

Impact of Farmer Producer Organizations (FPOs) on Market Access and Farm Income of Smallholder Farmers: Evidence from Maharashtra, India

Mohit Rajabhau Bhilange¹, Shubhangi Ashok Bagde², Rakshanda Bandu Patil³, Prof. Pratiksha Meshram⁴

¹ Email: bhilangemohit@gmail.com

² Email: shubhangibagde2016@gmail.com

³ Email: patilrakshanda08@gmail.com

⁴ Assistant Professor, Department of MBA, Tulsiramji Gaikwad-Patil College of Engineering & Technology, Nagpur
Email: ashapratiksha9@gmail.com

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Abstract- Farmer Producer Organizations (FPOs) have proven to be a radical institutional instrument with consideration of improving the socio-economic conditions of the smallholder farmers in India, specifically, in the states where agriculture is a significant source of rural livelihoods, in particular, Maharashtra. The few and minor farmers are usually subjected to numerous constraints including inability to access markets, little bargaining power, intermediary reliance, transaction expenses and inability to access quality inputs and credit facilities. In this respect the FPOs are to be analysed as a joint platform in order to enable farmers to aggregate the produce, to access a larger market, to reduce the cost of inputs through buying in a large quantity, and to receive better price realization. The current research project will focus on examining the role of FPOs in optimizing the market access and farm earnings of smallholder farmers in Maharashtra. The nature of research is that of descriptive and analytical research design, which will rely on both primary and secondary sources of data. Structured questionnaires were carried out as primary data of farmers who are members and non-members of FPOs, secondary data of government reports, research journals and institutional publications on agricultural marketing and farmer collectives have been used. Different analysis techniques such as percentage analysis, comparative analysis and a graphical representation have been applied to interpret the data gathered hence make a meaningful conclusion.

The research findings indicate that FPOs participation plays an important role in enhancing access of farmers to markets by diminishing the middle-men involvement in the market and enhancing the connection of the farmers to buyers, processors and retailers. The negotiating capacity and awareness of pricing mechanism is seen to be better available to FPO members because of their better access to the market information. As well, it is demonstrated that farmers associated with FPOs and gain considerably in their farm income due to high price realization, low cost of inputs and rise in productivity because of receiving quality inputs and technical guidance. The group strategy is also useful in mitigating risks and including finances in a more effective manner.

Nonetheless, in spite of these good results the research concludes that there are several obstacles affecting the performance and sustainability FPOs, including skills in management, institutional finance and infrastructure availability and farmer unawareness. In general, the paper demonstrates the significance of the FPOs in transformation of the agricultural marketing system, enhancing the income of the smallhold farmers based in Maharashtra through greater policy backing, capacity building, and urbanization.

Keywords of importance Farmer Producer Organizations (FPOs), Smallholder Farmers, Market Access, Farm Income, Agricultural Marketing, Collective Farming, Rural Development, Price Realization, Supply Chain Efficiency, Maharashtra Agriculture.

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Introduction

Most of the Indian economy relies on agriculture as a means of livelihood to a significant percentage of the population, and particularly in the rural regions. Agriculture is a significant concern in such states as Maharashtra, both in terms of food production, and the socio-economic life of the rural population. Nevertheless, despite its significance, the industry is characterized by a large number of small and marginal farmers who work on small plots of land and have a considerable number of structural and institutional problems. These problems include poor market access, non-availability of information in time, reliance on intermediaries, fluctuation in prices, high costs of inputs and unavailability of institutional credit. Consequently, smallholder farmers can hardly enjoy fair prices on their products and hence, they fail to enjoy sustainable income levels.

The fragmented agricultural production is one of the key issues that the smallholder farmers have that make them possess low bargaining power in the

market. Farmers on an individual level fail to gain leverages in a form of a better price, or a bigger market and they are also unable to enjoy the economies of scale. This is the state of affairs that tend to create middle man exploitation, inefficiency in the supply chains and massive post-harvest losses. In addition, the absence of well-structured marketing systems and malfunctioning infrastructural system contributes to the problem as well and renders farmers unable to compete in the contemporary and competitive agricultural market. It is under these conditions that the idea of Farmer Producer Organizations (FPOs) has become popular as an institutional innovation which is purported to empower the farmers by acting in large numbers. FPOs are organizations owned and controlled by farmers where farmers are able to come together and share their resources and perform joint functions such as, purchasing inputs, production planning, processing, storage and marketing of agricultural produce. Through aggregation of produce and resources, FPOs also enable farmers to enjoy better

economies of scale, reduced transaction costs as well as improved access to markets and services.

