



Farmers' Perception on the Functioning of FPC-NRMFPCL in the Zaheerabad Region of Sanga Reddy District, Telangana, India

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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

Indian agriculture is predominantly comprised of small and marginal farmers, who face significant challenges in accessing modern resources and markets. To address these issues, the government has promoted Farmer Producer Companies (FPCs) to enhance market access. This study

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assesses farmers' perceptions of the Narinja Rythu Mithra Farmers Producer Company Limited (NRMFPCL) in Zaheerabad Mandal, Telangana, using systematic random sampling of 80 farmers and a Likert scale for evaluation. Findings indicate high satisfaction with the quality of seeds and market information, reflecting the effectiveness of the services provided. The results underscore the importance of FPCs in improving farmers' livelihoods and accessing vital resources, suggesting a promising future for collective agricultural initiatives in enhancing market participation and overall rural development.

Keywords: Marginal farmers; farmer producer company; market access; farmers' perception; rural development.

1.INTRODUCTION

In India, small and marginal farmers with land holdings of less than 2 hectares represent 86.21 percent of operational holdings and 47.34 percent of the area under cultivation [1]. Farmers are crucial to India's economy, while large and medium-scale farmers have reaped significant benefits from government agricultural schemes, small and marginal farmers have struggled to access services such as technology advancements, affordable and high-quality inputs, and modern agricultural marketing channels. This disparity is primarily attributed to issues such as illiteracy, limited land holdings, financial indebtedness, and lack of awareness about government initiatives.

Because of their limited land holdings, small and marginal farmers face challenges in achieving economies of scale. These challenges include identifying markets, establishing market connections, accessing markets, securing fair prices for their crops, inadequate storage facilities, high transportation costs, the presence of intermediaries, and restricted access to credit [2].

In response, the government has prioritized enhancing market access through the establishment of Farmer Producer Companies (FPCs). FPCs are considered to be one of the most imminent tools of intervention for upliftment of the farmers' condition in India [3]. When more than 85 per cent of the farmers are smallholders, it becomes quite challenging for them to access the modern production technologies, access and use the market information for their advantage, transact the commodities in input or output market on their own terms, and ultimately keep their farming profitable [4]. The collectivization of farmers through FPCs help in bringing economy of scale in different on farm as well as off-farm activities at all three stages- pre production, production, and post-production levels. Farmers

Producer Companies (FPCs) is the emerging paradigm for social engineering of farmers into organized groups, so that they can collectively involve in agricultural supply and value-chain operations [5].

Farmer Producer Company: F.P.C is a legal entity where farmers from the same geographical cluster engaging in the production of similar crops will aggregate themselves for achieving economies of scale and sharing the profit among the members of the organization [6]. The basic purpose envisioned for the FPCs is to collectivize small farmers for backward linkage for inputs like seeds, fertilizers, credit, insurance, knowledge and extension services and forward linkages such as collective marketing, processing, and market-led agriculture production [7]. The promotion of FPCs is primarily led by implementing Agencies such as NABARD and SFAC. SFAC is the main agency recognized by the government to advance FPCs in India. FPCs have gained attention as a solution to marketing challenges faced by small farmers [8].

A Producer Company is a type of corporate entity registered as a private limited company under Part IX-A of the Companies Act 1956, which was updated in 2013 and amendments made in 2002 [9]. These changes were introduced based on the Y.K. Alagh Committee's 1998 recommendations. The primary goal of forming FPCs is to increase farmers' income and implement fundamental business practices within agricultural communities.

Services and objectives of F.P.C: FPCs play a crucial role in the storage, processing, and transportation of agricultural produce, while also providing access to shared services and financial support from banks and microfinance institutions (MFIs). By integrating decentralized production from small farms with centralized services, FPCs significantly enhance value addition and improve marketing effectiveness. Provide farmers with

benefits such as risk mitigation, access to extension services, improved inputs, credit, storage, and processing facilities. They enable farmers to compete with larger corporations, utilize digital platforms, and share profits [10].

