



Examining the Power of Accumulation: A Case Study of the Lavera Project by Ambala Farmers Producer Company Limited in Haryana, India

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Authors' contributions

This work was carried out in collaboration among all authors. Authors TSR and AK designed the study, performed the statistical analysis, wrote the protocol and wrote the first draft of the manuscript. Authors RK and GR managed the analyses of the study and carried out SWOT analysis. Author RC worked on the literature searches. All authors read and approved the final manuscript.

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ABSTRACT

The concept behind Farmer Producer Organizations is that farmers, who are the producers of Agricultural products, can form groups and register themselves under the Indian Companies Act. 1956. The aim is to enhance farmer's income, capacity building, and competitiveness and increase

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their advantage in emerging market opportunities. A case study was conducted in the Ambala District of Haryana to examine the role of farmer-producer organizations in enhancing farmers socio economic status. Studying the management and governance system of F.P.C. and assessing the impact of F.P.C. on members was the objective of the case study. Personal interviews and group discussion methods were used for data collection and secondary data from directors for gathering information on the F.P.C. Project Lavera Ambala Farmer Producer Organization, which was established on Sep 02, 2015, for collecting, processing, and marketing milk and milk products. It covered nine Ambala villages and collected raw milk from members and non-member farmers at higher prices than other value chain actors. The study's result indicates that farmers who supply milk to F.P.C. get 9-13 rupees per lit higher price than others. It also provides bonuses to member farmers who are company shareholders, and their income from dairy farming is enhanced by 25-30 percent. Lavera has enhanced net returns for farmers, increased revenue through value addition, and fostered entrepreneurship in rural communities. Members of F.P.C. are highly satisfied with the services provided by F.P.C. and its performance in local areas.

Keywords: Farmer producer company; board of directors; stakeholders; dairy-based; capacity building and farmer.

1. INTRODUCTION

Agricultural growth, particularly through the empowerment of small and marginal farmers, stands as a critical avenue for poverty reduction [1] (Hazel et al., 2010). In India, where over 85 percent of agricultural holdings fall under the small and marginal category, challenges such as inadequate infrastructure, restricted access to assets and services, and high transaction costs impede market participation [2,3,4]. These limitations, coupled with a lack of market access and an unorganized nature, hinder the competitive edge of Indian farmers in global markets [5,6]. To unlock the potential of smallholder agriculture, the emergence of Farmer Producer Organizations (F.P.O.s) is considered instrumental, offering avenues for improved technology dissemination, investment, input access, and market connectivity.

F.P.O.s are a vital conduit between small farmers and the external realm, establishing critical forward and backward linkages [7]. The multifaceted benefits reaped by farmers align with input procurement, production augmentation, marketing facilitation, and post-harvest gains, collectively enhancing income and welfare [8,9]. Collective procurement ensures cost-effective access to inputs, and Extension and Advisory Services (E.A.S.) provided by F.P.O.s mitigate transaction costs and informational gaps [10]. Market benefits materialize through increased bargaining power, reduced intermediaries, and enhanced pricing [11,8,12,13]. Additionally, the risk distribution across F.P.O. members contributes to more secure marketing [14], fostering vertical

integration and increased income compared to individual farming [15].

Recognizing the transformative potential of F.P.O.s, the Government of India has sanctioned a dedicated central sector scheme to form 10,000 new F.P.O.s over five years (2019-20 to 2023-24). This initiative, backed by intensive handholding, seeks to foster economically sustainable F.P.O.s while facilitating robust market and credit linkages. Key agencies like NABARD, SFAC, and NCDC have been entrusted with registering F.P.O.s nationally [16,17].

The imperative role of F.P.O.s in ameliorating the challenges faced by small and marginal farmers in India is unequivocal. As the nation endeavors to reshape its agricultural landscape, F.P.O.s emerge as powerful instruments fostering collective strength, knowledge dissemination, and market access for the most vulnerable agricultural segments. By delving into the organizational structure, capacity building, internal controls, and forward linkages of F.P.O.s, this study aims to provide valuable insights into the unfolding narrative of India's agricultural transformation. In this context, a case study was conducted to assess the role of farmer-producer companies in enhancing farmer income.

