

Understanding the Farmer Producer Organization Ecosystem: A Study in North East India

Pankaj Kumar¹, Th. Onchoila Maring² and L. Devarani³

1&2. Ph.D. Research Scholars and 3. Professor

School of Social Sciences, College of Post Graduate Studies in Agricultural Sciences, (Central Agricultural University, Imphal), Umiam, Meghalaya- 793103

Corresponding author's e-mail: loukham.d@gmail.com

ABSTRACT

Farmer Producer Organizations (FPOs) are promoted to boost small and marginal producers' competitiveness in developing market prospects and doubling their income. In the north-eastern (NE) region of India, dominated by small and marginal farmers, the FPOs have an important role to play. An ecosystem for FPO may be defined as a system consisting of the various stakeholders, support services and policies which through meaningful interaction with one another enable the FPO to function properly functioning, grow, maintain competitiveness and robustness. An ecosystem provides with various input services, infrastructural support, market linkages and facilitation services. In this study, the components of an FPOs ecosystem were identified through systemic review of literature. There after an attempt was made to study the FPOs of NE India based on the identified components. For this primary data was collected by using semi-structured interview schedule from a convenience sample of 18 FPOs who participated in the first North-East FPO and Associated Investors' Conclave 2023 held during June 2023. Important identified components of FPO were policy environment, capacity enhancement initiatives, access to credit and access to markets. The study revealed that universities, MoA&FW and ICAR institutes were performing numerous diversified roles. There were many capacity development activities on technical aspects but less on entrepreneurial and managerial aspects. Most FPOs were not availing available support schemes or financial assistances. The mechanization status of the FPOs were also meagre. Based on these findings, certain recommendations for a cohesive and effective ecosystem were suggested.

Key words: FPOs ecosystem, Policy environment, Capacity enhancement, Access to credit, Access to market

INTRODUCTION

Figure 1. Evolution of FPOs in India Agriculture serves as the backbone of the Indian economy, providing a primary source of livelihood for rural communities. In India, the highest proportion of cultivators falls within the marginal category (24.0 %), followed by semi-medium (23.8%), small (22.9%), medium (20.2%), and large categories (9.1%) (GoI, 2019). However, their socioeconomic and agricultural development is significantly constrained by various challenges, including volatile markets, limited access to modern technologies, low bargaining power, exploitation by intermediaries, and inadequate infrastructure (Gorai *et al.*, 2024; Ponnusamy & Padaria, 2021). To address these systemic issues, Farmer Producer Organizations (FPOs) have emerged as a pivotal intervention. These organizations play a critical role

in enhancing farmers' livelihoods by improving access to markets, advanced agricultural technologies, and better infrastructure (Bikkina *et al.*, 2017; Chendegara *et al.*, 2023). Furthermore, FPOs act as transformative agents, promoting sustainable farming practices and empowering rural communities in the face of dynamic agricultural landscapes (Manaswi *et al.*, 2019; Nikam *et al.*, 2019; Gorai & Wason, 2022; Gorai *et al.*, 2024). A timeline of the evolution of FPOs in India is presented in Figure 1.