Status of FPCs in India: India currently has 33,711 registered Farmer Producer companies (FPCs), encompassing over 28.20 lakh farmers across 28 states and 7 Union Territories. The key contributors include Bihar, Maharashtra, Odisha, Rajasthan, Tamil Nadu, and Uttar Pradesh, which together account for 21,285 FPCs (63%) and 18.36 lakh shareholders (65%). Maharashtra tops the list with 8,261 FPCs, followed by Uttar Pradesh with 3,106 FPCs [11,12].

Status of F.P.C.s in Telangana: As of March 2021, Telangana had approximately 612 Producer Companies (PCs). Among these, 26 FPCs were promoted by the Small Farmers Agri-Business Consortium (SFAC), engaging a total of 24,548 farmers. Besides these SFAC-promoted FPCs, Telangana has 34 non-SFAC-promoted FPCs [13].

Government Schemes for FPC's:

Equity Grant Scheme: The scheme offers matching equity grants of up to ₹15 lakh per FPC in two payments over three years, aimed at newly formed FPCs with a paid-up capital of up to ₹30 lakhs.

Credit Guarantee Fund Scheme: The Fund provides a Credit Guarantee Cover to eligible lending institutions, including scheduled commercial banks, RRBs, NCD, and NABARD, to facilitate collateral-free loans to FPCs. This guarantee aims to reduce lending risks for these institutions.

FPCs have successfully acted as a platform to empower member farmers by increasing their competitiveness and providing emerging market opportunities [14]. Manaswi et al. [15] suggested that the states should engage a greater number of FPCs promoting institutions to improve their performance. The farmers need to be sensitized to become members of FPCs and at the same time FPCs should open their offices and intervention facilities in villages to have mutual affinity for sustenance.

Hence, a comprehensive investigation on the FPC services is need of the hour for FPC

sustainability. Therefore, the present study was carried out to recognize the importance of FPCs in agriculture sector. In view of this, study focussed on farmers' perception on the functioning of NRMFPC in the Zaheerabad region of Sangareddy district, Telangana.

2. MATERIALS AND METHODS

Zaheerabad mandal of Sanga Reddy district, Telangana has been chosen purposively for the study as the host organization is operating in this region. The study conducted during the period from June, 2023 to May 2024. Systematic random sampling was used to select a sample of 80 farmers from total 400 registered members. Starting from member number 1, every fifth member was chosen thereafter to ensure a comprehensive representation across the F.P.C. The secondary data required for sampling purpose will be gathered from official records maintained by NRMFPC. A Likert scale was used as a tool to know the perceptions of the farmers about functioning of the FPC.

Mean

Mean is calculated by summing all the values in a dataset and dividing by the number of values. The mean gives a single value that summarizes the overall level of the data.

$$\bar{X} = \frac{\sum_{i=1}^n x_i}{n}$$

Where,

\bar{X} is the sample mean.

$\sum_{i=1}^n x_i$ The sum of all values in the sample

n = The total number of values in the sample.

3. RESULTS AND DISCUSSION

The collected data was analysed to study the perception of members on the services delivered by NRMFPC and presented in Tables from 1 to 5.

3.1 Input Services

The Table 1, reflected the perspectives of NRMFPC farmer members on various input services. The quality of seeds obtained the highest rating, with a mean score of 4.05, suggesting considerable approval and satisfaction among farmers. Fertilizer distribution

Table 1. Perception of farmer members on Input Services

S.no.	Input services	Respondents Distribution (n = 80)										Total Score	Mean	Rank
		5(EX)		4(G)		3(A)		2(P)		1(VP)				
		F	S	F	S	F	S	F	S	F	S			
1	Quality of seeds	25	125	38	152	13	39	4	8	0	0	324	4.05	1
2	Fertilizer distribution Services	18	90	35	140	20	60	5	10	2	2	302	3.77	2
3	Timeliness of input supply	15	75	36	144	20	60	9	18	0	0	297	3.71	3
4	Plant protection chemicals	13	65	40	160	16	48	8	16	3	3	292	3.65	4
5	Overall input services.	15	75	31	124	25	75	6	12	3	3	289	3.61	5
6	Availability of equipment and machinery	18	90	28	112	22	66	8	16	4	4	288	3.60	6
7	Fairness of input costs.	16	80	30	120	22	66	9	18	3	3	287	3.58	7
8	Quality of bio fertilizers	11	55	16	64	30	90	18	36	5	5	250	3.12	8