2. RESEARCH FOCUS AND METHODOLOGY

The research focuses on Haryana state, utilizing the researcher's local knowledge to establish effective connections with farmers in Farmer

Producer Organizations (F.P.O.'s). Building rapport is essential for obtaining unbiased information. Haryana has 73 operational F.P.O.'s, with 50 supported by NABARD and 23 by SFAC. To ensure a representative sample, eight F.P.O.'s will be selected through stratified random sampling, with four each from NABARD and SFAC. Thirty farmer members will be randomly chosen from each selected F.P.O., totaling 240 respondents. The Ambala Farmer Producers Company Limited, a NABARD-funded FPC focused on dairy, was included in the study. Data, collected in 2022 through structured questionnaires from FPC directors and members, involved interviews with five directors and 25 farmers, covering aspects such as the FPC's SWOT analysis and operational dynamics, Socio-economic impact and data was tabulated and Analysed [18,19,20].

3. GENESIS OF PROJECT LAVERA & INCORPORATION OF AMBALA F.P.O.

Dairy farmers in Ambala Districts have been involved in Commercial Dairying since the late 90s. In villages like Naneola, Jansua, Mohalgarh, and Bahanpur, etc., they supplied Milk to Milk Plants at wholesale prices. They buy most of their input requirements individually, such as animal feed, the seed for silage corn, fertilizers, medicine, and pesticides, etc., from the retail market.

In the Bucolic district of Ambala, Haryana, an exemplary and forward-thinking agricultural entrepreneur, Mr. Puneet Singh Thind, emerges as a beacon of innovation within the farming community. Having gracefully transitioned from traditional farming practices, Mr. Thind, a college graduate, embarked on a transformative journey, steering away from conventional agriculture towards modern cash crop farming. Fueled by an insatiable desire for year-round productivity, he ventured into cultivating mushrooms, baby corn, and other lucrative cash crops at a commercial scale [21,22].

Undeterred by the seasonal nature of cash crop farming, Mr. Thind actively sought alternative avenues for sustained livelihood. His quest led him to a pivotal moment. In collaboration with Ms. Poonam Rawat of the SFAC MSG Team, Puneet Singh meticulously crafted a conceptual framework, which was subsequently submitted to both SFAC and NABARD. A comprehensive outreach program ensued, wherein farmers were consulted and enlightened about the potential

advantages of synergizing into a Farmer Producer Organization (F.P.O.) to harness the 'Power of Accumulation.' He recognized a possible solution to his predicament. Armed with a penchant for innovation and adeptness with technology, Mr. Thind delved into extensive research on F.P.O.s through online resources, literature, and expert consultations.

After meticulously ensuring the viability and benefits of F.P.O.s, Mr. Thind, displaying remarkable initiative, resolved to establish his own F.P.O. In September 2015, NABARD officially sanctioned its support for this F.P.O. initiative as an integral component of its P.O. Promotion Program. The F.P.C. was registered under Section 581-C of Part IX-C of the Companies Act, 1956 under a special provision called Producer Company on Sep 21, 2015, 21/09/2015, named "Ambala Farmer Producer Company Limited." The corporate identity number of F.P.C. is U01403HR2015PTC056539. Soon after, the LAVERA project started to take shape. In alignment with this endorsement, VGAI embarked on a transformative journey, engaging with dairy farmers who, in turn, coalesced into a cohesive Farmer Producer Company under its auspices.

3.1 The Lavera Project

In Gurmukhi script, the term 'L-Ve-ra' is emblematic of domesticated milch animals within the purview of household husbandry. The genesis of Project Lavera emanates from the visionary acumen of Puneet Singh Thind, who served as the national director at the Vegetable Grower Association of India (VGAI). VGAI, an esteemed Resource Institute Partner aligned with SFAC (Small Farmers' Agribusiness Consortium) and POPI (Producer Organization Promotion Institute), enjoys a symbiotic relationship with NABARD (National Bank for Agriculture and Rural Development).

From its modest inception with 60 shareholders, the F.P.C. has burgeoned to encompass around 350 members across eight villages in the Ambala district. Operating successfully since 2015, the Lavera project has become a cornerstone of local agricultural development, working tirelessly towards the objectives set forth by its members.

Presently, approximately 350 dairy farmers are intricately affiliated with the Ambala Farmer Producer Organization (F.P.O.), meticulously engaging in processing their farm-fresh milk

within the confines of Ambala City. Following milking, the dairy undergoes immediate chilling at a temperature of 4 degrees Celsius, a measure implemented to safeguard its inherent natural flavor. The adoption of Clean Milk Production (C.M.P.) practices is unwavering, with mechanized milking serving as the *modus operandi*. It is imperative to note that all retailed milk is exclusively derived from in-house production, eschewing any dependence on unreliable external sources.

