



Comprehensive Study on Farmer Producer Organization in Idar Taluka, Gujarat

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Authors' contributions

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

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ABSTRACT

The modernization of India's agricultural sector is essential for realizing the vision of 'Viksit Bharat'. Farmer Producer Organizations (FPOs) play a crucial role in empowering small, marginal, and landless farmers by enabling collective action and enhancing income opportunities. This study, conducted from January 26 to March 26, 2025, focuses on the Annadata FPO in Idar Taluka, Gujarat. The objectives were to examine the profile of the FPO, assess the socio-economic characteristics of its members, and identify the challenges faced by member farmers and the Board of Directors. Using a descriptive research design and purposive sampling, data were collected from 100 member farmers. Results indicated that 59% of the respondents were aged between 41 to 60

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years, and 81% had only primary or secondary level education. In terms of income, 48% earned between ₹1–5 lakh annually. The most pressing organizational issue was lack of trust and conflicts among members (Garrett score: 58.30), followed by weak governance and leadership (51.65). Financial challenges included low financial literacy (52.92) and high interest rates (50.35). Key marketing constraints were limited awareness of market trends (55.66) and lack of branding and value addition (50.30). Input-related problems such as insufficient quantity (54.72) and high cost (49.64) were also prevalent. Major infrastructural issues included inadequate transportation (54.12) and storage facilities (52.48). For the Board of Directors, key concerns were poor leadership (5.58), inefficient logistics systems (5.94), and lack of business strategy awareness (5.58). The findings underscore the need for targeted interventions in capacity building, financial literacy, market integration, and infrastructure development to enhance the sustainability and impact of FPOs in rural India.

Keywords: FPO; small farmers; socio-economic profile; organizational challenges.

1. INTRODUCTION

India is one of the major players in the global agriculture sector and serves as the primary source of livelihood for approximately 55% of the country's population. The nation boasts the world's largest cattle herd (buffaloes) and the largest area under the cultivation of wheat, rice, and cotton. It is also the world's largest producer of milk, pulses, and spices. Additionally, India ranks as the second-largest producer of fruits, vegetables, tea, farmed fish, cotton, sugarcane, wheat, rice, and sugar. With the second-largest area of agricultural land globally, the sector continues to generate employment for nearly half of India's population, making farmers an integral part of the country's food and economic security (IBEF.ORG).

One of the major challenges in Indian agriculture is aggregating small and marginal farmers to effectively integrate them with organized agricultural markets. Smallholder agriculture plays a major role in world food security, as it helps the maintenance of millions of direct jobs (Ostroski *et al.*, 2019). These farmers often face economic constraints, limited access to market information, fluctuating commodity prices, and inadequate knowledge of modern agricultural practices including both pre and post-harvest operations. This issue is particularly pressing due to two key factors: (1) the increasing demand for high-quality agricultural and food products, and (2) the growing focus on realizing the full value of agricultural output to ensure fair remuneration for farmers while maintaining affordable prices for consumers (Verma *et al.*, 2021).

FPOs themselves encounter various challenges and issues that can hinder their effectiveness and sustainability (Tamuly *et al.*, 2023). To

address these challenges, Farmer Producer Organizations (FPOs) have emerged as a promising model. An FPO is a collective of at least ten farmers who come together to engage in agricultural and allied activities as a business, aiming to enhance the income levels of its members. FPOs allow members to aggregate their produce for collective sale often under a unified brand thereby strengthening their bargaining power in the market, reducing dependency on intermediaries, and enabling access to finance for purchasing quality inputs, logistics, and marketing services. Unlike other farmer groups, FPOs are unique in that they consist solely of farmers (both men and women), with no cap on the number of members; even multiple members from the same family can join (Yadav *et al.*, 2022). FPO is a type of Producer Organization (PO), which aims to ensure better income for the producers through an organization of their own. Small producers do not have the volume individually (both inputs and produce) to get the benefit of economies of scale (Pai *et al.*, 2024).