E: Excellent, G: Good, A: Average, P: Poor, VP: Very poor

Table 2. Perception of farmer members on technical services

S.no.	Technical Services	Respondents Distribution (n = 80)										Total Score	Mean	Rank
		5(EX)		4(G)		3(A)		2(P)		1(VP)				
		F	S	F	S	F	S	F	S	F	S			
1	Quality of information on crops and improved varieties	16	80	38	152	18	54	6	12	2	2	300	3.75	1
2	Facilitating of production activities	19	95	32	128	14	42	12	24	3	3	292	3.65	2
3	Pest and disease management advices	14	70	32	128	22	66	10	20	2	2	286	3.57	3
4	Agro advisory services	12	60	30	120	25	75	8	16	5	5	276	3.45	4
5	Facilitating Kisan Melas, field trips and exposure visits	6	30	34	136	25	75	11	22	4	4	267	3.33	5
6	Need-based training programs	3	15	13	52	20	60	37	74	7	7	208	2.60	6
7	Skill improvement activities	3	15	11	44	25	75	32	64	9	9	207	2.58	7

E: Excellent, G: Good, A: Average, P: Poor, VP: Very poor

is also highly regarded, with a mean score of 3.77, though it suggests there remains potential for further enhancement. Timeliness of input supply, with a mean score of 3.71, is rated positively but not as highly as seed quality and fertilizer distribution. Plant protection chemicals also rank well with a mean score of 3.65, indicating a high degree of satisfaction. Overall input services are rated 3.61, reflecting a general positive perception but with mixed responses. The availability of equipment and machinery scored 3.60, indicating that while satisfactory, enhancements could be beneficial. The fairness of input costs, scoring 3.58, shows a notable concern regarding pricing, suggesting that addressing cost-related issues could improve overall satisfaction. Finally, the quality of bio-fertilizers received the lowest rating with a mean score of 3.12, indicating a great opportunity for improvement.

It is revealed from the results that, the input services provided by the FPC are generally well regarded, several critical improvements are necessary to further enhance farmer satisfaction. Specifically, it is essential to improve the quality and guidance associated with bio-fertilizers, streamline the logistics of fertilizer distribution, and ensure optimal maintenance and availability of equipment. Additionally, addressing delays through improved inventory management and revising pricing strategies to maintain competitiveness. Implementing these measures will significantly enhance overall service effectiveness and farmer satisfaction.

3.2 Technical Services

The results in Table 2, provides a clear view of farmer members' perceptions regarding the technical services offered by the NRMFPC. The quality of information on crops and improved varieties received the highest rating with a mean score of 3.75, demonstrating that farmers are highly satisfied with the accuracy and relevance of the information provided. Facilitating production activities is rated with a mean score of 3.65, indicating strong approval but also highlighting areas where further improvement could be beneficial. Pest and disease management advice is well-accepted, with a mean score of 3.57, highlighting its crucial role in supporting effective farming practices. Agro advisory services, with a mean score of 3.45, are considered beneficial but could be enhanced to better serve farmers. Facilitating Kisan Melas, field trips, and exposure visits, scoring 3.33, is

perceived as beneficial but may require better organization or frequency to enhance impact. Need-based training programs and skill improvement activities received the lowest ratings of 2.60 and 2.58 respectively, indicating that, these areas require significant improvement. These low scores indicate that, current services may not adequately address farmers' needs or expectations, indicating a need for more targeted and relevant training and skill development programs.

To enhance the quality of technical services, the FPC should implement several key improvements. First, ensure that information on crops and improved varieties is both comprehensive and regularly updated. Second, refine support mechanisms for production activities to better meet farmer needs. Third, enhance training programs by focusing on practical and actionable content. Additionally, the FPC should provide targeted pest management solutions, optimize Kisan Melas, and field trips based on farmer feedback, and ensure that agro advisory services are timely and relevant. These measures will address current dissatisfaction and significantly improve overall technical services quality.

