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Empowering Dairy Farmers through Milk Producer Companies: A Review of Policies, Stakeholders and Extension Interventions

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

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ABSTRACT

India's dairy sector, largely dominated by small and marginal farmers, remains vital for rural livelihoods but is hindered by structural challenges including fragmented landholding, low bargaining power, inadequate veterinary services and market inefficiencies. Despite contributing over 70% of the nation's milk supply, these producers face high input costs, limited access to credit and technology and poor price realization. In response, Milk Producer Companies, a form of Farmer Producer Organizations has emerged as an effective institutional mechanism. MPCs consolidate farmers' resources, enabling collective procurement, value addition and direct market engagement. Supported by government bodies such as SFAC, NABARD and NDDB, along with NGOs and private stakeholders, MPCs are bolstered through financial aid, capacity-building and infrastructure support. Extension services play a pivotal role in training, technology adoption and governance enhancement. Case studies like Shreeja and Karimnagar MPCs exemplify success in women empowerment, operational efficiency and sustainable growth. However, challenges such as fodder scarcity, limited financial inclusion, and weak governance persist. This review highlights the transformative potential of MPCs in reshaping India's dairy economy through inclusive, market-driven and scalable models. Strengthening institutional support, promoting digital integration and fostering leadership are essential to ensuring MPCs become resilient, self-sustaining enterprises that uplift millions of rural dairy farmers.

Keywords: Milk producer companies; smallholder farmers; institutional support; extension services; challenges.

1. INTRODUCTION

Agriculture and allied sectors form the foundation of rural livelihoods in India, with a significant majority as 86.1% of farmers classified as small or marginal, each owning less than two hectares of land (Ministry of Agriculture & Farmers Welfare, 2020). This fragmentation leads to low production volumes, minimal bargaining power and dependence on local traders for immediate sales often at suboptimal prices. The dairy sector, a critical subsector of agriculture, exemplifies these challenges. Although India accounts for nearly 16 percent of global milk production, more than 80 percent of producers are small and marginal farmers owning only two to three animals each, collectively supplying over 70 percent of the nation's milk (Meena *et al*., 2020). High transaction costs, market imperfections and limited access to credit and technology further compound their vulnerability, resulting in producer shares in consumer prices that are often lower than those of intermediaries (Mukherjee *et al*., 2018).

To overcome these constraints, Farmer Producer Organizations (FPOs) and in particular, Producer Companies (or Farmer Producer Companies, FPCs) have been promoted as hybrid institutional models that combine the cooperative ethos with the regulatory discipline of private limited companies. By enabling farmers to pool produce, access value-addition services (grading, sorting, processing) and negotiate collectively with buyers, FPCs enhance economies of scale, reduce transaction costs, and improve market linkages. In the dairy sector, this model is especially pertinent: a milk producer company restricts membership to primary producers, thereby ensuring that farmers retain ownership stakes, influence pricing and benefit directly from organized-sector growth (Sahu, 2014).

Given sustained governmental emphasis evidenced by the CAGR of 7.38 percent in livestock GVA between 2014-15 and 2022-23 and the dairy sector's projected growth from INR 16,792 billion in 2023 to nearly INR 49,954 billion by 2032 the strengthening of institutional frameworks to support producer companies is both timely and necessary. Rapid expansion of cold chains, e-commerce platforms and retail networks underscore the need for robust producer participation to ensure equitable value distribution and livelihood security for millions of smallholder dairy farmers (Ministry of Agriculture & Farmers Welfare, 2025).

2. INSTITUTIONAL SUPPORT MECHANISMS FOR FPOS

2.1 Government Agencies

Small Farmers' Agribusiness Consortium (SFAC): Under the Department of Agriculture, Cooperation & Farmers' Welfare (DAC&FW),

SFAC plays a pivotal role in FPC formation and handholding. Its support includes farmer mobilization through Resource Institutions, legal assistance for Companies Act registration, CEO and board training on governance and regulatory compliance and infrastructure linkage. Financially, SFAC provides an equity grant of up to ₹10 lakh to double producer share capital and manages a ₹100 crore Credit Guarantee Fund to enable unsecured lending to FPCs. Administrative costs (CEO salaries, office expenses) are also subsidized for three years post-registration (SFAC, 2019).

National Bank for Agriculture and Rural Development (NABARD): NABARD's Producer Organisation Development Fund finances share-capital contributions on a 1:1 matching basis, enabling higher credit access without collateral (up to ₹25 lakh per PO, capped at ₹25,000 per member). It also customizes composite loans for business operations, asset creation and working capital. Capacity-building grants (up to 20 percent of loan amounts) cover skill development, business planning, technological extension, exposure visits and partnerships with agricultural universities. Under its Farm Sector Promotion Fund (FSPF), NABARD extends financial literacy, credit counselling, technology demonstrations and marketing infrastructure support, including rural haats and tie-ups with buyers (NABARD, 2019).

