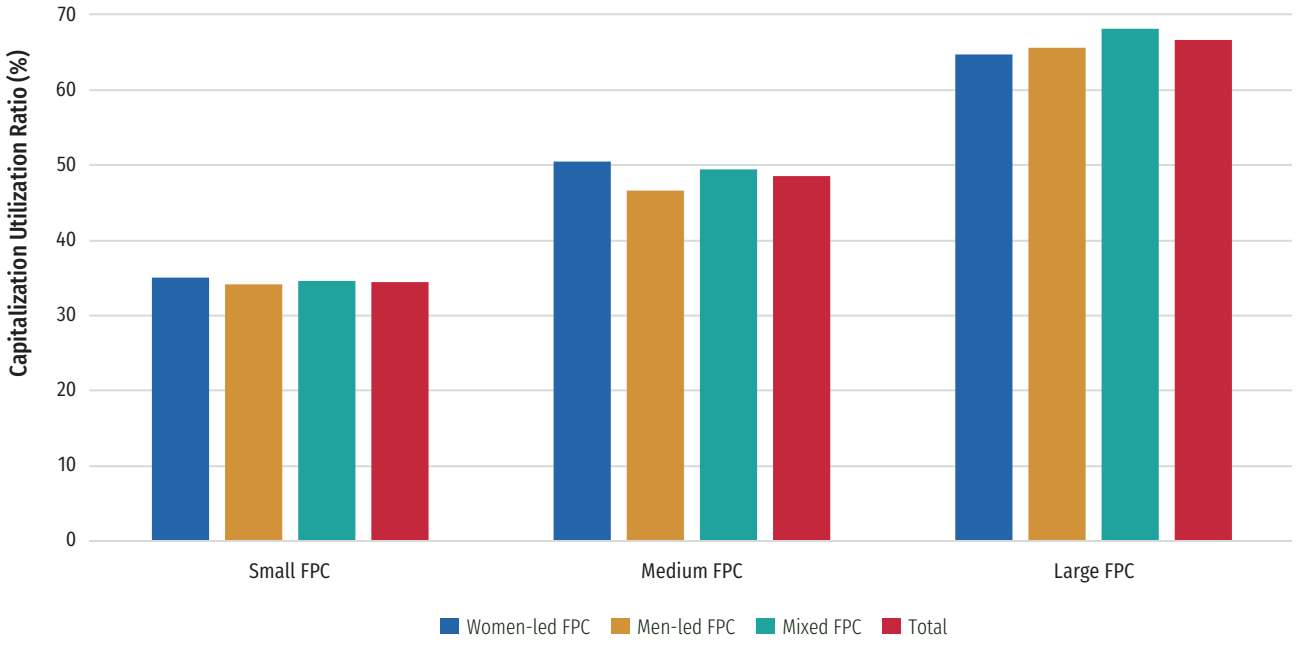
Size of FPC	Mean	Median	Min	Max	Std. dev.
Large FPC	₹23.142	₹8.889	₹0.001	₹5,721.680	₹176.579
Medium FPC	₹11.380	₹4.800	₹0.012	₹694.520	₹35.220
Small FPC	₹3.671	₹1.000	₹0.001	₹335.000	₹10.270
Total	₹15.468	₹5.000	₹0.001	₹23,554.760	₹265.849

capital, while small FPCs average only ₹3.7 lakh. However, the median values tell a different story. Large FPCs had a median of ₹8.9 lakh and small ones had ₹1.0 lakh, indicating highly skewed distributions where a few well-capitalized organizations inflate the averages. This disparity has important implications. Large FPCs have financial resources to invest in value addition, market infrastructure, and professional management. Small FPCs struggle with basic operational expenses and remain vulnerable to market shocks. For this analysis, we did not see a difference in distribution across gender leadership categories.

Capital efficiency: How farmer producer companies leverage and utilize financial resources

The capital utilization ratio—the percentage of authorized capital actually raised as paid-up capital—provides crucial insights into the effectiveness of FPCs. This metric reveals both organizational capacity and market realities. Large FPCs demonstrate the highest capital utilization at 67 percent, compared to 49 percent for medium and 34 percent for small FPCs. This pattern holds consistently across all gender compositions, suggesting that regardless of leadership structure, larger FPCs are better

Figure 1 - Capital utilization ratio, in percentage, by farmer producer company size and board gender composition



Note: FPC size is measured in terms of the number of members. The lowest tercile of shareholders are categorized as small FPCs, the middle tercile as medium-sized FPCs, and the highest tercile as large FPCs.

positioned to convert authorization into actual capital (Figure 1). The explanation lies in multiple factors. Large FPCs often have more members to contribute capital, greater credibility with external investors, and more sophisticated fundraising capabilities. Small FPCs face higher barriers to external financing, as banks and investors perceive them as higher-risk ventures with limited collateral and uncertain business models.

Time brings some improvement in capital utilization, albeit not in a linear manner. FPCs operating for 6–10 years exhibit the highest utilization rates, while both newer (under 3 years) and older (over 10 years) organizations display lower rates. This suggests an optimal period where FPCs have gained operational experience but have not yet faced the challenges that older organizations encounter as markets and conditions change.

Financial performance: The core question of viability

Moving beyond capital structure, we examine whether FPCs generate the financial performance necessary for long-term sustainability. Using six years of data (2019–2024) to smooth volatility, our analysis covers profitability, liquidity, solvency, and operational efficiency.

Profitability: A mixed picture with clear patterns

An analysis of profitability reveals both encouraging signs and significant challenges. On the positive side, 64 percent of FPCs (7,333 companies) either break even or generate profits. However, the 36 percent that operate at a loss experience severe enough difficulties to drive the overall average profitability underwater across all categories. Return on Assets (ROA) measures how efficiently an FPC utilizes its assets to generate profits. A positive ROA indicates that the FPC is earning a return on its assets, while a negative ROA suggests either inefficiency in using its assets or that the FPC is facing financial distress. The median ROA of all FPCs is –0.8, and nearly half of all FPCs struggle to generate positive returns from their assets. Return on equity (ROE) measures how effectively a company uses its shareholders' investments to generate profits. A higher ROE indicates better returns for shareholders, while a negative ROE suggests financial distress. The overall median ROE for FPCs

Table 4 - Profitability ratios of farmer producer companies (n=11,423)

	Median	Mean	SD	Profitable FPCs
Net profit margin	0.27	–1,941.94	158,430.3	7,333
Return on assets (ROA)	–0.80	–24.69	653.5	5,079
Return on equity (ROE)	–0.22	–47.17	4,407.3	5,919

Table 5 - Profitability indicators by size of farmer producer companies (n=11,423)

Large FPCs	Median	Mean	SD	Profitable FPCs
Net profit margin	0.50	−62.35	1,316.2	2,398
Return on assets (ROA)	0.41	−27.67	1,060.9	2,131
Return on equity (ROE)	1.09	−49.97	1,074.3	2,231
Medium FPCs				
Net profit margin	0.16	−6,242.99	291,084.3	1,923
Return on assets (ROA)	−1.22	−16.43	233.4	1,318
Return on equity (ROE)	−1.06	79.14	6,441.0	1,564
Small FPCs				
Net profit margin	0.15	−221.50	6,830.2	2,820
Return on assets (ROA)	−3.11	−29.56	330.0	1,488
Return on equity (ROE)	−2.36	−150.90	4,500.7	1,957

is −0.22, and almost half of all FPCs in India show a negative equity return.

Large farmer producer companies outperform smaller counterparts

Large FPCs show the highest median net profit margin (0.50 percent) and positive median returns on both assets (0.41 percent) and equity (1.09 percent). In contrast, small FPCs experience negative median returns on assets (−3.11 percent) and equity (−2.36 percent), although they maintain a slight positive median net profit margin (0.15 percent). Medium FPCs occupy an intermediate position. Their median figures indicate positive net profit margins but negative returns on assets and equity, like small FPCs. However, their ROA and ROE scores are not as strongly negative. This suggests they generate operating profits but struggle with asset efficiency and shareholder returns.

