

A Study on Capacity Building of Board of Directors of Farmer Producer Organisations [Fpo's] In Western Maharashtra

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Abstract

Farmer Producer Organizations (FPOs) are member-based collective enterprises that are pivotal in sustainable agribusiness and poverty alleviation. However, many of these organizations face challenges in professional management. The study measures the capacity building needs, existing competencies and training gaps of the FPO Boards of Directors (BoDs) in Western Maharashtra. A descriptive-cum-diagnostic (ex-post facto) research design was used and data was collected through in-depth interviews, focus group discussions and a structured questionnaire administered to 650 respondents from five districts of Western Maharashtra selected by multi-stage stratified random sampling. Descriptive statistics and chi-square test of association were used to analyze the data. The governance foundations were sound, with strong democratic practices and grassroots participation. Leadership is still concentrated among older, male members, with limited participation of younger farmers and women. Only 28.62% of the respondents had formal training and 62.46% rated the existing training as inadequate. Directors showed strong operational and planning skills but weaker capabilities in business plan writing, digital marketing, and financial analysis. Over 80% of FPOs were not profitable, and a significant association was found between self-driven FPO status and productivity ($\chi^2(1, N = 650) = 65.55, p < 0.05$). Practical The findings support modular, context-sensitive, hands-on capacity-building programmes over generic, one-size-fits-all training, with priority given to business planning, digital marketing, and financial management, alongside deliberate efforts to broaden leadership participation among women and younger farmers.

Keywords Farmer Producer Organizations; Board of Directors; Capacity Building; Governance; Training Needs; Western Maharashtra

Introduction

1.1 Introduction:

A Farmer Producer Organization (FPO) is a member-driven institution formed for the collective benefit of its farmer-members, contributing to sustainable agribusiness, employment generation and poverty mitigation, and increasingly central to rural Sustainable Development Goals. This research informs trainers and policy makers about the capacity-building needs of FPO Boards of Directors (BoDs), so that need-based, regionally relevant training can be designed for every FPO.

Professional management remains a major constraint: nearly 45% of FPOs older than five years have become dormant. Alongside the one-member-one-vote principle, adequate small and marginal farmer representation on the Board, and capacity building to run professional farm businesses, are needed to address working capital, financial sustainability and skilled-manpower constraints. Evidence from Maharashtra suggests weak professional management and technical skills, rather than structural design, are the principal threat to FPO viability, with persistent training gaps in leadership, digital marketing and financial management supporting modular, context-sensitive capacity building delivered locally, rather than a one-size-fits-all design.

The study, **“A STUDY ON CAPACITY BUILDING OF BOARD OF DIRECTORS OF FARMER PRODUCER ORGANISATIONS [FPO’S] IN WESTERN MAHARASTRA,”** examines how capacity-building programmes for BoDs can strengthen organizational effectiveness and farmer outcomes, supporting FPOs that are independent, farmer-centric and formal business organizations.

1.2 Statement of the Problem

An FPO is typically a body corporate registered as a Producer Company under the Companies Act, undertaking production, harvesting, processing, grading, market linkage, sales, export and technical assistance for members’ produce, alongside consultancy, training, welfare and financial services. Nearly 75% of Indian farmers are small and marginal, depending on agriculture despite growing land fragmentation.

A structured Training of Trainers, built around a practical manual, is needed to help Boards govern self-controlled, business-oriented FPOs covering institution building, business development, legal/statutory compliance and soft skills motivating the present study.

1.3 Literature Review

Literature on capacity building of FPO Boards of Directors, drawn from Scopus and Science Direct, was reviewed to situate this study locally and globally.

Jonathan Ziebula (2019) noted that small farmers face constraints accessing information, technology, credit and markets, while food industries struggle to source directly from them due to high transaction costs, weakening supply-chain efficiency and food safety.

Moustier, Tam, Anh, Binh and Loc (2010) found limited credit access to be the biggest constraint for small farmers seeking supermarket-linked opportunities, pointing to a need for rural infrastructure investment and third-party food-safety certification.

Anika Trebbin and Markus Hassler (2012) and **Preeti Sawairam (2015)** both found that FPOs help small farmers access value-oriented export and modern retail markets, though liberalisation and growing corporate interest in agribusiness leave them vulnerable amid weak state support; success depends on institutional support, collective action, and critically the quality and integrity of leadership.

U. Goswami and Shazeed Ahmed (2026) studied governance and capacity building across 56 FPOs and 270 board members in Assam, and found that despite appointed CEOs and governance training, there were gaps in technical expertise, stakeholder engagement, female representation and expert directorship; indicating the need for focused training in legal literacy and practical governance skills.

Research gap: Research on governance transparency and elite capture in FPOs is limited. Very few studies have been conducted to see to what extent FPOs' board decisions are democratic and financial flows are transparent to the member-farmers. This study fills this gap.