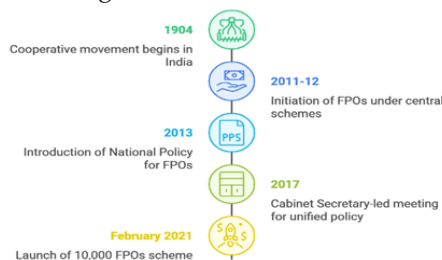


Fig. 1. Evolution of FPOs in India

The North-Eastern Hill Region (NEHR) of India, comprising the states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Tripura, and Sikkim, is predominantly characterized by small and marginal farmers operating within vulnerable agricultural systems. These challenges have significantly impacted the livelihoods of farmers in the region. Despite these constraints, the NEHR is often regarded as a "sleeping giant" in agriculture and allied sectors due to its substantial growth potential. Its strategic location, sharing international borders, presents notable opportunities for trade and market expansion. Additionally, the region is home to a diverse range of high-value crops, including fruits, vegetables, plantation crops, aromatic and medicinal plants, and unique Geographical Indication (GI)-tagged products. Leveraging these resources through collective farming approaches has the potential to secure sustainable income growth for farmers (Paul *et al.*, 2021). Currently, the NEHR hosts 752 Farmer Producer Organizations (FPOs), supported by entities such as the Small Farmers' Agri-Business Consortium (SFAC), the National Bank for Agriculture and Rural Development (NABARD), and the Mission Organic Value Chain Development for North East Region (MOVCD-NER). Of these, 289 are in Assam, 99 in Manipur, 77 in Arunachal Pradesh, 64 each in Nagaland and Sikkim, 62 in Tripura, 61 in Mizoram, and 52 in Meghalaya (SFAC, 2024; MOVCD-NER, 2024). An FPO in the plains must comprise at least 300 farmer-members, while in North-Eastern and hilly regions (including Union Territories), a minimum of 100 members is required. In the plains, 20 or more groups are needed to form an FPO, whereas in the hilly and North-Eastern regions, 7–8 groups are sufficient to meet the 100-member threshold.

Sustainability Challenges faced by FPOs

The National Bank for Agriculture and Rural Development (NABARD) has highlighted several positive impacts of Farmer Producer Organizations (FPOs), including increased farmer incomes, improved access to resources, and more efficient operations. However, the sustainability of FPOs is challenged by several factors which include:

- **Limited Skills and Awareness:** Many farmers lack awareness of the benefits offered by FPOs and are unfamiliar with legal requirements, leading to difficulties in registration and certification processes.
- **Insufficient Professional Management:** The shortage of skilled personnel adversely affects the management, marketing, and value-addition capabilities of FPOs, thereby hindering their growth and competitiveness.
- **Limited Access to Credit:** While some FPOs are eligible for collateral-free loans, a significant number face challenges in securing adequate financial resources, which constrains their operations and development.
- **Restricted Market and Infrastructure Access:** FPOs often encounter challenges related to marketing, transportation, storage, and value addition, which impede their ability to expand and thrive in competitive markets.

Concepts of FPOs Ecosystem

The establishment of sustainable farmer enterprises necessitates the creation of both supportive internal and external environments. Internally, key factors such as loyalty, cohesiveness, equity, and adherence to cooperative principles are essential for building a robust institutional foundation. Externally, the development of resilient farmer collectives relies on a conducive policy environment, capacity-building initiatives, and improved access to credit and markets (Datta *et al.*, 2022). Figure 2. Components of FPO Ecosystem An ecosystem for FPOs may be defined as a system consisting of the various stakeholders, support services, infrastructure and policies which through meaningful interaction with one another and collective actions, enable the FPO to function properly, grow, maintain competitiveness and sustainability. As per existing literatures, the critical components of FPO ecosystem are depicted in Figure 2.

Components	NABARD (2019)	Paul <i>et al.</i> (2021)	Bhuyan (2022)	Kumar <i>et al.</i> (2022)
Policy environment	●	●	●	●
Technology Support	●	●	●	●
Capacity Enhancement				●
Financial Support	●	●	●	●
Access to market	●	●	●	●

Figure 2. Components of FPO Ecosystem

In this context Government of India on 18th June, 2024 released a draft of the National Policy on Farmer Producer Organizations which mentions the need to create a sustainable ecosystem for agriculture by supporting FPOs to adapt to changing needs in pre-production, production, and post-production, encouraging farm diversification, Agri-entrepreneurship, and sustainable community

enterprises. Additionally, to strengthen the entire value chain, dual or triple-tiered FPO federations, joint ventures with private entities, and professional approaches to branding, packaging, and marketing is encouraged (Harikrishna, 2022). A list of external stakeholders of an FPO and the services provided by each of the stakeholder category is provided in Table 1.

