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Constraints Perceived by the Members of FPOs in Varanasi District, Uttar Pradesh, 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

The study was conducted in 2023 with the aim of finding out the constraints perceived by members of FPOs in Varanasi District, Uttar Pradesh. The Varanasi district was purposively selected for the study, focusing on FPOs with more than 5 years of existence. Among the 29 registered FPOs in the

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district, only four FPOs met this criterion, namely; Kashi Vishwanath Farmer Producer Company Limited (KVFPC), Rameshwar Farmer Producer Company Limited (RFPCL), Shivansh Krishak Producer Company Limited (SKPCL), and Jayapur Seed Producer Company Limited (JSPCL). The stratified random sampling method was used with proportional allocation. 35 respondents were selected from KVFPC and RFPCL, while 25 from JSPCL, and 55 from SKPCL were selected proportionally to make the sample size of 150 respondents., ensuring a representative and comprehensive sampling approach across these four FPOs. The statistical analysis of the collected data was conducted using the Henry Garrett ranking technique. The results revealed four types of constraints perceived by the members of FPOs. In technical constraints, underdeveloped storage facilities ranked first with a GRS of 78.05, and underdeveloped processing facilities ranked second with a GRS of 70.44. In labour and economic constraints, the lack of skilled labour in harvesting and processing secured the first rank with a GRS of 73.12, while the shortage of labour during harvesting ranked second with a GRS of 62.69. Regarding marketing constraints, the fluctuation of prices every year came in first with a GRS of 65.24, and low produce prices ranked second with a GRS of 62.55. Lastly, in organizational and financial constraints, the lack of proper infrastructure claimed the first rank with a GRS of 62.67, while the absence of connections with financial institutions ranked second with a GRS of 49.36. These insights provide valuable guidance for enhancing the productivity and sustainability of FPOs in the region and similar contexts.

Keywords: Constraints; perception; member farmers; FPOs.

1. INTRODUCTION

The agricultural sector has witnessed robust growth over the past two years. This sector, which stands as the largest employer of the workforce, contributed significantly, making up 18.8 percent of the Gross Value Added (GVA) for the country in the 2021-22 fiscal year. It saw a growth rate of 3.6 percent in the 2020-21 fiscal year and further increased to 3.9 percent in the 2021-22 fiscal year. The growth in related sectors such as livestock, dairy, and fisheries has played a pivotal role in driving the overall growth of the agricultural sector [1]. According to the agricultural census of 2015-16, a substantial 86.21 percent of Indian farmers belong to the small and marginal category [2]. India, despite having only 2.4 percent of the total land area in the world, supports a remarkable 18 percent of the global population. The per capita availability of agricultural land in India stands at 0.12 hectares, in stark contrast to the world average of 0.29 hectares. The decreasing amount of available agricultural land poses a significant challenge to Indian agriculture, rendering the farming profession less economically viable for farmers.

According to the National Sample Survey Office (NSSO) report from 2011, more than half of India's small and marginal farmers are burdened by debt. These farmers, who own limited land holdings, face challenges in achieving high annual agricultural production and generating surplus for the market, ultimately trapping them

in a cycle of indebtedness. To address these issues, various alternatives have been explored. One promising solution for enhancing farming efficiency, facilitating information sharing, inputs delivery, marketing, and profit generation is the mobilization of farmers into collective groups through the formation of farmer organizations. The Government of India has actively promoted a novel form of collective farming entities known as Farmer Producer Organizations (FPOs) under the Companies Act of 1956. Farmer producer organisations (FPOs) are established to organise the marginal and small farmers at different levels in state to improve the livelihood of its member [3-5]. FPOs are associations of rural producers who come together on the basis of membership to pursue shared interests and engage in technical and economic activities that benefit their members. They also establish relationships with partners within their economic and institutional environment. In rural areas, a significant hindrance to the agricultural sector is the lack of essential infrastructure, including procurement centers, warehouses, transportation facilities, farm machinery, affordable high-quality inputs, technology adoption, effective extension services, investment in natural resources, access to credit, support for secondary agricultural activities, and marketing opportunities [6]. The majority of cooperative institutions are presently grappling with a significant financial crisis, relying heavily on government subsidies for their survival [7]. In addition, the board of directors of Farmer Producer Companies (FPCs) confronts substantial challenges due to a lack of financial

resources and a dearth of business management knowledge [8]. It is also possible that there are numerous other interconnected issues experienced by farmers involved in Farmer Producer Organizations (FPOs). Consequently, this study was meticulously planned and carried out with the aim of providing an objective assessment of the constraints perceived by members of FPOs in the Varanasi district of Uttar Pradesh.