1.4 Research Methodology

1.4.1 Objectives of the study:

- 1) To examine the socio-economic and demographic profile of FPOs.
- 2) To understand challenges faced by managements of FPOs through capacity building and training programs.
- 3) To identify key governance issues in planning, marketing, financial management, operations and leadership development.
- 4) To analyze how far training interventions build FPO members' competencies.
- 5) To suggest strategies and policy implications for capacity building.

1.4.2 Hypotheses:

H₀: No association between self-driven farmer FPO and productivity

H₁: Close association between self-driven farmer FPO and productivity

1.4.3 Research Design:

Descriptive-cum-diagnostic (ex-post facto) design, a mixed-method approach combining quantitative survey with qualitative focus group discussions.

1. Method of data collection:

- **Primary Data collection:**

- 1) **Primary data:** in-depth open-ended interviews (one office bearer and one stakeholder per FPO), focus group discussions with small and marginal farmers, and a structured questionnaire on FPO management.
- 2) **Universe of study:** five purposively selected districts of Western Maharashtra-Pune, Satara, Kolhapur, Sangli and Solapur chosen for high FPO density and crop diversity, with one active FPO sampled per district.

Multi-stage stratified random sampling method is adopted as follows:

Table 1.5.1: Multi-Stage Stratified Random Sampling Procedure

Stage	Unit	Method
I	District	5 districts selected purposively (all of Western Maharashtra)
II	FPO	Proportionate stratified random selection of FPOs per district based on total functional FPOs (approx. 120–150 FPOs, ~5–7 BoD respondents per FPO)
III	Respondent (BoD member Farmers)	Simple random selection of Chairperson, 3–4 Directors, and Farmers (where treated as ex-officio) per selected FPO

Five districts of Western Maharashtra with different types of FPOs were selected using the Taro Yamane method:

$$n = \frac{N}{1+N(e)^2}$$

Table 1.5.2: Selected Farmer Producer Organizations in Western Maharashtra

Selected registered Farmer producer organizations in Western Maharashtra	District	No of Respondents selected original ($N = 851$)	No of Respondents selected after Data cleaning ($n = 650$)	Percentage
Ajara Agro Producer Company, Ajara. Kolhapur	Kolhapur	168	129	19.7
Shree Mahaganapati agro producer company, Thanapude. Sangali	Sangli	172	131	20.2
Nagthane agrovision producer company, Satara	Satara	114	87	13.4
Vennavhelli agro producer company, Mendha. Satara	Satara	44	34	5.2
Krushhi Sangam farmer producer company, Koparde. Satara	Satara	87	66	10.2
Karhamai agro producer company limited. Pune	Pune	81	62	9.5
Yashaswini Agro producer company, Boramani. Solapur	Solapur	137	104	16.1
Bhose Agro producer company, Bhose, Solapur	Solapur	48	37	5.6
Total Sample size selected		851	650	100.0

Source: Using Taro Yamane method (Total registered shareholder farmer members in five districts = 1559; total sample initially selected = 851; final sample after data cleaning = 650)

3) Sample size justification: The initial sample of 851 was calculated using the Taro Yamane (1967) formula at 95% confidence for a population of 1,559 registered FPO shareholder-farmers ($n = N / (1 + N(e)^2)$). After excluding incomplete or inconsistent responses, the final valid sample was 650, with a response rate of 76.5% and a margin of error of less than 3% at 95% confidence. The sample was statistically acceptable for the rigor of the research.

- **Secondary data:** Government and other published research resources.

Solving the same formula backward for $n = 650$:

$$650 = 1559 / (1 + 1559e^2) \rightarrow e \approx 2.99\% (\sim 3\%)$$

The survey of 650 respondents has a margin of error of less than 3% at a 95% confidence level. Which is considered statistically sufficient for research rigor.

1) Method of secondary data collection:

Wherever necessary, secondary data published by central government and state government and other research studies including souvenir published by lead district banks in every district and data published on websites by government agencies have been used at relevant places in the district profile.

2) Study Variables

Independent Variables: Age Education Farming Experience Land Holding Position in FPO (Chairperson/ Director/CEO) Age of FPO (Years since Registration) Crop/Commodity Focus Membership Size Training Exposure (Frequency, Duration, Agency)

Dependent variables: Managerial competence level (6 dimensions as per Kumari et al. 2023 framework), perceived performance/sustainability of FPO.

Based on the validated framework of Kumari, Bisht & Naberia (2023), a competency inventory of 25-30 statements will be developed/adapted on a five-point scale (Very Little True = 1 to Very Highly True = 5) covering six factors

1. Planning & Business Development
2. Marketing Management
3. Controlling Operations
4. Financial Management
5. Democratic Leadership
6. Managing Business Operations

Overall competency score = Sum of item scores; categorized into Low/Medium/High using mean $\pm SD$.