Table 1
Broad Categorization of external stakeholders of FPO and the services provided by them

Sl. No.	Stakeholders	Service of the stakeholders				
		Policy Environment	Technology Support	Capacity Enhancement	Financial Support	Market Linkage
1.	Implementing Agency	✓	✓	✓		
2.	CBBO/ NGOs		✓	✓	✓	
3.	Financial Institutions			✓	✓	
4.	Academic and Research Institutions		✓	✓		
5.	State Government Functionaries	✓	✓	✓		
6.	Processor, traders, consumers, Exports market					✓
7.	Agri input Manufactures		✓			

North-East FPO conclave, 2023

With an aim to set up 10,000 FPOs in the country, Government of India is giving special focus so that they emerge as successful business enterprises. The success of these FPOs is critical for ensuring the success of smallholder and marginal farmers in India. The linkage between FPOs/FBOs (Farmer Based Organisations) and industry is also critical and needs to be nurtured for the benefit of both parties. With this backdrop, the Central Agricultural University, Imphal came up with the

idea of organising first North-East FPO and Associated Investors' Conclave in 2023. The conclave took place at the College of Post Graduate Studies in Agricultural Sciences, Umiam, Meghalaya during 24th to 26th June 2023. The programme was organised in collaboration with Indian Council of Agricultural Research for Research Centre in North East Hill Region (ICAR-RC for NEH Region), Umiam, Meghalaya, Deendayal Research Institute (DDI), New Delhi, ICAR ATARI Zone -VI, Guwahati, ICAR ATARI

Zone -VII, Umiam, Meghalaya and NABARD. Mainly organised for the benefit of FPOs/ FBOs and other Agripreneurs/entrepreneurs, the conclave was attended by different Central and State

agricultural institutions, traders, investors, innovators, NGOs, Start-ups, progressive farmers and students. Important attractions of the conclave are depicted in Figure 3.

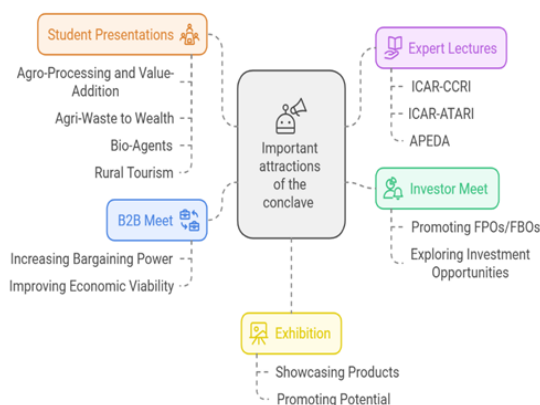


Fig. 3. Important attraction of the North-East FPO conclave 2023

The conclave saw participation of over 16 Investors from across the country, 5 CBBOs, more than 100 FPOs/ FBOs, Agri-preneurs and start-ups from the 8 states of NE Region and other stakeholders. The programme provided an opportunity for the FPOs/ FBOs, Agri-preneurs and start-ups to showcase their products, interact and exchange ideas and experiences with one another. The main feature of the conclave was the Focus Group Discussion of the participants. 6 groups of stakeholders having stake in 6 different domains viz., 1. Medicinal and Aromatic Plants; 2. Seed production and processing; 3. Fruits and vegetables; 4. Spices; 5. Fisheries and animal products and 6. Other agricultural produce. The FGD provided a platform for attracting potential investment, fostering collaborations and buyers and sellers to come together. The situation, need and demands of the stakeholders were put into the table and under the facilitation of the team leaders, possible solutions, linkages, strategies for growth and development were chalked out. Quite a number of buyer-seller arrangements were initiated and investments attracted. Taking advantage of the conclave, a study was taken up to explore the ecosystem of the participating FPOs of the conclave.

METHODOLOGY

For present study, 18 Farmer Producer Organizations (FPOs) were purposively selected

from the participants of the conclave, based on the availability and willingness of their representatives, who were primarily Chief Executive Officers (CEOs) and members of the Board of Directors (BODs), to share detailed insights about their organizations. The primary objective of the study was to explore and analyse the prevailing ecosystem of FPOs in the region, with particular emphasis on understanding the operational challenges, governance structures, and external factors influencing their development and sustainability. The data for the study was primarily collected through semi-structured personal interviews, conducted with the selected representatives during the three-day conclave. This approach allowed for in-depth, qualitative responses while maintaining flexibility to explore emerging themes. To supplement and enrich the data collected during the interviews, additional information was gathered through follow-up telephonic conversations and WhatsApp communication with the respondents, providing an opportunity for clarification and further elaboration on specific points raised during the interviews.