Women-led farmer producer companies demonstrate consistently superior financial performance

Women-led FPCs maintain higher median net profit margins (0.35 percent versus 0.25 percent for other FPCs), better asset utilization (median ROA of −0.26 percent versus −1.7% for male-led FPCs), and positive equity returns (0.36 percent versus −0.32 percent for other FPCs). Perhaps, more importantly, women-led FPCs exhibit significantly lower variability in performance, indicating more consistent and predictable operations. Although 61 per-

Table 6 - Profitability ratio by leadership gender (n=11,423)

Mixed FPCs	Median	Mean	SD	Profitable FPCs
Net profit margin	0.35	−140.94	5,386.6	3,679
Return on assets (ROA)	−0.37	−12.83	252.0	2,620
Return on equity (ROE)	0.29	10.38	5,196.2	3,002
Men-led FPCs				
Net profit margin	0.12	−5,154.71	263,147.5	2,625
Return on assets (ROA)	−1.74	−44.16	1,028.7	1,641
Return on equity (ROE)	−1.48	−125.99	4,138.9	2,003
Women-led FPCs				
Net profit margin	0.35	−42.23	602.7	1,029
Return on assets (ROA)	−0.26	−14.03	101.0	818
Return on equity (ROE)	0.36	−37.89	441.3	914

cent of women-led FPCs achieve break-even or profitability, they do not show the extreme losses that plague some male-led and mixed-led companies.

Profitability shows strong geographic clustering

States like Maharashtra, Uttar Pradesh, Madhya Pradesh, West Bengal, Tamil Nadu, and Haryana have higher concentrations of profitable FPCs (Figure 2). In contrast, northeastern states exhibit lower success rates, likely due to limited market access, smaller operational scales, and infrastructure challenges.

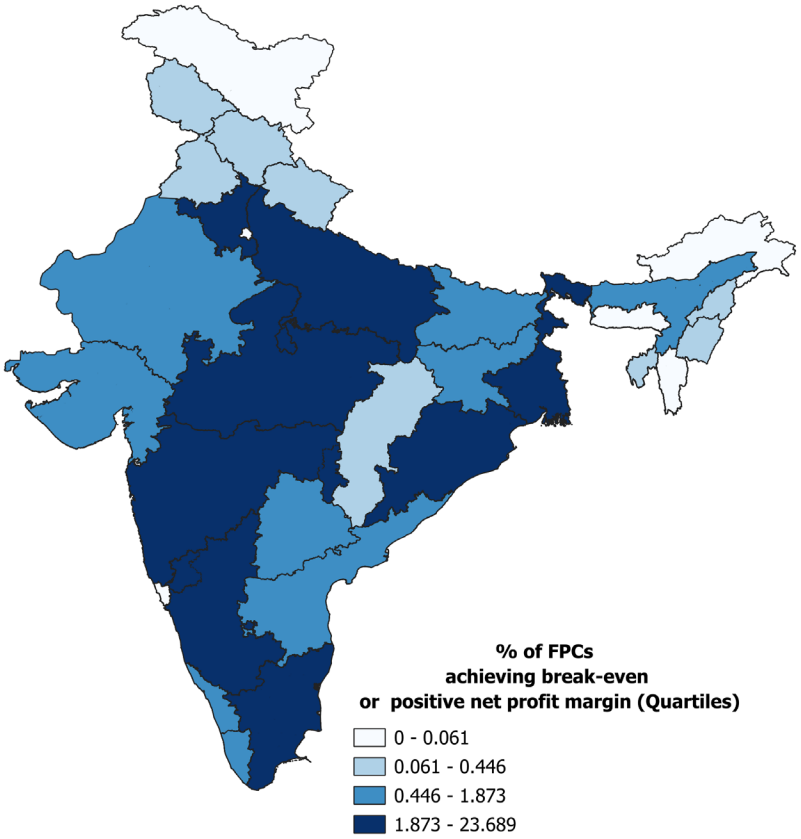
Liquidity: Short-term financial health

The current ratio and quick ratio assess a company's ability to meet its short-term obligations using current assets. The current ratio measures an organization's ability to meet its short-term obligations using its short-term assets. The quick ratio, also known as the acid-test ratio, measures an organization's ability to meet its immediate short-term liquidity needs. It evaluates the ability to pay current liabilities using the most liquid assets—those that can be quickly converted into cash. Since inventory may not be easily liquidated, the quick ratio gives a more conservative view of liquidity than the current ratio. A quick ratio greater than 1 means the FPC can meet its short-term obligations using cash, receivables, and other liquid assets.

Most farmer producer companies maintain strong short-term financial health

The median current and quick ratios range from 4 to 6 across all categories, indicating that most companies maintain more than adequate short-term assets to cover their immediate liabilities. However, the high mean values (significantly above medians) suggest that some FPCs maintain excessive liquidity, potentially indicating either conservative financial management or an inability to identify productive investment opportunities. Women-led FPCs show slightly better liquidity metrics with lower variability, suggesting more consistent cash management.

Figure 2 - State-level distribution of farmer producer companies achieving break-even or positive net profit margin (Quartiles)



Solvency: Conservative but constrained

Solvency analysis assesses a firm's ability to fulfill its long-term financial obligations and maintain operations over time. Solvency supports firm growth and resilience, characterized by three key financial indicators: the debt ratio, the debt-to-equity ratio, and the interest coverage ratio.

Median short- and long-term borrowing between 6–12 lakhs

Only 2,596 of 11,424 FPCs (23 percent) accessed any loans during the study period (Table 8). About half of the availed loans were short-term loans. From the MCA data, we were able to identify 79 financial institutions that provided loans to 1,523 FPCs (58 percent).

Table 7 - Liquidity and short-term financial health of farmer producer companies

	Median	Mean	SD
All FPCs			
Current ratio	4.61	33.22	565.60
Quick ratio	3.88	30.60	561.20
Disaggregated by FPC size			
Large FPCs			
Current ratio	5.99	41.79	674.32
Quick ratio	4.66	37.88	667.28
Medium FPCs			
Current ratio	4.16	40.95	716.91
Quick ratio	3.55	38.04	714.34
Small FPCs			
Current ratio	4.24	20.33	244.04
Quick ratio	3.70	19.04	239.71
Disaggregated by board gender composition			
Mixed FPCs			
Current ratio	4.73	38.78	723.23
Quick ratio	3.92	35.61	717.27
Men-led FPCs			
Current ratio	4.46	31.78	428.74
Quick ratio	3.75	29.80	426.27
Women-led FPCs			
Current ratio	4.70	18.80	45.33
Quick ratio	4.02	16.37	41.14

Milk food producer companies are the top borrowers

Eight FPCs are noteworthy for a level of short-term borrowing that far surpasses all other FPCs (Table 9). All are milk producer companies. Each has borrowed between 12–101 crores and turned an average operating profit of 2–30 crores. Their 2024 revenues were between Rs. 2–19 billion. Located in Rajasthan, Uttar Pradesh, Gujarat, and Andhra Pradesh, they evenly span all three gender leadership categories.

