

## International Journal of Agriculture Extension and Social Development

Volume 7; Issue 6; June 2024; Page No. 15-20

Received: 19-03-2024  
Accepted: 23-04-2024

Indexed Journal  
Peer Reviewed Journal

### Understanding constraints in adopting recommended paddy cultivation practices: Insights from farmer producer organization (FPO) members and non-members in Andhra Pradesh

<sup>1</sup>Adapa Shalini Pujitha, <sup>2</sup>Akkamahadevi Naik, <sup>2</sup>Ashokkumar B and <sup>3</sup>Tufleuddin Biswas

<sup>1</sup>PG Scholar, Department of Agricultural Extension Education M. S. Swaminathan School of Agriculture, CUTM, Paralakhemundi, Odisha, India

<sup>2</sup>Assistant Professor, Department of Agricultural Extension, M. S. Swaminathan School of Agriculture, CUTM, Paralakhemundi, Odisha, India

<sup>3</sup>Assistant Professor, Department of Agricultural Economics and Statistics, Centurion University of Technology and Management, Odisha, India

DOI: <https://doi.org/10.33545/26180723.2024.v7.i6a.663>

Corresponding Author: Akkamahadevi Naik

#### Abstract

This study delves into the challenges encountered by Farmer Producer Organization (FPO) members and non-members regarding the adoption of recommended Paddy cultivation practices in north coastal Andhra Pradesh, along with the organizational constraints of Farmer Producer Organization where the Technical, institutional, economic, and infrastructural constraints were examined through structured interview schedule and questionnaires with a sample size of 180 respondents, representing both FPO members and non-members selected via random sampling. The findings underscore significant hurdles across various faces: technical dilemmas encompassing branding and export orientation, institutional complexities revolving around governance and coordination, economic obstacles including policy support and capital deficiencies, and infrastructural limitations spanning processing and storage facilities. While FPO members benefit from collective assistance, non-members face various struggles due to the absence of structured support systems. Addressing these constraints through the respondents, certain suggestions were recommended to strengthen the adoption of recommended Paddy cultivation practices and strengthen agricultural sustainability in the region.

**Keywords:** Farmer Producer Organization, Paddy, Adoption, Storage

#### Introduction

Agriculture has served as an important part of the Indian economy for centuries, employing millions of people. It is an important source of income for a great deal of Indians and creates the backbone of the Indian economy (Suriyapriya 2022) <sup>[14]</sup>. The agricultural sector is confronted with an increasing number of issues. An urge of 25.7 per cent in twenty-five years increased the demand for food while decreasing the total agricultural land. Due to small patches of land, Small and Marginal farmers encounter difficulties in the economy of scale, particularly categorizing markets, defining market networks, connecting out to markets, acquiring fair prices for their produce, a lack of storage facilities, high conveyance costs, the incidence of mediators, and limited access to credit (Anand *et al.* 2023) <sup>[3]</sup>. To combat these issues, the government has increased the Minimum Support Price (MSP) for paddy by about 55.73 per cent from 2013 to 2023. This led the farmers to opt for Paddy production in India. There are nearly 200 million paddy farmers. The majority of which are under a hectare in size. Paddy stands as the principal basis of nourishment for over half of the globe's population. Rice is

an adequate supplier of Magnesium, Phosphorus, Manganese, Selenium, Iron, Folic acid, Thiamin, and Niacin, in addition to Protein and Calories; nevertheless, it is inadequate in Fibre and Fat (Fukagawa and Ziska 2019) <sup>[8]</sup>. Paddy is India's most important crop, comprising 46.38 million hectares with an annual production of 130.29 million metric tonnes and a productivity of 2809 kg/ha (Statistics at a glance 2023) <sup>[2]</sup>. Andhra Pradesh is a coastal state in southeastern India. In recognition of its abundance of agricultural cultivation, Andhra Pradesh is nicknamed the "Rice Granary of India", due to its significant contribution to Rice supply in South India, not only the country is self-sustaining in food grains, but it additionally trades approximately 5 per cent of its Paddy production. Paddy is critical to the fiscal health and population of the state of Andhra Pradesh (Deepa *et al.* 2019) <sup>[6]</sup>. With so many agricultural issues in the emerging markets of developing countries, low agricultural productivity has a significant impact on the financial stability of the Farmers. Therefore, Farmers' groups have been advocated as a crucial tool for improving the quality of living conditions (Vedasri *et al.* 2022) <sup>[15]</sup>.