RESULTS AND DISCUSSION

The details of the selected Farmer Producer Organizations (FPOs) are presented in Table 2.

Table 2
Profile of sampled FPOs

Sl. No.	Name of the FPO	State	IA/CBBO	Year of inception	No. of members	Commodities
1.	Basuba Brooms producers' company Ltd	Meghalaya	Self- financed	2013	100	Broom grass
2.	Mawklot FPC	Meghalaya	ATMS	2021	100	Tea leaf
3.	Bonewari FPO multipurpose cooperative society	Meghalaya	NCDC	2020	200	Piggery, Arecanut, Black pepper
4.	Mei-Ramew multipurpose producers' company	Meghalaya		2022	150	Fisheries, bee keeping, vegetables
5.	Risei Fed Agro Producer Company Limited	Meghalaya	ATMS	2023	170	Potato, vegetable
6.	Brinbawe food products FPO	Meghalaya	MOVCDNER	2020	180	Jack fruit
7.	Mawujagknang FPO	Meghalaya	SFAC	2021	150	Tomato, Beans, chilli
8.	Dalmik kang FPO	Meghalaya	NERAMAC	2022	300	Casewnut, Black pepper, jack fruit
9.	West jaintia hills FPC Ltd.	Meghalaya	SFAC	2021	300	Turneric, Ginger, Black pepper
10.	Eastern Ribhoi Organic FPO	Meghalaya		2022	400	Ginger
11.	Rilajong FPO	Meghalaya	CAU	2013	500	Black pepper, Lakadong, turmeric, black turmeric
12.	Birshing Jarua FPC	Assam	SFAC	2021	500	Millets
13.	Uttaran Krishi Producers Company limited	Assam	APART	2018	500	Rice, mustard, vegetable
14.	Kalpani FPC	Assam	NABARD	2021	500	Joha rice, chilli
15.	Amlighat Banana Producer Company Limited	Assam	SFAC and APART	2016	500	Banana
16.	Namsai Organic Spices and Agricultural produce company limited	Arunachal Pradesh	MOVCDNER	2021	300	Turmeric, Ginger, Black pepper
17.	West kameng organic farmers producers company limited	Arunachal Pradesh	MOVCDNER	2022	250	Kiwi, persimmon, Spices, Vegetables
18.	Chakhao Poreiton Organic Producers company	Manipur	MOVCDNER	2017	300	Black Aromatic rice

- ATMS: Associated Tea & Agro Management Services Pvt. Ltd
- NCDC: National Cooperative Development Corporation
- MOVCDNER: Mission Organic Value Chain Development for North Eastern Region
- SFAC: Small Farmers Agribusiness Consortium
- APART: Assam Agribusiness and Rural Transformation Project
- NABARD: National Bank for Agriculture and Rural Development

It was observed that the majority of FPOs participating in the FPO Conclave were from Meghalaya (11), followed by Assam (4), Arunachal Pradesh (3), and Manipur (1). This distribution can be attributed to the conclave being held at the College of Post Graduate Studies in Agricultural Sciences, located in Umiam, Meghalaya. Among the 18 FPOs, 10 had membership ranging from 100 to 500, 6 had more than 500 members, and 2 had fewer than 100 members. The relatively low membership in some FPOs may be due to their nascent stage or recently formed under the Central Sector Scheme for the Formation and Promotion of 10,000 FPOs. Furthermore, the table highlights that these FPOs

primarily engage in cultivating and marketing high-value crops and organic products, such as spices, fruits, ginger, and turmeric. This trend is likely influenced by the region's rich Agro-climatic diversity, which supports the growth of a wide range of fruits, vegetables, plantation crops, aromatic and medicinal plants, and other high-value crops. Notably, some of these products have been granted Geographical Indication (GI) tags, further enhancing their market value and recognition. The data presented in Figure 4 highlights the distribution of the FPOs according to their contact with different stakeholders.