Non-banking finance companies are top farmer production company lenders

Table 8 - Summary statistics of loans accessed by farmer producer companies

Short-term loans	Median	Mean	Min	Max	Total	N
Women-led FPCs	1,000,000	7,675,359	4,000	443,000,000	1,340,000,000	174
Men-led FPCs	609,128	4,402,675	1,000	835,000,000	1,890,000,000	429
Mixed FPCs	850,000	6,385,014	54	1,010,000,000	3,980,000,000	623
All FPCs	770,246	5,874,489	54	1,010,000,000	7,200,000,000	1,226
Long-term loans						
Women-led FPCs	5,180,573	1,203,220	206	195,000,000	948,000,000	183
Men-led FPCs	819,189	3,875,394	71	261,000,000	1,930,000,000	498
Mixed FPCs	1,000,000	3,375,228	1	104,000,000	2,320,000,000	686
All FPCs	998,622	3,799,120	1	261,000,000	5,190,000,000	1,370

Note: Loan amounts are in rupees. N is the number of FPCs.

Ten financial institutions provided 78 percent of the loans and 20 financial institutions provided 19.3 percent of the loans (Table 10). The top three lenders to FPCs are non-banking finance companies (NBFCs). Seven out of the top 20 lend-

Table 9 - Short-term borrowing (rupees) of large milk food producer companies

Company	Short-term Borrowing	Operating Profits (Avg)	Leadership
Harit Pradesh Milk Producer Company Ltd	121,000,000	78,400,000	Male-led
Shreeja Mahila Milk Producer Company Ltd	123,000,000	133,000,000	Female-led
Asha Mahila Milk Producer Company Ltd	276,000,000	29,300,000	Female-led
Sakhi Mahila Milk Producer Company Ltd	443,000,000	50,100,000	Female-led
Paayas Milk Producer Company Ltd	698,000,000	71,800,000	Mixed
Maahi Milk Producer Company Ltd	715,000,000	139,000,000	Mixed
Sangam Milk Producer Company Ltd	835,000,000	301,000,000	Male-led
Saahaj Milk Producer Company Ltd	1,010,000,000	152,000,000	Mixed

Table 10 - Financial Institutions lending to farmer producer companies

Financial institution	Number of FPCs	Percentage
NABKISAN Finance Limited	466	30.6
Samunnati Financial Intermediation and Services Private Ltd	208	13.7
AU Small Finance Bank Limited	121	7.9
State Bank of India	85	5.6
Bank of Maharashtra	68	4.5
HDFC Bank Limited	65	4.3
Samunnati Finance Private Limited	56	3.7
Aryadhan Financial Solutions Private Limited	46	3.0
Bank of Baroda	39	2.6
Canara Bank	33	2.2
Bank of India	28	1.8
IDFC First Bank Limited	28	1.8
Punjab National Bank	26	1.7
Axis Bank Limited	22	1.4
Cholamandalam Investment and Finance Company Limited	21	1.4
Indian Overseas Bank	17	1.1
Kissandhan Agri Financial Services Private Limited	14	0.9
Central Bank of India	13	0.9
Union Bank of India	13	0.9
Indian Bank	11	0.7

ers are NBFCs. NABKISAN, a subsidiary of NABARD, is the largest lender, followed by Samunnati Financial Intermediation and Services Private Limited and AU Small Finance Bank Limited. Among banks, the State Bank of India supports the most significant number of FPCs in the data.

Most farmer producer companies operate with conservative capital structures

Median debt ratios—the proportion of FPC assets financed through debt—remain low (0–9 percent), indicating minimal reliance

Table 11 - Solvency ratio by FPC size and FPC type

	Median	Mean	SD
All FPCs			
Debt ratio	0.05	0.27	2.10
Debt to equity ratio	0.79	8.37	122.99
Interest coverage ratio	1.56	−24.2	1,401.11
Disaggregated by FPC size			
Large FPCs			
Debt ratio	0.09	0.20	0.78
Debt to equity ratio	0.60	6.67	155.21
Interest coverage ratio	2.64	−18.08	1,618.29
Medium FPCs			
Debt ratio	0.06	0.27	2.03
Debt to equity ratio	0.83	7.49	74.56
Interest coverage ratio	1.22	−45.49	1,057.51
Small FPCs			
Debt ratio	0.00	0.32	2.92
Debt to equity ratio	1.17	11.68	116.88
Interest coverage ratio	−0.13	−15.56	1,417.11
Disaggregated by FPC type			
Mixed FPCs			
Debt ratio	0.07	0.27	2.30
Debt to equity ratio	0.83	5.92	53.14
Interest coverage ratio	1.82	−24.13	1,469.58
Men-led FPCs			
Debt ratio	0.05	0.27	2.04
Debt to equity ratio	0.75	8.77	105.80
Interest coverage ratio	1.10	−14.41	1,363.09
Women-led FPCs			
Debt ratio	0.03	0.24	1.73
Debt to equity ratio	0.70	15.73	259.48
Interest coverage ratio	1.98	−49.68	1,255.89

on external borrowing (Table 11). This conservative approach reduces financial risk but may also reflect limited access to formal credit markets. Small FPCs have a zero percent debt ratio, implying that they operate entirely without debt financing. Additionally, women-led FPCs exhibit lower median debt ratios than their mixed or male-led counterparts, potentially due to limited access to formal credit or a deliberate strategy to avoid financial exposure.

The debt-to-equity ratio compares total liabilities to shareholders' equity. A lower ratio suggests a stronger equity base, reducing dependence on external borrowing. The median debt-to-equity ratio across FPC sizes and types ranges from 0.6 to 1.2, reflecting a generally balanced and moderate reliance on debt. The ratio is highest for small FPCs (1.2), indicating greater dependence on debt relative to equity, and lowest for large FPCs (0.6), suggesting a more conservative financial structure.

The interest coverage ratio measures a firm's ability to meet its interest obligations using its earnings before interest and taxes (EBIT). A higher ratio indicates a strong capacity to service debt, enhancing financial stability. The median interest coverage ratio is favorable for large and medium-sized FPCs, indicating that they can cover interest payments from their earnings. In contrast, small FPCs have a negative median interest coverage ratio, indicating that they struggle to meet their debt obligations, which suggests weaker financial health and a need for targeted support to improve their viability. Moreover, the median interest coverage ratio is higher for women-led FPCs (1.98), compared to other FPCs, reflecting stronger financial health.

Operational efficiency: Using assets effectively

We determine the operational efficiency of an FPC by examining the asset turnover ratio and inventory turnover ratios. The asset turnover ratio is a financial metric that measures a company's efficiency in utilizing its assets to generate revenue. Small FPCs achieve the highest median asset turnover ratio (1.72), generating more revenue relative to their asset base. This likely reflects their leaner operations with fewer assets and a focus on basic aggregation activities, rather than asset-intensive value addition. Medium-sized FPCs have more underutilized assets or are in a growth phase characterized by higher asset accumulation but lower revenue generation. Disaggregating the data by FPC type, we find that women-led FPCs (1.42) outperform mixed FPCs (1.37). This may be because women-led FPCs may have more focused business models and better asset utilization compared to mixed FPCs.

The inventory turnover ratio measures a company's efficiency in managing its inventory by indicating the frequency with which inventory is sold and replaced within a specified period. A higher inventory turnover ratio indicates that an FPC is selling its inventory quickly, which is generally a sign of efficiency. Large FPCs show the highest inventory turnover (10.4 median), suggesting more sophisticated supply chain management and stronger

Table 12 - Efficiency and operational performance of farmer producer companies

	Median	Mean	SD
All FPCs			
Asset turnover ratio	1.38	3.37	21.71
Inventory turnover ratio	9.84	101.04	1,278.76
Disaggregated by FPC size			
Large FPCs			
Asset turnover ratio	1.38	2.66	16.43
Inventory turnover ratio	10.4	68.08	718.27
Medium FPCs			
Asset turnover ratio	1.13	2.95	23.39
Inventory turnover ratio	9.31	137.81	1,710.27
Small FPCs			
Asset turnover ratio	1.72	4.62	25.68
Inventory turnover ratio	9.35	121.85	1,516.93
Disaggregated by FPC type			
Mixed FPCs			
Asset turnover ratio	1.43	3.42	24.96
Inventory turnover ratio	9.46	65.86	909.80
Men-led FPCs			
Asset turnover ratio	1.27	3.53	21.20
Inventory turnover ratio	9.65	138.86	1,686.74
Women-led FPCs			
Asset turnover ratio	1.42	2.8	6.9
Inventory turnover ratio	11.93	124.16	1,191.29
All FPCs			
Asset turnover ratio	1.38	3.37	21.71
Inventory turnover ratio	9.84	101.04	1,278.76

market demand for their products. Women-led FPCs demonstrate competitive inventory management (11.93), indicating efficient operational practices.