The Government of India has been keenest propagator of establishment and empowerment of FPOs in its mission to boost the income of farmers by two folds and also improve the agricultural productivity of farmers. Several programs and plans have been put in place so as to support FPOs through financial assistance, capacity building and market interconnections. The growth in the establishment of FPO of horticulture, dairy and cash crop sector has been immense in Maharashtra, which is one of the leading agricultural states in India. The establishment of the FPOs in such centres as Nashik, Pune and Ahmednagar has occurred because of the possibility to raise the market share and revenues of farmers.

The role of FPOs in easing provision of improved access to market to smallholder farmers, by direct connections with buyers, processors, exporters and retail chains, is very crucial. This discourages the reliance on the traditional intermediaries and ensures improved price realisation. Besides this, FPOs assist members to obtain quality inputs in form of seeds, fertilizers, machinery at a reduced price by acquiring them in bulk. They also give technical guidance, trainings and extension services that is the translator of better productivity and quality of produce. Also, FPOs increase access to credit and financial services by farmers by adding to their credibility and power of strength.

Although these are the benefits, the operations and performance of FPOs are prone to various conditions such as structures of governance, managerial competency, financial viability and the market situation. Poor infrastructure, lack of professional management of FPOs, lack of access to working capital, and the ignorance of farmers are some of the issues that many FPOs are grappling with. These challenges can make them not work effectively and realise their intended goals.

With this background there is need to systematically analyze the impact of FPOs on the major outcome like market access and farm income particularly in the context of small holder farmers in Maharashtra. The recognition of the extent of contribution of the FPOs to ameliorating the economic conditions of farmers can give useful insights to policy makers, practitioners and investors with regard to agricultural development. This paper aims at examining how FPOs impact the access to markets, reduced marketing restraints and enhanced income level of farmers.

The current study is focused on the analysis of the task of FPOs in the agricultural marketing systems empowerment and livelihood enhancement among the smallholder farmers. Through the analysis of primary and secondary data, the study hypothesises to come up with certain empirical evidence on the effectiveness of FPOs and what are the hurdles in the sustainable development of FPOs. It is hoped that the findings of this study will gain an addition to the wealth of information that already exists and will be used in the development of policy and recommendations towards inclusiveness and

sustainable agricultural development.

I. Literature Review

Farmer Producer Organizations (FPOs) have been cited as a significant institutional response to ameliorate the economic status of the smallholder farmers. Different works have indicated that FPO has helped in enhancing market access, increasing bargaining power, and enhancing farm income.

Gummagolmath et al. (2021) argue that FPOs help farmers by pooling their crops and marketing collectively as an alternative to lower transaction costs and increase prices. The research also observed that farmers that are members of FPOs have access to inputs and market information.

Trebbin (2014) explained that FPOs will play a significant role in taking small farmers into the agricultural value chains. Through this collaboration, the farmers are able to achieve economies of scale, better technology and greater production and this results in greater income.

According to Singh (2012), the farmer collectives reduce the reliance on the middlemen and enhance bargaining power of the farmers in the market. It results in improved market connection and improved prices to farmers.

Regarding Maharashtra, Deore et al. (2022) discovered that FPO members enjoyed the rise of income as a result of bulk sale, lowered expenditures, and enhanced accessibility to the markets. Equally, Choudhary and Kotecha (2018) emphasized that FPOs can be applied to increase the efficiency of supply chains and create value addition in the agricultural industry.

Nonetheless, a number of studies have also identified problems experienced by FPOs. Markelova et al. (2009) cited these issues as such lack of awareness, poor management and inadequate financial resources as the key factors that limit their performance.

All in all, the literature materials indicate that the effects of FPOs on market access and farm income of smallholder farmers is positive but requires well-managed institutions, institutional support and involvement of the farmers.

II. Research Methodology

Research methodology is the process of collection, analysis and interpretation of data undertaken in bid to achieve the objectives of the research. The current study is concentrated on examining how the Farmer Producer Organizations (FPOs) can influence market access and farm income of small farmers of Maharashtra. To this end, such an organized strategy has been adopted aided by both the primary and secondary data sources to the credibility and validity of the results.