National Dairy Development Board (NDDB) and State Departments: NDDB, with its expertise in cooperative development (e.g., Operation Flood), provides technical assistance, breed improvement programs and model reproduction. State animal husbandry and dairy development departments complement these efforts through veterinary services, animal health camps and subsidy-based schemes for milking machines, fodder development and infrastructure (NDDB, 2020).

2.2 Financial Institutions

Commercial Banks and Cooperative Banks: Banks extend term and working capital loans to Producer Companies under priority sector lending guidelines. Lending norms include collateral relaxation for SFAC and NABARD-supported FPCs and interest subvention up to 3 percent for dairy activities. Loan products often bundle credit guarantees, thereby reducing the perceived risk for financial institutions and facilitating larger credit disbursements to POs (NABARD, 2019).

Credit Guarantee Schemes: Through the SFAC-managed Credit Guarantee Fund and NABARD's guarantee arrangements, financial institutions can lend to POs without collateral, encouraging innovative financial products tailored to seasonality in milk production and value-addition cycles (NABARD, 2019).

2.3 Technical & Extension Support

Krishi Vigyan Kendras (KVKs): As frontline agricultural extension centers, KVKs conduct on-farm trials, demonstrations of improved dairy practices (zero-grazing units, fodder conservation) and training modules on herd management, milk hygiene, and animal health (Singh *et al*., 2023).

Veterinary Extension Services: State veterinary departments and animal husbandry universities deploy mobile veterinary units, organize animal health camps, and roll out vaccination drives, directly supporting FPC members in reducing disease incidence and mortality (Singh *et al*., 2023).

Specialized Dairy Extension Programs: Collaborations between NDDB, ICAR institutes and private biotech firms have led to targeted programs in breed improvement, supply of artificial insemination services, and dissemination of cold collection technologies (Govil *et al*., 2020).

2.4 NGOs and Development Partners

Capacity-Building Agencies: NGOs such as Professional Assistance for Development Action, BAIF Development Research Foundation and professional Resource Institutions engage in grassroots mobilization, governance training and digital literacy initiatives, equipping FPC boards with financial management and market negotiation skills (Ministry of Skill Development and Entrepreneurship, 2023).

Project Implementers and International Donors: World Bank funded schemes (e.g., Dairy Development Projects), FAO technical assistance and bilateral donor projects focus on value chain integration, dairy processing technologies, and market development, often co-financing cold chain infrastructure and marketing platforms (Kurwijila & Boki, 2003).

Public–Private Partnerships: Collaborations with private dairy firms under corporate social responsibility (CSR) and skill-development mandates facilitate tie-ups for guaranteed offtake, input supply linkages, and technology transfer, fostering sustainable market access for Producer Companies (NABARD, 2015).

2.5 Status and Trends of Milk Producer Companies in India

Status of FPOs in India: There are a total of 33,711 Farmer Producer Organizations (FPOs) spread across 692 districts in 28 states and 7 union territories of India. These FPOs collectively cover 64 different crops and have a cumulative shareholder base of 28.2 lakh (2.82 million) members. (Anonymous, 2023). Figure 1 illustrates the status of FPOs across various Indian states, comparing the number of allocated, registered and under-registration FPOs. Uttar Pradesh leads with the highest number of allocated and registered FPOs, while states like Jharkhand, Manipur and Mizoram have all their allocated FPOs fully registered. The Figure 1 highlights the overall progress of FPO registration, with most states having registered the majority of their allocated FPOs (SFAC, 2025). Table 1 shows the distribution of Milk Producer Companies (MPCs) across Indian states and there are 210 milk producer companies with active status, corresponding to about 3% of all active producer companies in India and more than half the active MPCs are in just four states: Maharashtra, Rajasthan, Madhya Pradesh and Uttar Pradesh (NABARD, 2019). Table 2 presents the age of milk producer companies in India and most of the MPCs are quite young, having been registered less than 5 years ago. Table 3 shows the distribution of Milk Producer Companies by paid-up capital (PUC) categories. Dairy PCs have contributed ₹437 crores in PUC constituting about 52% of the total PUC of all 6926 active PCs. About 10% of milk producer companies have PUC greater than Rs. 50 lakhs; this proportion is much greater compared to all producer companies. The median PUC of milk producer companies is Rs. 2.63 lakh, which is more than 2.5 times that of all PCs. The top 20 companies are dairies. The larger PUC of dairies is not surprising, as dairies tend to have large number of shareholders which often results in greater PUC. Secondly, many milk PCs have been converted from older dairy cooperatives with significant membership and capital. Furthermore, even new dairies find it relatively easier to ramp up their membership and operations quickly because the dairy sector has a well-established blueprint for collectivisation, procurement, processing and sales. Figure 2 illustrate that out of 210 total milk producer companies, only 13 are exclusively women-owned or women-operated, making up a small percentage (about 6%) of the total. This highlights the relatively low representation of women-only milk producer companies within the broader sector of milk production (NABARD, 2019).