The emerging financial picture and implications

Several clear patterns emerge from this financial assessment based on size advantages, the gender of leadership, geography, and constraints. What we find is that large, women-led FPCs, and FPCs from certain states have higher financial performance overall.

Large FPCs consistently outperform smaller organizations across most financial metrics. They demonstrate better capital utilization, stronger profitability, more effective debt management, and superior operational efficiency. The performance advantages of larger FPCs suggest that policies encouraging growth, consolidation, or federation of smaller companies could improve overall sector effectiveness.

Across virtually every financial metric, women-led FPCs outperform their male-led and mixed-led counterparts. They show higher profitability, better liquidity management, more conservative but effective debt utilization, and efficient operations. The performance of women-led FPCs suggests that targeted support for women's leadership development and the formation of women-led organizations could yield disproportionate benefits.

Financial performance exhibits strong regional clustering, with certain states consistently producing better results. It might suggest that local market conditions, infrastructure, policy support, and institutional ecosystems may significantly influence FPC success. The geographic clustering of successful FPCs indicates that region-specific strategies addressing local market conditions, infrastructure, and institutional support could improve outcomes in underperforming areas.

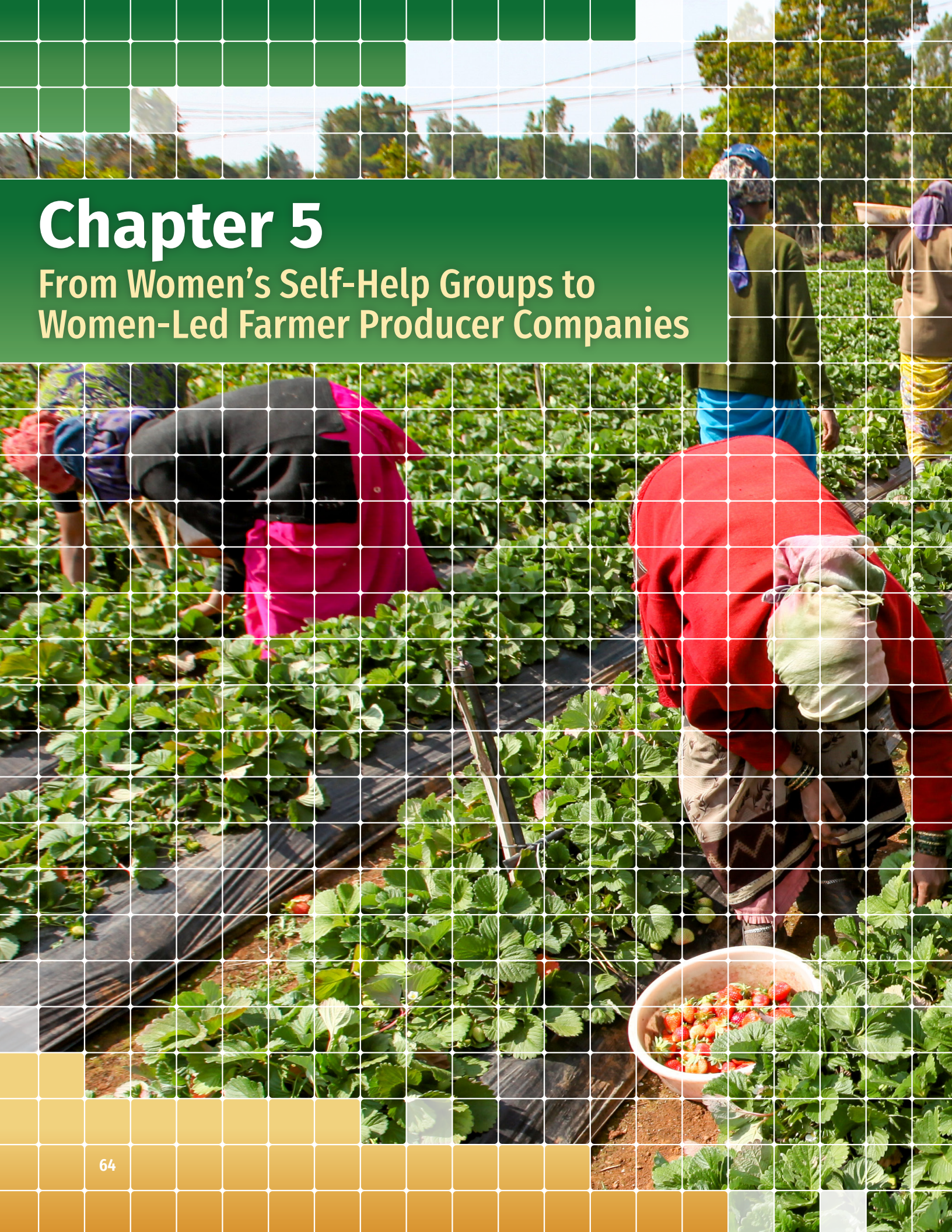
Low debt utilization across FPCs likely reflects limited access to formal credit rather than purely conservative financial management. This constrained access may limit growth potential and operational flexibility.

While median performance metrics often appear reasonable, high standard deviations across most measures indicate significant variability in performance within each category, suggesting that although some FPCs achieve strong results, others face significant difficulties, resulting in a bimodal distribution of outcomes. The high variability in outcomes also suggests that systematic performance monitoring and targeted interventions for struggling FPCs could prevent failures and improve overall sector health.

The financial reality of India's FPC experiment is complex and characterized by significant successes alongside substantial challenges. While some organizations achieve financial viability and serve their members, others struggle with fundamental operational sustainability. Understanding these patterns provides the foundation for designing more effective support systems and scaling successful models across India's diverse agricultural landscape.

Chapter 5

From Women's Self-Help Groups to Women-Led Farmer Producer Companies



In rural India, where 76 percent of working women depend on agriculture for their livelihood, systemic barriers, like limited land ownership, restricted credit access, and market exclusion, constrain the productivity and livelihoods of women farmers. The average operational landholding of just 1.08 hectares for all farmers compounds these challenges, creating an acute need for aggregation models that can achieve economies of scale while overcoming the social disadvantages faced by smallholders. Farmer producer organizations (FPOs), in principle, offer a solution by enabling producers to jointly manage resources, access credit and inputs, and reach markets while achieving economies of scale, which can help overcome the smallholders' social disadvantages.

India's experience with self-help groups and its limits

The collective action of rural women through self-help groups (SHGs) has been a longstanding phenomenon in India dating back to the 1990s, and has helped increase livelihood opportunities across the country.

Under the Deendayal Antyodaya Yojana-National Rural Livelihoods Mission, 8.1 million SHGs have successfully helped women, primarily through microfinance lending and creating economic opportunities. As of February 2024, it had disbursed loans amounting to ₹1.7 trillion, making it the world's largest microfinance project. However, the benefits offered by SHGs have not consistently aligned with the economic needs of rural female farmers.

