



Linking Farmer Producer Organizations with Other Markets – A Sustainable Change in Marketing of Farm Produce

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

Marketing of agricultural produce is a complex process in India. Farmers do not have access to market, they are selling their produce to the intermediaries operate in the market because of this their profit margin is reduced and their farming business becomes a non-viable one. We can mobilize farmers in groups and build their associations called as Farmer Producer Organization (FPOs). FPO is a means to bring together the small and marginal farmers and other small producers to build their own business enterprise that will be managed by professionals. In the present environment of greater instability and competition, organisation and collective action can help to increase farmers' competitiveness and increase their advantage in emerging market opportunities. FPOs also help in linking with other markets which helps in sustainable increase in income of farmers. The present paper showed the potential of FPOs in Andhra Pradesh in linking with other markets and Problems faced by the FPOs.

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1. INTRODUCTION

Agriculture is the main occupation of the vast majority of the population of India. Agricultural products of various types are produced in India and the marketing of all these products is a complex process. Farmers face many problems for marketing of the agricultural produce because of intermediaries, their profit margin is reduced and their farming business becomes a non-viable one.

Improvement in status of the farmer is possible only through diversification and commercialization of their agricultural activities. This is possible only through implementation of agricultural policy reforms, introducing sustainable agricultural practices, optimizing input efficiency, bringing about institutional change, developing human resources capital and through participation of the non-governmental sector in agriculture. There is a need to strengthen support services for small farmers by developing link between farmers and purchasers of agricultural produce. Currently such types of linkages are either not exist or very weak. It is well recognized that the commercialization of small-scale, resource-poor farmers is closely linked to higher productivity, greater specialization, and higher income [1].

There is need to develop suitable marketing system so as to give proper reward or return to the efforts of the Indian farmers. Linking the farm gate with retail outlets is the surest way to reduce losses and marketing costs and thereby increase marketing efficiency. For this purpose organized corporate management is the right model [2,3]. Direct marketing help farmers to reduce on transportation costs and enables them to improve price realization. It is therefore important for producers to know when, where, and what amount of produce to sell, bearing in mind the market price. For which they must have access to information on different markets and prices in different markets.

Agriculture marketing is a complex process. Because of which there is a big challenge for small farmers today and they are unable to earn good profits from their produce. Farmer Producer organization (FPO) can help farmers for successfully dealing with a range of Challenges that small producers are facing today in marketing. FPOs also help in linking with other

markets which helps in sustainable increase in income of farmers [4,5,6].

However, the Indian government not only aims to initiate new organisational forms in agricultural production and marketing to integrate large firms, but also aims to encourage groups of small scale workers to connect with corporate buyers. With the amendment of the companies act 1956 in 2002, the government introduced basic concept of farmer producer companies which were seen as hybrids between private companies and co-operative societies which is an attempt to establish basic business principles in farming communities, to bring industry and agriculture closer together [7].

The main objective of this paper was to study the potential of FPOs in Andhra Pradesh in linking with other markets and to study the problems faced by FPOs.

2. MATERIALS AND METHODOLOGY

2.1 Sampling Procedure

Multistage sampling technique was used for the study as detailed below. In Andhra Pradesh there were 108 FPO's which were registered and functional and were functioning under Small farmers Agribusiness Consortium (SFAC) and National Bank for Agricultural and rural development (NABARD). For the purpose of study Andhra Pradesh had been divided into three regions which were North coastal Andhra, Coastal Andhra and Rayalaseema. Out of these three regions Vishakhapatnam and Vizianagaram from North Coastal Andhra, Krishna and Guntur Districts from Coastal Andhra region and Chittoor from Rayalaseema regions have been selected randomly for the study.

2.2 Selection of FPOs

In North Coastal Andhra region there were 17 FPO's and in Coastal Andhra region there were 49 FPOs and in Rayalaseema region there were 27 FPOs. Out of which two FPOs were selected from each region which were having external linkages. The two selected FPOs from each region were one with highest membership and other with lowest membership. From North Coastal Andhra region, Andhra Kashnir Producer Company and Rythula jattu Kuragayala Bellam

Utaptidarula Producer Company. From Coastal region, Chandragudem Jasmine collection centre and from Guntur revenue division Mangaladri Agri Producer company Ltd and from Rayalaseema region, Sri Siddeswara FPO and Kisan suvida FPO were selected.