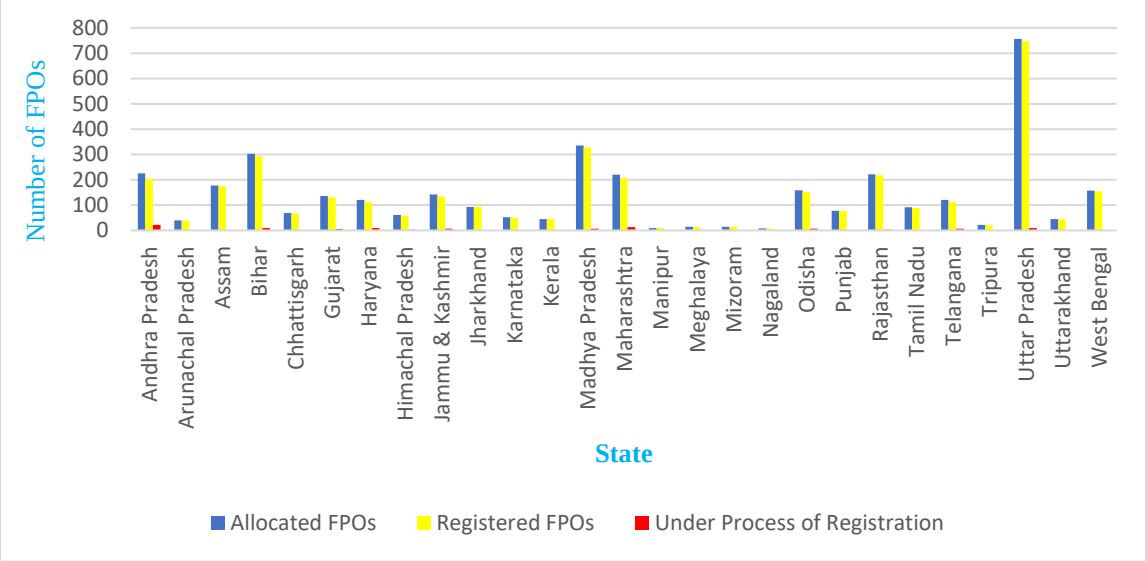

Fig. 1. State wise details of FPOs under Central Sector Scheme for Formation and Promotion of 10,000 FPOs by SFAC

Source: SFAC, 2025

Table 1. Milk Producers Company Registered by states (Active companies only)

S. No	States	Number of MPCs
1	Maharashtra	35
2	Rajasthan	28
3	Madhya Pradesh	28
4	Uttar Pradesh	26
5	Tamil Nadu	15
6	Haryana	13
7	Bihar	12
8	Others States	53

Source: NABARD, 2019

Table 2. Age Distribution of Milk producer Companies in India

Age of MPCs	Number	Percentage
< 2 years	47	22%
>=2 and <5 years	124	59%
>= 5 and < 10 years	28	13%
>=10 years	11	5%
All ages	210	100%

Source: NABARD, 2019

Table 3. Milk producer companies by PUC (Paid-up Capital) categories (active companies only)

	Dairies		All PCs	
PUC category	**Number**	**Percentage**	**Number**	**Percentage**
PUC ≥ 50 lakh	22	10%	90	1%
PUC ≥ 25 and < 50 lakh	7	3%	87	1%
PUC ≥ 10 and < 25 lakh	16	8%	767	11%
PUC < 10 lakh	165	79%	5982	86%
All Categories	210	100%	6926	100%

Source: NABARD, 2019

Women Milk producer companies:

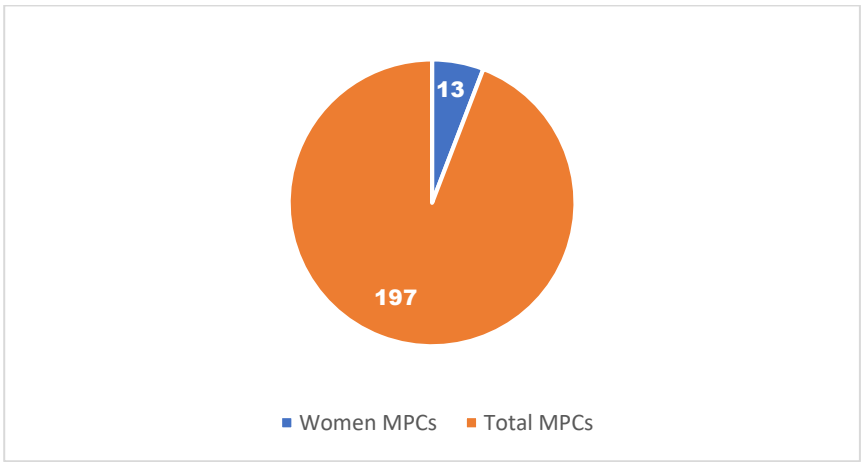

Fig. 2. Gender Distribution of Women-Owned Milk Producer Companies
Source: NABARD, 2019

