Financial Viability of Farmer Producer Organizations in Garhwal Division of Uttarakhand: A Case Study of Shilgoor Bijat Swayttt Sahkarita, Kalsi, Dehradun

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Abstract: Agriculture is the main occupation in developing countries like India, where the majority of rural peoples depend on it for livelihood and income. To overcome the problems and multifold the income of these small and marginal farmers, the government has launched a new form of collective organization called Farmers Producer Organization. The present study was undertaken to assess financial viability of farmer producer organization in the Garhwal division of Uttarakhand: A Case Study of Shilgoor Bijat Swaytt Sahakarita, Kalsi, Dehradun. The study was aimed to achieve three objectives viz., to examine the business performance of selected farmer producer organizations, to analyze the marketing efficiency of farmer producer organizations and to identify the constraints faced by members of Farmer Producer Organizations and various non-members.

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1. Introduction

Indian agriculture is dominated by a large number of fragmented land holdings. Small and marginal farmers own about 85% of the land holdings. Being unorganized, these small and marginal farmers are unable to reap high value of their produce and these issues can be mitigated by organizing them into Farmer Producer Organizations (FPO) that allow farmers to reap the advantages of economies of scale by buying inputs, processing and marketing their products. The Indian government has been supporting Farmer Producer Organizations (FPOs) as a new type of collective to address the issues encountered by small and marginal farmers, notably those related to increased access to capital, technological improvements, and effective inputs and markets. "Farmer Producer Organization" has been recognized by the "Department of Agriculture and Cooperation, Ministry of Agriculture, Govt. of India" as the most relevant institutional form around which to mobilize farmers and courage their strength to collectively leverage their production and marketing dimensions. The method is proving the ability to be more efficient in breaking producers' reliance on middlemen and gaining access to better markets for inputs and outputs **(Khanna and Ghatak 2015).**

The Indian government is promoting the formation of FPOs as a viable alternative to cooperatives. Farmer Producer Organizations begin by organizing farmers into small groups of 15-20 people, known as Farmer Interest Groups (FIGs), at a local level, such as a village, and then forming an association of Farmer Producer Organizations is the proper federation level for those FIGs. The government is pushing the formation of FPOs as viable alternatives in this situation. Based on the recommendations of the Y.K. Alagh Committee, the Indian government revised the Companies Act, 1956 in 2002 by incorporating part IX A. **(Mondal, 2010).**

The FPOs' primary goal is to bring together small farmers for backward and forward linkages, such as seed, fertilizer, credit, insurance, knowledge, and extension services, as well as forward linkages such as

collective marketing, processing, and market-led agriculture production **(Mondal, 2010).** In 2013, the Department of Agriculture and Cooperation released a policy paper titled "Policy and Process Rules for Farmer Producer Organizations" to stimulate the development of FPOs and to lay out preliminary guidelines for their formation and performance. The preliminary evidence on FPOs in India suggests that small farms can be integrated into modern agricultural supply chains that are increasingly controlled by large market actors **(Trebbin and Hassler, 2012**

Scenario of Farmer Producer Organization in Uttarakhand

Agriculture provides a living for more than 69 percent of the population of Uttarakhand. The number of primary and marginal cultivators is 1.046 million and 0.535 million, respectively. The state's average land holding size is 0.89 hectares, which is lower than the national average of 1.15 hectares. The proportion of small and marginal farmers among total farmers in the state has risen. The plains and hills have different agricultural scenarios, with commercial agriculture being performed in the plains and subsistence farming being practised primarily by hill farmers. (State-by-State Strategies for Doubling Farmer Income, 2022)

Table 1: Number of Farmer Producer Organizations in Uttarakhand

S. No.	Garhwal Division	Number of FPOs	Kumaun Division	Number of FPOs
1.	Uttarkashi	9	Almora	7
2.	Chamoli	9	Bageshwar	4
3.	Dehradun	10	Pithoragarh	9
4.	Haridwar	4	Champawat	4
5.	Tehri Garhwal	11	Nainital	5
6.	Pauri Garhwal	10	Udham Singh Nagar	4
7.	Rudraprayag	4	-	-
Total		**57**	**Total**	**33**

Source: NABARD Report (2020)