An FPO is a legal organization or an entity made up of practicing farmers who also happen to be producers of particular goods or commodities. The primary goal of FPOs is to increase supplier revenue through their organizational structure. The Department of Agriculture and Cooperation, Ministry of Agriculture, Government of India has identified Farmer Producer Organizations to be registered according to the special requirements of the Companies Act, 2013 as the most suitable institutional form to unite farmers and strengthen their capacity to collectively utilize their production and marketing authority (Charyulu *et al.* 2017) [5]. Despite many successes, the effectiveness of these farmer collectives is often limited by legal constraints, insufficient managerial capacity, elite capture, exclusion of poorer members, and a lack of cooperation and trust (Singh *et al.* 2021) [13]. The FPOs face many constraints in achieving better performance and are confronted with many challenges (Chauhan *et al.* 2021) [4]. Given the significant potential of Farmers' Producer Organizations, this study is highly relevant as it aims to identify the constraints affecting FPO operations and to develop strategies for overcoming these challenges to ensure their smooth functioning.

### Methodology

This study was conducted in the selected districts of Srikakulam and Vizianagaram in Andhra Pradesh. These districts were purposively chosen due to their significant area and production of Paddy, making them ideal locations for evaluating Farmer Producer Organizations (FPOs) involved in Paddy cultivation. The primary objective of the study was to assess the constraints faced by FPOs and to gather suggestions for their improvement. To achieve this, two groups of respondents were selected: FPO members and

non-members. Including both groups provided a comprehensive understanding of the challenges and benefits experienced by those associated with FPOs compared to those who are not. A total of 180 respondents were selected using a random sampling method, ensuring a representative sample of the population. The sample comprised individuals directly engaged in Paddy farming, thus providing relevant insights into the functioning and impact of FPOs. Data collection was carried out through structured interviews and questionnaires, focusing on various aspects of FPO operations, including technical, institutional, economic, and infrastructural constraints. Additionally, respondents were asked to provide suggestions for overcoming these challenges. The collected data was then analyzed to rank the constraints and suggestions based on the frequency and percentage of responses. This study aims to inform strategies for enhancing the effectiveness and stability of FPOs, thereby supporting the broader goals of agricultural development and farmer empowerment in the region.

### Results and Discussion

#### Constraints experienced by the members and suggestions offered for the effective functioning of Farmer Producer Organizations.

#### Organizational constraints experienced by the FPO members

The organizational constraints faced by FPO members were categorized into four main areas: i) technical constraints, ii) institutional constraints, iii) economic constraints, and iv) infrastructure constraints. These constraints were ranked based on the percentage of members who identified each constraint. The detailed results are presented in the following table.

**Table 1:** Organizational constraints experienced by the FPO members

S. No.	Constraints	FPO Members		
		No.	Per cent	Rank
<b>I. Technical constraints</b>				
1.	Lack of technical guidance	16	17.78	V
2.	Lack of grading and packaging skills	23	25.56	IV
3.	Unable to create a brand value	42	46.67	I
4.	Lack of export orientation	35	38.89	II
5.	Lack of administration skills (audit/book keeping)	13	14.44	VI
6.	Lack of trained manpower	30	33.33	III
<b>II. Institutional constraints</b>				
1.	Lack of proper recognition and awarding	35	38.89	II
2.	Lack of linkages with banks and other FPOs	22	24.44	III
3.	Conflicts in organization	17	18.89	IV
4.	Partiality and favours in organization	39	43.33	I
5.	Corruptions	9	10.00	V
6.	Lack of coordination among the members	35	38.89	II
7.	Political interference	9	10.00	V
8.	Non-rotation of the governing board	24	26.67	III
<b>III. Economic constraints</b>				
1.	Lack of enough capital	23	25.56	III
2.	Lack of loans from banks	13	14.44	V
3.	High cost of inputs	18	20.00	IV
4.	Lack of policy support from the government	27	30.00	II
5.	Delayed payment	34	37.78	I
<b>IV. Infrastructure constraints</b>				
1.	Inadequate storage facilities	27	30.00	I
2.	Inadequate processing facilities	19	21.11	II
3.	Inadequate marketing channel	8	8.89	III

**Technical constraints**

Technical constraints were assessed among FPO members, with the primary challenge identified as the inability to establish brand value, as cited by 46.67% of respondents, ranking first. This was followed by the lack of export orientation (38.89%), insufficient trained manpower (33.33%), inadequate grading and packaging skills (25.56%), limited access to technical guidance (17.78%), and deficiencies in administration skills such as audit and bookkeeping (14.44%), securing the 2nd, 3rd, 4th, 5th, and 6th ranks, respectively. The findings were coincided with Kavin and Divya (2019) <sup>[10]</sup>.