Prominent Milk producer companies in India:

Table 4. Prominent Milk producer companies in India

Sl. No	Name of Milk Producer Company	Year of registration	Area of operation
1.	Sri Vijaya Visakha Milk Producer Company	2006	Andhra Pradesh
2.	Paayas Milk Producer Company	2012	Rajasthan
3.	Maahi Milk Producer Company	2012	Gujarat
4.	Sahaj Milk Producer Company	2014	Uttar Pradesh
5.	Karimnagar Milk Producer Company	2012	Telangana
6.	Maval Dairy Farmer Services Producer Company Ltd	2015	Pune, Maharastra
7.	Sakhi Mahila Milk Producer Company	2016	Mewat region, Rajasthan

Source: Gupta, 2019; Neti et al., 2019; Agriculture today, 2020; Singh, 2019

2.6 Stakeholders involved in Milk Producer Companies

Farmers: Farmers are the most important stakeholders in MPCs, as they form the core of these organizations. They contribute directly by supplying milk and are responsible for the company's existence. As primary producers, their interest lies in receiving fair prices for their milk, access to better inputs and improving their livelihoods. Farmers' involvement ensures that the MPCs stay focused on their mission of serving the producer community (Kumar, 2020).

Funding Agencies: The second most important stakeholders are funding agencies such as NABARD, banks and trusts. These agencies provide the financial backbone to MPCs, offering loans, grants and working capital. Without their support, MPCs would struggle to operate or expand. Funding agencies enable MPCs to invest in infrastructure, technology and capacity-building activities (Kumar, 2020; Kumar *et al*., 2023; Nyokabi *et al*., 2018).

Customers: Customers play a critical role, especially for MPCs that focus on perishable products like milk. Their demand directly influences the growth and sustainability of the company. MPCs strive to maintain high-quality standards, fair pricing and brand loyalty to ensure consistent demand from customers (Kumar, 2020).

NGOs and Resource Institutions: Non-governmental organizations (NGOs) and resource institutions help in the initial formation of MPCs by providing expertise, organizing farmers and facilitating legal procedures. These entities also provide training and technical assistance, contributing significantly to the governance and management capacity of MPCs. Their role is essential in ensuring that MPCs adhere to cooperative principles while maintaining professionalism (Kumar, 2020; Kumar *et al*., 2023; Nyokabi *et al*., 2018).

Market Actors: Market actors such as wholesalers and retailers are integral to the MPC value chain. They help in the distribution and sale of milk and dairy products, ensuring that farmers' produce reaches the market efficiently. These actors create the link between the MPCs and the end consumers, which is crucial for maintaining the flow of goods and revenue (Kumar, 2020).

Input Suppliers: Input suppliers, who provide fodder, feed and other necessary resources, hold a significant position. They ensure that farmers receive quality inputs that can enhance productivity and lower costs. By supplying inputs at competitive prices, they indirectly influence the operational efficiency of MPCs and the profitability of member farmers (Kumar, 2020).

Professional Staff: The professional management of MPCs is handled by CEOs, accountants and technical/non-technical staff. These professionals are responsible for day-to-day operations, governance and ensuring that the company adheres to legal and financial regulations. They help in maintaining transparency, efficiency and accountability within the organization (Kumar, 2020; Kumar *et al*., 2023; Nyokabi *et al*., 2018).