The Government of Uttarakhand plans to create a helpful environment for FPOs by integrating and promoting the activities involved in the fields of Agriculture and allied sector, food processing, agricultural business, warehousing and logistics sectors through focused attention, global technologies and necessary infrastructure facilities. This FPOs policy shall be a pioneer of change and will act as an income generator. The economic growth of farmers results in higher scale employment generation in rural areas through people, public and private partnerships in Uttarakhand. The preferred numbers of farmers in FPOs should be 300 in plain regions 100 in hilly areas. This policy does not strictly specify any such minimum and maximum limit. FPOs will provide end to end services to its members, covering all aspects of cultivation i.e., financial, input supply, technology transfer, procurement and packaging, marketing insurance and networking services. Based on the emerging needs the FPOs can add new services with approval of the Government to ensure best interest of the farmer. National Cooperative Development Corporation (NCDC), Small Farmer Agribusiness Consortium (SFAC) and National Bank for Agriculture and Rural Development (NABARD) will be implementing agencies in the state.

1.2 Literature Review

Barham *et al.* (2009) conducted a study on collective action initiatives to improve market performance and

suggested that more mature groups with strong internal institutions, functioning group activities and a good asset base are more likely to improve the market situation.

Ragasa (2012) studied that membership commitment was positively correlated with performance of rural producer organizations' and as to sustain financial contribution from members and operations rural producer organizations; support will need to specialize in the economic viability and increasing incomes for the members. Marketing training and extension approaches, including training on value chain approaches, is that the important strategy for supporting rural producer organization.

Trebbin and Hassler (2012) studied farmer producer companies in India: A new concept for collective action**.** Producer Companies can help small lholders farmers to participate in emerging high value market such as export market and unfolding modern retail sector in India. The withdrawal of the state from productive and economic functions and changes in the organization of marketing channels put forward new challenges for small-scale farmers.

Chauhan (2015) studied and analyzed the efficiency of producer companies on the ground of few measures such as number of shareholders, annual turnover and net profit, in Madhya Pradesh. The study revealed that companies with total shareholders do great in their district by offering benefits to more members, banks and financial institutions do not lend to producer businesses because they do not have collateral security.

Kumawat and Bansal (2018) studied problems faced by the self-help group members in carrying out the self-help group activities. In this study, total ten groups have been selected from Badgaon Panchayat Samiti. According to study, amongst the selected 130 respondents, women were facing problem in joining of self-help group in terms of financial support, technical support and information support from the

running group.

Chauhan *et al.* (2019) studied the financial performance of some selected producer organization (PC) in South India. Financial ratio was analyzed on parameters like liquidity, inventory, solvency, turnover, profitability, efficiency and financial strength of the firm for the financial years 2013-2014 to 2016-2017. The financial ratio showed that all the Producer Organizations, liquidity position was good and adequate to manage their expenses. Overall finding is that while producer companies are trying hard to make their presence in the market, they have a long way to go.

Nirgude *et al.* (2019) studied economic analysis of farmer producer organization. The study was based on primary and secondary data. The financial feasibility of investment in Abhinav farmer groups was worked out by using different financial tools and ratios. The study revealed that average per hectare yield obtained was 204.64 and 211.31 quintals respectively for member and non- member growers. B: C ratio was calculated 1.42 and 1.30 respectively, which indicated that profitable enterprise.

Solaman and Veerakumaran (2020) studied various problems and constraints faced by farmer producer company in India. The issues were examined from the director's perspective under four headings: administrative issues, functional issues, structural issues, and human resource issues. The research was based on primary data gathered using a planned interview schedule. On a five-point Liker scale, responses to questions were plotted, and problems were classed as Chronic, Service, Risk, Tolerable, and Negligible. The scale of rating was given a score of 5,4,3,2, and 1 correspondingly. For analysis, the percentage and index methods were used.

1.3 Objectives of the study

1. To examine the business performance of Shilgoor Bijat Swaytt Sahakarita FPO.
2. To analyze the marketing efficiency of Shilgoor Bijat Swaytt Sahakarita FPO.
3. To identify the constraint faced by members of Shilgoor Bijat Swaytt Sahakarita FPO and the non- members.

2. Problem Formulation

The present study was conducted in Garhwal division of Uttarakhand which comprises of seven districts viz. Dehradun, Pauri Garhwal, Uttarakashi, Chamoli, Haridwar, Rudraprayag and Tehri Garhwal.

For this study the Dehradun district was selected purposively since it has the maximum number of FPOs. Based on the criterion of profitability, multi-stage sampling was used for the selection of FPO. Both, primary and secondary data were used in the study. Primary data was collected with the help of a well-defined survey schedule. Questions regarding selected objectives were asked from respondents. Secondary data was compiled from various published sources.