2. METHODOLOGY

The descriptive research design was used for the present study. The Varanasi district was selected purposively. The criteria behind the selection was large number of Farmer Producer Organizations (FPOs) registered in the city during the last five years, and most of them have good chunk of equity or capital and are working specifically in the field of vegetable crops. In Varanasi district, there are a total of 29 FPOs, which are either promoted by different organizations or self-promoted. Those FPOs who had completed more than 5 years were selected for present study. Only four FPOs met the above criteria, namely; Kashi Vishwanath Farmer Producer Company Limited (KVFPC), Rameshwar Farmer Producer Company Limited (RFPCL), Shivansh Krishak Producer Company Limited (SKPCL), and Jayapur Seed Producer Company Limited (JSPCL). A sample of 150 members was chosen from these FPOs using a stratified random sampling method with proportional allocation. Specifically, 35 members were selected from both KVFPC and RFPCL, 25 members from JSPCL, and 55 members from SKPCL. The data were collected with the help of pretested interview schedule. The statistical method used for the analysis of data was the Henry Garrett ranking technique.

3. RESULTS AND DISCUSSION

The constraints affecting the farmer producer organization were determined by considering the feedback and opinions of FPO members. The study identified four primary categories of constraints within the organization: technical, labour and economic, marketing, and organizational.

3.1 Technical Constraints Perceived by Members of FPOs

In the current study, we have chosen to investigate a range of technical constraints, and

we are analyzing them using Garrett's Ranking Technique. According to the feedback from members of FPOs, the most pressing technical constraint they face is the underdeveloped storage facilities, which received the highest Garrett Ranking Score (GRS) of 78.04 and secured the first rank among the constraints. Following closely, the underdeveloped processing facility also emerged as a significant concern, achieving a GRS of 70.44 and obtaining the second rank in terms of constraints. The study conducted by Tiwari and Upadhyay [9], Prasanna and Mazhar [10], Singh et al. [11] are in accordance with the present study.

Other noteworthy technical challenges faced by FPOs include lack of essential infrastructure such as agricultural implements, irrigation facilities, power, and energy, which received a GRS of 55.26 and was ranked third. Additionally, there is a deficiency in computer literacy among FPO members, hindering them from leveraging existing ICT solutions. This issue obtained a GRS of 53.36, placing it fourth in the ranking of constraints. Moreover, the lack of access to timely, affordable, and high-quality inputs was identified as a significant challenge, securing the fifth rank with a GRS of 49.53. In the sixth position, we find a deficiency in proper farming practices, which received a GRS of 43.67. High incidences of diseases and pests in agriculture were ranked seventh with a GRS of 40.22, while crop failures ranked eighth with a GRS of 33.25. Lastly, the least observed constraint was a lack of awareness about proper packaging, with a GRS of 26.16.

The findings of this study shed light on the multifaceted technical constraints faced by FPOs in the Varanasi district of Uttar Pradesh. It's evident that inadequate storage and processing facilities are critical issues that need urgent attention, as they secured the top positions in the ranking. These limitations can lead to significant post-harvest losses and reduced product quality, affecting the overall profitability of FPOs. Furthermore, the lack of essential infrastructure, including implements, irrigation, and power, presents a substantial hurdle for efficient farming practices. This deficit not only affects productivity but also the overall sustainability of agricultural activities undertaken by FPOs. The limited computer literacy among FPO members highlights the need for capacity-building efforts to harness the benefits of modern information and communication technologies. Additionally, the challenge of accessing timely and high-quality

inputs is crucial for optimizing crop yields and quality. Addressing these technical constraints is essential for the growth and success of FPOs in the region. Developing storage and processing infrastructure, improving access to essential resources, promoting computer literacy, and ensuring a steady supply of quality inputs are vital steps toward enhancing the productivity and sustainability of agricultural practices within FPOs.