2.3 Selection of Respondents

From each village farmers were selected randomly comprising of twenty member farmers selling their produce through FPO's and twenty non FPO farmers. The random selection was done based on list of farmers collected from the FPOs. Thus from the three regions 5 districts with 6 mandals and 6 villages were selected. From each village 40 farmers were selected comprising of 20 member farmers who sell their produce through FPOs and the remaining 20 farmers were non-FPO members. In this way a total of 240 farmers were selected for the study in which 120 are FPO members and 120 are non FPO farmers.

Primary as well as secondary data were collected to full fill the designed objectives. Well-structured pre-tested Schedules were developed for the collection of primary data as per the objectives. The data was collected for the agricultural year 2020-2021 in the month of January and February.

2.4 Tabular Analysis

Tabular analysis was employed for analysis of linkages of FPOs with the other markets in which percentage of procured produce was sold out through supermarkets was calculated.

2.4.1 Garretts' ranking technique

Constraints faced by the FPO were ranked using Garrett's ranking technique. Some major prevailing problem highlighted during preliminary survey were arranged in ascending order and were ranked. Accordingly the ranks were converted into scores by referring Garrett's table.

Garrett's formula for converting ranks into percent is given by

$$\text{Percent position} = 100 \times (R_{ij} - 0.5) / N_j$$

Where,

R_{ij} = Rank given for i^{th} item by j^{th} FPO.

N_j = No. of items ranked by j^{th} FPO.

0.5 Subtracted from R_{ij} as rank is an interval on a scale and its midpoint but represents an interval.

The constraint for which the score value highest was considered the most important problem faced by the stake holder.

3. RESULTS AND DISCUSSION

3.1 Linkages of FPOs with Other Markets in North Coastal Andhra Region

3.1.1 Linkages of Andhra Kashmir Producer Company with other markets

Andhra Kashmir Farmer Producer Company was in Tajangi village of Visakhapatnam district. The crops covered by the FPO were turmeric, coffee, rajma, mangoes, pine apple, maize and millets. The FPO mainly concentrated on organic certification of the crops which had the highest demand in market. They had obtained organic certification of turmeric which was sold at highest prices. In 2017, CEO of Aromos International, New Delhi had visited the FPO and interacted with the directors of FPO regarding the procurement of turmeric. They also had the linkages with Subbu beverages and Woodpecker pvt Ltd who provide coffee beans, roasted coffee for the procurement of coffee. The Table 1 showed the percentage and amount of turmeric sold through external linkages from 2017-2020. The highest amount of turmeric sold through external linkage was during 2021 i.e., nearly 95 per cent of produce was sold through external linkage due to organic certification. The Figs. 1 and 2 showed the growth in the amount of turmeric sold through external linkages.

Table 1. Total amount and percentage of turmeric sold through external linkage in Andhra Kashmir producers company

Year	Total amount of the turmeric	Total amount of turmeric sold through External Linkages	% of turmeric Sold out through EL
2017	40	32	80
2018	60	51	85
2019	70	63	90
2020	100	93	93
2021	1000	950	95

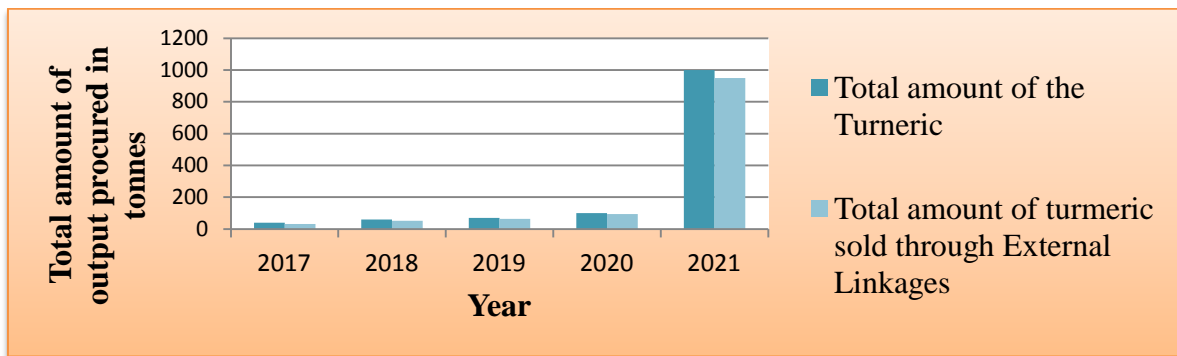


Fig. 1. Amount of turmeric sold through external linkage out of total amount procured by Andhra Kashmir Farmer Producer company