**Institutional constraints**

Within institutional constraints, the non-rotation of the governing board emerged as the primary challenge for 26.67% of FPO members, securing the first rank. This was followed by concerns regarding partiality and favoritism within the organization (43.33%), lack of coordination among members (38.89%), inadequate recognition and awarding mechanisms (38.89%), and insufficient linkages with banks and other FPOs (24.44%), which ranked 2nd, 3rd, 4th, and 5th, respectively. Additional concerns included conflicts within the organization (18.89%), instances of corruption (10.00%), and political interference (10.00%), which secured the 2nd, 3rd, 4th, and 5th ranks, respectively. The findings were aligned with Laxman (2019) <sup>[16]</sup>.

**Economic constraints**

In terms of economic constraints, the primary challenge

identified by 30.00% of FPO members was the lack of policy support from the government, ranking first. This was followed by insufficient capital (25.56%), limited access to bank loans (14.44%), high input costs (20%), and delayed payments (37.78%), securing the 2nd, 3rd, 4th, and 5th ranks, respectively.

**Infrastructure constraints**

In regards of infrastructure constraints, the primary concern voiced by FPO members was inadequate processing facilities, noted by 21.11% of respondents, securing the first rank. This was followed by concerns over inadequate storage facilities (30.00%), which ranked second, and insufficient marketing channels (8.89%), which ranked third respectively. The lack of processing and storage facilities posed substantial limits on FPOs, as members lacked access to suitable infrastructure for these tasks. The high expense of private processing and storage facilities intensified the situation, making it difficult for members to afford such amenities. The findings were in line with Dharmaraj (2019) <sup>[7]</sup>.

**Constraints experienced by the FPO members and non-members in the adoption of recommended Paddy cultivation practices**

The study highlighted several constraints encountered by both FPO members and non-members in adopting recommended Paddy cultivation practices.

**Table 2:** Constraints experienced by the FPO members and non-members in the adoption of recommended Paddy cultivation practices

S. No.	Constraints	FPO Members			Non-members		
		No.	Percent	Rank	No.	Percent	Rank
C1.	Costly and poor-quality inputs	17	18.89	VIII	56	62.22	II
C2.	Lack of financial support	21	23.33	IX	42	46.67	IX
C3.	Heavy pest and disease incidence	38	42.22	V	57	63.33	I
C4.	Occurrence of heavy weed growth	38	42.22	V	52	57.78	IV
C5.	Labour shortage/high cost of labour	41	45.56	III	39	43.33	X
C6.	Lack of awareness about recent agricultural technology	24	26.67	VII	43	47.78	VIII
C7.	Lack of latest market information	25	27.78	VI	50	55.56	V
C8.	Lack of storage facilities/transport facilities	39	43.33	IV	54	60.00	III
C9.	Lack of awareness about crop insurance	43	47.78	II	54	60.00	III
C10.	Insufficient subsidy by the government	46	51.11	I	49	54.44	VI
C11.	Unaware of supplies and services offered by the Government	43	47.78	II	49	54.44	VI
C12.	Insufficient demonstrations, training, meetings and exposure Visits	12	13.33	X	45	50.00	VII

In Table 2, the most critical constraint reported by members regarding Paddy cultivation was the insufficient subsidy provided by the government, with 51.11% of respondents indicating this as the primary issue, ranking first. This was followed by concerns regarding lack of awareness about crop insurance and government-supplied supplies and services, both cited by 47.78% of members, securing the second rank. Additionally, labor shortage and high labor costs (45.56%), lack of storage and transport facilities (43.33%), heavy pest and disease incidence (42.22%), and substantial weed growth (42.22%) were identified as significant constraints, ranking 3<sup>rd</sup>, 4<sup>th</sup>, 5<sup>th</sup>, respectively. The constraints lack of latest market information (27.78%); lack of awareness about recent agricultural technologies (26.67%); lack of financial support (23.33%) untimely