The number of FPOs in Uttarakhand as well as India were obtained from Small Farmer's Agribusiness Consortium and National Bank for Agriculture and Rural Development.

2.1 The financial position of Shilgoor Bijat Swaytt Sahakarita FPO

The data of the Farmer producer organization were collected for three years through balance sheets and income statements. Thereafter analysis was carried out with the help of various financial ratios. Liquidity and Solvency ratios were obtained from the Balance Sheet while the efficiency and profitability ratios were obtained from the Income Statement. The analytical tools adopted to analyze the financial position of farmer producer organization are represented in Table 2.

Table 2: Financial Ratios to assess performance of FPO

Ratios	Formulas
Liquidity Ratios	
Current Ratio	Total current assets/Total current liabilities
Acid- Test Ratio	Total current asset - (Inventories+ Supplies)/ Total current liabilities
Intermediate Ratio	(Total current assets + Total intermediate assets)/ (Total current liabilities + Total intermediate liabilities)
Solvency Ratios	
Debt – equity Ratio (DER)	Total Liabilities / Net worth
Equity to asset value Ratio (EVR)	Net worth / Total asset
Net Capital Ratio	Total assets/Total liabilities
Efficiency Ratios	
Operating Ratio (OR)	Operating ratio/ Gross income
Fixed Ratio (FR)	Fixed expenses/ Gross income
Gross Ratio (GR)	Gross expenses/Gross income
Profitability Ratios	
Capital Turnover Ratio	Gross income/ Average capital investment
Rate of Return on Equity	Net return to capital/ Average capital investment

Investment	

2.2 The marketing efficiency of Shilgoor Bijat Swaytt Sahakarita FPO

The Marketing efficiency of farmer producer organizations and their marketing channels were considered under the study and were estimated by Acharya and Agarwal's Approach.

i. Marketing Cost

C= CF+Cm1+Cm2+Cm3+……. +Cmi

Where,

C= Total cost of marketing (Rs/kg)

CF= Cost paid by the producer (Rs/kg)

Cmi= Cost incurred by ith middle in the process of marketing (Rs/kg)

ii. Marketing Margin

MM = Sale Price – (Purchase Price + Per Unit Marketing Cost)

iii. Marketing Efficiency

$$\mathbf{ME = \frac{FP}{(MC+MM)}}$$

Where,

ME = Index of marketing efficiency

FP = Price received by the farmer

MC = Total marketing cost

MM = Net marketing margins

iv. Producer Share in consumer's rupee

$$\mathbf{Ps = \frac{Pf}{Pr} X\ 100}$$

Where,

Ps = Producers' share in consumers' rupee

Pf = Price received by the producer

Pr = Price paid by the consumer

2.3 Constraints faced by the members of Shilgoor Bijat Swaytt Sahakarita FPO and the non-members

Garrett's Ranking Technique is used to identify and rank the constraints of farmer producer organization in study area. The ranks assigned by the respondents were converted into scores by using Garrett's Ranking Technique.

$$\mathbf{Per\ cent\ Position = 100\ X\ \frac{(Rij-0.5)}{Nj}}$$

Where,

Rij = Rank given for the ith factor by jth individual

Nj = Number of problems ranked by jth individual

The present position of each rank was converted into scores using the table given by Garrett. The scores of various respondents were added and mean values were calculated. The mean values were arranged in the descending order.

3. Problem Solution

3.1 Examining the financial performance

During a three-year period, FPO attempted a financial ratio analysis employing financial ratios. The four sets of financial ratios chosen were liquidity ratios, solvency ratios, efficiency ratios, and profitability ratios.

Table 3. Different Financial Ratio of Farmer Producer Organizations

Shilgoor Bijat Swayatt Sahakarita			
Year	**2017-18**	**2018-19**	**2019-20**
Liquidity Ratios			
Current Ratio	1.01	1.06	1.21
Acid-Test Ratio	0.51	0.65	1.09
Intermediate Ratio	0.59	0.78	1.01
Solvency Ratios			
Debt-Equity	0.27	0.39	0.46

Ratio			
Net Capital Ratio	0.81	0.99	1.01
Equity To Asset Value Ratio	0.45	0.54	0.67
Efficiency Ratios			
Operating Ratio	0.32	0.41	0.50
Fixed Ratio	0.41	0.56	0.62
Gross Ratio	0.53	0.67	0.83
Profitability Ratios			
Capital Turnover Ratio	0.49	0.60	0.73
Rate of Return on Equity Investment	0.45	0.56	0.71