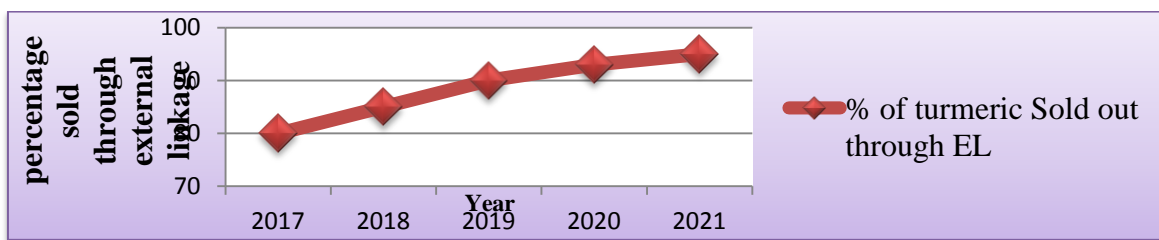


Fig. 2. Percentage of turmeric sold through external linkage by Andhra Kashmir Farmer Producer company

3.1.2 External linkages of Rythula Jattu Kuragayala Bellam utpattidarula producer company

Rythula Jattu Kuragayala bellam utpattidarula producer company was in veerasagaram of Vizianagaram district. The crops covered by the FPO were vegetables and Jaggery in the form of powder. The FPO mostly followed the direct marketing as vegetables were highly perishable. Nearly 60 percent of the produce was sold directly to customers, kissan melas. 40 per cent of produce was sold to shops. They also participate in online marketing. A Hyderabad based organization that markets vegetables had shown interest in procuring jiggery from FPO. The Table 2 showed the amount and percentage of vegetables sold through external linkage. The highest amount was sold during 2019-20 which was nearly 90 per cent of jaggery (635.99 T) and 40 percent of vegetables (25.63 T). The Figs. 3, 4, 5 and 6 showed the amount and percentage jaggery and amount and percentage of vegetables sold through external linkage respectively.

When compared to the Andhra Kashmir Farmer Producer Organisation with Rythula Jattu Kuragayala Bellam Utpattidarula producer company the linkages of Andhra Kashmir FPO

were better than Rythula Jattu Kuragayala Bellam Utpattidarula producer company. The Andhra Kashmir FPO was located in hilly areas and was covering a wide variety crops like turmeric, coffee, pepper, rajma, millets, maize, pineapple and mango. As most of the crops like coffee, turmeric, pepper and millets were needed to be processed and used by majority of the people in the urban areas the linkages of the Andhra Kashmir FPO were more. First it was linked with Aromos international for the procurement of turmeric. Now it had been linked with Subbu beverages and Woodpecker companies for procurement of coffee. As the FPO was located at high elevated areas the probability of growing coffee is high. Mostly all the crops got organic certification which was having high importance in marketing.

Incase of Rythula Jattu Kuragayala Bellam utpattidarula producer company the major crops covered were sugarcane and vegetables. As the vegetables were perishable goods they were sold to nearby local markets and mandis through direct contact from FPO. The sugarcane was made into jaggery powder and was sold through online, melas, exhibitions and direct door deliveries. The FPO should sign a MOU with any organisation that will help in improvement of marketing.

Table 2. Amount and percentage of vegetables and jaggery sold through external linkage by Rythula Jattu kuragayala bellam utpattidarula producer company

Year	Amount of jaggery procured in toones	Amount of jaggery sold through External linkage in tonnes	Percentage of jaggery sold through EL in tonnes	Amount of vegetables procured in toones	Amount of vegetables sold through External linkage in tonnes	Percentage of vegetables sold through EL in tonnes
2016-17	100	80	80	20	2	10
2017-18	204	167.28	82	31.21	6.24	20
2018-19	688	584.8	85	53.98	16.29	30
2019-20	706.66	635.99	90	64.23	25.69	40