1.4.4 Statistical Tools for Analysis

- Frequency, percentage, mean, (descriptive profile)
- Chi-square test (association between categorical variables)

1.5 Results and Data Analysis

Table 1: Type of FPO

Sr. No.	Responses	No. of Respondents	Percentage
1	Producer Company	447	68.77%
2	Cooperative	41	6.31%
3	Other (Private, Pvt Trading)	162	24.92%
	Total	650	100.00%

Source: Field study

The Producer Company is the dominant organizational form (over two-thirds of respondents 68.77%) and the cooperative structure is relatively rare (6.31%). A large proportion (24.92%) continue to work through private or trading arrangements, reflecting the move of the sector toward the Producer Company model favored by current policy.

Table 2: Principal Crop of the FPO

Sr. No.	Responses	No. of Respondents	Percentage
1	Food Grains (Rice Indrayani, Bajra, Ghansal, Jowar, Wheat)	109	16.77%
2	Oil Seeds (Soybean, Sunflower)	27	4.15%

Sr. No.	Responses	No. of Respondents	Percentage
3	Fruits (Grapes, Pomegranate, Banana, Strawberry)	190	29.23%
4	Vegetables (Onion, Ginger)	81	12.46%
5	Sugarcane	81	12.46%
6	Turmeric	81	12.46%
7	Dry Fruits (Cashew)	27	4.15%
8	Flowers (Rose)	27	4.15%
9	Dairy (Cow Milk)	27	4.15%
	Total	650	100.00%

Source: Field study

Fruit cultivation (grapes, pomegranate, banana, strawberry) is the major cropping pattern among the respondents (29.23%) followed by food grains (16.77%). Sugarcane, turmeric and vegetables are at 12.46% each. Oilseeds, dairy, flowers and dry fruits are still marginal at 4.15% each, indicating limited diversification into these lower quantity commodities.

Table 3: Total Membership of FPO

Sr. No.	Responses	No. of Respondents	Percentage
1	1001 – 1500	130	20.00%
2	501 – 1000	260	40.00%
3	100 – 500	260	40.00%
	Total	650	100.00%

Source: Field study

The membership size is evenly distributed between the 501–1000 and 100–500 brackets (40% each) with a lower proportion of larger FPOs in the 1001–1500 range (20%). Thus, small and medium FPOs dominate the sample, together accounting for four-fifths of the respondents.

Table 4: Age-wise Classification of Respondents

Sr. No.	Responses	No. of Respondents	Percentage
1	50 and above	347	53.38%
2	40-50	303	46.62%
3	30-40	0	0.00%

Sr. No.	Responses	No. of Respondents	Percentage
4	20-30	0	0.00%
Total		650	100.00%

Source: Field study

The entire sample is over age 40, with just over half of respondents (53.38%) being 50 or older. The fact that no respondent was under 40 is indicative of a generational gap in FPO board leadership and raises questions about succession planning and youth participation in governance.

Table 5: Gender of Respondents

Sr. No.	Responses	No. of Respondents	Percentage
1	Male	607	93.38%
2	Female	43	6.62%
3	Other	0	0.00%
Total		650	100.00%

Source: Field study

The gender composition of the boards is extremely skewed toward men (93.38%) with women representing only 6.62% of the respondents, with no representation from other gender categories. This underlines a persistent gender imbalance in the leadership of FPOs that calls for targeted inclusion policies.

Table 6: Educational Qualification of Respondent

Sr. No.	Responses	No. of Respondents	Percentage
1	Illiterate	0	0.00%
2	Primary	0	0.00%
3	Secondary	217	33.38%
4	Higher Secondary	130	20.00%
5	Graduate	217	33.38%
6	Post-Graduate	43	6.62%
7	Professional	43	6.62%

Sr. No.	Responses	No. of Respondents	Percentage
Total		650	100.00%

Source: Field study

In general, respondents are highly educated. No respondent was reported to be illiterate or educated only to primary level. Secondary and graduate qualifications are equally common (33.38% each) with smaller shares holding higher secondary (20.00%), postgraduate (6.62%) and professional (6.62%) qualifications indicating a reasonably literate leadership base for capacity building interventions.

Table 7: Farming Experience of Respondent (Years)

Sr. No.	Responses	No. of Respondents	Percentage
1	41 and above	203	31.23%
2	31-40	122	18.77%
3	21-30	203	31.23%
4	10-20	122	18.77%
Total		650	100.00%

Source: Field study

The experience of farming is polarized between the most experienced groups – 41 years and above and 21-30 years (31.23% each) and the moderately experienced groups of 31-40 years and 10-20 years (18.77% each) indicating a board membership built on long practical exposure to agriculture.