3.3 Financial Services

It is evident from the Table 3 that, the highest-rated service is the facilitation of fund convergence, which received a mean score of 3.55, indicating strong approval of various financial resources integration. This suggests that farmers find the process of combining different funds highly beneficial. The effectiveness of subsidy programs was rated with a mean score of 3.45, showing that while these programs are viewed positively, there is space for improvement. Crop insurance facilities are rated with a mean score of 2.77, reflecting moderate satisfaction and indicating a need for improvements to enhance the effectiveness and accessibility of insurance options. The availability of credit facilities obtained a mean score of 2.68, suggesting that this service is less favourably viewed and may need significant enhancements to better meet farmers' needs. Finally, the timeliness of financial support during critical periods scored 3.12, indicating that, while the support is appreciated, there are concerns about its promptness when it is most needed.

To address the issues, the FPC should enhance the accessibility and efficiency of credit facilities,

Table 3. Perception of farmer members on financial services

S.no.	Financial Services	Respondents Distribution (n = 80)										Total Score	Mean	Rank
		5(EX)		4(G)		3(A)		2(P)		1(VP)				
		F	S	F	S	F	S	F	S	F	S			
1	Facilitating the convergence of funds	20	100	25	100	19	57	11	22	5	5	284	3.55	1
2	Effectiveness of the subsidy programs	13	65	31	124	20	60	11	22	5	5	276	3.45	2
3	Crop insurance facilities	7	35	17	68	19	57	25	50	12	12	222	2.77	3
4	Availability of credit facilities	6	30	13	52	22	66	28	56	11	11	215	2.68	4
5	Timeliness of financial support provided during critical periods	9	45	16	64	37	111	12	24	6	6	250	3.12	5

E: Excellent, G: Good, A: Average, P: Poor, VP: Very poor

Table 4. Perception of farmer members on marketing services

S.no.	Marketing services	Respondents Distribution (n = 80)										Total Score	Mean	Rank
		5(EX)		4(G)		3(A)		2(P)		1(VP)				
		F	S	F	S	F	S	F	S	F	S			
1	Effectiveness of market information	19	95	36	144	18	54	5	10	2	2	305	3.81	1
2	Assistance in finding buyers	15	75	30	120	20	60	10	20	5	5	280	3.50	2
3	Immediate payment after sale of produce	10	50	20	80	35	105	10	20	5	5	260	3.25	3
4	Securing better prices for agriculture produce	12	60	16	64	35	105	11	22	6	6	257	3.21	4
5	Effectiveness of market access	12	60	18	72	32	96	10	20	8	8	256	3.20	5
6	Transport facilities	6	30	13	52	21	63	28	56	12	12	213	2.66	6

E: Excellent, G: Good, A: Average, P: Poor, VP: Very poor

Table 5. Perception of farmer members on Processing and Value-added Services offered by the FPC

S.no.	Processing and Value-added Services	Respondents Distribution (n = 80)										Total Score	Mean	Rank
		5(EX)		4(G)		3(A)		2(P)		1(VP)				
		F	S	F	S	F	S	F	S	F	S			
1	Cleaning and drying of produce	25	125	32	128	17	51	4	8	2	2	314	3.92	1
2	Procuring produce from farmers	25	125	32	128	13	39	8	16	2	2	310	3.87	2
3	Grading of produce	8	40	12	48	30	90	24	48	6	6	232	2.90	3
4	Value addition services	7	35	13	52	26	78	24	48	10	10	223	2.78	4
5	Packaging services for processed products	6	30	12	48	26	78	24	48	12	12	216	2.70	5
6	Storage and warehousing facilities	2	10	12	48	25	75	29	58	12	12	203	2.53	6

E: Excellent, G: Good, A: Average, P: Poor, VP: Very poor

facilitate subsidy and insurance programs, ensure transparent and effective fund convergence, and provide timely financial support to better meet farmers' needs and improve overall satisfaction.