1. Research Design

The study has adopted the descriptive and analytical research design. It assists in determining the prevailing condition of the farmers and also evaluating the effects of FPOs on the income and market accessibility. The descriptive research design is used in an attempt to examine the current situation of the farmers.

The study of the correlation between FPOs and income improvement is conducted with the help of

analytical research design.

2. Nature of Study

The study nature is based on practical and real world analysis of farmers.

- The research is applicable in practice because it concerns actual agrarian problems.
- Empirical: It is empirical because it is founded on real data that are gathered on farmers.
- It is cross-sectional because the data of the sample is gathered at a certain time.

3. Sources of Data

The research is based on the primary data and the secondary data as a way of covering the analysis.

(A) Primary Data

Primary data has been achieved through direct means of using structured information of the farmers. Information was located on querynaires created in frameworks.

One on one and informal chat by Farmers.

Knowledge: knowledge, revenues, market access and market difficulties.

(B) Secondary Data

The secondary data has been obtained in credible sources.

- Scholarships and Academic Journals, Research Paper.
- Reports by the government/ Governmental Web sites.
- Livestock, Farming and Ranching Publications and Books.

4. Sampling Design

The sampling design is on how the respondent are to be selected in the study.

- Population - Maharashtra Smallholders farmers.
- Sample size=50 farmers
- It is sampled by convenience sampling method as less time is needed and it is availed.

5. Data Collection Instrument

The major tool to be employed in data collection is the structured questionnaire, as such a questionnaire is intended to collect the pertinent information.

- A-Farmers demographics data.
- Section B: Awareness of FPOs
- Article C Market access and Selling practices.
- E Benefits and issues of FPOs.

The Likert Scale (5 points) is used to put down the responses:

- 1 - Strongly Disagree
- 2 - Disagree
- 3 - Neutral
- 4 - Agree
- 5 - Strongly Agree

6. Data analysis instruments and techniques.

Data collected has been analysed with the help of different statistical tools to make sense out of the data collected. Percentage analysis This technique was used in the process of identifying the trend and patterns.

Comparative analysis that is used to compare the income before and after joining FPOs. Graphical representation, e.g. bar chart, pie chart etc should be represented better.

STUDY AREA PROFILE

The research at hand is conducted in Maharashtra that belongs to a group of large agricultural states in India that has a distinct range of agro- climatic conditions and makes a significant contribution to the agricultural production of the country. The state of Maharashtra is highly dependent on farming as a key economic activity, and a significant source of livelihood to a large proportion of the rural population. Large percentage of small and marginal farmers comprise the state and they depend on farming as a livelihood and means of survival.

The geographical and climatic conditions of the state of Maharashtra are varied and it incorporates the coastal Konkan region and the semi arid and drought stricken regions of Marathwada and Vidarbha. This diversity makes it possible to produce a wide range of population of crops that include sugarcane, cotton, soybean, rice, wheat, pulses and horticultural crop of grape, pomegranate and banana. There are such districts as Nashik, Pune, Ahmednagar and Sangli very famously known as agricultural and commercialization of crop. Despite this being diversified and fruitful, farmers in most regions have been victimized with problems such as water shortage, price volatility, poor infrastructure and poor access to organized market.

Maharashtra Agricultural system is characterized by the smallholder system of farmers who tend to work in small parcels of land. The small scale of production causes such farmers to have a problem in accessing the market, getting the right price and dealing with high costs of inputs. Their presence in the final consumer price remains low because of the presence of middle persons in the marketing system. In addition to this it is also characterized by lack of access to up ranged information, storage and transport infrastructure which further adds to the inefficiencies of the agricultural supply chain.

In order to eliminate these issues, Farmer Producer Organizations (FPOs) have been suggested as one of the effective institutional structures of empowering the farmers in collective action. The government programs, as well as the organizations such as the Small Farmers Consortium Agribusiness (SFAC) and NABARD, have added to the fact that Maharashtra has witnessed a massive expansion in the set up of FPOs in the past decade. These entities are intended to bring farmers together to play some form of collective activities such as inputs sourcing, farm production, processing, and

storage and marketing farm products.

Various types of agriculture such as horticulture, dairy, pulses and even cash crops are highly practiced by the FPOs in Maharashtra. Because of collective marketing, grape farmers in Nashik and pomegranate farmers in Solapur have been able to venture into the national and international market through the FPOs. Similarly, the FPOs that deal with cotton and soybean in Vidarbha have helped the farmers to save on the cost of inputs and marketing prices.