The noteworthy facet of this enterprise lies in the hands-on approach adopted for milk delivery, a responsibility deftly shouldered by the farmers themselves. This direct-to-door delivery ensures the product's dissemination and serves as an educational platform for consumers. Farmers personally elucidate the quality and purity of the milk, emphasizing its salutary attributes for consumer health. Remarkably, these agriculturists extend personal invitations to consumers, urging them to partake in firsthand experiences by visiting the farms.

The primary aim of the F.P.C. is to establish a robust institution that ensures a sustained market for milk, secures competitive prices for producers, and facilitates activities such as processing and marketing of milk and its products. The collective vision of the members revolves around addressing both short and long-term challenges through a unified approach, encompassing:

1. Elevating animal productivity through awareness of sound dairy farming practices.
2. Timely availability of quality inputs at reasonable prices.
3. Securing remunerative prices for milk while eliminating go-betweens from the value chain.
4. Undertaking value addition activities for milk production.
5. Ensuring year-round stability in milk marketing and pricing.
6. Conducting awareness and training programs on green fodder production.
7. Advocating the importance of mineral mixture feeding, bypass fat, and balanced rations.

In essence, Mr. Punnet Singh Thind's journey exemplifies the transformative power of individual initiative and technological acumen in agriculture,

providing a shining example for future endeavors in sustainable farming practices.

3.2 Membership Composition

The agricultural producer company's membership structure under consideration is diverse and inclusive, comprising 350 shareholders. Within this cohort, 70 members are drawn from landless households reliant on agricultural and wage labor for their livelihoods, while 150 members are classified as marginal farmers. Additionally, 75 members possess small landholdings, and the remaining 65 boast large ones. A notable feature is the substantial representation of women, with 127 female shareholders out of the total 350. The membership spans various social groups, encompassing 144 members from the Backward Class (B.C.), 98 from the Scheduled Caste (S.C.), and 108 from the General Cast.

3.3 Shareholding Overview

The agricultural producer company currently boasts 350 shareholders, each contributing a minimum share value of INR 1000. The company's paid-up capital is INR 19 lakh, while the authorized capital amounts to INR 22 lakh. All shareholders are active members of the F.P.C., each holding an individual share in the company.

3.4 Structure of the F.P.C.

The company employs a three-tier structure comprising farmers (shareholders) organized into groups at the village, panchayat, and cluster levels. At the village level, the foundational unit is the Farmer Interest Group (FIG) or dairy farmer club, formed based on the shared needs, interests, and willingness to join the F.P.C. Each FIG is led by a voluntary president or secretary responsible for milk collection at the primary collection center and communicating the group's requirements to the F.P.C. board of directors. At the second level, various managers oversee production and marketing functions. These managers, elected or selected based on their specific skills, are shareholders of the F.P.C. and are remunerated for their services. The company is chaired by a C.E.O. responsible for monitoring all activities. Field-level staff, labor, and skilled individuals are hired externally for diverse F.P.C. activities. Regular quarterly directors' meetings facilitate communication and decision-making, with social media and smartphones employed for

efficient marketing and communication, minimizing the need for additional staff and reducing costs.

3.5 Governance Framework

The company operates under a Board of Directors (B.O.D) comprising eight active stakeholder members. Of these, 3 represent small or marginal farmers, 3 represent large farmers, and two are landless directors. The C.E.O. serves as the company's promoter and holds an ex-officio role on the board. Two sub-committees operate under the Board of Directors, ensuring the efficient management of F.P.C.'s business activities and the equitable distribution of responsibilities among stakeholders. Quarterly B.O.D. meetings are conducted, with farmer participation encouraged. An annual gathering involves all members, the Board of Directors, and other farmers, with mandatory member participation. Decisions related to F.P.C. policies, mandates, and operational mechanisms are primarily taken by the B.O.D., elected through voting or consensus. Directors assume various roles within committees based on their interests and competencies. The C.E.O. is responsible for implementing all decisions, while financial activities undergo rigorous monitoring by a chartered accountant.

