



## Strengthening Millet Value Chain through Farmer Producer Organizations

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### ARTICLE INFO

**Keywords:** Food security, Millet value-chain, Value addition, FPOs, Market linkages, Nutritional security

<http://doi.org/10.48165/IJEE.2023.59305>

**Conflict of Interest:** None

### ABSTRACT

Millets are a group of small-seeded “Nutri-Cereals” that are grown as food crops in many parts of the world and is need of hour for achieving nutritional security. In the traditional supply chain, millet farmers were not getting remunerative prices but being the members in Farmers’ Producer Organizations, the share in the consumer rupee was increased. The value chain approach was used for analyzing the supply chain aspects of millets to strengthen the linkages, increase efficiency, competitiveness, and profitability. The study was conducted during 2022-23 with ICAR-IIMR promoting FPOs. The establishment of a primary processing unit by ICAR-IIMR at the FPO farm gate through the FPO strengthened the millet value chain by engaging FPOs/SHGs/rural women/unemployed youth in preparing value-added products and delivering them through the GeM portal, ONDC, FPO Bazar, and e-commerce platforms. To meet the millet value chain challenges overall adoption of improved technologies, better market linkages, and increased investment in infrastructure were the key strategies. Primary processing, value-added technology adoption by FPOs and declaring minimum support price by the state government, and creating facilities to procure at MSP by establishing millet food parks, millet shakti cafes, and millet bazar were found key sources to generate better income.

### INTRODUCTION

Majority of the Indian farmers are small and marginal that are involved in agriculture and allied activities for their livelihood (Bikkina, 2018). Because of the small patches of land, the production and productivity of the crops is low, due to which the farmers face challenges like, market identification, market connectivity, market outreach, fair price for produce, lack of storage, high transportation cost, existence of intermediates and lack of credit availability (Raina et al., 2013; Bishnoi & Kumari, 2020). To support such small and marginal farmers, Farmers Producer Organizations (FPOs) is the collectivization of farmers that improve the bargaining power, access the financial and non-financial inputs and services, technologies, reduce transportation costs, tap high value market and enter into partnership with public and private entities (Parthiban et al., 2015; Baruah et al., 2022; Kumari et al.,

2022; Kumar et al., 2023). Millets are a group of small-seeded coarse cereals that are grown as food & fodder crops in many parts of the world, particularly in Africa and Asia.

Millets are considered as smart crops and “Harbingers of Ever Green Revolution”. Millets are nutritious, drought-resistant, environmentally friendly, high economic benefits and have the potential to address several global challenges such as climate change, food security, and rural livelihoods. Millet cultivation has been showing a trend of increased productivity, but the declining area under millets is a major concern that needs to be addressed. Policy support such as incentivizing millet cultivation, opening processing industries in millet clusters, FPOs, Krishi Vigyan Kendra (KVKs) and millet awareness through *Mann Ki Baat* have created demand and ensured a continuous supply of millets (Garg, 2019; Richa & Sharma, 2021; Garhwal, 2023). Hon. Prime Minister in *Mann Ki Baat* addressed the issues related to agri & allied areas created

awareness among farmers-customers-stakeholders of rural and urban areas. The International Year of Millets 2023 (IYOM, 2023) offers an opportunity to scale up interventions for increasing millet area and production, as well as diversifying processing machinery and technologies to cater to various segments in domestic and export markets. By doing so, we can help to promote the consumption of millets, which have various health benefits, and also provide a source of income for farmers. Millet value chain involves a series of activities, actors and processes in their production, processing and marketing of millet products to the end customer for consumption. In this connection, a study was conducted in strengthening the millet value chain through FPOs promoted by ICAR-IIMR, Hyderabad in the state of Andhra Pradesh, Telangana and Karnataka by establishing millet-processing unit at farm gate.

### METHODOLOGY

Exploratory action research design was adopted for this study and problems faced by the FPOs in marketing the millet products were analysed. The proper plans to resolve the value chain of millets were formulated. The plans were executed in a phase wise for obtaining anticipated results. The proper network like input agency, financial institutions, traders, processors, value addition centres and other stakeholders required by the farmers/FPOs were identified, interactive meets were made, after analysing the pros and cons that were linked to the FPOs. Millet value chain involves a series of activities, actors and processes in their production, processing and marketing of millet products to the end customer for consumption. The value chain approach was used to identify and strengthen the linkages between the different actors and activities involved in the production and marketing of millet products, in order to increase efficiency, competitiveness, and

profitability (Zamora, 2016). For understanding the role of each player in millet value chain the value chain approach was used for drawing conclusions through set of statistical tools like averages, percentage analysis, cumulative frequencies, standard deviations etc. The millet value chain typically includes various stages like provision of inputs such as seeds, fertilizers, and pesticides to farmers (Input stage), cultivation of millets by using provided inputs (Production), harvesting and post-harvest handling, processing of millets as flour, flakes, rava and puffed grains, packaging and branding, distribution, marketing and consumption. At each stage of millet value chain, ICAR-IIMR with this technology adoption and experience boosted small and marginal farmer income by establishing farm gate processing units and increasing producer share in consumer rupee.