Liquidity ratios measure the cash position of the organization, as cash is important in forms for managing working capital expenses. Current Ratio measures the short-term liquidity of the organization. Optimum ratio for the firm should be 1:5:1 or 2:1, higher the ratios better the liquidity position. Year on year liquidity position fluctuating, Current ratio was highest in 2019 -20and lower in 2017-18. As current ratio is very high, it was shows FPOs had current assets three times more than current liabilities in next year. Acid Test Ratio is a better measure over Current Ratio because inventories deducted from current asset. The study depicted that current ratio kept on decreasing while there was increase in the acid test ratio for FPOs 2019-20 was 1.09 and lower in 2017-18 was 0.51. The intermediate ratio was less than one, indicating a comparatively low liquidity situation over time. Intermediate ratio was highest in 2019-20 and lowest in 2017-18. The intermediate ratio depicts the FPO business's liquidity status over a short period of time. This ratio should also be more than one to indicate that the FPO business is working smoothly

Solvency ratio measure the financial soundness of the Farmer Producer organization. Debt Equity Ratio depicts the proportion of debt over owned fund. The ratios were found to be higher in 2019-20 and lower in 2017-18. This ratio is very low and it shows FPOs does not have high debt obligation. Equity to asset value ratio was fluctuating for the FPOs. The Net Capital ratio was highest in 2019-20. The company's net capital ratio is more than one, indicating that the lender's funds are secure, because the Net Capital ratio reflects the amount of liquidity available to meet long-term obligations. This percentage emphasizes the organization's profit. The enhanced strength in the financial structure of the FPO business is evident from the improvement in the ratio over time.

The income statement was used to calculate the efficiency ratio. An efficiency ratio measures the effectiveness of the organizations that manage the company's assets and the rates at which those assets are converted into product. As a result, a lower ratio implies that companies spend less than they make in carrying out their operations. This refers to the organization's increased operational efficiency. The fixed ratio was founded highest in 2019-20 and lowest in 2017-18. The fixed ratio is the percentage of the farm's gross income that is made up of fixed expenses. This suggests that FPOs are performing well in relation to their fixed costs. The higher gross ratio indicates that the company is in profit.

Profitability ratio is used to evaluate the organization ability to generate income as compared to its expenses and other cost associated with the generation of income during a particular period. Profitability ratio is not so poor. The Capital Turnover ratio was found to be higher in 2019-20 respectively 0.73 and lower in 2017-18 respectively 0.49.

3.2 Marketing Channel

Shilgoor Bijat Swayatt Sahakarita does marketing of post harvest handling of Agro-horticultural produce. This FPO utilized local produce like mango, rhododendron, lemon, ginger, garlic, cauliflower etc were processed and converted into various products like juice, jams jellies, squashes, candies and dehydrated products. Products are sold with brand name **Jaunsar**. The regulated market is a key link in the marketing of burans juice. The majority of burans juice is sold either directly by

farmers or through dairy units. Burans juice was also discovered to have a wide range of operating modes.

Two marketing channels exist in the study area:

i. Channel-1: Farmer-Trader- Processor- Wholesaler - Retailer- Consumer

ii. Channel-2: FPO- Retailer- Consumer

According to table 4, Overall marketing costs for burans juice in channel I were Rs. 48500 per quintal and channel II were Rs. 27860 per quintal, respectively. Thus the cost paid in marketing of burans juice in channel I Rs. 48500 was greater than channel II Rs. 27860. As a result of the lack of participation of various market intermediaries, farmers who sold their produce through FPO had relatively superior marketing efficiency and lower market costs.

In channel II, the producer's share of the consumer rupee was 88 percent, compared to 16 percent in channel I. In comparison to channel II, the producer's share of the consumer's rupee has fallen due to a higher number of market functionaries in channel I. By reducing middlemen's abuse, the Farmer Producer Organization channel let farmers get a better producer share of the consumer's rupee.

Table 4 shows the results of calculating marketing efficiency using Acharya's method. Channel I had a marketing efficiency of 0.17 while channel II had a marketing efficiency of 2.71. It implies that channel II is more productive than channel I. Channel I had a higher overall marketing cost and marketing margin (Rs. 125500 per quintal) than channel II (Rs. 44360 per quintal). This means that the number of intermediaries in an existing channel reduces the marketing efficiency of that channel when compared to a route with fewer intermediaries. As a result, in comparison to channel I, the price obtained by the farmer in channel II is higher.