3.6 Production Committee

The Production Committee comprises a proficient team, including a production manager, six supervisors, and 39 skilled technical and labor personnel dedicated to the processing and production of milk within the F.P.C. The production manager oversees key activities such as processing, quality control, packaging, and storage. Each product section is led by a dedicated supervisor working under the guidance of the production manager. Technical and labor tasks are executed under the supervision of these dedicated supervisors. Market demand guides the manufacturing process, with the Marketing Committee evaluating specific product demand in various markets. The committee communicates this demand to the production manager, who then orchestrates production accordingly.

3.7 Marketing Committee

The Marketing Committee consists of 4 experienced managers operating in different

markets. Their primary role involves assessing product demand and collaborating closely with wholesalers and retailers to secure orders for specific F.P.C. products. Managers collect daily product requirements from diverse customers, transmitting this information to the C.E.O. or chairman via smartphones, WhatsApp, or voice calls. Upon receiving orders, the C.E.O./Chairman orchestrates the delivery channel, loading products onto vehicles and traversing the designated route for efficient delivery to wholesalers, retailers, and customers. This streamlined process ensures prompt and accurate product delivery.

Leveraging contemporary technology, such as WhatsApp groups and social media platforms, the farmers maintain consistent communication with their clientele, disseminating updates on-farm activities. Noteworthy is the Ambala F.P.O.'s strategic vision for expansion. There are plans to augment milk processing capacities to a formidable 10,000 liters daily. This expansion will be accompanied by the introduction traditional milk products and confectioneries, thus diversifying and enriching their product line.

3.8 Major Services Delivery

3.8.1 Product market linkage

Product Market Linkage is the cornerstone of F.P.C.'s operations, involving the procurement of high-quality produce (milk) from farmers at competitive prices. The F.P.C. processes and sells these products to major traders, retailers, and end consumers through designated outlets. The additional profits generated from value-added products are equitably distributed among F.P.C. members based on their respective shares. F.P.C.'s primary objective is to eliminate intermediaries from the value chain, ensuring that the additional benefits from value-added products directly benefit the farmers. F.P.C. serves as a one-stop solution for farmers, providing a stable market for their produce and timely payments, thereby minimizing price fluctuations. Additional services include awareness campaigns on clean milk, training, and support for dairy farming at the village level, creating a robust support system for members.

3.8.2 Other services

F.P.C. extends its support to farmers beyond the procurement and sale of milk. The organization focuses on providing awareness of clean milk practices, offering training on various aspects of

dairy farming, and assisting in organizing supply systems for input requirements. Furthermore, F.P.C. plays a pivotal role in capacity building for farmers, imparting knowledge on scientific dairy and cash crop farming, animal health, low-cost feed and fodder production methods, and other improved agricultural practices. F.P.C. actively promotes awareness among farmers regarding government agricultural schemes to enhance their welfare.

3.8.3 Milk collection and marketing system

F.P.C. engages with member and non-member dairy farmers, providing members an additional R.S. 2 rupee per liter. F.P.C. operates two milk collection processes, with approximately 250 members and 652 non-members supplying milk daily. The company maintains primary collection centers across nine villages within its operational areas, where members and non-members deliver their milk. Weekly payments are promptly managed by commission agents working on a four percent commission. Additionally, F.P.C. collaborates with five contractors in Haryana for milk collection, chilling, and supply based on market demand. The collected milk is then processed into various products, including ghee, curd, flavored milk, lassi, D.T.M., full cream milk, paneer, mava, and sweet lassi, with distribution occurring through three channels—wholesalers, retailers, and three FPC-owned outlets in Ambala and Kurukshetra, catering directly to consumers.

4. SWOT ANALYSIS OF PROJECT LAVERA OF AMBALA FARMER PRODUCER COMPANY

The Lavera AFPC, positioned to ascend to prominence within the dairy industry, stands as an exemplar for burgeoning entrepreneurial ventures. Concurrently, the diligent committees of Farmer Producer Companies (F.P.C.s) undertake concerted efforts to address inherent gaps and fortify themselves for future opportunities within the dairy sector. These endeavors focus on cultivating brand value both domestically and internationally:

4.1 Strengths

- The efficacy of Lavera's management and governance is underscored by dynamic leadership, steering the company toward success.
- The localized business scope of F.P.C. ensures a rich reservoir of raw materials

at a cost-effective local level, with commensurately low processing and marketing costs. This is further bolstered by a robust demand for F.P.C. products in the local market and the unwavering trust of the community in these products.