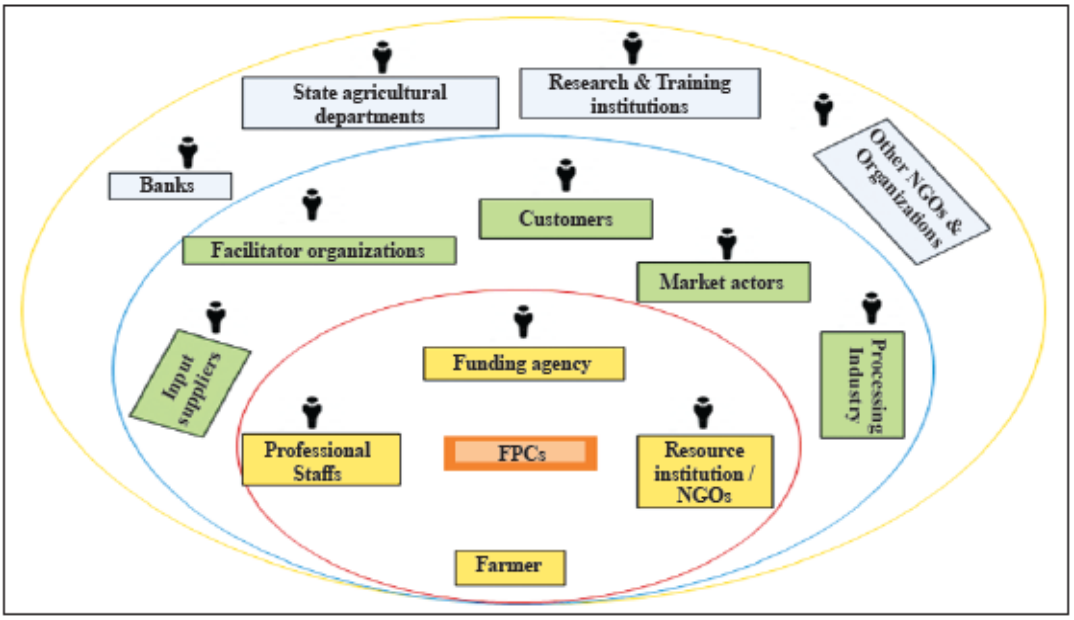

Fig. 3. Stakeholders involved in Milk Producer Companies
Source: (Kumar, 2020)

Banks: Banks support MPCs by facilitating financial transactions, loans and credit services. Although their relationship with MPCs may not always be direct, they play an essential role in the financial sustainability of these organizations. Banks provide liquidity and help MPCs manage their finances more efficiently (Kumar, 2020; Kumar *et al*., 2023; Nyokabi *et al*., 2018).

Research and Training Institutions: These institutions are responsible for capacity building within MPCs. They provide training to farmers and staff, offer exposure to new technologies and conduct demonstrations. Their role in introducing innovative practices helps improve productivity and the overall performance of MPCs (Kumar, 2020; Kumar *et al*., 2023; Nyokabi *et al*., 2018).

Processing Industry: The processing industry is involved in transforming raw milk into marketable dairy products. For MPCs lacking infrastructure for processing, partnerships with the processing industry are crucial. This collaboration allows MPCs to focus on procurement while leveraging external facilities for value addition (Kumar, 2020; Kumar *et al*., 2023; Nyokabi *et al*., 2018).

Facilitating Organizations: Facilitating organizations like local government authorities, veterinary officers and agricultural universities contribute by providing regulatory oversight, veterinary services and policy support. These organizations ensure that MPCs operate within legal frameworks and benefit from state-level policies aimed at supporting the dairy sector (Kumar, 2020; Kumar *et al*., 2023; Nyokabi *et al*., 2018).

State Agricultural and other Departments: Although these departments are not directly responsible for the formation of MPCs, they provide valuable support through extension services, agricultural subsidies and technical assistance. Their role is primarily focused on improving the ground-level functioning of MPCs, ensuring their long-term (Kumar, 2020).

2.7 Challenges Faced by Dairy Farmers

Livestock Feeding Constraints: A persistent challenge for dairy farmers, particularly smallholders, is the high cost of cattle feed and the chronic shortage of both green and dry fodder. The cattle feed market is often dominated by intermediaries, resulting in inflated prices and limited bargaining power for individual farmers (Thakur, 2020). Marginal and landless farmers, who make up a significant proportion of livestock owners in India, are especially disadvantaged, as they lack land resources to

cultivate green fodder or collect sufficient crop residues for dry fodder. Consequently, these farmers are often forced to purchase dry fodder at elevated market rates, further eroding their already thin profit margins. This dependence on purchased feed not only raises production costs but also limits farmers' ability to choose feed quality and composition, which can negatively impact animal health and milk yield (NITI Aayog, 2018).

Inadequate Animal Health Services: Access to timely and quality veterinary care remains another critical bottleneck in the livestock sector. The public sector, which is the main provider of veterinary services in rural areas, suffers from a shortage of skilled personnel with estimates indicating a 40–50% deficit in qualified veterinarians (Rao *et al*., 2015). This shortage leads to delayed or substandard treatment, with little differentiation between high and low-value livestock, thereby hampering disease control and genetic improvement efforts (Gamit *et al*., 2021; Thakur, 2020). Artificial insemination (AI) services, vital for genetic enhancement, also suffer from low coverage, reaching only about 26% of the breedable population, far below the level needed for effective herd improvement (GOI, 2017).

Weak Extension Support and Limited Access to Credit: Dairy farmers also face major obstacles in accessing reliable extension services and institutional credit. The high cost of delivering extension services to widely scattered smallholders results in sporadic outreach and poor dissemination of best practices in animal health, nutrition and management. Furthermore, formal credit institutions are often reluctant to lend to small-scale dairy farmers, especially women, due to the lack of collateral and the perceived risk associated with the sector. This exclusion from formal financial systems restricts farmers' ability to invest in productivity-enhancing technologies or practices (Thakur, 2020; Chaudhary, 2023).

Market Constraints and Poor Bargaining Power: Milk marketing is fraught with multiple challenges. Its perishable nature, combined with a lack of on-farm processing and storage infrastructure, often compels farmers to make distress sales at low prices. The dominance of intermediaries in the supply chain further reduces the share of the final consumer price that reaches producers. Individual farmers, with limited volumes, lack the bargaining power to negotiate better prices. These challenges contribute to income instability and discourage investment in the dairy sector (Gamit *et al*., 2021; Thakur, 2020).