Table 4: Marketing Effeciency of Shilgoor Bijat Swayatt Sahakarita(FPO)

S. No.	Particulars	Farmer Marketing (channel-I)	FPO Marketing (Channel-II)
1.	Marketing cost	48500	27860
2.	Produce' net price	22000	-
3.	Trader's selling price	27500	-
4.	Trader's margin	5500	-
5.	Farmer Producer Organization's selling price	-	121000
6.	Processor's selling price	66000	-
7.	Processor's margin	38500	-
8.	Wholesaler's selling price	88000	-
9.	Wholesaler's margin	22000	-
10.	Retailer's selling price	137500	137500
11.	Retailer margin	49500	16500
12.	Producer's share in consumer's rupee (%)	16	88
13.	Price received by the farmer	22000	121000
14.	Marketing cost+ Marketing margin	125500	44360
15.	Index of Marketing Efficiency(MME)	0.17	2.7

3.3 Constraints faced by members of Shilgoor Bijat Swayatt Sahakarita (FPO)

Lack of sufficient infrastructure, lack of understanding of credit facilities, price fluctuation throughout the year, delayed payment, untimely, price, and poor-quality inputs, exploitation by middlemen, and lack of awareness regarding grading and packing were selected for the current study. They were using Garrett's Ranking Technique to analyze the situation.

Table 5: Constraints faced by members of Shilgoor Bijat Swayatt Sahakarita (FPO)

S. No.	Particulars	Members	
		Garrett Score	Rank
1.	Lack of proper infrastructure (implements, irrigation facilities etc.)	65.21	First
2.	Unawareness of credit facilities	59.72	Second
3.	Price fluctuation over the year	51.56	Third
4.	Delayed payment	46.45	Fourth
5.	Untimely, costly and poor-quality inputs	41.53	Fifth
6.	Exploitation by middle men	36.15	Sixth
7.	Lack of awareness about grading and packaging	30.23	Seventh

The lack of proper infrastructure reported by members was the major constraint with a mean score of 65.21, followed by unawareness of credit facilities 59.72, price fluctuations over the year 51.56, delayed payment 46.45, untimely, costly, and poor quality inputs 41.53, exploitation by middle men 36.15, and lack of awareness about grading and packaging with a mean score of 30.23 respectively

3. 4 Constraints faced by various Non- members

In the study constraints taken into account are delay in payment, exploitation by middle men, lack of market information, lack of facilities of transportation, lower price of produce and distress sale, lack of extension facilities and poor market linkage. For the present study, all the above listed constraints were selected. They were analyzed with the help of Garrett's Ranking Technique.

Table 5.1 Constraints of various non- members

S. No.	Particulars	Non-Members	
		Garrett Score	Rank
1.	Delay in payment	61.73	First
2.	Exploitation by middlemen	57.53	Second
3.	Lack of market information	50.23	Third
4.	Lack of facilities of transportation	44.54	Fourth
5.	Poor marketing linkage	39.24	Fifth
6.	Lower price for produce and distress sale	31.22	Fifth
7.	Lack of extension facilities	26.67	Sixth

According to table 5.1, non-members' payment delays were the most significant limitations, with a mean score of 61.73, followed by middlemen's exploitation. 57.53, absence of market knowledge 50.23, transportation facilities 44.54, weak market connection 39.24, lower price for produce and distress sale 31.22, and lack of extension facilities 26.67 respectively.

4. Conclusion

The study concluded that the financial performance, marketing and constraints of the select FPO were below par. The debt-to-asset ratio of FPOs was good enough that, in the event of liquidation, the debts could be paid off by selling the assets. FPOs have a net capital ratio greater than one, indicating that the fund of lenders is secure. The net capital ratio assesses a company's ability to meet long-term obligations. The equity to asset value ratio of FPOs was found to be greater than one, indicating that the organization is profitable. The increasing strength in the financial structure of the FPO firm is evident from the improvement in the ratio over the year. The operating ratio was less than one. When the ratio is less than one, it means that the organization spent less than it earned in order to run its business. This reflects the organization's great operational efficiency. The fixed ratio was less than one, indicating that the organization was able to cover its expenses. This

suggests that FPOs are performing well in relation to their fixed costs. The profitability ratios of FPOs evaluated were found to be positive. The marketing efficiency of channel I was 0.17 and channel II was 2.71. It infers that channel II is more efficient that channel I. Study suggested that for better performance of FPO there should be timely grants and funds from Government in early stage, mobilization of more equity, better planning of activity portfolio, certification of organic farming by Agricultural and Processed Foods Products Export Development Authority, proper guideline for value added products by state, formation of central agency to grants and awareness, improved infrastructure facilities and training of directions to take strategies decision are needed. Development of sustainable business plans is the need of the hour to retain their functionality over 5 years and more.