- Meticulous packaging, characterized by quality and aesthetic appeal, ensures product integrity, shields against adulteration, and provides customers with hygienic and fresh offerings.
- Endorsement and support from distinguished dairy institutions fortify Lavera's standing in the sector.
- A robust asset base, including strategically located land, manufacturing plants, warehouses, carrier vans, and requisite equipment, favors Lavera.
- A transparent and punctual payment system fosters trust among stakeholders, utilizing digital/cheque mechanisms for all transactions.
- Rigorous quality control measures from milk collection through processing and marketing affirm Lavera's commitment to delivering consistently high-quality products.
- An efficient grassroots-level milk collection system and a favorable reputation in the local market augment the company's endeavors.

4.2 Weaknesses

- The inherent perishability of milk poses a continual risk to the business.
- Inadequate cold storage facilities for milk and related products present a vulnerability.
- Farmers' lack of awareness regarding scientific dairy practices hampers overall quality.
- Seasonal fluctuations in milk prices and production introduce inherent uncertainties.
- The occurrence of mastitis or infected milk compromises the quality of Lavera's offerings.
- Insufficiently trained technical staff for milk processing and marketing poses challenges.
- The unorganized nature of the Indian milk market in local and peri-urban areas remains a significant weakness.
- The lack of government support for F.P.C.s poses an additional obstacle.

Table 1. The price difference between different marketing channels of milk

S.No.	Milk is sold to intermediaries by farmers.	Milk purchased by F.P.C. from members	Milk purchased by F.P.C. from Non-Members
1.	29 Rs/lit.	35 Rs/lit.	33 Rs/ lit
2.	34-37 Rs/lit.	48 Rs/lit.	46 Rs/lit

Table 2. Lavera milk and different milk products

S. No.	Product	Quantity	Price
1.	Ghee	1 Kg	700
2.	Curd	15 Kg	630
3.	Milk (Full Cream)	1 Kg	60
4.	Toned Milk	1 Kg	45
5.	Double Toned Milk	1 Kg	40
6.	Lassi (Bajra/Sweet)	200 ml	20/15
7.	Flavored Milk	200 ml	25
8.	Paneer	1 Kg	380
9.	Mawa	1Kg	100
10.	Ice Cream	15 nos.	600

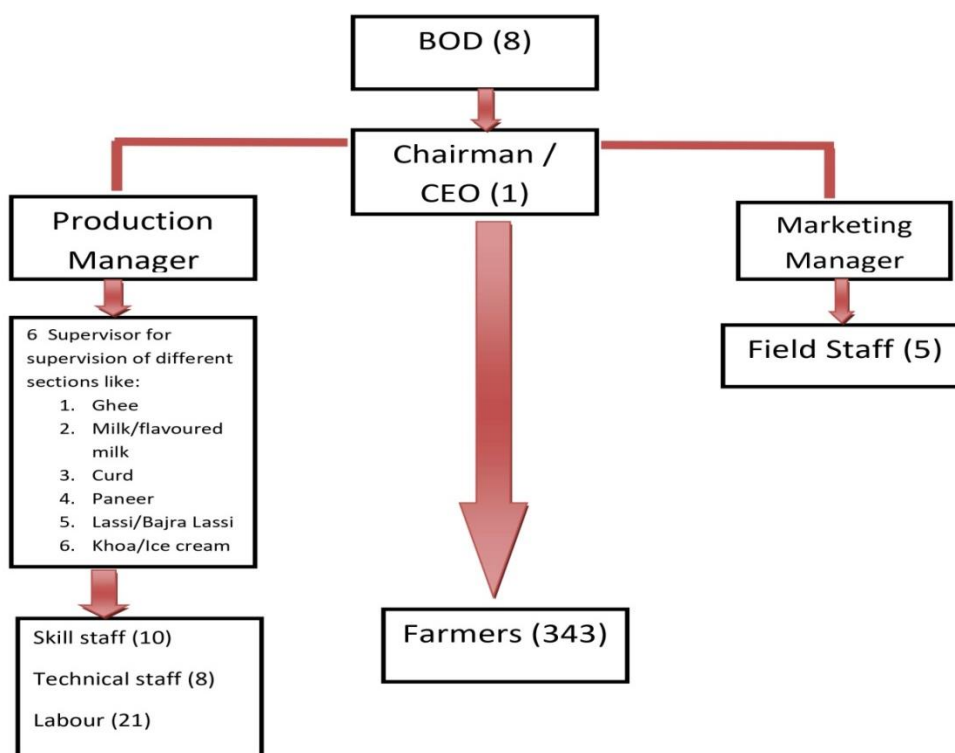


Fig. 1. Structure of F.P.C.