FPOs in India are registered under various legal frameworks, including the State Cooperative Acts, Cooperative Societies Act, Companies Act, Multi-State Cooperative Societies Act, Indian Trusts Act, and Societies Registration Act. Among these, the most common forms are those established under the Companies Act and the Cooperative Societies Act (Vahoniya *et al.*, 2022; Shalini *et al.*, 2022).

2. MATERIALS AND METHODS

The study employed a structured interview schedule to collect data aligned with its research objectives. It was conducted on the Annadata Khet Utpadak Sahkari Mandali located in Idar

Taluka of Gujarat, utilizing primary data collected from member farmers and secondary data sourced from relevant literature, official publications, and websites. A descriptive research approach was adopted to identify the key problems faced by member farmers. Using probability sampling techniques, a total of 100 member farmers were selected for the study. The field survey was carried out over a duration of 60 days. Data were analyzed using tabular presentation methods and appropriate statistical tools, with a particular emphasis on the Henry Garrett Ranking Method to prioritize the challenges reported by farmers.

The Garrett Ranking Technique was applied to determine the severity of the problems faced by farmers. Respondents were asked to rank

various issues based on their perceived seriousness. These ranks were converted into percentage positions using the following formula:

$$\text{Percentage position} = 100 (R_{ij} - 0.5) / N_j$$

Where,

R_{ij} = Rank given for the i^{th} variable by j^{th} respondent

N_j = Number of variables ranked by j^{th} respondent

The calculated percentage positions were then converted into Garrett scores using a standard conversion table. Mean Garrett scores were computed for each factor, and these averages were used to assign the final rankings of the identified problems.

3. RESULTS AND DISCUSSION

3.1 The Study of the Profile of FPO

Table 1. The profile of FPO

1	Name of the FPO	Annadata khet utpadak sahkari mandali ltd, Idar
2	Address of FPO	Shop No: 11, Sakariya, Ganesh Nagar, Barvav Road, Ta- Idar, District- Sabarkantha, Gujarat- 383430
3	Date of registration/incorporation of FPO	17/11/2021
4	Name of CEO/manager and date of appointment	Gaurangbhai J Patel 01/12/2021
5	Registration number	REG/SAB/SE(FPO)41578/2021
6	Registered under	Gujarat Co-Operative Societies Act. 1961
7	Objectives of the FPO	Direct benefit to the farmers
8	Implementing agency	NCDC
9	CBBO	IFFCO Kisan Sanchar Limited
10	Total No. of members in FPO	449
11	Total No. of women in FPO	46
12	Caste/community of members (majority)	General
13	Date of last annual general meeting (AGM)	30/09/2024
14	Date of latest balance sheet	29/09/2024
15	No. of directors	12
16	No. of Women directors among total directors	1
17	Mode of board formation(election/nomination)	Nomination
18	Authorized share capital	5,00,000
19	Paid up capital (Rs. Lakh)	1,66,900
20	Membership fee (Rs)	10 Rs.
21	Maximum shareholding of an individual shareholder member	2000
22	Jurisdiction covered	Villages in Idar taluka, Sabarkantha
23	Key crops/ commodities handled by the FPO	Groundnut, Wheat, Maize, Bajara
24	Main business	Input supply (seeds. fertilizer, pesticide)

(Jhansi & Kalal,2023) and (Shalini et al,2022)

3.2 The study of the Socio-economic Profile of Member Farmers

The results revealed that 27% of the farmers were in the 21 to 40-year age group, 59% were between 41 to 60 years, and the remaining 14% were above 60 years of age. In terms of educational attainment, 12% of the respondents were illiterate, while 41% had studied up to the primary level. Additionally, 28% had completed education up to the Secondary School Certificate (SSC) level, 14% up to the Higher Secondary Certificate (HSC) level, and only 5% had attained graduate-level education or above. These figures suggest that a majority of the farmers have basic to intermediate education, with only a small proportion achieving higher education.