2.8 Interventions through Milk Producer Companies (MPCs)

Collective Procurement and Input Management: MPCs offer an effective institutional solution to address input procurement and fodder-related challenges. By aggregating input demand, MPCs can negotiate bulk purchase discounts for cattle feed and other essentials, thereby reducing costs and improving product quality for member farmers. Some MPCs have also established their own feed production units, further enhancing cost-effectiveness and ensuring consistent quality. To combat fodder shortages, MPCs can partner with local organizations to utilize communal land for green fodder cultivation and coordinate the collection, transport, and storage of dry fodder among members. This collective approach ensures year-round fodder availability and minimizes wastage (Thakur, 2020).

Enhanced Animal Health and Breeding Services: MPCs are well-positioned to fill the gap in veterinary and breeding services by hiring skilled professionals on a pay-per-use basis and deploying trained artificial insemination technicians within their areas of operation. This localized approach enhances both timeliness and quality of veterinary services, enabling targeted treatment based on livestock value and supporting productivity gains. These services not only improve animal health but also create rural employment opportunities and strengthen the overall livestock development ecosystem (Thakur, 2020; GOI, 2020).

Strengthening Extension and Financial Inclusion: Through innovative extension strategies, including digital platforms, ICT tools, and the establishment of model dairy farms, MPCs facilitate the widespread dissemination of knowledge and best practices among member farmers (Chaudhary, 2023). Additionally, MPCs often offer tailored credit and savings services, particularly for smallholders and women, addressing common barriers such as lack of collateral and limited financial access. This integrated support enhances the technical and financial capabilities of dairy farmers, enabling long-term sustainability (Singla & Singh, 2024; Thakur, 2020).

Market Linkages and Price Realization: By eliminating intermediaries and procuring milk directly from farmers, MPCs allow producers to retain a greater share of the consumer price, leading to improved income stability and incentives for quality enhancement. MPCs also invest in collective transportation and storage infrastructure, reducing post-harvest losses and allowing farmers to time their sales for optimal price realization. This aggregation enhances bargaining power, improves market access, and supports the creation of value-added dairy products, thus fostering sustainable and inclusive growth in the dairy sector (Bakhuijs, 2013).

2.9 Role of Extension Services in Milk Producers Companies Development

Extension services play a pivotal role in the development of Milk Producer Companies (MPCs) by strengthening their production, financial viability, governance and market integration. Key roles of extension services are outlined below:

Capacity Building: Extension agencies train farmers in best practices for dairy management—including feeding, breeding, and animal health. Field demonstrations and hands-on workshops help improve milk quality and productivity. Well-trained farmers are more likely to adopt effective and sustainable practices (Jose *et al*., 2024; Uddin *et al*., 2016).

Market Access Facilitation: By linking farmers with buyers, cooperatives and processors, extension services promote collective marketing. This increases price negotiation power, reduces dependency on middlemen and helps farmers access higher-value markets (Uddin *et al*., 2016).

Resource Mobilization: Extension professionals assist MPCs in accessing government schemes and financial support from bodies like NABARD and SFAC. This is especially critical for new or financially weak MPCs to build infrastructure and access technology (Jose *et al*., 2024; Uddin *et al*., 2016).

Technology Integration: Through digital tools and mobile applications (e.g., *Abhinav Cart*), extension services improve supply chain coordination and order management. This not only boosts operational efficiency but also enhances customer satisfaction and delivery accuracy (Ogola *et al*., 2023; Uddin *et al*., 2016).

Leadership and Governance Enhancement: Many MPCs face leadership deficits. Extension support helps build institutional frameworks and trains staff in governance, transparency and accountability. These measures are key to efficient management and long-term sustainability (Jose *et al*., 2024).

Market Orientation: To stay competitive, MPCs must align production with market demand. Extension programs emphasize consumer trends and help members adapt farming and marketing practices accordingly, increasing their relevance in dynamic dairy markets (Ogola *et al*., 2023).

Sustainability Planning: Extension services support the development of business models that reduce dependence on external funds. By fostering financial and operational independence, MPCs are better positioned for long-term success (Ogola *et al*., 2023).

3. SUCCESS STORIES AND CASE STUDIES OF DAIRY-BASED MILK PRODUCER COMPANIES

3.1 Case Study 1: Shreeja Mahila Milk Producer Company Limited

Shreeja Mahila Milk Producer Company Limited (Shreeja MMPCL) is an all-women milk producer company established in 2014 with the support of the National Dairy Development Board (NDDB). Headquartered in Tirupati, Andhra Pradesh, Shreeja was founded to serve small and marginal women milk producers, empowering rural women through collective enterprise. The company expanded its operations rapidly across Andhra Pradesh, Karnataka, and Tamil Nadu, covering over 1,700 villages and building a membership of more than 1,22,000 women. Shreeja's business model focused on quality assurance, incorporating ISO-certified processing facilities and delivering adulteration-free dairy products. Shreeja emphasized transparency and inclusive governance, ensuring women's participation in decision-making and leadership. By 2024, it was procuring over 6.31 lakh litres of milk per day, with its turnover reaching approximately ₹1,18,499 lakh. Members received a significant share of the company's earnings, including ₹11.12 crore as additional price distribution, thereby boosting rural incomes and livelihoods.