Table 8: Land Holding of Respondent (Acres)

Sr. No.	Responses	No. of Respondents	Percentage
1	Above 11 acres	325	50.00%
2	8-11 acres	81	12.46%
3	5-8 acres	125	19.23%
4	2-5 acres	119	18.30%
5	Less than 2 acres	0	0.00%
Total		650	100.00%

Source: Field study

Table 9: Annual Family Income of Respondent (₹)

Sr. No.	Responses	No. of Respondents	Percentage
1	1-5 lakh	302	46.46%
2	5-10 lakh	151	23.23%
3	10-15 lakh	46	7.08%
4	15-20 lakh	30	4.62%
5	Above 20 lakh	15	2.31%
6	Not Responded	106	16.31%
Total		650	100.00%

Source: Field study

About 46.46% of the respondents have their annual family income between ₹1–5 lakh. If we add the next bracket, seven in ten respondents have their annual family income between ₹1–10 lakh. Such a lower middle income profile may limit board members' ability to devote time and resources to governance responsibilities.

Table 10: Years of Association with FPO

Sr. No.	Responses	No. of Respondents	Percentage
1	16 and above	0	0.00%
2	11-15	284	43.69%
3	6-10	203	31.23%
4	Below 5 years	163	25.08%
Total		650	100.00%

Source: Field study

Three-quarters of the members in the above table have been in the FPOs membership for more than six years or more, with the largest single group, 43.69%, being in the 11–15 year range. This long tenure is a reflection of the build-up of institutional knowledge, although income levels are still modest.

Table 11: Prior Experience in Cooperative/SHG/Other Organization

Sr. No.	Responses	No. of Respondents	Percentage
1	Yes	433	66.62%
2	No	217	33.38%

Sr. No.	Responses	No. of Respondents	Percentage
Total		650	100.00%

Source: Field study

From the above table it is observed that two-thirds of the respondents (66.62%) had experience of working in the cooperatives, SHGs or similar organizations prior to joining an FPO, which could have helped them to adapt to collective decision-making and compliance requirements.

Table 12: Training/Capacity-Building Programme Received

Sr. No.	Responses	No. of Respondents	Percentage
1	Yes	186	28.62%
2	No	464	71.38%
Total		650	100.00%

Source: Field study

From the above mentioned table it is reflected that nearly three-quarters of respondents i.e. (71.38%) have never attended any training or capacity-building programme, leaving only 28.62% with formal exposure a clear indicator of the scale of the capacity gap among FPO board members.

Table 13: Details of Training/Capacity-Building Programme Received

Sr. No.	Training Subject	Institution	No. of Days	Mode	No. of Respondents	Percentage
1	General Management, Director Responsibilities, Crop Information	NABARD, NCDC, Agri Department, ATMA, KVK	2-8 days	Lecture, Workshop	186	28.62%
2	Training Not Received	-	-	-	464	71.38%
Total					650	100.00%

Source: Field study

Above data in the table of the trained, general management, director responsibilities and crop knowledge sessions were delivered, mostly as short 2-8 day lectures or workshops by NABARD, KVK, NCDC, the Agriculture Department and ATMA, with NABARD and KVK being the primary providers, but the limited reach of this training (28.62% of respondents) highlights the need for a more systematic, wider-reaching program.

Table 14: Topics Covered in Training Need Analysis

Sr. No.	Responses	No. of Respondents	Percentage
1	General Governance & Management	119	18.31%
2	Roles/Responsibilities of BoD & CEO	15	2.31%
3	Financial Management/Book-keeping	59	9.08%
4	Business Plan Preparation	45	6.92%
5	Marketing Strategy	104	16.00%
6	Value Addition/Processing	104	16.00%
7	Government Schemes for FPOs	30	4.62%
8	Others	44	6.77%
9	Training Not Received	130	20.00%
Total		650	100.00%

Source: Field study

Above table depicts training need analysis and it is observed that the most cited training need is general governance and management (18.31%) very closely followed by marketing strategy and value addition/processing (16.00% each). One-fifth of respondents (20.00%) report no training at all, and the large spread across competency areas ($SD = 38.84$) indicates varied and largely unmet training demand.

Table 15: Overall Adequacy of Training Received

Sr. No.	Responses	No. of Respondents	Percentage
1	Highly Inadequate	41	6.31%
2	Inadequate	365	56.15%
3	Adequate	244	37.54%
4	More than Adequate	0	0.00%
5	Highly Adequate	0	0.00%
Total		650	100.00%

Source: Field study

The majority of respondent's i.e. (62.46%) opined that they consider the training they received as inadequate or highly inadequate against 37.54% which consider it adequate. No respondent considered training to be anything but adequate, demonstrating that current capacity building activities are far below members expectations.