Regarding income levels, 48% of the farmers reported an annual income between ₹1 to ₹5 lakh, followed by 24% earning ₹5 to ₹10 lakh,

15% earning less than ₹1 lakh, and 13% earning more than ₹10 lakh from farming activities. This indicates that the majority of the farmers fall within the middle-income bracket of ₹1 to ₹5 lakh per annum.

Family size distribution showed that 56% of farmers had 3 to 5 members in their households, while 41% reported having more than five members. This indicates that most farming families are moderate to large in size, with very few consisting of only 1–2 members.

Landholding patterns revealed that 35% of the farmers owned land in the range of 2 to 4 acres, making this the most common landholding size. Additionally, 25% had 1 to 2 acres, 20% had less than 1 acre, 15% had 4 to 10 acres, and only 5% possessed more than 10 acres. This distribution suggests that the majority of member farmers are small to semi-medium landholders, primarily owning between 2 to 4 acres of land.

Table 2. The socio-economic profile of member farmers

SN	Characteristics	Category	No	Percentage
1	Age	21-40 Years	27	27
		41-60 Years	59	59
		Above 60 Years	14	14
2	Education	Illiterate	12	12
		Up to Primary	41	41
		≤ SSC	28	28
		≤ HSC	14	14
		Graduation & above	5	5
3	Annual income	< 1 lakh	15	15
		1-5 lakhs	48	48
		5-10 lakhs	24	24
		>10 lakhs	13	13
4	Family size	2 Member	3	3
		3 to 5 Member	56	56
		Above 5 Member	41	41
5	Total land holding	< 1 acre	20	20
		1-2 acre	25	25
		2-4 acre	35	35
		4-10 acre	15	15
		>10 acre	5	5
6	Irrigation	Canal Irrigation	20	20
		Borewells	45	45
		Open wells	25	25
		River	10	10
7	Gender	Male	95	95
		Female	5	5
8	Occupation	Agriculture	35	35
		Agriculture +Animal Husbandry	45	45
		Agriculture +other	20	20

(Dechamma et al., 2020)

3.3 To identify the Problems Faced by Member Farmers and Board of Director

The study identified several key organizational challenges faced by member farmers within the Farmer Producer Organization (FPO). The most significant issue, with the highest average Garrett score of 58.30, was the lack of trust and conflicts among members, which emerged as the primary barrier to effective collaboration and functioning. This was followed by weak governance and leadership (score: 51.65), indicating that ineffective leadership often results in poor strategic direction and diminished member confidence. The third major challenge was limited organizational vision and planning, scoring 48.85, which restricts the FPO's capacity for long-term growth and adaptability to market changes. Poor communication and information dissemination were identified as the fourth challenge, with an average score of 47.85, highlighting the need for better internal

communication systems. The final challenge, with the lowest score of 41.35, was inadequate capacity for collective decision-making, suggesting a lack of skills, structures, or opportunities for meaningful member participation in group decisions.

The findings reveal that the lack of financial literacy is the most critical financial challenge faced by member farmers, receiving the highest average Garrett score of 52.92. This underscores a significant gap in understanding basic financial concepts and available services. The second and third major challenges are high interest rates on loans (score: 50.35) and limited access to credit or loans (score: 50.18), both of which restrict farmers' ability to invest in agricultural inputs and expansion. Delayed payments for produce, with a score of 49.60, further affect cash flow and hinder effective financial planning. Lastly, high membership fees, scoring 44.95, pose a barrier to entry and active participation, particularly for small and marginal farmers.

Table 3. Organizational problems faced by member farmers

Organizational problems	Average score	Rank
Lack of trust and conflicts among members	58.30	1
Weak governance and leadership within the FPO	51.65	2
Limited organizational vision and planning	48.85	3
Poor communication and information dissemination	47.85	4
Inadequate capacity for collective decision making	41.35	5

Table 4. Financial problems faced by member farmers

Financial problems	Average score	Rank
Lack of financial literacy	52.92	1
High interest rate on loan	50.35	2
Limited access to credit or loan	50.18	3
Delayed payment for produce	49.60	4
High membership fees	44.95	5