SHGs have consistently demonstrated effectiveness in building trust, fostering reciprocity, and establishing network links among members through regular meetings, financial transactions, and mutual support mechanisms. The evidence regarding the impact of SHGs on agricultural livelihoods remains mixed, however, with studies finding negligible to modest effects on entrepreneurial activity and household income. The limited agricultural impact stems from the SHGs' inability to address the fundamental constraints that rural female farmers face—including poor access to formal markets, productive resources, land, and financial resources adequate for agricultural investment.

Farmer producer companies as a new aggregation model

As legal entities, FPCs are different from SHGs, in that their specific purpose is to enable the agricultural development of smallholders through enhanced economies of scale, improved bargaining power, and commercialization. They are similar to SHGs, in that they operate on the principles of collective action. Their effectiveness hinges on their ability to generate and maintain social capital, which enables social empowerment and, in turn, affects their economic viability. In India's policy of promoting aggregation models under the 10,000 FPO scheme, the organizational guidelines (clause 4.4) emphasize the promotion of women-led FPCs. Currently, the 14 percent of Indian FPCs, which are women-led, show strong viability in view of the service they provide their members and their overall financial performance. If the organizational advantages of SHGs

Photo by Parikh Mahendra N/Shutterstock

can be leveraged to support and promote FPCs, India can build on its ambitious FPO movement, tapping into the world's largest women's SHG movement to promote aggregation models that improve the livelihoods of women in agriculture.

In this chapter, we specifically assess how women's SHGs evolve into FPCs and the main factors that facilitate and sustain this transformation, using six purposively selected case studies from Uttarakhand, Maharashtra, Chhattisgarh, Bihar, Assam, and Tamil Nadu. All selected FPCs shared similar characteristics—women-led or women-dominated organizations emerging from established SHGs, with over a decade of operational experience—while representing diverse agroclimatic, institutional, political, social, and economic contexts.

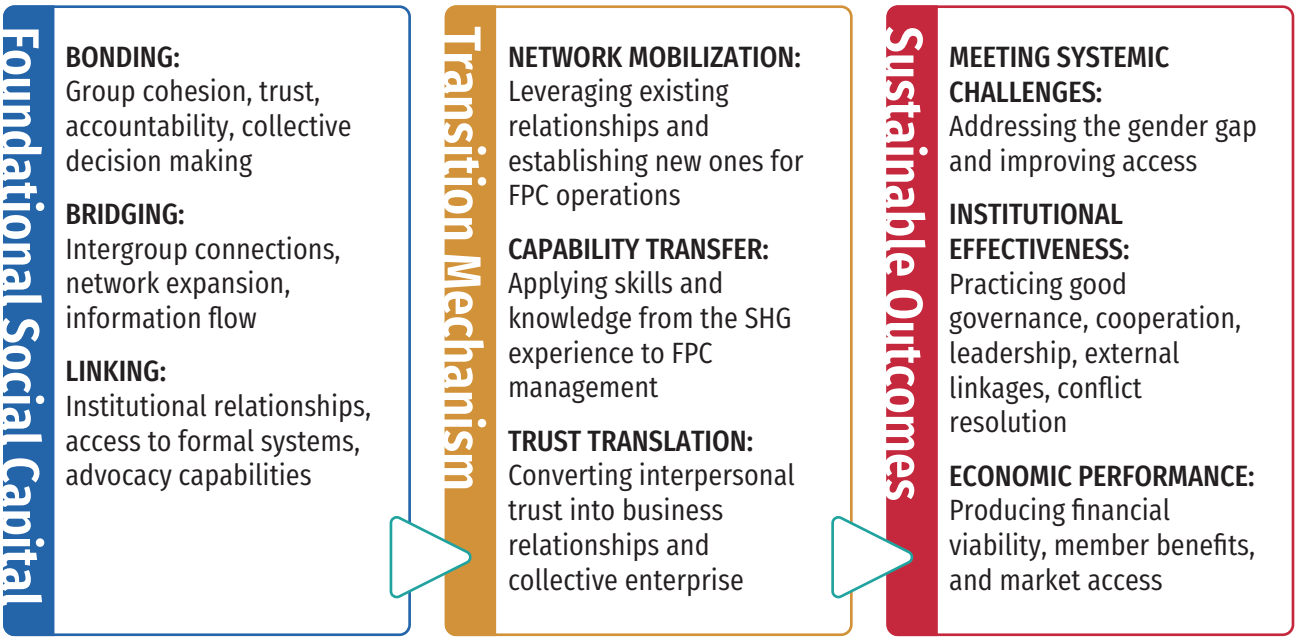
The analysis reveals that successful women-led FPCs emerge from SHGs through the strategic conversion of three forms of social capital: bonding capital from SHG cohesion, bridging capital from intergroup networks, and linking capital from institutional connections. This transformation involves network mobilization by civil society organizations (CSOs), capability transfer from SHG experience, and trust translation that enables expanded agricultural engagement. This chapter examines the mechanisms that enable this transition, evaluates performance outcomes, and assesses the model's potential for scaling up women's agricultural development.

Social capital and institutional learning in self-help groups

Agricultural aggregation models, like other forms of collective action, face inherent tensions between member participation and operational efficiency. The role of social capital in collective action, particularly, in common-pool resource management, has been extensively studied, and emphasizes that successful collective action relies not only on economic incentives but also on the presence of social capital and trust among members. Social capital includes trust, reciprocity norms, and networks that result from social interactions and support collective action. The literature strongly suggests that SHGs build social capital as participation increases, leading to greater trust, reciprocity, and network links among members. The consistent meeting schedule, financial dealings, and mutual support within SHGs create repeated interactions that, according to social capital theory, strengthen trust and cooperation.

Social capital is categorized as bonding, bridging, and linking social capital. Bonding social capital refers to relationships and ties among individuals within groups based on shared demographic characteristics, socioeconomic status, goals, or life experiences. In SHGs, bonds are formed through preexisting relationships, regular meetings, shared financial practices, and mutual support systems within groups, and thereby fostering solidarity and enabling resource pooling, risk sharing, and mutual accountability. However, there is also evidence that bonding social capital can create insularity and exclusion based on caste and class. While it is vital for group cohesion, it might be insufficient for economic progress without additional

Figure 1 - Analytical framework



forms of bridging and linking of social capital.

Bridging social capital encompasses horizontal ties and connections, which span social groups and link individuals across communities, sectors, socioeconomic statuses, and geographies. Linking social capital refers to vertical connections between communities and formal institutions, such as government agencies, banks, funding organizations, and policymaking bodies. For SHGs, bridging social capital involves connections with other SHGs, NGOs, and community organizations, while linking social capital connects them with government bodies, banks, and donor organizations. These types of social capital are crucial for accessing information, resources, and opportunities that extend beyond the immediate community.

The translation of social capital from SHGs to the formation of FPCs specializing in agricultural production remains unclear. Although studies consistently show that SHGs generate social capital for financial and social activities, how they leverage it for FPC formation remains unclear. This chapter focuses on how SHGs deploy social capital to form FPCs. Drawing from the social capital literature, we propose a qualitative analytical framework that examines how different forms of social capital, accumulated through SHG participation, facilitate the transition to and sustainability of FPCs.

The three-part analytical framework examines the transition from SHGs to FPCs through the lens of social capital. The framework begins with foundational social capital, which conceptualizes the

SHG phase as building three distinct forms of capital: bonding capital through group cohesion and trust-building activities, bridging capital via intergroup connections and network expansion, and linking capital through relationships with formal institutions and advocacy development. The second component, transition mechanisms, captures the process by which SHG-accumulated assets are converted into FPC capabilities through capability transfer (the application of SHG skills to FPC management), network mobilization (leveraging existing relationships for FPC establishment), and trust forging (converting interpersonal bonds into business relationships). Finally, FPC sustainability outcomes evaluate long-term viability across three dimensions: economic performance (financial viability and market access), social cohesion (continued cooperation and leadership development), and institutional effectiveness (governance quality and adaptive capacity). This framework provides a comprehensive lens for understanding how initial social capital investments in SHGs influence the eventual sustainability and effectiveness of FPC operations.