The role that FPOs have to play in increasing access to markets is highly applicable particularly in Maharashtra whereby the traditional marketing systems tend to contain many intermediaries. The wholesalers also save on the cost of transactions, fetching farmers to good prices through direct linkages with the buyers, wholesalers, retailers, and exporters. In addition, FPOs also enjoy quality inputs and technical advice as well as the access to financial services hence their increased output and income levels.

However, despite the rising FPOs, there are still some challenges. Some of the issues that have been facing most of the FPOs include lack of professional management, ineffective infrastructure, inability to access credit and lack of awareness of the farmers. Also regional differences, making some regions have already reached the successful stages of the development of FPOs and others are still at the initial stages of development.

Overall, Maharashtra has everything to carry out the research of the role of FPOs on the availability of the market and the revenues of the farm. The diverse agricultural character of the state, and the increased popularity of FPOs is a good guide in understanding the effectiveness of the patterns of collective farming in improving the livelihood of the smallholder farmers. The findings of this study will hopefully have a greater insight into how FPOs can be strengthened to ensure a sustainable agricultural production and more income earning opportunities to the farmers in the region.

VI. Conceptual Framework

The conceptual framework provides an organized information about the relationship between the key variables that are going to be employed in the research. It can be utilised in characterising how the Farmer Producer Organizations (FPOs) influence accessibility of the market and agricultural income of the smallholder farmers. This study formulates the framework such that the aggregate effort of the FPOs brings about improved economic performance of the farmers.

The main concept of the framework is the Farmer Producer Organizations (FPOs) the platform where farmers are united to perform various agricultural and marketing transactions in the form of an organization. FPOs grant the farmers a chance to pool their resources, expertise and avail greater chances in the market by grouping the farmers together. This kind of teamwork approach reduces the constraints of individuals and raises the output of the farm operations collectively.

An FPO plays a significant role in improving

accessibility to the market by the direct relations between the farmers and the buyers, be it the wholesalers, retailers, processors, and exporters. This reduces the dependency of middle men and in addition the farmers are assured of a better price of their farm produce. In addition, FPOs can provide market knowledge, training and advice services which can guide farmers in making healthy choices concerning production and marketing. The other notable characteristic of the framework is the reduction of the input costs and the improvement of the productivity. FPOs help the farmers reduce production cost by purchasing inputs such as seeds, fertilizers and machines in large quantities. They also gain accessibility of technical knowledge and up-to-date farming practices which result in high produce and quality produce.

This way, the farmers have increased farm income since they can easily access the markets and costs were reduced. FPOs combine their power to enhance bargaining power leading to attainment of superior prices. In addition, the FPOs also avail credit and financial services which helps the farmers to expand their farming as well as alleviate their economic conditions.

However, the effectiveness of this framework is prone to certain facilitate problems such as effective administration, accessibility of infrastructures, financial support and involvement of farmers. Without these factors, the benefit of FPOs will not be fully realized.

The conceptual framework of the study can be explained in the following way:

- FPOs motivate farmers to operate in groups.
- Collectivism will increase market accessibility.
- FPOs reduce the input prices through buying in bulk.
- Increased access to the market and reduction of the expenditure increases the revenues of farms.
- FPOs- With institutional support, the effect is greater.

In such a manner, the framework shows conspicuously that FPOs are a mediating mechanism which connects farmers with better economic outcomes by increasing their access to the market and their earnings.

VII. DATA ANALYSIS AND RESULTS

Data analysis section provides the definition of the answers collected through the structured questionnaires on the side of the farmers. The number of respondents in the research was 50. The collected information has been organized, tabulated and discussed by percentages, and producing easy comparisons to determine the impact that FPOs have on the market access and the farm revenue.

