



Mapping the Mango Value Chain of Farmer Producer Organizations in Andhra Pradesh and Telangana State of India

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ABSTRACT

With increasing customer expectations for branded, well-packaged, safe, and healthful food, there has been a rising emphasis on organized agriculture value chains (AVCs) and their financing. This revolution will substantially benefit from the involvement of farmer-producer organizations (FPOs). These organizations' value-added capabilities will strengthen their negotiating power, produce quality, and profitability. Therefore, a study was carried out with ten FPOs from Andhra Pradesh and Telangana states to analyze the efficiency of value chain by mapping the value chain at the member and non-member levels. The study found that, in comparison to the marketing channels at the non-member level, the marketing channel involving FPOs obtained higher prices for the farmers. Findings suggest that more role of FPOs in improving the value chain of agricultural and horticultural commodities.

Keywords: Farmer producer organisations; Value chain; Mapping; Marketing channel.

In developing countries, it has been estimated that nearly 40 per cent of the product loses its commercial value due to improper handling methods inadequate temperature, controlled storage facilities, and improper logistics and distribution systems adopted before it reaches the market (WFP, 2020). As a method of further extending agriculture's dominant position in economic growth and poverty reduction, policymakers are focusing more and more on the development of agro-industries with a focus on establishing successful agro-value chains. Selecting and deciding which agri-food value chains to support is a more difficult task (UNIDO, 2009). Being smallholders, these farmers suffer from some inherent problems such as the absence of economies of scale, access to information, and their inability to participate in the price discovery mechanism. The participation of farmers is observed to be restricted by limitations like poor vertical and horizontal linkages and limited access to market, training, and finance (Fernandez *et al.*, 2012). Poor information flow along the chain has also been identified as a vital constraint and the problem of access to the market is even more pronounced for small and marginal farmers. Several attempts have been made in the past to aggregate the farmers. One such pioneering attempt was the promotion of cooperatives performing various activities in agriculture including value addition.

They disseminate technical knowledge to its beneficiaries, improve their production efficiency, reduce the transaction costs, market the final produce and are even successful in capacity building thereby, fabricating the social capital. In the era of globalization and climate change, producer organizations are regarded as the only institutional option to safeguard the best interest of the farmers and facilitate them to reach a higher level of profits through novel agro-food networks

Farmer Producer Organizations (FPOs) are an effective institutional mechanism for connecting small farmers to the outside world as they help farmers realize a variety of tangible and intangible benefits such as increased market accessibility, decreased transaction costs, reaching economies of scale, improved produce quality, produce price realization, and lower risk (Nikam *et al.* 2019) and the need of the hour (Marbaniang *et al.*, 2021). FPOs face many challenges in case of agriculture and fishery sector and these challenges influence their growth and development (Chandegara *et al.* 2023). According to Nadhika *et al.* (2019), traders, wholesalers, and collection agents all profit greatly from selling mangoes, and yield few rewards for the actual farmers. Mango producers are not gaining any real advantages from the value chain of mango marketing. Therefore, addressing these issues from a collective value chain perspective can give feasible solutions.

FPOs enable the development of market-oriented, systems-based Agri-food value chains that are inclusive and sustainable to assess, understand, and enhance the performance of Agri-food value chains and assure their sustainability in terms of the economic, social, environmental, and climate. In agriculture marketing, there is a long chain of intermediaries who very often work non-transparently leading to the situation where the producer receives only a small part of the value that the ultimate consumer pays. FPOs act as an intermediary or link between individual producers/farmers on the one hand and buyers or service providers on the other. Instead of having to do business with numerous individuals and dispersed producers/farmers, buyers or service providers can deal with a single organization thereby increasing producer share in consumer rupee. There are numerous states in India where FPOs are actively involved in successfully adding value to their commodities, assisting farmers to make bigger profits and, ultimately, doubling the farmers' income. One such example is Andhra Pradesh and Telangana states where the FPOs are successfully involved in the value addition of mango and getting higher profits. Therefore, the present study was conducted to analyze the efficiency by mapping the value chain at the member and non-member levels.