The company's success was further enabled by the adoption of digital tools, robust member management systems, and continuous investment in capacity building and technology (Shreeja Mahila Milk Producer Company Ltd., 2024).

3.2 Case Study 2: Karimnagar Milk Producers Company Limited

Karimnagar Milk Producers Company Limited (KMPCL), also known as Karimnagar Dairy, was established in 1971 and has evolved into a major cooperative in Telangana. KMPCL connects over 90,000 farmers across 10 districts through a network of 1,150 Milk Producer Institutions and 34 Bulk Chilling Units. The company has built robust procurement, processing, and marketing infrastructure, including a mega dairy plant and automated chilling centers, ensuring quality control and efficient logistics. KMPCL's farmer-centric approach is reflected in its comprehensive welfare programs, which include financial aid, educational scholarships, and subsidized inputs for members. The company actively promotes women's participation and has received multiple national awards for its efforts. KMPCL's turnover has seen impressive growth, rising from ₹266.89 crores in 2018-19 to ₹418.92 crores in 2021-22. The success of Karimnagar Dairy is attributed to its investment in technology, diversification, and continuous capacity-building, enabling it to address challenges such as market fluctuations and infrastructure maintenance while sustaining member welfare and organizational growth (Karimnagardairy, 2022).

4. CONCLUSION

Milk Producer Companies (MPCs) have emerged as transformative institutions in India's dairy sector, particularly for small and marginal farmers. By addressing challenges in input procurement, veterinary care, financial access and market linkages, MPCs help enhance productivity, reduce dependency on intermediaries and ensure better price realization for farmers. Support from government bodies like SFAC, NABARD, NDDB, and various NGOs has played a pivotal role in fostering an enabling ecosystem. Case studies like Shreeja and Karimnagar demonstrate the tangible benefits of collective action, inclusive governance and professional management. Despite their success, MPCs continue to face structural, financial and gender-related challenges that need targeted interventions. Strengthening extension services, improving access to credit and technology and encouraging women's participation can further enhance their impact. Looking ahead, MPCs hold significant potential to drive rural economic empowerment and sustainable dairy development. With the right institutional support and policy environment, these producer-owned enterprises can serve as resilient models of agribusiness for India's future.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc) and text-to-image generators have been used during writing or editing of this manuscript.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

Aayog, N. I. T. I. (2018). *Demand and supply projections towards 2033: Crops, livestock, fisheries and agricultural inputs*. Government of India.

Agriculture Today. (2020). India Dairy Awards. *The National Agriculture Magazine*, 22(2), 36–40.

Anonymous. (2023). *FPO platform for India*. Tata-Cornell Institute. https://fpo.tci.cornell.edu/dashboard

Bakhuijs, E. (2013). *The intermediary role of farmer organizations: Stimulating innovation in developing countries* (Master's thesis).

Chaudhary, N. (2023). Challenges faced by farm enterprises and current status of FPO's in India: A review. *Madhya Bharti - Humanities and Social Sciences*, 83, 169–176.

Gamit, V., Odedra, M., Ahlawat, A., Prajapati, V., Patel, H., & Gamit, K. (2021). Constraint faced by dairy farmers in different state of India: An overview. *Journal of Entomology and Zoology Studies, 9*(1), 1901–1906.

Govil, R., Neti, A., & Rao, M. R. (2020). Farmer producer companies: Past, present and future.

Government of India. (2017). *State wise target set for 100 million artificial insemination for 2017–18*. Press Information Bureau. https://pib.gov.in/newsite/PrintRelease.aspx?relid=169770

Gupta, P. (2019). Maharashtra gets Amul-like dairy cooperative with all-women team; to

sell products under Creyo brand. *The Financial Express*. https://www.financialexpress.com/industry/maharashtra-gets-amul-like-dairy-cooperative-with-all-women-team-to-sell-products-under-creyo-brand/1796380/

Jose, A. E., Raj, N., Chavan, N., Lakshmi, K. V., Ngasainao, C., Kruparani, P., & Shaiza, M. (2024). Extension strategies and models in agri trading through farmer producer companies (FPCs): A way towards sustainability. *Journal of Experimental Agriculture International*, 46(7), 638–648.

Karimnagardairy. (2022, May 19). *Karimnagar Dairy statues*. https://www.karimnagardairy.in/karimnagar-dairy-statues/

Kumar, S. (2020). *An appraisal of dairy based farmer producer companies in India*. https://krishikosh.egranth.ac.in/items/89954519-634d-4986-a336-8e566789cad7

Kumar, S., Sankhala, G., Kar, P., & Sharma, P. R. (2023). Identifying and prioritizing the stakeholder linkages of dairy-based farmer producer companies in India: An analytical hierarchy process.