1. Awareness about FPOs

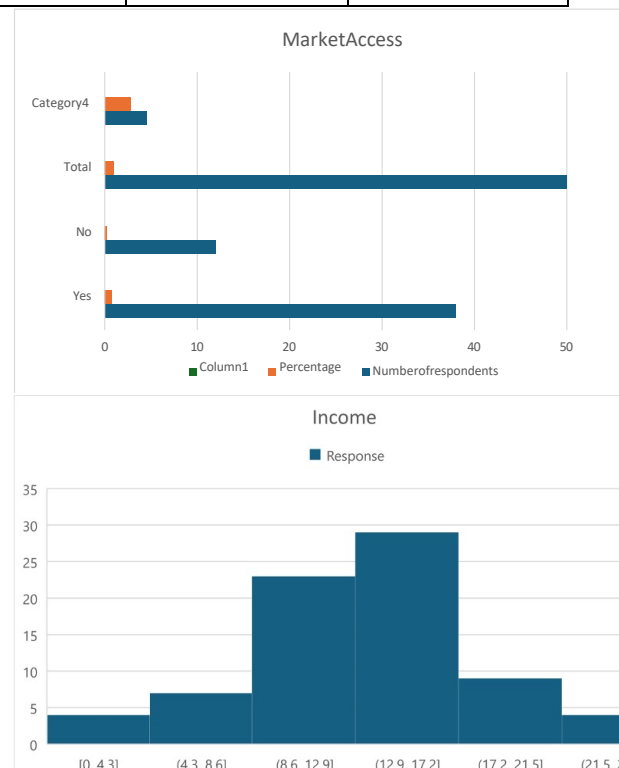
Response	The number of respondents in the response	Percentage.
Yes	40	80%
No	10	20%
Total	50	100%

Interpretation:

It is observed that 80 percent of the farmers are aware of FPOs and 20 percent are not aware. This indicates that majority farmers are aware of FPOs and their operations but there is need to make the remaining farmers aware.

2. FPO Joining Market Access Improvement.

Response	Respondent count	Percentage.
Yes	38	76%
No	12	24%
Total	50	100%



Interpretation:

The statistics demonstrate that three-quarters of the farmers enjoyed enhanced access to markets after becoming members of FPOs. This indicates that FPOs are very important in linking farmers to superior markets and minimizing reliance on intermediaries.

1. Change in Farm Income

Interpretation:

According to the results, 70 percent of farmers said that their income had increased when they joined FPOs. This is a clear indication that the FPOs can help in improving the economic status of farmers.

2. Reduction in Input Cost

Response	Number of respondents	Percentage.
Yes	32	64%
No	18	36%
Total	50	100%

Interpretation:

Approximately 64 percent of the farmers indicated that they received reduced cost of inputs as a result of bulk buying through FPOs. This is where the collective farming is beneficial in terms of its cost-saving.

3. Farmer Levels of Satisfaction

Response	No. of Respondents	Percentage
Highly Satisfied	20	40%
Satisfied	18	36%
Neutral	7	14%
Dissatisfied	5	10%
Total	50	100%

Interpretation:

The vast majority of the farmers (76%) express satisfaction or high satisfaction with FPOs, which means that they have positive attitudes to their benefits and operation.

VIII. FINDINGS

The analysis and interpretation of the data, gathered among the respondents, have revealed that there are some significant insights about the role of Farmer Producer Organization (FPOs) in improving the market accessibility and farm earnings of the smallholder farmers in Maharashtra:

1. The research shows that most farmers are aware of Farmer Producer Organizations (FPO) and how it works. This means that collective farming and institutional support systems awareness is slowly gaining momentum amongst the smallholder farmers.
2. It has been noted that the access of farmers who are members of FPOs to the markets is superior compared to the non-member farmers. FPOs aid in creating direct connections with customers, wholesalers, retailers, and thus, avoid using the services of mediators in the marketing process.
3. Many of the farmers possessed sufficient quantity of farmers to testify that their farm income has risen following their membership in FPOs. This growth has been as a result of a primary growth in higher price realization, aggregate selling and enhanced market opportunities.
4. The results also indicate that FPOs assist in the minimization of the input cost by buying the inputs in large quantities such as the seeds, fertilizers and pesticides at reduced costs.
5. Farmers who are members of FPOs have witnessed an improvement in their bargaining power to negotiate a better market price of the produce.
6. The analysis reveals that FPOs provide better access to market related information such as trend of prices, market condition and marketing opportunity that assists farmers in making informed decisions.
7. A great percentage of farmers were satisfied with the services and advantages offered by FPOs with a positive attitude towards their operation and influence.
8. FPOs collective strategy has also contributed to the attainment of improved coordination of farmers that lead to improved planning, production and marketing of agricultural produce.
9. Although the positive effect has been felt, there are some challenges that have been realized

such as inadequate management, financial resources, and awareness among some farmers to the efficiency of FPOs.