3.2 Labour and Economic Constraints Perceived by Members of FPOs

In our current study, we have specifically focused on labour and economic-related constraints. The results revealed (Table 2) that the constraints faced by members of FPOs in these domains. It is evident that these constraints encompass a range of issues that impact the labour force and economic aspects of FPO operations. The most prominent challenge identified by FPO members is the lack of skilled labour available for harvesting and processing, which received the highest Garrett Ranking Score (GRS) of 73.12 and claimed the top rank among the constraints. This suggests that there is a pressing need for training and skill development to ensure efficient agricultural operations within FPOs. The above findings are also associated with those reported by [12]. Additionally, the unavailability of labour during harvesting emerged as a significant issue, securing the second rank with a GRS of 62.69. This constraint can lead to delays in crucial agricultural activities and may result in reduced crop quality. High labour costs during harvesting was identified as the third-ranked challenge, with a GRS of 58.21. This indicates that labour expenses during key agricultural phases are a considerable financial burden for FPOs.

Other notable constraints include the absence of proper crop insurance facilities, ranked fourth with a GRS of 50.36, and the lack of sufficient financial resources, ranked fifth with a GRS of 40.16. These factors can jeopardize the financial stability and risk management capabilities of FPOs. Furthermore, the limited awareness of credit facilities, ranking sixth with a GRS of 35.39, and the absence of a well-defined government price policy, ranking seventh with a GRS of 33.06, were identified as challenges, albeit to a lesser extent. The findings of this study underscore the critical labour and economic-related challenges faced by FPOs in the Varanasi district of Uttar Pradesh. Skilled labour shortages, particularly during crucial phases like harvesting and processing, pose a significant hurdle to efficient agricultural operations. This emphasizes the importance of investing in skill development and training programs to enhance the expertise of the labour force within FPOs. The unavailability of labour during harvesting and the high costs associated with labour during this phase are interconnected issues that can impact the timeliness and cost-effectiveness of agricultural activities. Addressing these concerns requires strategies to ensure a reliable labour supply and explore cost-effective labour management approaches. Crop insurance and access to sufficient finance are critical for managing risk and sustaining agricultural operations. FPOs should explore opportunities to secure crop insurance coverage and access financial resources to support their activities. Additionally, improving awareness of credit facilities and advocating for a well-defined government price policy are essential steps to enhance the economic viability of FPOs and secure fair returns for their agricultural produce.

Table 1. Technical constraints perceived by members of FPOs (n=150)

S.No.	Statements	Garrett Score	Rank
1.	Lack of timely, cheap and good-quality inputs	49.53	V
2.	Lack of infrastructure (implements, irrigation facilities, power and electricity)	55.26	III
3.	Undeveloped storage facilities	78.05	I
4.	Undeveloped processing facilities	70.44	II
5.	Lack of proper practices	43.67	VI
6.	High incidence of disease and pests	40.22	VII
7.	Crop failure	33.25	VIII
8.	Lack of computer knowledge which makes them to derive benefits of the available ICT tools	53.36	IV
9.	Lack of awareness about packaging	26.16	IX

Table 2. Labour and economic constraints perceived by the members of FPOs (n=150)

S.No.	Statements	Garrett Score	Rank
1.	Lack of labour available during harvesting	62.69	II
2.	Lack of skilled labours in harvesting and processing	73.12	I
3.	Lack of proper crop insurance facilities	50.36	IV
4.	Lack of sufficient finance	40.16	V
5.	Lack of awareness of credit facilities	35.39	VI
6.	High cost of labour during harvesting	58.21	III
7.	Lack of proper government price policy	33.06	VII

3.3 Marketing Constraints Perceived by Members of FPOs

Table 3 reveals that the majority of the members are grappling with issues related to price fluctuations every year, obtaining the highest Garrett Ranking Score (GRS) of 65.24 and securing the top rank. Following closely, there is a concern about the low prices of produce, which received a GRS of 62.55 and obtained the second rank among the challenges faced by members. The above findings are also associated with those reported by [13]. Lack of access to proper market information emerged as another significant issue, ranking third with a GRS of 62.26. This deficiency can hinder informed decision-making and market participation. The high cost of transportation, ranking fourth with a GRS of 48.74, is another substantial challenge that can affect the overall profitability of FPOs. Involvement of middlemen, securing the fifth rank with a GRS of 45.32, also presents a challenge, potentially impacting the income of FPO members.

Delayed payments, ranking sixth with a GRS of 40.50, are a concern that can affect the cash flow and financial stability of FPOs. Lastly, the nature of products, particularly perishability, is considered the least observed challenge, with a GRS of 29.56. Table 3 highlights the key challenges related to marketing faced by members of FPOs in the Varanasi district of Uttar Pradesh. Price fluctuations and low prices of produce are top concerns, suggesting that FPOs struggle with unstable income and reduced profitability. Addressing these issues requires strategies to stabilize prices and negotiate fair terms with buyers. The lack of proper market information is another significant hurdle, emphasizing the need for improved market intelligence systems that can empower FPOs to make informed decisions and optimize their market engagement.