References:

[1]. **Bihsnoi, R.K. and Kumari, S. 2020.** Challenges faced by farmer producer organization and strategies to overcome: a review. *Int. J. adv. Agric. sci. technol.*, 7(6): pp, 25-33.

[2]. **Chauhan, S. 2015**. Producer companies in Madhya Pradesh. *Int. J. Recent Res.,* 2(3): 66-77.

[3]. **Kujur, P. and Gauraha, AK. 2019.** Business performance of farmer producer organization in Chhattisgarh plains. *J. Pharmacogn. Phytochem.* 8(4): 3476-3480.

[4]. **Kumar, P., Manaswi, B. H., Prakash, P., Anbukkani, P., Kar, A., Jha, G. K. and Lenin, V. 2019**. Impact of farmer producer organization on organic chilli production in Telangana, India. *Indian J. Tradit.Knowl. (IJTK)*, 19(1): 33-43.

[5]. **Kumar, S**. 2014. Marketing efficiency analysis: A case of broiler marketing in Anand district of Gujarat. *Int. J.Commer. Bus. Manag.,* 7(1): 186-190.

[6]. **Mondal, A. 2010**. Farmer producer company concept, practices and learning: A case from action for social advancement. *Financing Agric.*, 42(7): 29-33.

[7]. **Mudholkar, G. P. 2019.** Agricultural Marketing using Farmer Producer Organizations (FPO) Model. *Int. J. Adv. Sci. Technol.*, *28*(11): 407 - 412.

[8]. **Nirgude, R. R., Satpute, S. V., Kamble, B. H., Choudhari, S. A., and Yadav, D. B. 2020**. Economic analysis of farmer-producer–organization (FPO): A case study of Abhinav farmers group, Narayangaon, Pune. *IJCS*, *8*(1): 2499-2502.

[9]. **Ragasa, C., and Golan, J. 2014**. The role of rural producer organizations for agricultural service provision in fragile states. *Agric. Econ.*, *45*(5): 537-553.

[10]. **Salokhe, S. 2016**. Farmer producer organization for effective linkage of Small producers with market. *Int. J. Appl. Res.,* 2(10): 142- 14

[11]. **Singh, A.K. and Burman, R.R. 2009.** Emerging role of farmer organization in the Extension System. Indian J. Ext. Educ. 28-35.

[12]. **Solaman, S. and Veerakumaran, G. 2020.** Problems and constraints Faced by Farmer Producer Company in India with Special Reference to Poultry Sector of Kerala. Int. J. Innov. Sci. Res. Technol., ISSN No: - 2456-2165.

[13]. **Trebbin, A., and Hassler, M. 2012**. Farmers' producer companies in India: a new concept for collective action? *Environ. Plan. A*, 44(2):411-427.

[14]. **Venkattakumar, R**. and Sontakki, S.B. 2012. Producer companies in India: Experience and implications. *Indian J. Ext. Edu.* 1: 154-160.

[15]. **Verma, S., Kumar, V., Kumar, A. and Roy, D. 2019**. Are farmer producer organizations a boon to farmers? The evidence from Bihar, India. *Agric. Econ. Res. Rev.*, 32: 123-13.

[16]. **Vignesh, G., Balaji, P. and Sivakumar, S.D. 2019.** Role of Actors in Farmer Producer Organization (FPO) based Millet Value Chain. *Madras Agric. J.*: 10.29321.

[17]. **Yadav, S., Joshi, S. K., and Gauraha, A. k. 2018**. Management status of farmer producer organizations (FPOs) in Chhattisgarh plains. *J. Pharmacogn. Phytochem.*, 7(3): 3288-3290.

[18]. https://sfacindia.com. Farmer Producer Organization scheme. 11 August 2022.

[19]. https://www.nabard.org. Hand book of Farmer Producer Organization. 15 August 2022.