10. The research also notes that there is need to train, offer technical support and government aid so as to enhance the performance and sustainability of FPOs.

11. Generally, the results affirm that FPOs are significantly contributing to the increase in access to markets, cost reduction and improvement of the income of the smallholder farmers.

IX. CONCLUSION AND FUTURE SCOPE

9.1 Conclusion

The current research unveils the significance of Farmer Producer Organizations (FPOs) towards improvement of economic well-being of tinyholder farmers in Maharashtra. Through the results of the study it is evident that the FPOs is a viable platform to address the obstacles encountered by the conventional agricultural approaches and marketing strategies to favor the farmers.

It is recorded that the FPOs play a positive role in enhancing access to the market through direct connection of the farmers to the buyers and reducing their dependency on the intermediaries. This is not only so that it guarantees a higher price realisation but also to enhance the transparency of the marketing process. Also, the FPOs assist farmers occasionally in cutting costs of inputs by purchasing them in large quantities as well as in ensuring availability of quality inputs that eventually translate to higher productivity.

It is also understood during the study that the level of income of the farmers who are also members of FPOs is boosted by the collective selling, by their bargaining power and access to information in the market. Moreover, FPOs are relevant with regard to offering training, technical advice as well as financial assistance that leads to general agricultural growth. Nevertheless, in spite of these advantages, some challenges still exist, such as, the lack of awareness, funds, infrastructure and management practices. All these difficulties must be conquered, but to make FPOs effective and sustainable in the long run.

In general it could be concluded that the FPOs have good and effective effects on the market access and farming revenues of the smallholder farmers and it is a good instrument to support the promotion of inclusive and sustainable agricultural growth in Maharashtra.

9.2. Future Scope of the Study

The potential of the research in this space is vast and there are numerous possibilities of the further research. A wider sample size of various regions, in future, can be used to obtain more generalized results.

The newest technologies like Artificial Intelligence and Digital Platforms can be examined concerning the FPO operation. The comparative studies can be made between the members and non-members of FPO of various

states.

It is possible to research the contribution of government policies and financial institutions to enhancing the FPOs. Value addition, export potential and strengthening of supply chain with the help of FPOs can be further researched on.

Moreover, the future research can be directed at the long-term viability and effectiveness of FPOs through the use of analyzing the way they have grown over the time and impacted rural development.

X. LIMITATIONS OF THE STUDY.

Although the current research can be useful in understanding the role of Farmer Producer Organizations (FPOs) in accessing markets and the earnings of smallholders in Maharashtra, some limitations were faced in the process of conducting the research. These constraints might influence the generalization and interpretation of the findings and should be taken into consideration when making conclusions.

1. Limited Sample Size

The study is founded on rather limited respondents. A larger sample would have given more reliable and generalisable results.

2. Geographical Restriction

The research is restricted to several regions in Maharashtra. Agricultural practices and FPO performance can be able to tolerate one region to another and hence limit the applicability of these practices.

3. Time Constraint

The actual research was conducted within a very brief period of conducting a research and that does not leave much time to conduct in-depth analysis and long term observation.

4. Cross Sectional Character of Study.

The data can not reflect the businesses differences at a particular point in the year thus failing to reflect the long term fluctuations in income and market availability.

5. Dependence on Primary Data

The research heavily relies on the reaction of the farmers who might be biased and misinterpreted or partial.

6. Archetype Response Bias Possibility

There is a possibility that some respondents could have given socially desirable answers or exaggerated merits that could affect the validity of data.

7. Inadequate access to Secondary Data.

Some reports provided by the government, FPO records and statistical databases were inaccessible and do not allow a further analysis.

8. Lack of Financial Transparency of FPOs.

Financial details of FPOs was not detailed and it was hard to determine profitability and working efficiency.

9. FPO Performance Diversity.

The level of efficiency of various FPOs is different therefore there might be inconsistencies in the responses.

10. Poor Awareness of a fraction of the

farmers.

A few of the respondents were not very well informed about the operation of FPO, and that may have compromised the quality of responses.

Use of Convenience Sampling

The sampling technique used may be biased and we have not picked the respondents as random but have picked them based on their availability.

11. Lack of Technological Analysis.

The paper does not venture much into the details regarding the contribution of the digital platforms or sophisticated technologies to the functioning of the FPO.