Case study design: Methods and site selection

Six FPCs were purposively selected to represent the diverse regions across India—one state each from the south (Tamil Nadu), north (Uttarakhand), East (Bihar), northeast (Assam), west (Maharashtra), and central (Chhattisgarh) regions. The primary selection criteria required FPCs to be either women-led (all board members are female) or women-dominated (a majority are female), to have demonstrably emerged from preexisting SHGs, and to have originated from SHGs that have been functioning for over a decade. The temporal variation in FPC formation, from 2009 to 2022, provided analytical leverage for observing transformation processes and sustainability factors across different policy environments.

The study employed a most similar cases design (MSSD), following Mill's Method of Difference, to enhance analytical rigor. The MSSD approach enabled the isolation of specific factors driving successful SHG-to-FPC transitions, while holding constant the foundational social capital and organizational experience accumulated through long-term SHG operations. The method of difference also strengthened inference by creating conditions in which background factors related to women's collective action experience were held relatively constant across cases, allowing for more precise identification of the mechanisms that differentiate successful transformation processes. The MSSD approach also helps determine whether shared characteristics represent necessary conditions for transformation while exploring what additional contextual factors are sufficient for long-term success. The design also enhanced the internal validity of findings by reducing alternative explanations for observed differences in transformation outcomes, and increasing confidence that identified factors genuinely contribute to successful SHG-to-FPC evolution.

Cases were identified through collaboration with the Bankers Institute for Rural Development (BIRD), prominent CSOs

Table 1 - Women-led FPCs selected for the study

FPC Name	Location	Year formed	Share-holders	Paid-up capital	Directors	Women directors	CBBO
Damini Women's Farmer Producer Company Limited	Wardha, Maharashtra	2019	500	500,000	5	4	Bajaj Foundation
Gattasilli Farmer Producer Company Limited	Dhamtari, Chhattisgarh	2021	381	800,000	5	5	Pradan
Mahila Umang Producer Company Limited	Almora, Uttarakhand	2009	130	215,900	7	7	Pan Himalaya Grassroots Development Foundation
Sanghamitra Mahila Producer Company Limited	Chirang, Assam	2020	1,752	358,800	5	5	Seven Sisters Development Assistance (SeSTA)
Sevaiyoor Traditional Crop Producer Company Limited	Sevaiyoor, Tamil Nadu	2015	1,488	2,500,000	5	3	The Covenant Center for Development (CCD)
Banke Bazar Mahila Vikas Producer Company Limited	Banke Bazar, Bihar	2022	1,000	580,000	5	5	Sarva Seva Samity Sanstha (4S)

promoting SHGs and FPCs, and snowball sampling techniques. Four of the chosen FPCs were women-led, while two were women-dominated. Sevaiyoor Traditional Crop Producer Company Limited had the highest paid-up capital and was among the larger FPCs in terms of shareholders. Mahila Uman Producer Company Limited

was the smallest FPC, with the lowest paid-up capital and fewest members.

Data were collected through field visits to various case study locations, including key informant interviews (KIIs) with FPO board members, FPO CEOs, and CSO representatives, as well as focus group discussions with members of SHGs, producer groups (PGs), farmer interest groups (FIGs), and FPOs in various villages. At each FPC, two focus group discussions were organized in different locations with varying participants, with a range of 15 to 25 women per session. These discussions included members and nonmembers of the FPOs to capture diverse perspectives on inclusion, exclusion, and the perceived benefits and limitations of collective membership. A timeline mapping exercise was also carried out with various groups to verify and validate key activity and event milestones in the evolution to FPCs.

The self-help group experience and the building of foundational social capital

SHGs across study regions consistently had groups comprising 10–15 women from similar socioeconomic backgrounds, who contributed monthly savings of ₹10–₹100 for internal lending. Groups met weekly or biweekly as savings groups, but also to discuss government schemes, livelihood strategies, and issues related to lending. This structured meeting pattern fostered intra-group cohesion while developing organizational discipline and accountability mechanisms. The small group size enhanced bonding of social capital through stronger interpersonal relationships and more effective monitoring of member activities and loan repayment. Groups developed enhanced collaborative capabilities and mutual trust:

> "SHGs gave us confidence in working as a group. We knew what to expect and how to interact with members. Working with money also taught us to trust each other—we were strong with money, and that built our trust."
>
> *—Woman member, Damini Women's Farmer Producer Company Limited, Husnapur, Maharashtra*

For most participants, SHG membership represented a transformative social experience, which fundamentally altered traditional mobility restrictions and normative conventions.

> "Before the SHGs, we never left our homes, we never set foot in a bank. The group gave us a new identity, and we are known by our names and not as someone's wife or someone's mother. We became self-sufficient and self-assured."
>
> *—Woman member, Banke Bazar Mahila Vikas Farmer Producer Company, Banke Bazar, Bihara*

The 2011 policy transition from the Swarnajayanti Gram Swarozgar Yojana (SGSY) to the National Rural Livelihoods Mission (later DAY-NRLM) restructured SHG architecture into hierarchical federations, consolidating individual SHGs into village organizations, cluster-level federations, and district-level federations. This

transformation significantly enhanced the bridging of social capital by creating institutional coordination mechanisms and networking opportunities across geographic regions. These federated structures established platforms for collective advocacy, systematic access to government schemes, and increased women's participation in community governance:

> "As we became more confident, members began demanding training and exposure to livelihood-based activities and also became more vocal, participating in political rallies, gram sabhas and village development councils."
>
> —*Woman Member, Sangamitra Mahila Farmer Producer Company, Assam*

As bonding social capital strengthened organizational discipline through mutual trust and rotational leadership structures (for example, president, secretary, bookkeeper), it simultaneously created negative social pressures and a repayment stigma. Groups maintained pride in perfect repayment records, but defaulting members faced adverse social consequences, illustrating the coercive dimension of bonding networks. "We threatened women if they did not pay back," said a woman member in Banke Bazar, Bihar, noting that "it created tensions" in Damini Women's Producer Company Limited.

Over their operational lifespan, SHGs accumulated substantial financial capital, averaging ₹3 lakhs per group, enabling consistent credit provision for microenterprise development, livestock purchases, housing, education, and health care. This affordable credit access reduced dependence on exploitative moneylenders, while women's financial contributions to household activities emerged as a crucial factor in improving their intrahousehold status and decision-making power across all focus group discussions.

Transition mechanisms: From self-help groups to market-oriented collectives

While SHGs demonstrated transformative effects on women's financial inclusion and empowerment, field observations revealed significant constraints in improving agricultural productivity. SHGs lacked resources for larger agricultural investments, technology adoption, and value-added enterprises. Since agricultural production was not their primary focus, critical mechanisms for joint input procurement, collective marketing, and direct buyer engagement were nonexistent. When presented with institutional alternatives specifically designed to enhance agricultural incomes through improved market access—objectives beyond SHGs' capabilities—women members became interested. Government funding enabled CSOs to facilitate FPC formation from existing SHGs, with FPCs complementing rather than replacing SHGs, allowing members to participate in both organizations simultaneously for distinct benefits. These FPCs often formed from a collection of federated SHGs across multiple villages, revealing the impact of bridging capital in FPC formation.