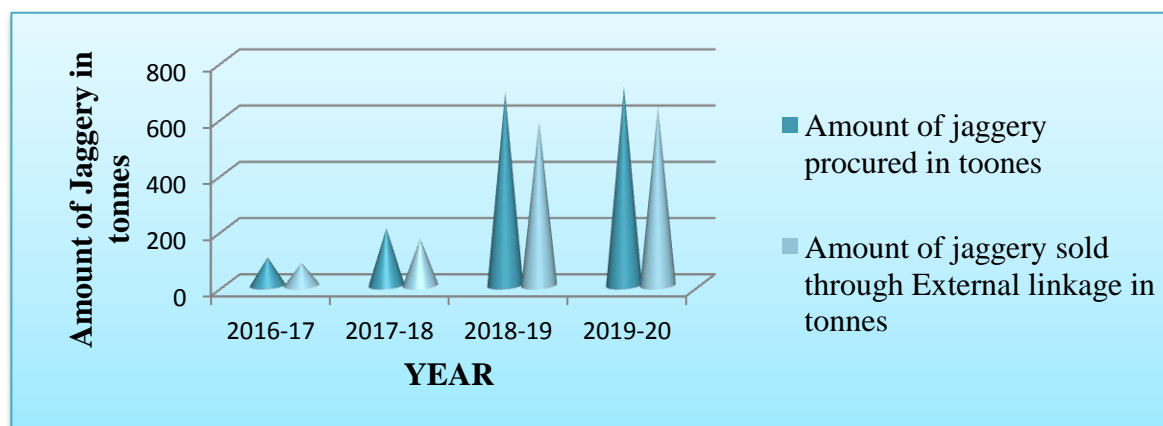


Fig. 3. Amount of jaggery sold through external linkage out of amount of jiggery procured by Rythula Jattu Kuragayala Bellam Utpattidarula Producer Company

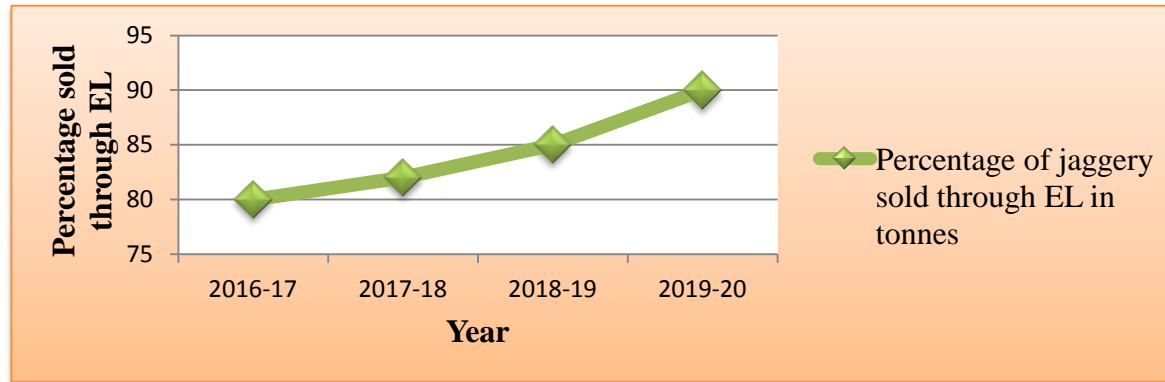


Fig. 4. Percentage of jaggery sold through external linkage by Rythula Jattu Kuragayala Bellam Utpattidarula Producer Company