### RESULTS AND DISCUSSION

ICAR-IIMR altered the traditional value chain by engaging FPOs in millet supply chain with timely guidance, support, trainings, capacity buildings and market awareness (Sanjeev et al., 2021). Establishment of millet processing unit at farm gate and experiences of ICAR-IIMR promoted are shown in these results and discussions.

#### Millet value chain

Millet value chain is facing many challenges, including poor infrastructure, inadequate financing, lack of market information, and low consumer awareness. However, there are many opportunities to improve the value chain, such as through the adoption of improved technologies, better market linkages, and increased investment in infrastructure (Sangappa et al., 2023). These efforts can help to enhance the competitiveness of the millet value chain, increase the

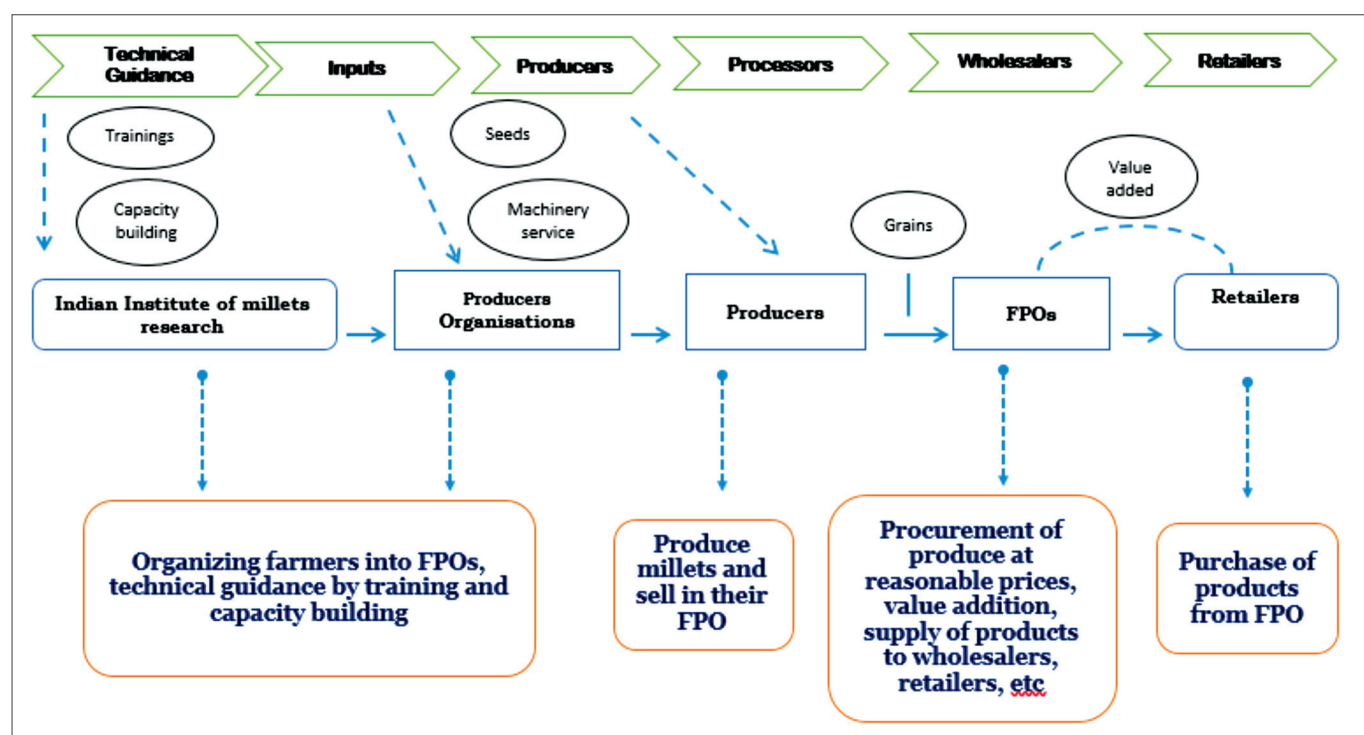
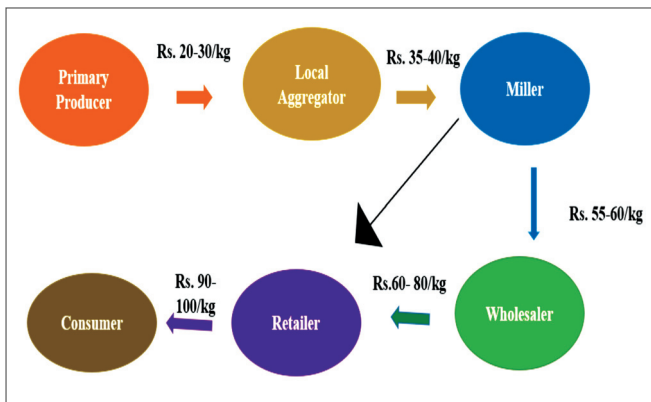