costly and poor-quality inputs (18.89%); and insufficient demonstrations; trainings; meetings and exposure visits (13.33%) ranked 6th; 7th and 8th 9th; respectively. In the non-member category, heavy pest and disease incidence emerged as the primary constraint, with 63.33% of respondents identifying it as the most significant issue, ranking first. Following this, concerns regarding the untimely provision of costly and poor-quality inputs (62.22%), lack of awareness about crop insurance (60.00%), and insufficient storage and transport facilities (60.00%) were noted, securing the second, third, and fourth ranks, respectively. Additionally, occurrences of heavy weed growth (57.78%) and a lack of access to the latest market information (55.56%) were identified as notable constraints, ranking fifth and sixth, respectively. The findings were

similar with Suriyapriya (2022) [14]. The constraints Insufficient subsidy by the government (54.44%) and Unaware of supplies and services offered by the Government (54.44%); Insufficient demonstrations; training; meetings and exposure Visits (50.00%); Lack of

awareness about recent agricultural technology (47.78%); Lack of financial support (46.67%) and Labour shortage/high cost of labour (43.33%) was ranked 6th; 7th and 8th 9th; 10<sup>th</sup> respectively. The findings were supported by Laxman (2019) [16].

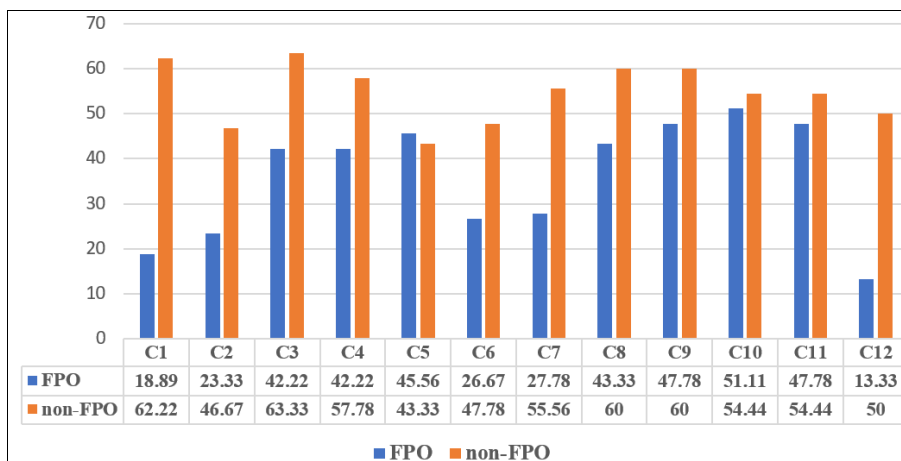


Fig 1: Represents the constraints related to adoption of Paddy cultivation practices by FPO members and non-FPO members

**Suggestions offered by the members for the effective functioning of Farmer Producer Organizations**

The suggestions offered by the respondents for the effective functioning of Farmer Producer Organizations and for the adoption of recommended Paddy cultivation practices are presented in Tables.

**Organizational suggestions offered by the FPO members**

FPO members have offered several suggestions for improving conditions affected by constraints, as detailed in Table 48. These suggestions have been rank-ordered based on frequencies and percentages, providing comprehensive insights into the perspectives of FPO members on potential improvements.

Table 3: Organizational suggestions offered by the FPO members

S. No.	Suggestions	FPO Members (N=90)		
		Frequency	percentage	Rank
1.	Resolving problems in time	71	78.89	I
2.	Regular participation in the meetings	56	62.22	VI
3.	Capacity building of members	60	66.67	V
4.	Timely distribution of profits	65	72.22	II
5.	FPOs should get priority while seeking subsidies on schemes	60	67.00	IV
6.	Providing adequate infrastructure facilities	65	72.22	II
7.	Avoid political interference	9	10.00	IX
8.	Equal sharing of benefits among members	62	68.89	III
9.	Creating a friendly environment to help farmers	51	56.67	VII
10.	Cooperation and coordination among members	49	54.44	VIII

The important suggestions offered by the FPO members are arranged in descending order viz. 78.79 per cent of members suggested that problems should be resolved in time was ranked 1<sup>st</sup>, followed 72.22 by per cent of members who suggested distribution of profits should be on time alongside 72.22 per cent of members also suggested FPOs should provide adequate infrastructure facilities ranked 2<sup>nd</sup>, equal sharing of benefits among members was ranked 3<sup>rd</sup> as 68.89 per cent members suggested, followed by 67.00 per cent people suggested that FPOs should get priority while seeking subsidies on schemes was ranked 4<sup>th</sup>. The findings were supported by Dharmaraj (2019) [7]. FPOs should provide capacity building of members was suggested by 66.67 per cent was ranked 5<sup>th</sup>, followed by 62.22 per cent of respondents suggested about regular participation in the meetings was ranked 6<sup>th</sup>, 56.67 per cent members suggested

that FPOs should create a friendly environment to help farmers was ranked 7<sup>th</sup>, cooperation and coordination among members was suggested by 54.44 per cent and ranked 8<sup>th</sup> and 46.67 per cent members suggested that FPOs should avoid political interference was ranked 9<sup>th</sup> respectively.