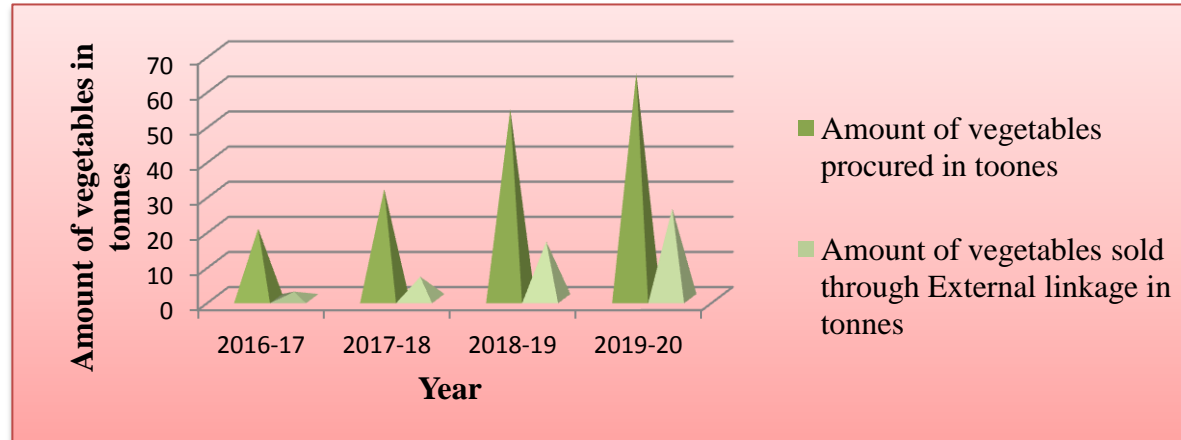


Fig. 5. Amount of vegetables sold through external linkage to amount procured by Rythula Jattu Kuragayala Bellam Utpattidarula Producer Company

3.2 Linkages of FPOs in Coastal Andhra Region

3.2.1 Linkages of Mangaladri Agri Producer Company

Mangaladri Agri Producer Company was in Nutakki village of Guntur district. The major crop covered by FPO was Turmeric. The FPO was supported by Neelagiri foundation NGO and NABARD. They had managed to maintain a

export contract for 100 tonnes of turmeric from a Singapore based company. This year they had started contract farming. They had started linking with e-NAM, local mandi and NEDEX. The Table 3 showed the amount and percentage of turmeric sold through external linkages. The highest amount was sold during 2018 nearly 15 percent increase from the year 2017. Figs. 7 and 8 showed the growth in amount and percentage of turmeric sold through external linkage.

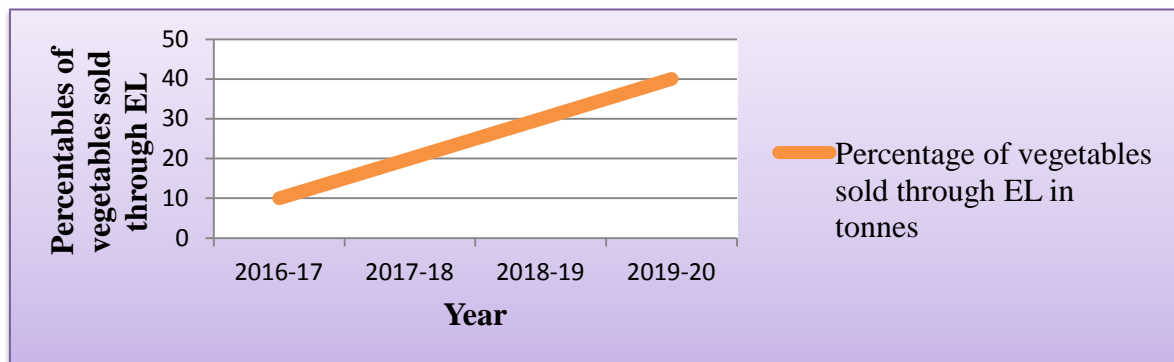


Fig. 6. Percentage of vegetables sold through external linkage by Rythula Jattu Kuragayala Bellam Utpattidarula Producer Company

Table 3. Amount and percentage of turmeric sold through external linkage by Mangaladri agri producer company

Year	Total amount of the produce	Total amount sold through external linkages	% of Produce Sold out through EL
2016	200	100	50
2017	400	200	50
2018	600	400	66.67
2019	800	600	75
2020	1000	800	80