12. Not Taken into Account Factors (External Factors)

Inflation and markets, weather conditions among other factors were not fully analysed.

13. Lack of Comparative Analysis between States.

The research does not mention other states and takes Maharashtra as an example only.

14. Short Term Income Evaluation.

The analysis of the alterations in income in a brief period of time and does not depict financial stability in the long run.

15. Infrastructure Limitations Not Wholly factored.

Such aspects as storage, transportation and logistics were not discussed properly.

16. Existing Gender Based Analysis.

The study is not precise on the role and contribution of FPOs to women farmers.

17. No Sector-Specific Analysis

Various crops and industries (horticulture, dairy etc.) were not analyzed separately.

18. Reliance on Self Reported Data.

Income and cost information is grounded on the reaction of farmers - instead of being checked.

19. Changing Market Dynamics

Agricultural markets are dynamic and the results may vary over a period of time as a result of policy or economic change..

XI. FINAL CONCLUSION

The current paper gives an in-depth insight into the role and contribution of Farmer Producer Organizations (FPOs) in enhancing the market access and agricultural earning of smallholder farmers in Maharashtra. The state still depends on agriculture to support rural livelihoods, but small and marginal farmers have been challenged by constant problems of fragmentation of land holdings, absence of bargaining power, high input prices, and uneasy access to the organized market. FPOs in this sense, have become an exciting institutional development that is focused on changing the landscape of agriculture by engaging in collective action and empowering farmers.

It is evident that the study has found FPOs to play a key role in ensuring the gap between farmers and markets is bridged. Through this, FPOs limit the reliance on the middleman and offer access to the farmers to the program of collective marketing so that they can have access to buyers, wholesalers, processors, and retailers. This is not only better realization of prices but also better realization of

transparency, and efficiency in the marketing process. The market information of the price trends and the demand trends is better provided to the farmers enabling them to make informed decisions on the sale of their produce.

The other important contribution of FPOs is that it has led to a reduction in the input cost and the enhancement in production efficiency. Farmers can lower the cost of cultivation through the bulk purchase of the inputs like the seeds, fertilisers and pesticides. Moreover, FPOs are sources of technical assistance, training, and availability of current farming techniques, which add to the higher productivity and the quality of agricultural products. All these will result in increased profitability and economic stability among farmers.

Another point that the study brings to light is the fact that farmers who are FPOs members record a tangible rise in the level of income they receive. There are several reasons that contribute to this growth and these are better price realization, low cost reduction, high productivity and bargaining power. The advantages of using FPOs are that the farmers have more bargaining power in the market and hence guaranteeing them fair returns. Additionally, FPOs create accessibility of financial services, credit facilities, and government schemes, which in addition, bolsters the economic standing of farmers.

Besides economical gains, FPOs also lead to social and institutional growth. They facilitate collaboration, coordination and group decision-making among farmers resulting in better community involvement and support. Leadership skills, better communication and sharing of knowledge among the members are developed, which also increases the overall effectiveness of these organizations. Nonetheless, the paper also admits the fact that the performance and sustainability of FPOs are determined by various challenges. The failure to provide professional management, insufficiency of financial resources, poor infrastructure, and poor knowledge among farmers are some of the issues that keep on impacting their operations. The different performance levels of the various FPOs demonstrate that there is a need to have better institutional support, capacity building and mechanisms of good governance. The potential of FPOs may not be achieved without solving these problems.

The article has highlighted how institutional support and policy interventions are significant in empowering FPOs. The government programs, funding, training, and infrastructure development are the key factors that can help to increase the capacity and efficiency of FPOs. Also, digitization and the adoption of new platforms in marketing can also enhance the accessibility and efficiency of FPOs to reach more farmers into broader markets.

In general, the research can find that Farmer Producer Organizations are an effective instrument of inclusive and sustainable agricultural development. They do not only enhance access to markets and increase farmers income, but also empower farmers through improved participation in

agricultural value chain. FPOs could revolutionize the rural economy and offer a collective space where small hold farmers can surmount structural obstacles and realize long-term economic development.

To sum it up, FPOs are successful because they are able to unite power with both institutional and managerial power. When appropriately adopted, sustained and with active involvement of farmers, FPOs may be used as transformational tool in enhancing the livelihood of the smallholder farmers in Maharashtra and help in the general development of the agricultural sectors.

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