**Suggestions offered by the FPO members and non-members in the adoption of recommended Paddy cultivation practices**

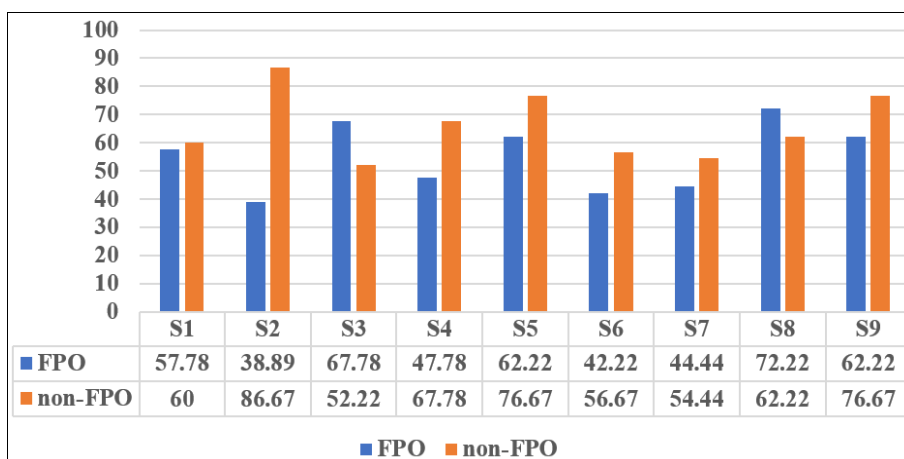
The suggestions provided by both FPO members and non-members to address the challenges encountered in adopting recommended practices in rice cultivation. These suggestions have been rank-ordered based on percentages, offering valuable insights into potential solutions proposed by both groups.

**Table 4:** Suggestions offered for the adoption of recommended Paddy cultivation practices

S. No.	Constraints	FPO Members			Non-members		
		No.	Percent	Rank	No.	Percent	Rank
S1.	Required inputs made available at the farmer’s convenience	52	57.78	IV	54	60.00	V
S2.	Inputs like seeds, fertilizers, pesticides etc., should be provided at a low cost	35	38.89	IX	78	86.67	I
S3.	Timely provision of credit facility at low interest rates by co-operative institutions and banks	61	67.78	II	47	52.22	VIII
S4.	Farmers should be protected by crop insurance scheme from the government at times of adverse climatic conditions	43	47.78	VI	61	67.78	III
S5.	Provision of transportation facilities for marketing their produce	56	62.22	III	69	76.67	II
S6.	Training/demonstrations should be organized in time to time regarding improved technologies	38	42.22	VIII	51	56.67	VI
S7.	Information regarding plant protection should be available at right time	40	44.44	VII	49	54.44	VII
S8.	Ensure immediate payments through the direct benefit transfer system	65	72.22	I	56	62.22	IV
S9.	Provision of storage and processing facilities	56	62.22	III	69	76.67	II

It was noticed from Table. 4. that the majority (72.22%) of FPO members suggested ensuring immediate payments through the direct benefit transfer system, timely provision of credit facility at low interest rates by cooperative institutions and banks (67.78%), provision of storage and processing facilities (62.22%), provision of transportation facilities for marketing their produce (62.22%), the required inputs made available at the farmer's convenience (57.78%),

followed by farmers should be protected by crop insurance scheme from the government at the time of adverse climatic conditions (47.78%), information regarding plant protection should be available at right time (44.44%), training/demonstrations should be organized in time to time regarding improved technologies (42.22%), and inputs like seeds, fertilizers, pesticides etc., should be provided at low cost (38.89%) respectively.



**Fig 2:** reported the suggestions offered for the adoption of recommended Paddy cultivation practices

Whereas, in the case of non-members, 86.67 per cent of respondents suggested that inputs like seeds, fertilizers, pesticides etc., should be provided at low cost, followed by provision of storage and processing facilities (76.67%), provision of transportation facilities for marketing their produce (76.67%), farmers should be protected by crop insurance scheme from the government at the time of adverse climatic conditions (67.78%), to ensure immediate payments through the direct benefit transfer system (62.22%), the required inputs made available at the farmers convenience (60.00%), training/demonstrations should be organized in time to time regarding improved technologies (56.67%) followed by information regarding plant protection should be available at right time (54.44%), and timely provision of credit facility at low interest rates by co-operative institutions and banks (52.22%), respectively.