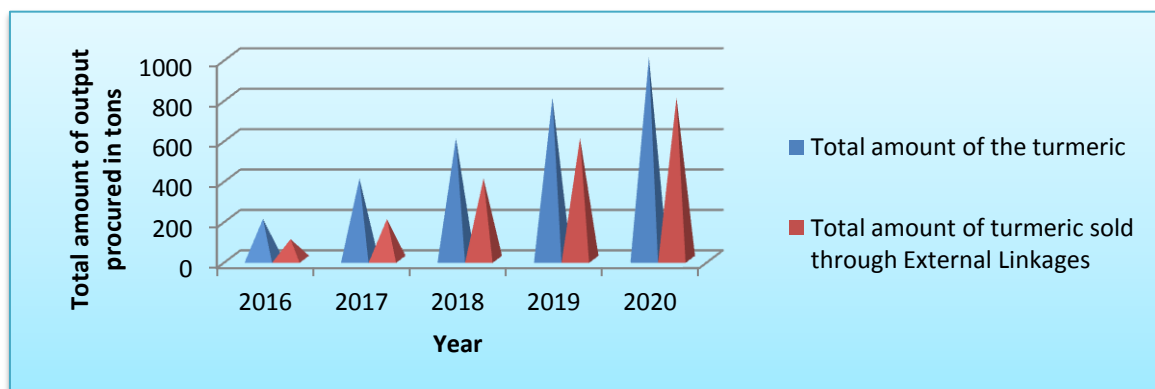


Fig. 7. Total amount of turmeric sold through external linkages to total amount procured by Mangaladri Agri Producers company

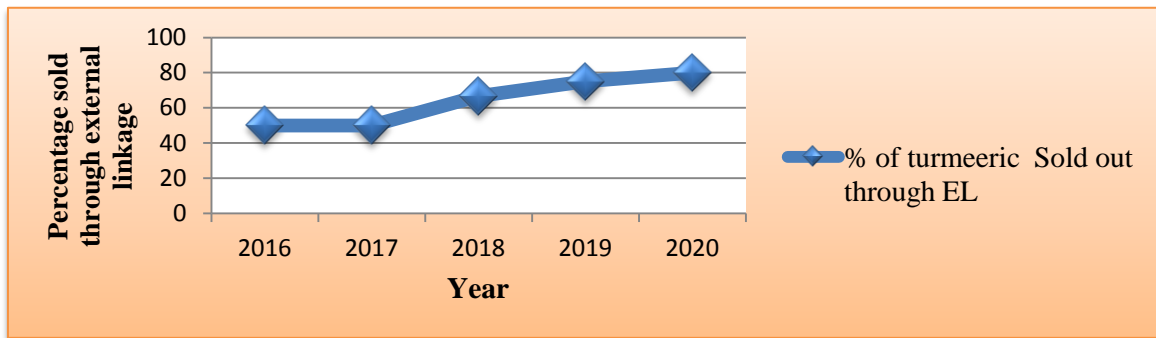


Fig. 8. Percentage of turmeric sold through external linkages by Mangaldri Agri Producers company

3.2.2 External Linkages of Chandragudem Jasmine Collection Centre

Chandragudem Jasmine collection Centre was in Chandragudem village of Krishna district. The major crop covered was jasmine. The FPO was supported by Nestham NGO. The FPO had an external linkage with Gudimalkapur market in

Hyderabad and sells nearly 60 percent of produce to Gudimalkapur market. Table 4 showed the amount and percent of jasmine sold through external linkage. The highest was sold during 2018 which was nearly 16 per cent increase from 2017. Figs. 9 and 10 showed the amount and percentage growth sold through external linkage.

Table 4. Amount and percentage of jasmine sold through External Linkage by Chandragudem Jasmine Collection centre

Year	Total amount of the jasmine procured/day	Total amount jasmine sold through External Linkages	% of jasmine Sold out through EL
2017	1000	500	50
2018	1200	800	66.67
2019	1500	1050	70
2020	3000	2250	75