3.4 Marketing Services

It is revealed from the Table 4 that, the effectiveness of market information, ranked first with a mean score of 3.81, indicating strong approval for the relevance and accuracy of the market data provided. Assistance in finding buyers follows with a mean score of 3.50, showing that while this service is valued, there is room for improvement in establishing connections with potential buyers. The effectiveness of market access obtained a mean score of 3.20, suggesting that while the service is moderately effective, there are opportunities to enhance farmers' access to markets. Securing better prices for agricultural produce received a significantly higher mean score of 3.21, reflecting a positive perception but highlighting the need for further improvements in achieving better pricing outcomes. Transport facilities received the lowest rating of 2.66, indicating significant dissatisfaction and a clear need for better transportation options to support farmers in moving their produce. Immediate payment after the sale of produce with a mean score of 3.25 is considered essential, but it also highlights areas where the payment process could be streamlined.

To address the farmer concerns with the FPC's marketing services, several key improvements are recommended. Enhance market information accuracy to fill existing gaps and ensure reliability. Improve buyer matching and outreach to assist farmers in finding buyers more effectively. Expand market access and resolve logistical issues to facilitate market entry. Strengthen pricing strategies by focusing on market trends and negotiation tactics. Upgrade transport facilities to boost efficiency and reduce delays. Streamline the payment process for prompt transactions and financial stability. These measures will address deficiencies and improve overall satisfaction with the FPC's services.

3.5 Processing and Value-added Services

The results in the Table 5, explained the farmer members' views on the processing and value-

added services offered by the NRMFPC. The highest-rated service is the cleaning and drying of produce, with a mean score of 3.92, indicating that, customers are very satisfied with the efficiency and efficacy of these operations. The service for procuring produce from farmers follows with a mean score of 3.87, showing strong approval, however it shows there may be space for further improvement. Grading of produce is next with a mean score of 2.90, indicating moderate satisfaction but highlighting the need for improvements to better fulfil farmers' requirements. Value addition services received a mean score of 2.78, reflecting a generally positive response but highlighting the potential for more effective implementation or expansion. Packaging services for processed products scored 2.70, showing that while appreciated, this area requires significant improvements to better support farmers. Finally, storage and warehousing facilities received the lowest rating of 2.53, signalling substantial dissatisfaction and a clear need for better facilities to improve the storage and preservation of produce.

While the FPC's processing and value-added services are valued, several key measures are recommended to improve these services. Firstly, standardize grading protocols and provide staff training to improve accuracy and consistency. Second, invest in advanced technology and quality control for better value addition. Third, upgrade packaging materials and techniques to improve preservation and market appeal. Lastly, expand and maintain storage and warehousing facilities to ensure optimal conditions for produce. These improvements will address current issues and better meet the farmer needs.

4. CONCLUSION

The study of farmers' perceptions regarding the NRMFPC Ltd in Zaheerabad, Telangana, highlights the essential role of Farmer Producer Companies (FPCs) in improving agricultural productivity and market access for small and marginal farmers. While the FPC is recognized for its valuable services, significant improvements are needed across input, technical, financial, marketing, and processing dimensions. Farmers reported satisfaction with certain input services, particularly seed quality, and fertilizer distribution, however, bio-fertilizer quality and equipment availability require attention. Technical services, notably crop

information, received positive feedback, yet there is a clear demand for enhanced training and skill development. Financial services received mixed reviews, indicating a need for better credit accessibility and timely support during critical periods. Marketing services were appreciated, particularly for market information and buyer assistance, though improvements in transport facilities and price negotiations are necessary. In processing and value-added services, while cleaning and drying processes were well-regarded, there remains significant potential for enhancements in grading, packaging, and storage facilities.

To improve the effectiveness of FPCs like NRMFPC, it is crucial to address farmers' feedback. There by doing so, the FPC can enhance member satisfaction and strengthen the economic viability of the farming community, empowering farmers to succeed in a competitive agricultural environment.

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 the writing or editing of this manuscript.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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