**Conclusion**

The study revealed several constraints faced by both FPO members and non-members in adopting recommended Paddy cultivation practices, categorized into technical, institutional, economic, and infrastructural areas. FPO

members reported technical challenges such as the inability to create brand value, lack of export orientation, and insufficient trained manpower. Institutional issues included non-rotation of governing boards, partiality within organizations, and lack of coordination among members. Economically, FPO members struggled with insufficient policy support and inadequate capital, while non-members faced difficulties in securing loans, managing high input costs, and dealing with delayed payments. Infrastructural constraints were significant for both groups, with inadequate processing and storage facilities being major issues. The high costs associated with private processing and storage facilities further compounded these problems. Overall, while FPO members benefit from collective action and structured support, they still face considerable challenges. Non-members, lacking such support, encounter even greater difficulties. Addressing these constraints through targeted interventions in technical knowledge, institutional support, economic assistance, and infrastructure improvements is crucial for enhancing the adoption of recommended Paddy cultivation practices.



**Reference**

1. Anonymous. Agriculture Census of India Report; c2015-16.
2. Anonymous. Statistics at a Glance; c2023.
3. Anand S, Ghosh S, Mukherjee A. Strategies for strengthening farmer producer organizations in India based on the One District One Product scheme. *Curr Sci.* 2023;125(6):614-622.
4. Chauhan JK, Ankur A, Pradhan K. Identification of constraints associated with farmers' producer organisations (FPOs). *Int J Curr Microbiol Appl Sci.* 2021;10(01):1859-1864.
5. Charyulu DK, Moses DS, Raju KV, Wani SP. Status of farmer producers organizations (FPOs) in Andhra Pradesh. *Indian J Agric Mark.* 2017;31(3s):97-97.
6. Deepa C, Sathya Gopal PV, Lakshmi T, Hemalatha S. Profile characteristics of rice farmers in Nellore District of Andhra Pradesh, India. *Int J Curr Microbiol Appl Sci.* 2019;8(07):629-635.
7. Dharmaraj BM. A Study on Performance of Farmer Producer Organizations in Shivamogga District of Karnataka [master's thesis]. Shivamogga, Karnataka: University of Agricultural and Horticultural Sciences; c2019.
8. Fukagawa NK, Ziska LH. Rice: Importance for global nutrition. *J Nutr Sci Vitaminol.* 2019;65(supplement)
9. Gorai SK, Wason M, Padaria RN, Rao DUM, Paul S, Paul RK. Factors contributing to the stability of the farmer producer organisations: A study in West Bengal. *Indian J Ext Educ.* 2022;58(2):91-96.
10. Kavin A, Divya K. Performance of Farmer Producer Organization based on socio-economic factors in Western Region of Tamil Nadu. *Int J Chem Stud.* 2019;7(3):4434-4437.
11. Kumar S, Kumar R, Meena PC, Kumar A. Determinants of performance and constraints faced by Farmer Producer Organizations (FPOs) in India. *Indian J Ext Educ.* 2023;59(2):1-5.
12. Laxman CS. Impact Analysis of Farmer Producer Company on its Members [master's thesis]. Parbhani: Vasant Rao Naik Marathwada Krishi Vidyapeeth; c2019.
13. Singh M, Tiwari D, Dhillon GS. Attitude of the farmers towards Farmer Producer Organisations (FPOs) in Punjab. *Indian Res J Ext Edu.* 2021;21(2&3):42-45.
14. Suriyapriya E. A study on impact of farmer producer organization among small and marginal farmers in Tamil Nadu (FPO) Members [master's thesis]. Annamalai Nagar: Annamalai University; c2022.
15. Vedasri R, Mishra RK, Mishra SN. A study on working pattern and performance of farmer producer organisations in Andhra Pradesh. *Asian J Agric Ext Econ Sociol.* 2022;40(6):54-66.
16. Gandhi UH, Cornell RF, Lakshman A, Gahvari ZJ, McGehee E, Jagosky MH, *et al.* Outcomes of patients with multiple myeloma refractory to CD38-targeted monoclonal antibody therapy. *Leukemia.* 2019 Sep;33(9):2266-2275.