Table 5. Marketing problems faced by member farmers

Marketing problems	Average score	Rank
Limited awareness of market demand, trends and pricing	55.66	1
Inadequate branding and lack of value addition	50.30	2
Poor linkage with institutional buyers, retailers and exporters	48.22	3
Dependence on intermediaries for market access	47.10	4
Low or unfair price for produce	46.72	5

Table 6. Input supply problems faced by member farmers

Input supply problems	Average score	Rank
Insufficient quantity of input	54.72	1
High cost of input	49.64	2
Delayed delivery of input	49.34	3
Difficulty in accessing subsidized input	47.90	4
Poor quality of input	46.40	5

The analysis reveals that the limited awareness of market demand, trends, and pricing is the most significant marketing challenge faced by member farmers, with the highest average Garrett score of 55.66, indicating a critical knowledge gap in understanding market dynamics. The second major challenge is inadequate branding and lack of value addition, scoring 50.30, which negatively impacts the competitiveness and profitability of their produce. This is followed by poor linkage with institutional buyers, retailers, and exporters (score: 48.22), which further limits market access and growth opportunities. The dependence on intermediaries (score: 47.10) and receiving low or unfair prices for produce (score: 46.72) were ranked fourth and fifth, respectively, highlighting the urgent need to strengthen direct marketing channels and ensure fair price realization for farmers.

Member farmers face several input-related challenges that significantly hinder timely and efficient agricultural operations. The most critical issue is the insufficient quantity of inputs, which received the highest average Garrett score of 54.72, indicating its major impact on productivity and farm planning. This is followed by the high cost of inputs (score: 49.64), which makes essential agricultural materials unaffordable, particularly for small and marginal farmers.

Delays in the delivery of inputs, with a score of 49.34, further disrupt sowing schedules and crop management. Another prominent issue is the difficulty in accessing subsidized inputs (score: 47.90), which limits farmers' ability to fully benefit from government support schemes. Lastly, the poor quality of inputs (score: 46.40) negatively impacts crop yields and undermines farmers' confidence in the supply system. Addressing these challenges is essential to improve the availability, affordability, and reliability of agricultural inputs.

Member farmers of FPOs face several infrastructure and resource-related challenges that impact their efficiency and productivity. The most pressing issue is inadequate transportation infrastructure, followed by the lack of proper storage facilities, such as warehouses and cold storage units, with average Garrett scores of 54.12 and 52.48, respectively. These deficiencies hinder the timely movement and preservation of produce. Limited access to value addition through processing units and insufficient digital infrastructure for online marketing further restricts the FPOs' ability to enhance product value and expand market reach. Additionally, unreliable electricity and water supply for irrigation continue to affect farm operations and overall agricultural output.

Table 7. Infrastructure and resource problems faced by member farmers

Infrastructure and resource problems	Average score	Rank
Inadequate transportation infrastructure	54.12	1
Lack of storage facilities like warehouse and cold storage units	52.48	2
Limited access to processing units for value addition	48.58	3
Insufficient digital infrastructure for online marketing/ communication	48.20	4
Unreliable electricity and water supply for irrigation	47.22	5

Table 8. Capacity building problems faced by board of director

Capacity building problems	Average score	Rank
Insufficient awareness of market trends and business strategies	5.58	1
Limited knowledge of financial planning and budgeting	5.51	2
Poor understanding of legal and compliance requirement	5.12	3
Limited exposure to agricultural value chain and innovation	4.96	4
Lack of business management skills among board of members	3.63	5

Table 9. Operational and management problems faced by board of director

Operational and management problems	Average score	Rank
Inefficient system for supply chain and logistics management	5.94	1
Lack of skilled professionals to manage day-to-day operations	5.06	2
Difficulty in implementing technological solutions due to resistance	4.86	3
Poor record-keeping and documentation practices	4.49	4
Overlapping roles and unclear responsibilities of board of members	4.45	5