4.3 Opportunities

- Escalating consumer awareness and demand for branded and processed dairy products creates avenues for expansion.
- The potential for F.P.C. to extend its reach to small towns and diverse geographic locations is promising.
- The surge in demand for packaged milk aligns with Lavera's strategy of standardized packaging, positioning the company for increased market share.

- The ready availability of raw materials at local levels provides a competitive advantage.
- Growing consumption of milk and milk products will augment increased sales.
- The diversified product portfolio ensures F.P.C.'s long-term sustainability.
- Market studies inform product production, reducing wastage and optimizing time and costs.
- The prevalence of numerous intermediaries in the milk market adds complexity.
- Shifting government policies introduces uncertainties.
- Rising production costs, including labor and raw materials, threaten profitability.
- The long-term sustainability of F.P.C. is not assured.
- Potential conflicts and collaboration issues among shareholders are potential threats.

4.4 Threats

- Escalating global and local competition poses challenges.

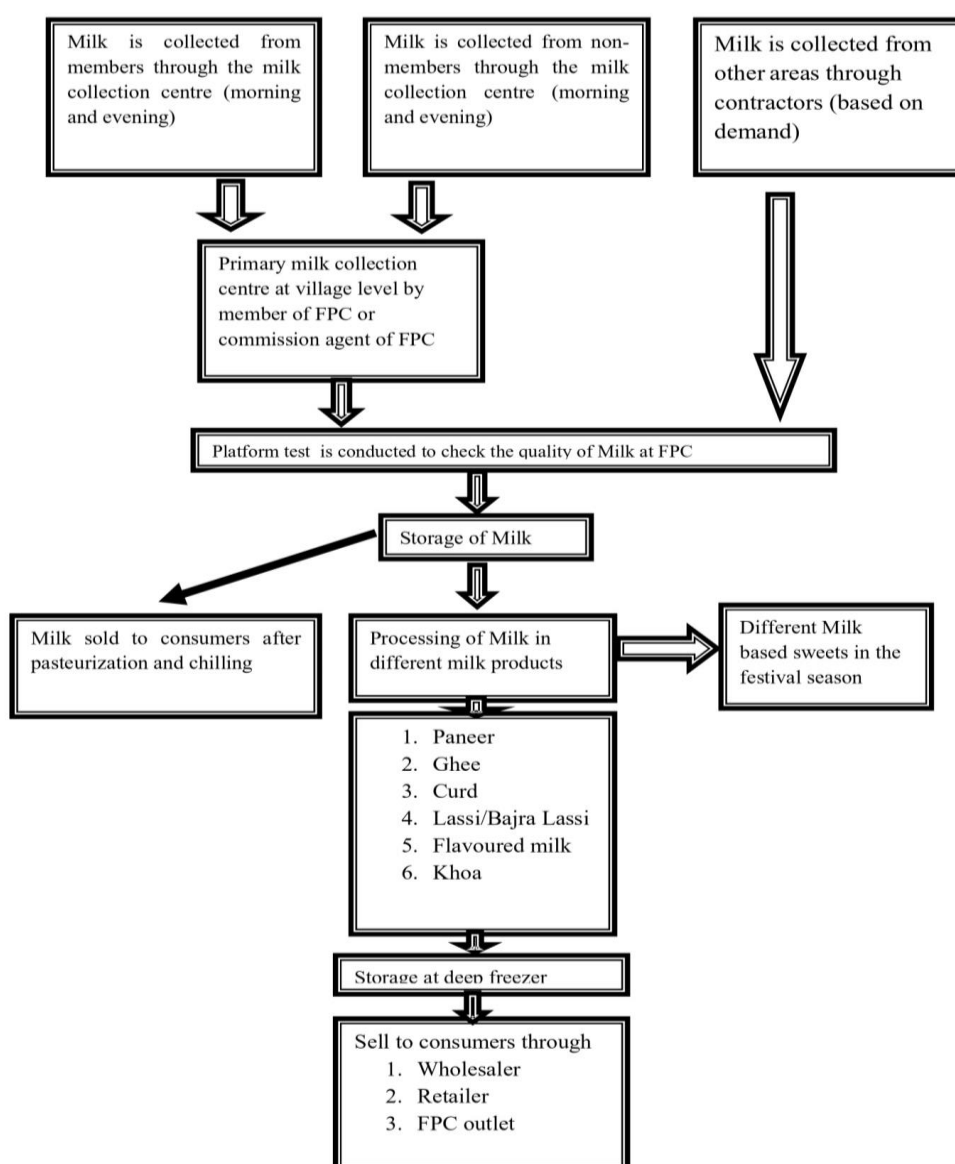


Fig. 2. Procurement, processing, and distribution of milk and milk products

Table 3. The basic profile of Ambala Farmer Producer Company limited, Lavera project