The SHG-to-FPC transition was not organic, but initiated by CSOs with existing relationships with SHG networks. Under the 10,000 FPOs scheme, CSOs received funding and incentives to promote FPCs. They conducted awareness campaigns and tailored interventions based on household socioeconomic profiles. As one CSO explained:

> "We tailored our interventions to the socioeconomic profile of the households. The poorest households were often supported through subsistence-based models aimed at improving food security and basic livelihoods, such as small-scale backyard poultry farming, kitchen gardening, or daily-wage employment opportunities. In contrast, relatively better-off households with greater assets, skills, or risk-taking capacity were more likely to be connected to entrepreneurial opportunities, including market-linked enterprises, value-added activities, or high-value horticulture in FPCs."
>
> *—SeSTA interview, Assam*

Initial hesitation was common due to limited knowledge or financial constraints, requiring targeted strategies like door-to-door mobilization and subsidized share contributions. The transition typically took one to three years for organizational consolidation and capacity building.

Women leaders in FPCs drew extensively on their SHG experience. Capabilities transfer included systematic recordkeeping and financial reporting, developed through decades of savings management; democratic governance mechanisms, including rotational leadership, transparent decision-making, and conflict resolution protocols; peer monitoring and accountability systems that ensure member compliance and reduce moral hazard in business operations; and negotiation skills and institutional confidence developed through interactions with banks, government agencies, and other external organizations.

Respondents mentioned that qualities such as patience, persistence, and courage (lower risk aversion) proved advantageous in managing uncertainty and building trust. When asked about the advantages of the SHG experience, respondents often drew comparisons with men's groups. As one focus group participant noted:

> "[Male-led FPCs] have no foundation. No group experience of savings—no unity—no forum to share. They have assets, but nothing else. There is a piggery FPC nearby, but nothing is happening. We haven't heard anything going on there."
>
> *—Woman member, Sanghamitra Mahila Farmer Producer Company, Assam*

Male-led FPOs often faced internal conflicts, weak cohesion, and a lack of discipline, highlighting the importance of the collective experience and unity that women gained through SHGs. They consistently reported that men's groups lacked the foundational experience and unity necessary for collective success. These

stories find resonance in the previous chapters of this report, which highlight women-led FPCs as more sustainable over time and more prudent in their financial approaches, compared to male-led FPCs (See Chapters 2, 4).

Self-help group experience secured male buy-in for farmer producer company formation

Men, too, recognized the success of women's groups. The SHG experience often changed men's attitudes toward women's groups, which was necessary for FPC formation. Joining an FPC required more active agricultural involvement and household resource engagement, something men traditionally controlled. Seeing tangible benefits from SHGs—such as access to credit, enterprise development, and home improvements—gradually built male confidence in women's capabilities.

Institutional support also played a role. As one male board member observed:

> "There are no provisions for men to get small loans. The bank manager says, 'Isn't it enough that women get the loan from SHGs in the household?' But, we are very comfortable with the wife getting the loan. Majority of the men are like this."
>
> *—Male board member, Sevaiyoor Traditional Crop Producer Company Limited, Tamil NaduCompany, Assam*

Barriers to participation

As male household support smoothed participation, other barriers prevented women's participation in FPCs. Four main factors emerged.

Negative bonding social capital from previous group conflicts prevented some women from joining the group. Additionally, while participants denied caste-based exclusion, dominant castes comprised a substantial portion of FPC members. Land-based eligibility criteria implemented by some FPCs created additional barriers, though these were often later relaxed to improve inclusion. Lastly, some SHG members did not see the benefit of joining an FPC. As one board member explained:

> "Not all SHG members joined the company. Some landless families, some without livestock and basically the very poor. Sometimes well-off families also don't join, because there is no need."
>
> *—Woman participant, Banke Bazar Mahila Vikas Farmer Producer Company, Bihar*

Self-help group lessons and linkages that strengthened women-led farmer producer companies

According to women members from various groups, the key SHG-learned factors that strengthened women-led FPCs were group cohesion, patience, financial discipline, lower risk aversion, greater willingness to accept deferred returns, investment in long-term capacity building, and prioritization of collective benefits over individual gains. According to CSOs, the identity of women as members of the

household and community facilitated an easier transition to FPCs. Resources spent on mobilizing women and raising awareness of the benefits of FPCs were not substantial, because information could be shared through women's groups, which were already aware of the advantages of working together as a group.

Addressing structural constraints and performance outcomes

Women-led FPCs addressed systemic barriers to women's participation in agriculture, particularly, land and market access. Women-led FPCs overcame resource access challenges, sustained cooperative linkages for institutional effectiveness, and achieved economic viability.

Addressing women's land access challenges and expanding opportunities

Since agriculture was the main FPC activity across case studies, land access emerged as the fundamental barrier to FPC participation for many members and prospective members. Women's lack of land ownership and titles severely limited engagement. Initially, Damini Women's Farmer Producer Company Limited required land ownership for membership, prompting collective efforts to secure land rights. For several women, especially board members, the prospect of further livelihood benefits prompted male household members to transfer land into their names to meet this criteria. However, for others, this requirement became a roadblock and prevented their initial participation.

> "It took time to convince the husband. If the land was in the husband's name, it was easier. But if it was in a relative's name, it wasn't easy. There was one woman who couldn't get land and dropped out of becoming a [board member]. She could not join the FPC because of this."
>
> —*Board member, Damini Women's Farmer Producer Company Limited, Husnapur, Maharashtra*

The costs of land title transfer, absent titles, and men's reluctance to transfer land highlighted this approach's limitations. To address this issue, FPCs expanded membership criteria to include women with family or access to leased land.

When land access remained impossible, FPCs created alternative income streams utilizing women's existing skills and local resources. Banke Bazar Mahila Vikas Producer Company Limited promoted mushroom cultivation, among women from scheduled castes and tribes with limited land, through home-based production and collective marketing. Mahila Umang Producer Company Limited organized food processing and nonagricultural activities like tailoring, while Sanghamitra Mahila Producer Company Limited operated as a dairy cooperative, including all women regardless of land ownership. Gattasilli Farmer Producer Company Limited innovatively utilized common forest resources, with SHG networks enabling coordinated gathering and marketing of non-timber forest products to achieve premium prices. These diverse strategies required women FPCs to lean into their traditional

female roles and succeed through complex coordination, transforming individual constraints into collective opportunities.

Enabling market linkages and institutional effectiveness

In addition to addressing production challenges and ordering alternative strategies, women-led FPCs also addressed market failures through coordinated collective action, enabling members to organize complex activities from input procurement to value addition and marketing. These insights both confirm and push back against the results from our limited women-led FPC crop and activities analy-

Table 2 - Crops and farmer producer companies provided input, marketing, and other services organizations

Name of FPC	Crops grown	Input services	Marketing services	Other services
Damini Women's Farmer Producer Company Limited	Turmeric, chickpea, pigeon pea, soybean, wheat	Seeds	Joint marketing for turmeric, soya, pigeon pea, chickpea, wheat	Value-added processing of turmeric; grading and sorting crops; commodity futures for soy
Gattasilli Farmer Producer Company Limited	Non-timber forest products, vegetables, scented rice	Seeds, fertilizers, and pesticides at the village level	Joint marketing	N/A
Mahila Umang Producer Company Limited	Fruits	Saplings	Value-added jams and pickles	Value addition of fruits and vegetables
Sanghamitra Mahila Producer Company Limited	Dairy, turmeric, vegetables	Artificial insemination services	Milk collection; joint selling of vegetables	Selling pasteurized milk locally; bulk milk cooler; shop selling yogurt, paneer and sweets; custom hiring center
Sevaiyoor Traditional Crop Producer Company Limited	Sesame, paddy, groundnut, chilis	Seeds, fertilizers, and pesticides	Joint selling of all crops	Custom hiring center
Banke Bazar Mahila Vikas Producer Company Limited	Green gram, sesame, corn, vegetables, mushrooms	Seeds for lentils, chickpea, wheat, and mushrooms; fertilizers and pesticides	Joint marketing for wheat, green gram, chickpea	Food kit distribution; lemongrass oil making

sis in Chapter 4, which show women-led FPCs as producing value-added crops and engaging in fewer activities. All six FPCs in our case study cultivated diversified crop portfolios, ranging from staples to higher value crops and dairy products (Table 2). With quality inputs, members reported improved yields, higher germination rates, and reduced crop failures. Revenue margins from wholesale-to-retail input sales covered operational costs, creating functioning business models.