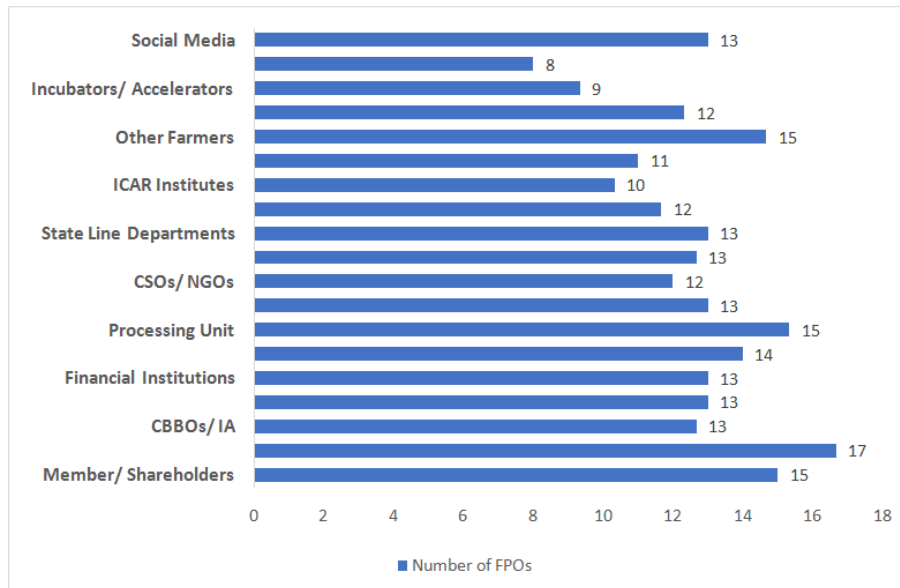


Fig. 4. Distribution of the FPOs according to their contact with different stakeholders

Figure 4 reveals interaction with internal stakeholders like the Board of Directors, members/ shareholders and other farmers was reported by most sampled FPO representatives. Many FPOs also reported having contact with other actors in the value chain like the processing units, traders and wholesalers, input dealers and certification

agencies. More than half of the FPOs reported being in contact with the agencies responsible for policy formulation, technology and capacity enhancement like the state line departments, KVKs, NGOs and academic institutions. Only few reported usage and contact with incubators/ accelerators and mass media.

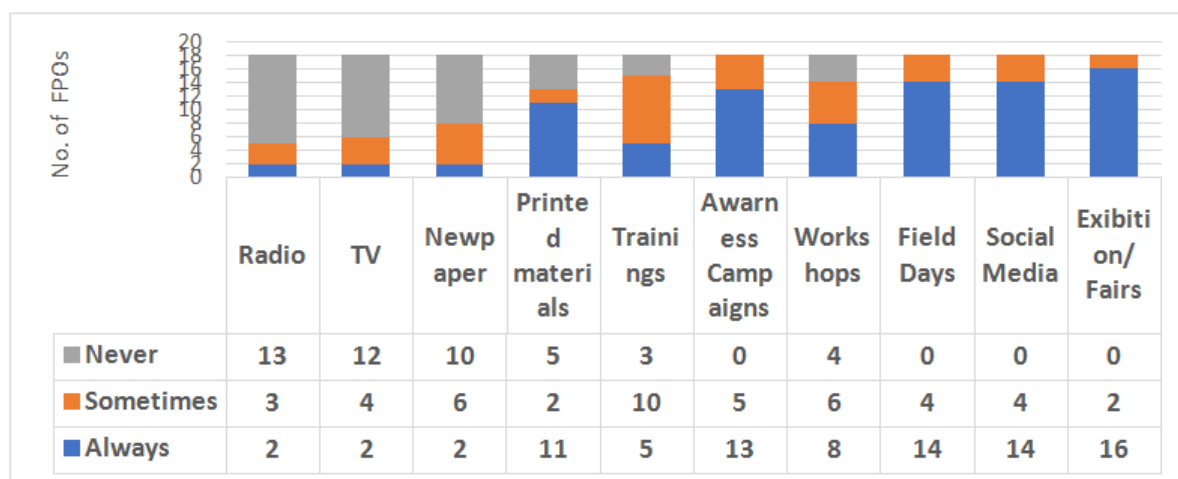


Fig. 5. Distribution of the FPOs according to Method of popularization used

An analysis of Figure 5 indicates that FPOs employ diverse methods to promote their organizations and commodities. Among these, exhibitions, social media platforms, field days, and awareness campaigns emerged as the most frequently utilized strategies for popularization. Conversely, traditional media channels such as radio, television, and newspapers were used less frequently, which can likely be attributed to their relatively high costs. Additionally, the findings highlight that social media is more accessible and

cost-effective, offering a broader reach at a lower expense compared to other methods of popularization.