Parameters	1 st Year	2 nd Year	3 rd Year	4 th Year	5 th Year	6 th Year
Date of registration	Sep 02, 2015					
Corporate identity No.	U01403HR2015PTC056539					
Authorized capital (Rs. Lakh)	₹2,200,000	₹2,400,000	₹2,700,000	₹2,800,000	₹2,600,000	₹2,800,000
Paid up capital (Rs. Lakh)	₹2,100,000	₹2,100,000	₹2,300,000	₹2,500,000	₹2,100,000	₹2,500,000
Minimum share capital	1000 Rs	1000 Rs	1000 Rs	1000 Rs	1000 Rs	1000 Rs
Main promoter/Facilitator	Mr. Punnet Singh Thind					
Total number of shareholders	111	165	198	289	291	350
Shareholding Pattern	All shareholders purchase shares individually					
Education profile of the main farmer promoter	Graduation					
Number of directors	8	8	8	8	8	8
BoD meeting	Quarterly					
No. of BoD Meetings	4	4	4	4	4	4
No. of Prof. Managers (who pays them)	2	3	3	3	3	4
No. of employees	20	25	31	37	39	42
Avg. Size of holding of member (Range) in Ha	Landless-50 Marginal-120 = 1-2 hec. Small-40= 3-4 hec. Large-20=>5 hec.					
Villages Covered	5	7	8	8	8	9
Number of women as members	25	34	50	59	89	127
Business activity of F.P.C.						
Main business	Milk collection, processing, and marketing of milk and milk products. Agricultural and animal husbandry service activities, except veterinary activities					
Status of the company (Profit/loss in Rs.)	Profit	Profit	Profit	Profit	Loss Covid	Profit
Turnover (Rs. Lakh)	53 Lakh	1.1 cr	1.6 cr	2.9cr	-	3.9 cr
Source of working capital	A loan from a bank, members share, and funding from NABARD					

Parameters	1st Year	2nd Year	3rd Year	4th Year	5th Year	6th Year
Corporate and Govt. Linkage	F.P.C. has good linkage with various institutions. State agriculture and animal husbandry department NABARD and SFAC etc.					
Type of services provide	Advisory services, marketing facilities for milk, training, awareness, and capacity building of farms on different dairy aspects and cash cropping system.					
Service fee charged	Free of cost (It does not provide input services; it only offers capacity-building services for farmers, so it is free of cost).					
Satisfaction with various services (%)	Members are highly satisfied with the services provided by F.P.C. and its performance in the dairy sector and allied industries.					

4.5 Impact of F.P.C.

- Enhanced net returns for farmers and a secured milk market.
- Increased income for member farmers through value addition and product sales.
- Shareholders benefit from participation in the value chain, receiving bonuses based on their share.
- Doorstep milk collection, timely payments, and bonuses enhance shareholder satisfaction.
- F.P.C. fosters entrepreneurship among farmers, creating rural employment.
- Elimination of intermediaries amplifies producer shares in consumer revenue.
- Public awareness campaigns on scientific dairy farming and government policies contribute to capacity building.

5. CONCLUSION

The socioeconomic elevation of small and marginal farmers is achievable through collective action approaches and the commercialization of agricultural activities. Farmer Producer Companies (F.P.C.s) serve as catalysts, uniting small producers to build enterprises managed by professionals but owned by farmers. This collaborative model enhances farmers' share in secondary agricultural practices, fortifying their position in consumer markets and fostering socioeconomic development—the realization of doubling farmers' income hinges upon collective action, epitomized by the Farmer Producer Company.

DISCLAIMER

The products used in this research are commonly employed within our research area and country. The absence of conflict of interest between the authors and producers is affirmed, as the products are utilized solely for knowledge advancement. Funding for this research was independently sourced, devoid of contributions from the producing company.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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