Table 10. Governance and leadership problems faced by board of director

Governance and leadership problems	Average score	Rank
Poor leadership in driving the FPO' vision	5.58	1
Conflict of interest among board members	5.06	2
Lack of effective decision-making skill	4.86	3
Limited experience in corporate governance	4.49	4
Ambiguity in roles and responsibilities	4.45	5

The findings reveal that the Board of Directors faces several capacity-building challenges that hinder effective governance and strategic decision-making within the FPO. The most severe challenge is the insufficient awareness of market trends and business strategies, which received the highest average score of 5.58. This is followed by limited knowledge of financial planning and budgeting, with an average score of 5.51, ranking as the second most critical issue. In contrast, limited exposure to the agricultural value chain and innovation, along with a lack of business management skills among board members, were identified as the least severe problems, though they still represent important areas for development.

The Table 9 highlights the key operational and management challenges faced by the Board of Directors, ranked using Garrett's ranking method. The most critical issue identified is an inefficient system for supply chain and logistics management, which received the highest average score of 5.94. This is followed by the lack of skilled professionals for daily operations (average score: 5.06) and resistance to implementing technological solutions (score: 4.86). Other notable concerns include poor record-keeping and documentation (score: 4.49). The least severe problem reported was overlapping roles and unclear responsibilities among board members, indicating the need for clearer role definitions and governance structures.

Table 10 indicates that "Poor leadership in driving the FPO's vision" was ranked as the most critical governance and leadership challenge faced by the Board of Directors, with the highest Garrett score of 5.58 at the overall level. This reflects a significant gap in strategic direction and organizational alignment. The second most important issue identified was "Conflict of interest among board members", which received a Garrett score of 5.06. In contrast, the least severe problem reported was "Ambiguity in roles and responsibilities of board members",

highlighting the need for improved role clarity and internal governance frameworks.

4. CONCLUSION

The study conducted on the Annadata Khet Utpadak Sahkari Mandali in Idar Taluka, Gujarat, highlights multiple challenges faced by both member farmers and the Board of Directors of the FPO. Demographically, 59% of farmers were aged between 41 to 60 years, and a majority (81%) had education only up to the primary or secondary level, indicating limited formal education. Income-wise, 48% of farmers earned between ₹1 to ₹5 lakh annually, reflecting modest financial capacity. Organizationally, the most critical issue was lack of trust and conflicts among members (Garrett score: 58.30), followed by weak governance and leadership (51.65). Financial challenges were led by low financial literacy (52.92), and high interest rates and limited access to credit (50.35 and 50.18, respectively). On the marketing front, limited awareness of market demand and trends (55.66) and inadequate branding and value addition (50.30) were major constraints. Input-related issues included insufficient quantity of inputs (54.72) and high input costs (49.64). Infrastructure gaps such as poor transportation (54.12) and lack of storage facilities (52.48) further compounded operational difficulties. The Board of Directors also faced strategic and functional limitations, particularly insufficient awareness of market trends and business strategies (score: 5.58), and inefficient supply chain systems (5.94). Governance issues such as poor leadership (5.58) and conflict of interest (5.06) further undermined effective FPO management. Overall, the findings suggest that capacity building, infrastructure development, financial literacy, and improved governance mechanisms are crucial for enhancing FPO performance and ensuring sustainable benefits for member farmers.

5. SUGGESTIONS

To strengthen Farmer Producer Organizations (FPOs), transportation infrastructure should be

developed to enable the collection of produce directly from farmers' doorsteps. Setting up community-level cold storage and processing units can significantly reduce post-harvest losses and improve value addition (Shalini *et al.*, 2022). Encouraging FPOs to procure agricultural inputs in bulk will help them access better pricing and reduce input costs (Radadiya *et al.*, 2022). Strict quality checks and certification of input suppliers must be enforced to ensure input reliability. Moreover, simplifying loan application procedures and reducing documentation can improve access to institutional credit for smallholders (Tamuly *et al.*, 2023). Finally, targeted capacity-building programs for FPO board members are essential to enhance their governance, financial planning, and strategic decision-making capabilities (Yadav *et al.*, 2022).

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.

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