The study employed a variety of research approaches, including both quasi-experimental and non-experimental methods. The study was conducted in the Indian states of Andhra Pradesh (AP) and Telangana. Andhra Pradesh was purposefully chosen because it leads the country in mango production, and Telangana was selected because of its abundance of FPOs involved in mango value-addition, as well as its resemblance to the geographical features of Andhra Pradesh regions, where mangos are grown. A total of ten FPOs were chosen using convenience sampling based on the established criteria and ten farmers from each FPO i.e. 100 members and 100 non-members from the same locality were selected using random sampling. Thus, one hundred members of ten FPOs and one hundred non-members were selected for the study. Primary data were collected through a structured interview schedule, consisting of both open and close-ended questions. In addition to this, focus group discussions were also conducted to gather more information to support the findings. The data was analyzed by mapping and identifying different marketing channels both at the member and non-member levels.

At the farmer level value chain analysis was done by mapping and comparing the various actors, activities, and marketing channels of both members and non-members. The marketing channels were identified in the marketing of mango value-added products before

Table 1. Various marketing channels identified from the members of FPOs

Marketing channel	FPOs involved	Av. price received by the members (Rs/t)
Farmer → FPO → Local market	10	22681
Farmer → FPO → Distant market	10	24371
Farmer → FPO → CCD(NGO) → Export	6	27240
Farmer → FPO → pulp factory	4	21110

Table 2. Various marketing channels identified from non-members of FPOs

Marketing channels	Farmers involved	Av. price received by non-members (Rs/t)
Farmer → Consumer	22	21360
Farmer → Commission agent → Local market → Consumer	47	19936
Farmer → Factory → Consumer	23	20890
Farmer → Damancheruvu Market → Consumer	8	20450

they reached the final consumer. There were four marketing channels identified by the members of FPOs (Table 1).

FPOs after procuring produce from the farmers carry out primary processing operations and market their product to the local market, distant markets, and nearby pulp factories. The price received by the members of FPO from the local market is around 22681 Rs/t whereas the price received from the distant market is around 24371 Rs/t. A few FPOs were also involved in exporting their product to other countries like Canada and Japan through the NGO named Center for Collective Development (CCD) where the price received by the farmers was high i.e. 27,240 Rs/t compared to all other channels. Table 2 depicted the four marketing channels identified by non-members of FPOs where the produce was marketed directly by the farmer to the consumer, factories, and the local market with the help of a commission agent. 22 farmers sold their produce directly to the consumer where the price received by the farmer was 21,360 Rs/t. 47 farmers marketed their produce to the local market through the commission agents and the price received by the farmer was 19,936 Rs/t. 23 farmers marketed their produce to the pulp factory and the price received by them was 20890 Rs/t. Eight farmers marketed their produce to the Damancheruvu market which was the famous market for mango in the state of AP and the average price received by each farmer was around 20,450 Rs/t. Out of eight marketing channels identified at the farmer level,

it was found that the FPO-involved channel offered greater prices than the other channels. The price paid to the members of FPO is 5 to 6 Rs higher than the price paid by the local traders and due to the involvement of FPOs, there is no scope for intermediaries to exploit the farmers. These FPOs were also involved in a decrease in transaction costs due to economies of scale brought about by collective action. These findings were supported by Manaswi (2019). The channel that involved FPOs with member farmers on the one end and consumers on the other is found to have the highest marketing efficiency in organic chili. Stockbridge *et al.* (2003), in their study, indicated that FPOs are in a better position to reduce transaction costs of accessing inputs and outputs, obtaining necessary market information, securing access to new technologies, and tapping into high-value markets, allowing them to compete with larger farmers and agribusinesses and hence can significantly play a vital role in economic development (Chauhan *et al.*, 2021).

Additionally, the marketing channel with commission agent in the marketing of the produce obtained the lowest price, as the farmers need to pay commission to the agents for their service and it was observed that the weighing losses were high in the channel where commission agents were involved. All the other channels at the non-member level The FPO marketing channel with exports to foreign nations received the highest price of all the channels. This price can be attributed to the good quality of products obtained through primary processing as this process makes the fruit suitable for export.

CONCLUSION

The study on mango value chain mapping of FPOs in Andhra Pradesh and Telangana revealed that out of eight marketing channels identified at the farmer level, it was found that the FPO-involved channel offered greater prices than the other channels. The marketing channel with commission agents involved in the marketing of the produce obtained the lowest price, while the FPO marketing channel with export to foreign nations received the highest price of all the channels. Therefore, non-members can be encouraged to join the FPOs to benefit from collective action and to improve the value chain. Additionally, FPOs can be encouraged to engage in value-adding activities to extend the shelf life and quality of their products, enabling them to be exported to far-off locations, which will ultimately benefit farmers and raise their income and standard of living.

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Data availability: Data would be made available on request

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