Kurwijila, L. R., & Boki, K. J. (2003). A review of the small-scale dairy sector–Tanzania. In *Milk and dairy products, post-harvest losses and food safety in Sub-Saharan Africa and the Near East*. FAO Prevention of Food Losses Programme.

Meena, D., Sankhala, G., & Kumar, S. (2020). Utilization pattern of feed and fodder for dairy animals in the Rajasthan state of India. *International Journal of Livestock Research*, 10(3), 67–73.

Ministry of Agriculture & Farmers Welfare. (2020). *All India report on Agriculture Census 2015–16*. Department of Agriculture, Cooperation & Farmers Welfare, Government of India.

Ministry of Agriculture & Farmers Welfare. (2025, February 28). *10,000 FPOs achieved under government's flagship scheme: A step towards Atmnirbhar Krishi*. Press Information Bureau.

Ministry of Skill Development and Entrepreneurship. (2023). *Annual report 2023–2024*. Government of India. https://www.msde.gov.in/en/reports-documents/annual-reports

Mukherjee, A., Singh, P., Ray, M., Satyapriya, & Burman, R. R. (2018). Enhancing farmers' income through farmers' producers' companies in India: Status and roadmap. *Indian Journal of Agricultural Sciences*, 88(8), 1151–1161.

NABARD. (2015). *Farmers' frequently asked questions (FAQs)*. National Bank for Agriculture and Rural Development, Mumbai.

NABARD. (2019). *Farmer producers' organizations (FPCs): Status, issues & suggested policy reforms*. National Level Paper, Potential Linked Plans (PLP).

NDDB. (2020). *New generation cooperatives leading to producer company*. https://www.nddb.coop/services/cooperative/newgen

Neti, A., Govil, R., & Rao, M. R. (2019). Farmer producer companies in India: Demystifying the numbers. *Review of Agrarian Studies*, 9(2), 1–11.

Nyokabi, S. N., Oosting, S., Bebe, B. O., Phelan, L., Bett, B., Lindahl, J., & de Boer, I. J. M. (2018, July). *The Kenyan dairy sector: Stakeholder roles and relationships, and their impact on milk quality* (Vol. 13). International Farming Systems Association (IFSA). In IFSA Symposium.

Ogola, P. A., Ngesa, F., & Makanji, D. L. (2023). Influence of access to extension services on milk productivity among smallholder dairy farmers in Njoro Sub-County, Nakuru County, Kenya. *Heliyon, 9*(9), e19812. https://doi.org/10.1016/j.heliyon.2023.e19812

Rao, S. E., Rasheed, V. S., Natchimuthu, K., Ramkumar, S., & Sasidhar, P. V. (2015). Improving the delivery of veterinary services in India. *Revue Scientifique et Technique (OIE)*, 34(3), 767–777.

Sahu, S. (2014). *Socio-economic impact of farmers' organisation: A critical analysis* (M.Sc. thesis, ICAR-Indian Agricultural Research Institute).

SFAC. (2019). *Portal on farmer producers' organizations*. http://sfacindia.com/List-of-FPO-Statewise.aspx

Small Farmers' Agribusiness Consortium. (2025, February 24). *State-wise list of registered FPOs details under Central Sector Scheme for formation and promotion of 10,000 FPOs by SFAC as on February 24, 2025* [PDF]. Ministry of Agriculture & Farmers Welfare, Government of India.

Shreeja Mahila Milk Producer Company Ltd. (2024). *Annual report*. https://shreejamilk.com/annual-report/

Singh, P., Ghadei, K., & Roy, P. (2023). Krishi Vigyan Kendras (KVKs) in India: Empowering farmers for a sustainable future.

Singh, S. (2019). Producer company: An innovative and enabling institutional form for producer owned enterprises. In *Proceedings of 47th Dairy Industry Conference* (pp. 98–99). Patna, India.

Singla, N., & Singh, S. (2024). Institutional interventions in dairy value chains in India: A case study of the impact of the milk co-operative vis-à-vis informal milk market channels on farmers in Punjab. In N. Kumar, R. K. Mishra, & A. R. Sharma (Eds.), *Institutions and public policy for India's sustainable development* (pp. 148–165). Routledge India.

Thakur, D. (2020). Milk producer companies in India: A review. *Indian Journal of Current Microbiology and Applied Sciences*, 9, 1385–1393.

Uddin, M., Islam, M. S., Rahman, M. H., & Qi-Jie, G. (2016). Effect of farmers' organization-based extension on service delivery and livelihood: Case of smallholder dairy in Bangladesh. https://www.semanticscholar.org/paper/Effect-of-Farmers%E2%80%99-Organization-based-Extension-on-Uddin-Islam/7cddb9630d6a9d23f1cabe790757ef977a1a4358

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