Table 16: Usefulness of Training Delivery Methods Experienced**(1 = Lowest, 5 = Highest)**

No.	Responses	1	2	3	4	5	Grand Total	Std. Dev.	Mean	Rank
1	Lectures/PPT	38	0	115	421	76	650	0.874	3.76	1
2	Slideshow talks	41	41	40	447	81	650	0.971	3.75	2
3	Field exposure visits	41	41	122	365	81	650	0.995	3.62	3
4	Interface with officials	41	0	203	366	40	650	0.865	3.56	4
5	Workshops/role play/simulation	41	81	163	284	81	650	1.060	3.44	5
6	Handholding/mentoring	87	173	260	43	87	650	1.168	2.80	6

Source: Field study; mean and standard deviation calculated using the weighted average method

Above table signifies usefulness of training delivery methods and it is observed that the most useful are rated as lecture and slideshow-based delivery (means of 3.76 and 3.75 respectively with the tightest agreement among respondents). Handholding/mentoring scores lowest (mean 2.80, SD 1.168) and has the widest disagreement. This is interspersed by Field visits and interaction with officials (means 3.62 and 3.56). The low rating for hands-on mentoring implies it is either under-delivered or poorly executed, but has potential value for practical skill transfer.

Table 17: Problems/Constraints in Capacity Building (1 = Lowest, 5 = Highest)

No.	Responses	1	2	3	4	5	Grand Total	Std. Dev.	Mean	Rank
1	C1: Lack of awareness about available training programmes	41	81	244	284	0	650	0.883	3.19	5
2	C2: Distance/travel/logistic difficulty to attend training	41	41	81	447	40	650	0.929	3.62	3
3	C3: Financial cost of attending training (opportunity cost of time)	41	41	81	447	40	650	0.929	3.62	4
4	C4: Training content not relevant to local crop/produce	0	44	43	520	43	650	0.620	3.86	1
5	C5: Lack of practical/hands-on component in training	0	44	130	433	43	650	0.681	3.73	2

Source: Field study; mean and standard deviation calculated using the weighted average method

From the above table it is observed that majority of the respondents biggest constraints are training content not relevant to local crops (mean 3.86) and the lack of a practical, hands-on component (mean 3.73) followed by distance/travel difficulty and financial cost (mean 3.62 each). Lack of awareness about available programs is the lowest (mean 3.19) showing that the core problem is the relevance and design of training and not that members are simply unaware that it exists.

Table 18: Profit/Loss Status of FPO in Last 3 Years

Sr. No.	Responses	No. of Respondents	Percentage
1	Moderate	366	56.31%
2	Loss	162	24.92%
3	Profit	122	18.77%
Total		650	100.00%

Source: Field study

Above data in the table analyses that A little over 81% of FPOs reported a moderate performance or losses while only 18.77% made a profit in the last three years. The weak financial track record shows that the governance gaps found elsewhere in the study are leading to poor bottom-line performance and adds weight to the case for capacity building.

Table 19: Rating of Overall Performance of FPO

Sr. No.	Responses	No. of Respondents	Percentage
1	Very Poor	41	6.31%
2	Poor	81	12.46%
3	Average	325	50.00%
4	Good	162	24.92%
5	Excellent	41	6.31%
Total		650	100.00%

Source: Field study

From the above table it is seen that the weighted mean of the overall performance of FPO is 3.12 with a 5-point scale and 50.00% of the total respondents rated it as average. Ratings are bunched at the mid-point, rather than at the extremes, indicating that FPOs are performing at a steady but unremarkable level neither in crisis nor in excellence.

Table 20: Managerial Competency – C1: Planning & Business Development**(1 = Lowest, 5 = Highest)**

No.	Responses	1	2	3	4	5	Grand Total	Std. Dev.	Mean	Rank
1	I am able to set clear goals for my FPO	0	0	81	528	41	650	0.429	3.94	2
2	I understand how to gather and use market information/intelligence	0	81	81	447	41	650	0.768	3.69	6
3	I can write/contribute to a business plan for my FPO	0	0	203	366	81	650	0.634	3.81	4
4	I understand how to develop short-term and long-term operational plans	0	0	162	447	41	650	0.527	3.81	3
5	I actively participate in developing a shared vision/strategy for the FPO	0	0	41	569	40	650	0.353	4.00	1
6	I can contribute to developing marketing strategies for FPO produce	0	41	122	447	40	650	0.662	3.75	5

Source: Field study; mean and standard deviation calculated using the weighted average method

From the above data in the table it is observed that board members are very confident about the strategic side of planning, with the highest scores for contributing to a shared vision (mean 4.00) and setting clear goals (mean 3.94). Gathering market intelligence (mean 3.69) lags behind. The gap between confident strategic thinking and weaker implementation. For example, contributing to a written business plan (mean 3.81, with 31.2% of respondents still unsure of their role in authorship points to the need for practical planning exercises and ready-to-use templates, rather than more conceptual training.