The study identified various support services essential for the functioning of FPOs, including financial assistance, advisory services, incubators, business mentorship, logistics, market information, input supply and communication & ICTs. Figure 6 depicts the distribution of the FPOs according to their availability, accessibility and usage of the support services.

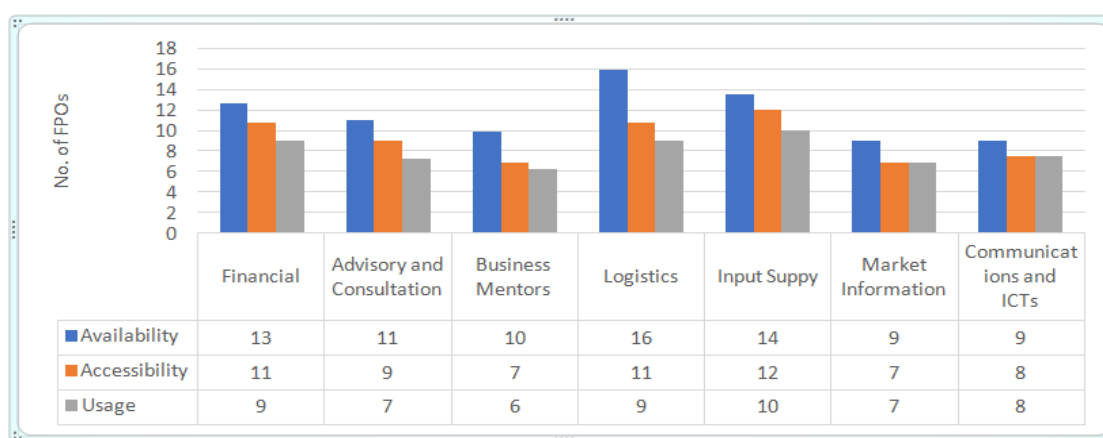


Fig. 6. Distribution of the FPOs according to their availability, accessibility and usage of support services

Logistic services like storage facilities, transportation and associated management services are essential for an efficient business. Most of the FPOs reported that facilities for storage are available but they are not accessible due to remote location as well as non-functionality of most facilities.

Availability, access and usage of services like business mentoring, market information and ICTs are low which need to be improved through creation and/ or linkage with relevant stakeholders or support systems as well as capacity building for usage of the same.

Table 3
Distribution of the FPOs according to their exposure to Capacity Development programmes

Category of Capacity Development	No. of FPOs	
	Upto 5 trainings	>5 trainings
Capacity development on crops cultivation and value-addition practices	13	5
Capacity development on entrepreneurial and business management skills	5	0

The number of capacity development programmes attended by the FPO and its members are presented in Table 3. It was found capacity development programmes on crops cultivation and value-addition practices are attended by all the FPOs however only 5 FPOs reported having attended trainings on entrepreneurial and business

management skills. Technical skills without proper managerial skills will not be conducive for a business to flourish. The lack of entrepreneurial and business management training hinders FPOs' ability to build financial strategies, navigate markets, and ensure sustainable operations.



Fig. 7. Schemes availed by the FPOs

An ecosystem is supported by the policy environment which includes the policy, legal, regulatory and economic frameworks; public sector budget allocations and processes; governance and power structures; incentives and social norms. During the interview with FPOs various Schemes were identified and enlisted in Figure 7 from it can be concluded that most of the FPOs are availing the central sectoral schemes (MOVCD-NER, equity grant scheme of SFAC, NABARD, formation and promotion of 10000 FPOs etc.) and state schemes (PRIME, Lakadong mission, Peg house schemes, piggery mission etc.).