Figure 1. Millet value chain

income of farmers, other players and improve food security & nutrition (Figure 1). In traditional supply chain, millet farmers are not getting remunerative prices to their produce as there exist local aggregators, millers, wholesalers, retailers as middlemen (Kumar et al., 2023). Presence of excessive middlemen in traditional millet supply chain had lessened the primary producer share in consumer rupee as shown in Figure 2. Demand for millets is high but market lacks with continuous supply of millets and presence of excessive middlemen. In order to supply millets continuously millet farmers should get remunerative prices for the produce by linking them to better markets (Trebbin, 2014). Farmers as Producer Organizations (POs) or collectives can play a significant role in grain aggregation, processing at farm gate, wholesale, and retailing of products to consumers for increasing the farmers share in consumer rupee. Primary processing and value addition of millets and targeting the customers (B2B and B2C) by FPOs will generate direct markets with better price for their produce.

**ICAR-IIMR millet model for FPOs**

ICAR-IIMR through its millets model (Figure 3) linked FPOs to various stakeholders like farm input centres, loan and credit



**Figure 2.** Millet farmer share in consumer rupee



**Figure 3.** ICAR-IIMR millets model for FPOs

systems, custom hiring centres (CHC), millets aggregation, storage and warehouse, processing and value addition of millets and linking the FPO to better market which is accessible that provide better price for the produce. Through Millet model primary requirements of arranging input licenses like seed, fertilizer, pesticide, machinery etc., and focus on output business for long-term sustainability of FPOs is possible. IIMR has been involved in facilitating advisory role, providing inputs like seeds, aggregation of produce, processing of produce, storage, and distribution of produce with better market linkages between the members of FPOs, food industries and other organizations.

**Establishment of millet primary processing units by ICAR-IIMR**

ICAR-IIMR is acting as CBBO for 41 FPOs in four states (Andhra, Telangana, Karnataka & Madhya Pradesh) and established primary processing unit in collaboration with KVKs, state universities to help small and marginal farmers through FPO at farm gate as shown in Table 1 where KVKs acts as light house for ranchers in disseminating the technology (Singh et al., 2023). More than 25000 farmers from various FPOs viz., Aland, Hulsoor, Shorapur, Vizianagaram, Anantapur, and Vishakhapatnam were benefited through this primary processing (Sarnaik et al., 2020). For strengthening the millet value chain ICAR-IIMR has taken this initiative (Table 2) by engaging FPOs/SHGs/rural women/unemployed youth in hands on training on preparing value added products and delivering them through GeM portal, ONDC, SFAC and online platforms (Pandey & Bolia, 2023). Anshu & Chaddha (2021) in their study revealed similar type of results that establishment of millet processing units at farm gate helped millet farmers to generate ensured profits by reducing cost of cultivation.

**Success of ICAR-IIMR FPOs**

Farm gate processing unit helped millet farmers and FPOs increased to generate better incomes by increasing the producers share in consumer rupee through processing and value addition of millets by altering the traditional supply chain. Shri. Prime Minister Narendra Modi appreciated ICAR-IIMR promoted FPOs i.e., Aland Bhootai Millets FPCL, & Hulsoor Mahila Kisan PCL from Karnataka during 97<sup>th</sup> Mann Ki Baat program for their contribution in promotion of millets and millet value added products through e-marketing platforms like ONDC, GeM, and FPO Kisan Bazar. Through these online platforms Aland FPCL and Hulsoor PCL generated a profit of 10.0 lakhs and 7.85 lakhs respectively during last quarter of 2022. Lambasingi Tribal Products FPO has made a business of 66 lakhs during 2022-23 with a profit of 19 lakhs. The profile characters of FPOs are shown in Table 3. These FPOs promoted by ICAR-IIMR are path makers for others in eliminating middlemen and thereby creating better market linkages and assured prices by increasing the collective bargaining power of farmers (Sangappa et al., 2022).