High transportation costs and the involvement of middlemen are economic challenges that affect

the overall cost structure and income distribution within FPOs. Finding cost-effective transportation solutions and exploring direct market access can mitigate these issues. Additionally, research by Tripathi et al. [14] suggests that farmers who are already part of FPOs/FPCs benefit from these networks. It was also observed that regions with established FPOs/FPCs are more likely to explore direct marketing through institutional support as a means to address these economic challenges and improve income distribution within the agricultural sector. Delayed payments can disrupt the cash flow of FPOs, affecting their financial stability. Implementing efficient payment systems and ensuring timely settlements can alleviate this concern. While the nature of products, especially perishability, is considered less problematic, it's essential to develop effective storage and preservation methods to maintain product quality and reduce losses. Addressing these marketing-related challenges is crucial for the success and sustainability of FPOs in the region. Strategies that focus on price stabilization, market information, cost-effective transportation, direct market access, prompt payments, and product preservation should be explored to enhance the economic well-being of FPO members and the overall profitability of these organizations.

3.4 Organizational and Financial Constraints Perceived by Members of FPOs

The results revealed (Table 4) that the majority of the members faced problems with a lack of proper infrastructure with GRS 62.67 which got first rank, and a lack of connections with finances with GRS 49.36 which got second ranking followed by a lack of proper decision-making ability with GRS 37.96 which got third. Most of the members are confronted (Table 4) with issues related to the absence of proper infrastructure, which obtained the highest Garrett Ranking Score (GRS) of 62.67 and secured the top rank. Following closely, there is a challenge

Table 3. Marketing constraints perceived by the members of FPOs (n=150)

S.No.	Statements	Garrett Score	Rank
1.	Fluctuation of price in every year	65.24	I
2.	Lack of proper market information	62.26	III
3.	Low price of produce	62.55	II
4.	High cost of transportation	48.74	IV
5.	Involvement of middlemen	45.32	V
6.	Nature of products (perishability)	29.56	VII
7.	Delayed payments	40.50	VI

Table 4. Organizational constraints perceived by members of FPOs (n=150)

S.No.	Statements	GRS	Rank
1.	Lack of connections with financial institution	49.36	II
2.	Lack of proper infrastructure	62.67	I
3.	Lack of proper decision-making ability	37.96	III

associated with a lack of connections with financial resources, which received a GRS of 49.36 and obtained the second rank among the challenges faced by members. Lack of proper decision-making ability was ranked third with a Garret ranking score of 37.96. This suggests that FPOs may encounter challenges related to effective governance and strategic planning.

To effectively address the absence of proper infrastructure, one viable option is to mobilize existing services like the Agriculture Infrastructure Fund facility from the Government of India. This initiative can be used to invest in projects related to post-harvest management infrastructure and community farming assets for Farmer Producer Organizations (FPOs), thereby promoting quality production. Inadequate infrastructure can hinder the efficient functioning of FPOs, affecting their ability to store, process, and transport agricultural produce effectively. Therefore, investments in essential infrastructure such as storage facilities, processing units, and transportation networks are critical to overcoming these challenges [15]. The challenge related to a lack of connections with financial resources emphasizes the need for FPOs to establish relationships with financial institutions, access credit facilities, and secure funding for their agricultural activities. These connections are essential for supporting and expanding the economic endeavors of FPOs. Additionally, the issue of inadequate decision-making ability can affect the overall governance and strategic direction of FPOs. Effective leadership and governance structures are vital for the success and sustainability of these organizations. Developing the capacity for informed decision-making is essential to overcome this challenge.

4. CONCLUSION

This comprehensive study has illuminated a diverse range of constraints faced by members of Farmer Producer Organizations (FPOs) in the Varanasi district of Uttar Pradesh. These findings emphasize the multifaceted nature of challenges faced by FPOs in the region, highlighting the critical need for strategic investments, capacity-building, and policy support to enhance the productivity, sustainability, and economic well-being of FPO members. This study's insights offer valuable guidance for stakeholders and policymakers working towards the advancement of agricultural practices and farmers collective in the Varanasi district and similar regions.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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