Table 21: Managerial Competency – C2: Marketing Management**(1 = Lowest, 5 = Highest)**

No.	Responses	1	2	3	4	5	Grand Total	Std. Dev.	Mean	Rank
1	I am aware of direct marketing opportunities and their requirements	44	43	217	303	43	650	0.954	3.40	5
2	I have adequate knowledge and skills regarding	0	38	76	421	115	650	0.724	3.94	1

No.	Responses	1	2	3	4	5	Grand Total	Std. Dev.	Mean	Rank
	branding, packaging, and grading of produce									
3	I have received adequate training on identifying and analyzing market demand	0	72	181	289	108	650	0.881	3.67	4
4	I feel the FPO board has sufficient exposure to digital marketing tools/platforms	0	229	77	229	115	650	1.135	3.35	6
5	I am confident in negotiating better prices and terms with buyers/traders	0	82	81	406	81	650	0.831	3.75	3
6	I understand and can effectively use different market linkage channels	0	81	0	447	122	650	0.826	3.94	2

Source: Field study; mean and standard deviation calculated using the weighted average method

The above table depicts that the traditional marketing competencies score well i.e. branding/packaging/grading knowledge and use of market linkage channels both average 3.94. The obvious weak point is digital marketing exposure at board level (mean 3.35, SD 1.135, the highest variability recorded here). The 57-point difference between these extremes indicates that previous training has emphasized traditional marketing skills and largely neglected digital and e-commerce capability.

Table 22: Managerial Competency – C3: Controlling Operations (1 = Lowest, 5 = Highest)

No.	Responses	1	2	3	4	5	Grand Total	Std. Dev.	Mean	Rank
1	I regularly monitor implementation of FPO's operational plans	0	0	115	535	0	650	0.382	3.82	3
2	I can identify and respond to changes in the business environment	0	38	38	536	38	650	0.581	3.88	2
3	I contribute to developing control mechanisms for FPO operations	0	0	77	535	38	650	0.416	3.94	1
4	I am able to handle uncertainties/adjust to market fluctuations	0	41	81	528	0	650	0.560	3.75	4

Source: Field study; mean and standard deviation calculated using the weighted average method

It is reflected from the above data in the table that operational control competencies scores are consistently high, with contributing to control mechanisms (mean 3.94; SD 0.195) and monitoring plan implementation (mean 3.82; SD 0.392) having strong agreement and low standard deviations. Market-related uncertainty is managed somewhat less well (mean 3.75, SD 0.560) indicating that boards are confident in their formal oversight but less so in responding to real-time market shifts.

Table 23: Managerial Competency – C4: Financial Management (1 = Lowest, 5 = Highest)

No.	Responses	1	2	3	4	5	Grand Total	Std. Dev.	Mean	Rank
1	I can read/interpret the FPO's income statement and balance sheet	0	38	77	459	76	650	0.675	3.88	2
2	I regularly assess the fund/cash status of the FPO	0	44	43	520	43	650	0.620	3.86	4
3	I understand the concept of break-even point in agribusiness	0	38	191	344	77	650	0.749	3.71	6
4	I am confident in managing cash flow for timely operations	0	44	43	520	43	650	0.620	3.86	5
5	I have adequate knowledge of maintaining basic financial records	0	38	38	497	77	650	0.638	3.94	1
6	I have sufficient understanding of budgeting and financial planning	0	38	77	459	76	650	0.675	3.88	3

Source: Field study; mean and standard deviation calculated using the weighted average method

From the above table it is observed that the strongest competencies are basic financial record keeping (mean 3.94) and reading financial statements (mean 3.88). The understanding of break-even analysis is significantly weaker (mean 3.71, SD 0.749, 29.4% neutral responses). This division between the daily financial operations and the analytical, strategic finance skills indicates a particular training need – strengthening cost accounting and break-even analysis.

Table 24: Managerial Competency – C5: Democratic Leadership

(1 = Lowest, 5 = Highest)

No.	Responses	1	2	3	4	5	Grand Total	Std. Dev.	Mean	Rank
1	I believe in mutual help and cooperation among members	0	0	76	421	153	650	0.582	4.12	2

No.	Responses	1	2	3	4	5	Grand Total	Std. Dev.	Mean	Rank
2	I ensure decisions are made through discussion and majority vote	0	38	0	459	153	650	0.675	4.12	3
3	I encourage participation of all members in decision-making	0	0	0	488	162	650	0.433	4.25	1
4	I am committed to whole-hearted participation in FPO activities	38	0	0	459	153	650	0.871	4.06	4

Source: Field study; mean and standard deviation calculated using the weighted average method

Above data in the table indicates that the democratic governance practices are rated very positively across the board, with encouraging member participation in decision making leading the way (mean 4.25, the lowest SD in this set). The high rating for commitment to active participation in FPO activities (mean 4.06) shows the greatest spread, indicating that there is a small group of less-engaged members rather than any widespread problem with the culture of participation.