Aland Bhootai Millets FPCL, Hulsoor Mahila Kisan Millets PCL and Lambasingi Tribal FPO were registered under companies act in the year 2021. ICAR-IIMR is acting as facilitating agency for these FPOs. Lambasingi FPO is also involved in supplying agriculture inputs, Customer Hiring Centre (CHCs) to provide

**Table 1.** Millet primary processing units established by ICAR-IIMR at farm gate

S.No.	Name of KVK/University	Purpose
1.	KVK, Banavasi, Kurnool, Andhra Pradesh	To establish Millet processing unit in various districts of A.P. to organize millet-based trainings, capacity buildings and Hands on trainings to farmers, FPOs, SHGs and rural youth
2.	ANGRAU, ICAR-KVK, Garikapadu, Krishna, Andhra Pradesh	
3.	ANGRAU, ICAR-KVK, Darsi, Ongole /Prakasham Andhra Pradesh	
4.	ANGRAU, KVK, Rastakuntabai, Parvathipuram, Manyam Andhra Pradesh	To establish Millet Primary Processing unit at KVK, Rastakuntabai
5.	KVKVizianagaram,Vizianagaram, Andhra Pradesh	To establish Millet Primary Processing unit at KVK, Vizianagaram
6.	KVK Kalburgi, Gulbarga District, Karnataka	To establish Millet processing Units in various parts of Karnataka to organize millet-based trainings, capacity buildings and Hands on trainings to farmers, FPOs, SHGs and rural youth
7.	KVK Kavadihatti, Yadgir District, Karnataka	
8.	KVK Bidar, Bidar District, Karnataka	
9.	KSN Agri and Horticulture University, Iruvakkki Shivamogga, Karnataka	To establish Millet processing unit and organize millet-based trainings, capacity buildings and Hands on trainings to farmers, FPOs, SHGs and rural youth
10.	OUAT, Bhubaneswar, Odisha	

**Table 2.** Trainings centers established by ICAR-IIMR

S.No.	Name of KVK/ University	Purpose
1	ANGRAU, ICAR-KVK, Kalikiri, Chittoor, Andhra Pradesh	To organize millet-based trainings, capacity buildings and Hands on trainings to farmers, FPOs, SHGs and rural youth
2.	ANGRAU, ICAR-KVK, Reddipalli, Anantapuram, Andhra Pradesh	
3.	ANGRAU, ICAR-KVK, Nellore, Andhra Pradesh	
4.	ANGRAU, KVK, Rastakuntabai, Parvathipuram, Manyam, Andhra Pradesh	
5	ANGRAU, College of Community Science, LAM, Guntur, Andhra Pradesh	
6.	Dr. YSRHU, KVK, Periyavaram, Tirupati, Andhra Pradesh	
7.	Dr. YSRHU, KVK, Vonipenta, Mydukur, YSR (Dst), Andhra Pradesh	
8.	KSN Agri and Horticulture University, Iruvakkki Shivamogga, Karnataka	

**Table 3.** Profile details of Selected ICAR-IIMR FPOs

S. No.	Name of FPO	Agency	No. of Share-holders	Crops cultivated	Type of business operated	Business turnover (Lakh Rs.)	Farmers benefitted
1.	Hulsoor Mahila Kisan Millets Producer Company	SFAC	312	Soyabean and Millets	Input business, Soyabean Seeds, CHC, Tarpaulin and Value addition of millets through e-commerce platforms like ONDC, GeM, FPO Kisan Bazar	19.5	2000
2.	Aland Bhootai Millets FPCL	SFAC	541	Soyabean Redgram Millets Safflower	Input business, Common Service Centers, Value addition of millets through e-commerce platforms like ONDC, GeM, FPO Kisan Bazar	27.5	3000
3.	Lambasingi Tribal Products Farmer Producer Company	NABARD	310	All Millets, Turmeric, Black Pepper and Coffee	Millet products and Spice sales	66 .0	4000

farm implements on hire basis to farmers, processing of millets, value addition of millets and marketing of products and these are in line with the findings of Kisku et al., (2022). Aland FPCL have diversified business activities and value-added products of millets as shown in Figure 4. With the support of IIMR - Millets model, Hulsoor PCL is involved in promotion and distribution of millet seeds and millet rice, primary processing of millets, advisory services to the members of FPO, and finding better marketing options for their produce as shown in Figure 5. Aland and Hulsoor FPCL were appreciated by Shri. P.M. Narendra Modi for their

efforts in promotion of millets during this IYOM-2023. Integrated approach to enhance value chain efficiencies of millets are establishment of primary processing units at farm gate, efficient sourcing of millets, increase transparency, develop processing facilities, build partnerships, promote consumer awareness, increase demand and assures economies of scale to millet growers (Pandey & Bolia, 2023). FPOs are the key functionaries that boost and strengthen millet value chain that increase farmer income by establishing primary processing unit at farm gate (highlighted in 97<sup>th</sup> Mann Ki Baat by PM).