The actors of the FPO ecosystem in North-East India were identified through review of

literature and also through discussion with the respondents. The roles played by the actors in the FPO ecosystem are presented in Table 4. Out of 19 actors except social media, mass media, NGO, certification agencies, Processing unit, Traders, Banks, village panchayat remaining 11 were acting as facilitator, 3 actors University, state ministry of A&FW, state line departments were engaged in policy formulation, 7 were involved in transfer of technology (NGO, university, KVK, ICAR institutes, input dealers, state ministry of A&FW, incubators. Input supplier role was performed by 10 actors (State line department, KVKs, ICAR, State Ministry of A&FW, other farmers, input dealers, university, CBBOs NGOs).

Table 4
Roles of the different stakeholder

Sl. No.	Actors	Roles of thestakeholder											
			Research	Funding	M&E	Input supply	Publicity	Co-ordination	ToT	Market linkage	Developer	Facilitator	cultivar
1.	Member/ share holder							✓				✓	✓
2.	BOD		✓		✓		✓	✓		✓		✓	
3.	CBBOs	✓	✓	✓	✓	✓		✓				✓	✓
4.	Village Panchayat					✓		✓					
5.	Bank and financial institute			✓									
6.	Traders & wholesalers							✓		✓			
7.	Processing unit				✓					✓			
8.	Certification agencies				✓					✓			
9.	CSOs / NGOs					✓		✓	✓	✓			
10.	Universities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
11.	State Line Department	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	
12.	KVKs		✓	✓	✓	✓	✓	✓	✓		✓	✓	
13.	ICAR institutes		✓	✓	✓	✓		✓	✓		✓	✓	
14.	State Ministry of A&FW	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
15.	Other Farmers					✓		✓	✓			✓	✓
16.	Input dealers				✓	✓		✓	✓			✓	
17.	MassMedia (TV/Radio/ Newspaper)						✓	✓					
18.	Social media						✓						
19.	Incubators/ Accelerators								✓			✓	

Research, funding, monitoring and evaluation carried out by state line department, KVKs, ICAR, State Ministry of A & FW, BOD, CBBOs, University. Cultivators were farmers and non-member farmers. Out of 19 actors except social media, incubators, mass media, bank and financial institutes, certification agencies and processing remaining were involved in co-ordination, agricultural university and state line department were providing market linkage while KVK, ICAR, university was developer. These findings emphasize the multifaceted nature of the FPO ecosystem, where actors assume varied and overlapping roles. Their collaboration is critical for creating a supportive environment that enhances the operational efficiency, resource accessibility, and market competitiveness of FPOs.

CONCLUSION

The existing ecosystem is not well knit and fragmented and facilitation to form a cohesive ecosystem is required. There are various lacunae in business related capacity development, logistic facilities, market information as well as usage of modern ICT tools and services. There are existence of quite sufficient stakeholders and policies in the region which can support the FPOs to grow and

sustain. The need is to create a platform for all the concern stakeholders to come together, deliberate and come up with collaborate strategies to form a cohesive ecosystem. Also, considering the unique products the region and the FPOs can offer, there is also high potential for linkage with investors and buyers from other parts of the country and the world for which creation/ conduct of more platforms like the North East FPO Conclave is necessary. Strengthening FPO ecosystem linkages by integrating central and state-level schemes, collaborating with research institutions like KVKs and ICAR centers, and promoting public-private partnerships in branding, packaging, and marketing are crucial measures. Enhancing the competencies of FPO leaders through capacity-building initiatives, such as training in entrepreneurial and managerial skills, exposure visits, and mentorship programs, is essential for organizational development. Additionally, addressing financial constraints through mechanisms like collateral-free lending, performance-linked subsidies, and revenue diversification, alongside infrastructure and technological support, can significantly improve operational efficiency and market linkages.