Table 25: Managerial Competency – C6: Managing Business Operations

(1 = Lowest, 5 = Highest)

No.	Responses	1	2	3	4	5	Grand Total	Std. Dev.	Mean	Rank
1	I ensure adherence to uniform rules and policies in the FPO	0	0	0	535	115	650	0.382	4.18	3
2	I actively coordinate different business operations of the FPO	0	0	0	497	153	650	0.424	4.24	2
3	I have clarity about my roles and responsibilities as a Director	0	0	0	488	162	650	0.433	4.25	1

Source: Field study; mean and standard deviation calculated using the weighted average method

This is the best performing competency area in the whole assessment. Role clarity as a director (mean 4.25), coordination of operations (mean 4.24) and adherence to rules and policies (mean 4.18) all score at the 99-100 per cent positive ratings, with the lowest standard deviations recorded anywhere in the study. This is a good sign of institutionalized roles and close alignment of understanding and execution of board directors.

1.6 Hypotheses testing

(b) Hypotheses:

H_0 : There is no association between self-driven farmer FPO and productivity

H_1 : There is close association between self-driven farmer FPO and productivity

Chi square test of independence

FPO type (self-driven vs. externally driven) x farm productivity (increased vs. not increased)

Table 26: Hypotheses Testing

	Productivity increased	Productivity not increased	Row total
Self-driven FPO farmers	405	83	488
Externally driven FPO farmers	83	79	162
Column Total	488	162	650

Chi square calculation:

$$N = 650$$

Ad-bc	25106
(ad-bc) ²	630311236
(a+b) (c+d) (a+c) (b+d)	6249851136
Chi-Square (X ²)	65.55392992
Degrees of freedom	1
Critical value (df=1, α=0.05)	3.841
Decision	Reject H ₀ — Significant association
Phi Coefficient	
Phi- $\sqrt{\text{chi-Sq}/N}$	0.317572354

A chi square test was conducted on 650 respondents to examine the association between self-driven FPO status and farm productivity. a significant association was found $X^2(1, N=650) = 65.55, p < 0.05$, with a Phi coefficient of 0.318 indicating a moderate association, Hence the null hypothesis (H₀) is rejected , and it is concluded that self-driven farmer FPOs show a significantly closer association with improved productivity compared to externally driven FPOs.

1.7 Discussion

1.7.1 Major Findings:

Crop Profile and Organization

The majority of FPOs in the study are registered as Producer Companies, which accounts for 68.77% of the respondents, indicating this is the preferred and operationally most significant model. The crop focus is relatively narrow. Oilseeds, dry fruits, flowers, and dairy each account for only 4.15% of activity, probably due to production constraints, limited market access, or lower business priority. Large FPOs with 1001-1500 members are rare, with only 20% of the sample being such FPOs. (Tables 3, 4, 5)

Governance and Demography Profile

The largest proportion of the respondents (58.92%) are Directors followed by Farmer Members (29.38%). This indicates a mix of governance with both leadership and grassroots participation. Leadership is older skewing with all respondents 40+ and none younger, showing a generational gap and potential succession issues. In leadership roles, men dominate women (93.38%) against women (6.62%) with no representation of third gender. This shows a clear need for more gender inclusion in FPO governance. (Tables 6 and 7)

Education & Experience

66.76% of the respondents have a secondary and above level of education, which indicates that education is an informal requirement for governance roles. Experience is divided between two extremes with 62.46% of respondents having 21-30 or 41+ years of experience which suggests a combination of very seasoned and moderately experienced leaders. The sample also reflects higher resource capacity in board members and thus larger farming operations. (Tables 8, 9, 10)

Income and Institutional Stability

Overall, income levels are low to moderate. The median is likely to be between ₹1-5 lakh, i.e. half of the respondents earn less than this. This suggests a low personal financial capacity to do complex governance work. Long-term engagement with FPOs usually leads to stronger networks, stability and familiarity with procedures, and prior experience with similar organizations helps shorten the learning curve for FPO operations and compliance. (Tables 11, 12, 13)

Training & Capacity Building

Only 28.62% of the respondents (n=186) have formal training which shows a glaring lack of skill development in the FPO board members. Out of the trained, 80% (n=520) could distinctly point out specific training needs with General Governance and Management being the highest priority need (18.31%) followed by Marketing Strategy and Value Addition/Processing (16.00%) each. The remaining 20% (n=130) received no training at all, which is a significant opportunity for future capacity building programs. In total, 62.46% (n=406) of respondents believe that the current training is not adequate and no one rated it as excellent. This means that the existing programs are not meeting expectations and require improvement. (Tables 14, 15, 16, 17)

FPOs' Profitability and Performance

A big chunk of FPOs, 81.23% are not making profit. There is a need to rejig business models around better market linkages, cost control and value addition. The overall performance ratings are clustered in the middle range, indicating general institutional stability rather than extreme success or failure. A very high majority of the respondents (87.54%, n=569) agreed that capacity building enhances the performance of FPOs and the result is statistically significant, indicating that the agreement is not due to chance. This indicates that standardized training combined with improved market access can make a significant difference to outcomes. (Tables 20 and 21)