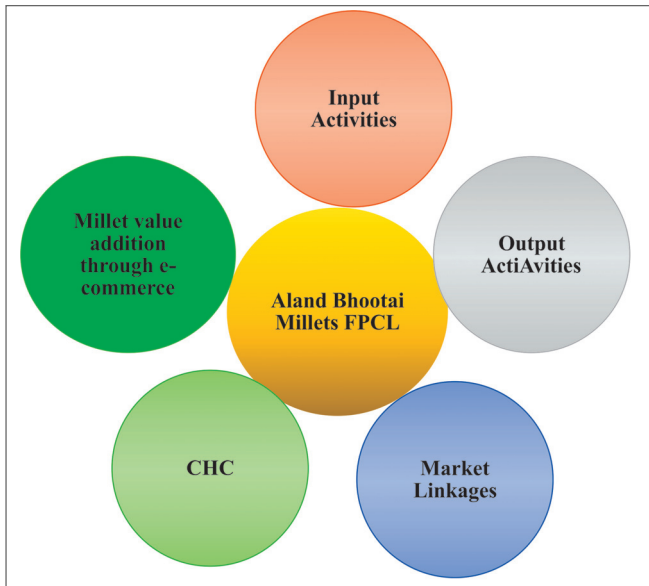


Figure 4. Aland Bhootai Millet FPCL

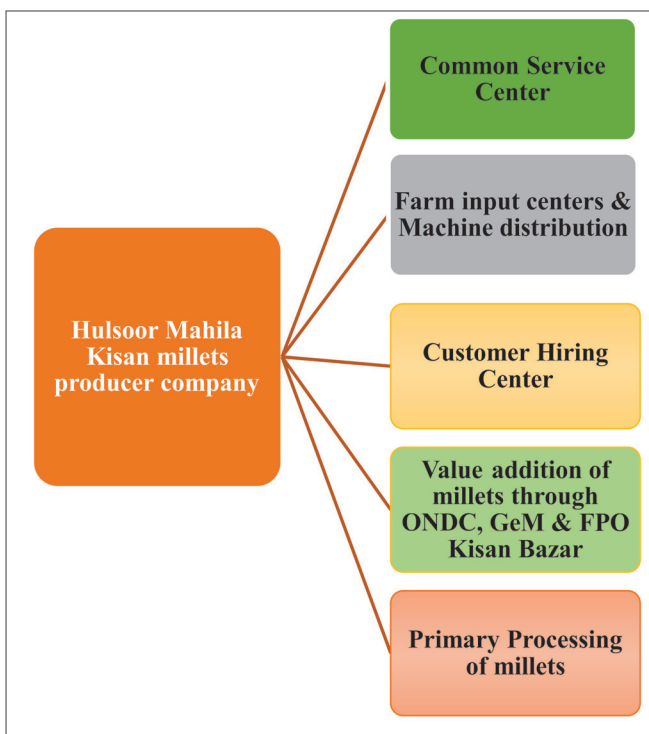


Figure 5. Hulsoor Mahila Kisan Millets PC

## CONCLUSION

Millet cultivation has been showing a trend of increased productivity, but the declining area under millets is a major concern. Policy support such as incentivizing millet cultivation, opening processing industries in millet clusters, FPOs and KVKs can help to create demand and ensure a continuous supply of millets. ICAR-IIMR established primary processing unit at farm gate (Aland, Hulsoor, Shorapur, Vizianagaram, Anantapur) and engaged them in preparing value added products and thereby delivering them through GeM portal, ONDC and FPO Kisan Bazar. Millet

value chain is facing many challenges but the key to generate better incomes to millet growers and FPOs is by establishing primary processing units and value addition at farm gate. Inclusion of millet based mid-day meals at anganwadis, welfare hostels through PDS by state government will create better awareness of millets. Government should announce minimum support price for all millets and creating facilities to procure them at MSP by establishing millet food parks, millet shakti cafes and millet bazar.

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