Paper received on 05/10/2024

Accepted on 17/11/2024

REFERENCES

- Bhuyan, R., Das, B. and Khound, S. (2022). Understanding Farmer Producer Company (FPC) ecosystem in Assam: Issues and challenges. *J. Asian Africa Studies*, 59(3), 692-703.
- Bikkina, N., Turaga, R.M.R., and Bhamoriya, V. (2017). Farmer producer organizations as farmer collectives: A case study from India. *Development Policy Review*, 36(6), 669-687.
- Chandegara, A.K., Chauhan, J.K., Upadhyay, A.D., Lahiri, B. and Mahanand, S.S. (2023). The farmer producer organizations (FPOs): Building bridges to prosperity for India's Agri-fish farming. *Indian Res. J. Ext. Edu.* 23 (4), 66-78.
- Datta, S., Murray, E., Krishna, G. and Sivaram, R. (2022). *Ecosystem Development: Strengthening of FPOs*. In: Krishana, G. *State of Sector Report Farmer Producer Organizations in India: A report on FPOs in India and emerging landscape*, 1st edition. NAFPO, Authors upfront Publishing Services Private Limited, 70-130.
- GoI (2024). National Policy on Farmer Producer Organizations. Ministry of Agriculture and Farmers Welfare. Government of India. https://agriwelfare.gov.in/Documents/HomeWhatsNew/National_policy_onFPOs_18Jun2024.pdf. Accessed 17 October 2024.

- Gorai, S. K., Ghosh, B. and Mukherjee, S. (2024). An In-Depth Analysis of Murshidabad Agro Producer Company Limited: Innovation in Agriculture. *Indian Res. J. Ext. Edu.* 24 (3), 71-77.
- Gorai, S.K. and Wason, M. (2022). Farmer Producer Organizations and Its' Success: A critical analysis in West Bengal. *Indian Res. J. Ext. Edu.*, 22 (3), 18-23.
- GoI (2019). Agriculture Census. 2015-16. https://agcensus.nic.in/document/agcen1516/T1_ac_2015_16.pdf. Accessed 17 October 2024.
- Harikrishna, Y.V., Hansdah, P. and Sharma, N.R. (2022). Farmer's Producer Organisation (FPO) – Collective Steps towards Lucrative Agriculture. *Asian J. Agric. Ext. Econ. Soc.* 40(2), 60–65.
- Kumar, R., Kumar, S., Pundir R.S., Surjit, V. and Rao. C.S. (2022). FPOs in India: Creating Enabling Ecosystem for their Sustainability. ICAR-National Academy of Agricultural Research Management, Hyderabad, India: (22). <https://naarm.org.in/wp-content/uploads/2022/04/FPO-Policy-Paper.pdf>. Accessed 15 July 2024.
- Manaswi, B.H., Kumar, P., Prakash, P., Anbukani, P., Kar, A., Jha, G., Rao, D.U.M. and Lenin, V. (2019). Evaluation of Farmer Producer Organizations of Telangana: A SWOT analysis approach. *J.Com. Mobil. for Sust. Dev.*, 14(3):457-466.
- MOVCDNER (2024). Home Page Dashboard. Mission Organic Value Chain Development for North East Region. Ministry of Agriculture and Farmers Welfare Department of Agriculture and Farmers Welfare, Government of India. <https://movcd.dac.gov.in/>. Accessed July 2024.
- NABARD. (2019). Farmer Producers' Organizations (FPOs): Status, Issues & Suggested Policy Reforms. National Level Paper, Potential Linked Plans (PLP). 2019 - 20. <https://www.nabard.org/auth/writereaddata/careernotices/2708183505Paper%20on%20FPOs%20-%20Status%20&%20%20Issues.pdf>. Accessed on 15 July 2024.
- Nikam, V., Singh, P.K., Ashok, A. and Kumar, Shiv. (2019). Farmer producer organisations: Innovative institutions for upliftment of small farmers. *Indian J. Agric. Sci.*, 89(9), 1383-92.
- Paul, P., Singh, N.U., Mukherjee, A., Tengli, M.B., Sinha, P.K., Gowda, C., Roy, A., Yumnam, A. and Kandpal, B.K. (2021). Strategy for ensuring small farmers income security through Farmer Producers Organizations in North-East India. *Indian J. Hill Farming*, (34), 195-203.
- Ponnusamy, K. and Padaria, R. N. (2021). Research in agricultural extension: Review of its contribution and challenges. *Indian J. Agric. Sci.*, 91(5), 659–65.
- SFAC (2024). State wise list of registered FPOs details under Central Sector Scheme for Formation and Promotion of 10,000 FPOs by SFAC. <https://sfacindia.com/>. Accessed 23 August 2024.

.....