Training Delivery and Skills Gaps

There is a pressing need to improve interactive training methods such as handholding and mentoring, as 80% of respondents are dissatisfied, indicating that these programs are either not offered enough or not well run. Respondents report high skills in strategic vision (93.7%), goal-setting (87.5%) and planning (75.1%) but 31.2% are unsure how to write actual business plans, indicating a gap between knowing the theory and applying it in practice. There is also a big gap (56.9 percentage points) between strong traditional marketing skills and weaker digital marketing exposure, demonstrating that training has focused more on old methods than modern tools. Respondents demonstrate good operational discipline in the creation of controls and monitoring systems, but less so in responding to sudden shifts in the market, indicating training has created structure but not agility. Respondents perform well in financial skills for day-to-day tasks such as record-keeping (84.6%), cash flow (82.9%) and budgeting (84.3%) but perform less well in strategic tools such as break-even analysis (77.1%). This suggests a need for more sophisticated financial training. (Tables 18, 22, 23, 24, 25)

Training Priorities and Culture of Governance

The FPOs have developed strong democratic practices such as inclusive decision-making (86.2%), fair voting (86.2%) and cooperation (88.3%). But it is observed that personal involvement is somewhat lower (84.3%). This indicates that systems are present but getting all of the people involved is still a problem. Regarding priorities for training, respondents want more relevant, practical content (80% and 75.1%) than about access or awareness of programs (56.9-72.6%). This suggests that the future training should focus on hands-on experience and not just promoting existing programs. The strongest overall area is operational management, which scored 99-100%

positive ratings and the most consistent responses in the entire study. This shows that training in this area has worked very well and offers a model for other topics. (Tables 19, 26 and 27).

1.7.2 Implications and Conclusions

Implications of the research:

The Producer Companies are the dominant, operationally effective model, promoter agencies and state FPO cells. They should encourage new FPOs to register under this structure. While diversification support and consolidation of smaller FPOs can address the low share of niche crops and scarcity of large FPOs.

The absence of leaders below 40 and the significant gender gap (93.38% men vs 6.62% women) suggest for succession planning. They should be reserved for youth board positions and for women. There should be simplified training material and knowledge should transfer between senior and mid-experience directors. This will preserve institutional knowledge. There should be a review of personal incomes of director's honorariums.

Only 28.62% of respondents are formally trained and 62.46% rated training as inadequate. Therefore the coverage needs to scale up significantly. It should be prioritised around General Governance and Management, Marketing Strategy and Value Addition, Processing. It should have a systematic feedback system and also quality audits. Since over 80% of FPOs are not profitable, business models have to work around stronger market link, cost control and value addition. It should be accompanied with market-access interventions such as forward contracts and aggregator partnerships. Only training alone is not likely to move profitability, it must be complemented with a market-side too.

High dissatisfaction with handholding/mentoring formats calls for practical, cohort-based mentoring and a dedicated business plan writing module. Also digital marketing training should scale up through low-cost, rural-friendly resources, along with advanced financial modules such as break-even analysis. The FPOs' have a strong democratic culture and also they consistently perform strong in the area of operational management (99–100%). These are institutional strengths and should be worth propagating to other training domains.

Conclusion:

FPOs have strong formal structures. But they have weaker practical capacity to convert those structures into performance. Its governance and foundations are strong. It has leadership led by director which is balanced by grassroots participation and strong operational management. But the other side is leadership remains in the hands of older, male members. Many young farmers and women don't get representation and this surely is a concern for succession and inclusivity.

There is less formal training and many times it builds conceptual knowledge but less practical application. It reflected in strong planning but weaker confidence in business plan writing, digital marketing and financial analysis.

It is observed, that over 80% of FPOs are not profitable. This shows that the gaps in capacity directly affects the business outcomes. While the data strongly supports the conclusion that capacity building drives performance, justifying targeted training investment.

It is suggested that training needs to shift from awareness toward hands-on delivery, mentoring, templates and field demonstrations. It should focus on the weakest areas like business plan writing, digital marketing, financial analysis and agile market response. There should be efforts so that younger farmers and women get into leadership roles.

FPOs have the governance foundation which is required for success. What is needed is practical and targeted capacity building to bridge the gap between formal knowledge and field-level execution. This approach can convert FPOs into sustained profitability and growth units

Limitations and Future Research Directions

1.7.3 Scope and limitations of the study

Scope of the study:

The study assesses the capacity-building needs, existing capacities and training needs of BoDs of FPOs in Western Maharashtra, including governance-challenge identification and intervention design to improve board effectiveness.

Limitations of the Study -

The study is limited to districts of Western Maharashtra and only some agro-climatic zones of the state. In reality the regions differ greatly in crop patterns, demographics, market access and institutional maturity. Therefore the findings cannot be generalized to other states.

Self-rated competency scores may also carry social desirability bias, and the cross-sectional design does not allow causal inference between training and performance.

Conflict of Interest

The author(s) declare that there is no conflict of interest

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