Three FPCs successfully implemented value-added processing, which requires high coordination levels—Damini (turmeric powder), Umang (fruit preserves), and Sanghamitra (dairy products). FPCs transformed market engagement by establishing centralized procurement centers with quality-controlled collection points, using objective grading tools, and providing premium prices for superior produce. Five of six FPCs secured institutional credit for procurement financing, eliminating intermediaries and negotiating directly with larger buyers. This institutional effectiveness stemmed from their ability to turn informal trust networks into structured, market-oriented collective action, creating conditions that approached market ideals, with reliable input access, quality-based pricing, and prompt payments.

In discussions with board directors and CSO staff, we found that many of these activities benefited from CSO connections and support. CSOs helped women-led FPCs target value-added crops, procure equipment, and find market connections. CSO support was particularly beneficial for entering spaces and activities typically off-limits to women, such as growing certain crops, investing in value-added assets, and locating buyers. Existing bridging capital to CSOs, further strengthened by governmental FPO financial support, helped women-led FPCs develop additional capabilities and market linkages to further their businesses.

Economic performance and farmer producer company sustainability

Women farmers benefited from improved input access, value-added services, and enhanced price realization, thus incentivizing participation. FPCs generated revenue through service charges, input commissions, and margins from value-added products, with several facilitating access to niche markets for specialized crops. Using Ministry of Corporate Affairs data, financial performance analysis showed share capital ranging from ₹10,000 (Banke Bazar) to ₹15 lakh (Sevaiyoor). There is significant growth in share capital and total equity. Sanghamitra achieved the highest equity compound annual growth rate (CAGR) of 210 percent, followed by Damini (75 percent) and Gattasilli (40 percent), indicating successful membership and capital expansion (Table 3), which is potentially possible only if there are perceived benefits by members.

Financial performance varied significantly across FPCs, compared to sector benchmarks, but was similar to broader trends discussed in Chapter 4 (Table 4). Net profit margins ranged from 0.26 percent (Damini) to 86.71 percent (Sanghamitra), with four of five FPCs exceeding median margins for women-led FPCs. Return on assets (ROA)

Table 3 - Share capital and equity growth of selected farmer produce companies since inception (₹)

Company	Share Capital 2023	Share Capital CAGR	Total Equity 2023	Total Equity CAGR
Sevaiyoor Traditional Crop Producer Company Limited	1,595,000	12%	1,190,881	6%
Gattasilli Farmer Producer Company Limited	615,000	40%	639,155	40%
Mahila Umang Producer Company Limited	215,880	0%	6,768,432	14%
Damini Women's Farmer Producer Company Limited	500,000	71%	546,272	75%
Sanghamitra Mahila Producer Company Limited	358,800	77%	589,269	210%

Note: Banke Bazar Mahila Vikas Producer Company Limited was excluded from this analysis due to limited time series data.

revealed operational efficiency disparities, with Sevaiyoor Traditional Crop Producer Company Limited showing negative ROA (–3.48 percent), indicating value erosion, while others maintained positive ROA above sector averages. Leverage analysis revealed distinct risk profiles: Sevaiyoor operated with high debt and negative interest coverage, indicating financial distress, while Gattasilli and Mahila Umang maintained zero debt. Women-led FPCs generally demonstrated conservative debt management compared to sector averages.

The analysis reveals three distinct FPC profiles: Sevaiyoor faces debt-driven financial distress requiring restructuring; Sanghamitra demonstrates exceptional profitability from niche milk market positioning but low operational efficiency; and Gattasilli, Mahila Umang, and Damini represent typical women-led FPCs with conservative management and moderate growth potential. Overall, women-led FPCs demonstrate conservative financial management and strong liquidity but require enhanced profitability strategies and operational efficiency improvements for long-term sustainability.

Women's collectives as vehicles for agricultural development

This study examined the institutional evolution from SHGs to women-led FPCs across six cases in India, confirming that SHGs can serve as effective incubators for agricultural collectives through accu-

Table 4 - Financial performance indicators

Metric	Sevaiyoor	Gattasilli	Mahila Umang	Damini	Sanghamitra	Women FPCs (median)	All FPCs (median)
Profitability							
Net profit margin (%)	2.15	3.47	-	-	-	0.34	0.27
Return on assets (%)	–3.48	2.38	0.73	0.74	2.99	–0.26	–0.8
Return on equity (%)	–254.08	2.71	1.13	2.45	20.34	0.35	-0.21
Leverage and Solvency							
Debt ratio	0.60	0	0	0.12	0.22	0.032	0.05
Debt-to-equity	7.91	0	0	0.92	1.25	0.70	0.78
Interest coverage	–353.64	0	30.49	4.31	0	1.98	1.55
Efficiency and Liquidity							
Asset turnover	2.57	0.27	1.68	3.24	0.05	1.42	1.38
Current ratio	5.64	8.22	4.11	9.92	2.99	4.7	4.6
Quick ratio	1.2	7.43	0.62	9.92	2.99	4.2	3.8

Note: Banke Bazar Mahila Vikas Producer Company Limited was excluded from this analysis due to limited time series data.

mulated bonding, bridging, and linking of social capital. However, the transition requires external facilitation by CSOs. In these six cases, CSOs leveraged existing trust networks gained from working with SHGs to mobilize women into market-oriented enterprises, playing the role of an institutional intermediary to overcome access barriers, information constraints and capability gaps that could prevent collective action. The cases highlight the important role that CSOs play in mobiliz-

ing and building the capacity of FPCs. The fact these were long-standing relationships with the SHGs was particularly critical.

Women-led FPCs, on average, demonstrate competitive advantages over male-led organizations. Superior group cohesion, financial discipline, and democratic governance—attributes directly traceable to SHG experience, according to respondents that differentiated women's groups. Financial performance analysis reveals significant heterogeneity among the six cases, with profit margins ranging from 0.26 percent to 86.71 percent. This reflects the different value chain positioning, as high-value dairy products outperform commodity markets. The women-led FPCs overcame persistent structural constraints, such as land access barriers, through innovative responses that circumvented ownership requirements while maintaining an agricultural focus, including food processing, mushroom cultivation, forest product collection, and dairy procurement. Focusing on effective market linkages and higher value agricultural production contributed to profitability in the six cases.

Critically, FPCs function as market-making institutions rather than simply aggregating existing participation, by establishing quality standards, coordinating input procurement, and facilitating direct buyer relationships to create market conditions that individual farmers could not access independently. Although the social capital framework effectively explains transition dynamics, the study reveals limitations in purely capital-based explanations. External policy support, CSO facilitation, and market opportunities emerge as essential factors, suggesting that social capital is necessary but insufficient for successful institutional transformation, which requires systematic policy interventions, including leveraging existing SHG infrastructure, developing progressive capacity-building initiatives, implementing gender-responsive land policies, and establishing market linkage platforms.

The study provides evidence that women's collectives can serve as effective vehicles for agricultural development when supported by appropriate policies and institutional frameworks. However, scaling this model requires sustained commitment to addressing gender-specific constraints rather than simply replicating organizational structures. This research contributes to understanding how social capital accumulated through development interventions can be strategically leveraged for economic transformation, demonstrating that effective collective action institutions can emerge from existing social infrastructure when supported by appropriate institutional frameworks. Future research should examine long-term sustainability outcomes, develop standardized empowerment metrics alongside economic performance measures, and explore the potential for replication across different agroecological and cultural contexts.