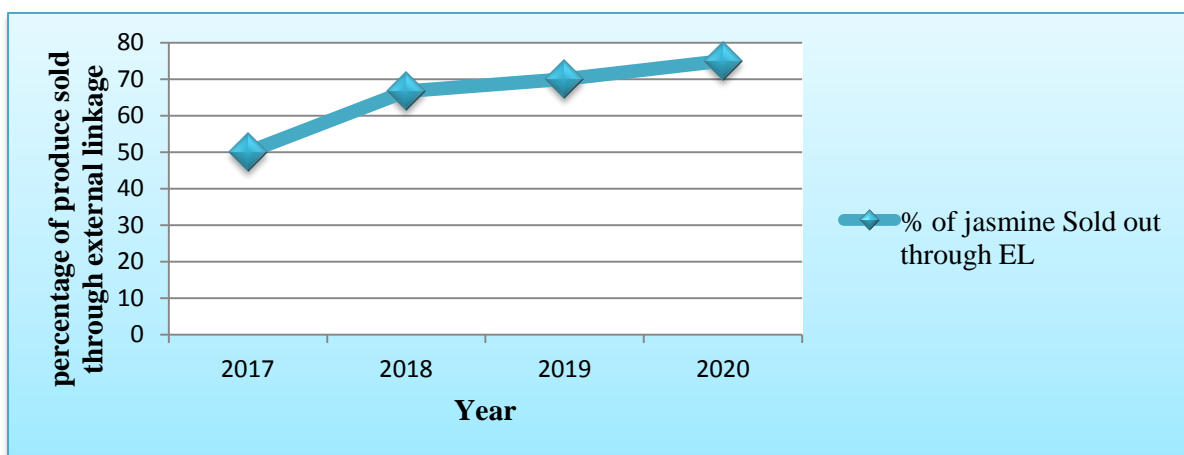


Fig. 9. Percent of jasmine sold through external linkage by Chandragudem jasmine collection centre

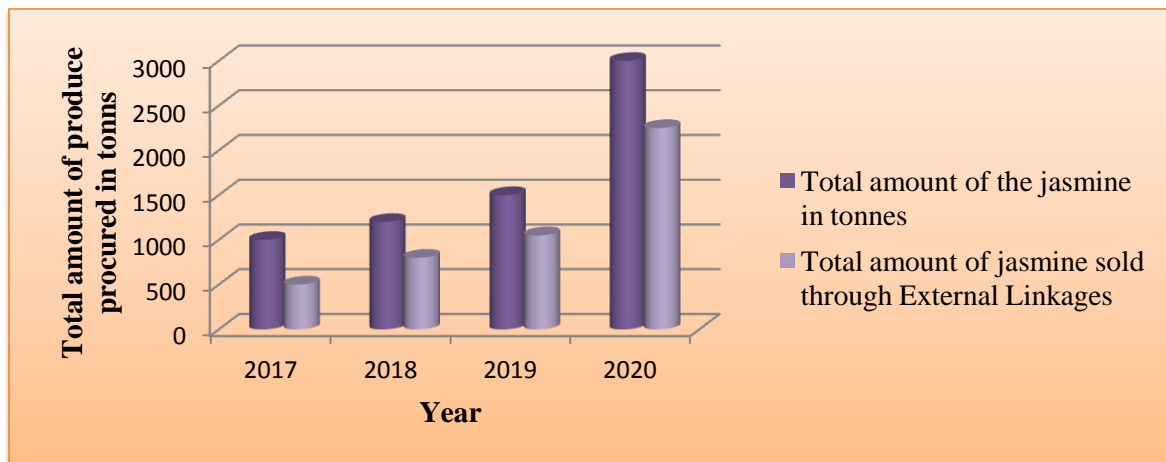


Fig. 10. Amount of jasmine sold through external linkage to amount procured by Chandragudem jasmine collection centre

Table 5. Amount of mangoes sold through external linkages and their percentages by Kissan Suvida FPO

Year	Total amount of the mangoes procured in tonnes	Total amount of mangoes sold through External Linkages	% of mangoes Sold out through EL
2016	5000	0	0
2017	2000	1500	75
2018	3000	2000	66.67
2019	9000	6000	70
2020	12000	9000	75

Table 6. Amount of mangoes sold by external linkage by Sri Siddeswara FPO

Year	Total amount of the mangoes procured in tonnes	Total amount of mangoes sold through External Linkages	% of mangoes Sold out through EL
2015	4000	1000	25
2016	10000	6000	70
2017	12000	8500	70.84
2018	15000	10800	72
2019	18000	13500	75
2020	20000	17000	85



Fig. 11. Percentage of mangoes sold through external linkage by Kissan Suvida FPO

Mangaladri Agri Producers Company had been covering a single crop turmeric. The FPO should develop better linkages with other market. The FPO mostly sells the produce in the Duggirala regulated market. The FPO had been linked with Erode market but now the amount sold to Erode market has been reduced. The FPO can get connected e-NAM to get better platform for selling the produce as it was having the highest membership.

Chandragudem Jasmine collection centre was covering single highly perishable crop which was Jasmine. Even though the crop was perishable they were maintaining good linkages with both local markets and exports. The FPO got connected to Gudimalkapur flower market in Hyderabad from where high amounts flowers were exported to other countries. The FPO also sells the produce in Vijayawada flower markets.

3.3 Linkages of FPOs in Rayalaseema Region

3.3.1 Linkages of Kissan Suvida FPO

Kissan Suvida FPO was located in Deendarupally village of Chittoor district. The major crop covered by FPO was Mango. The FPO locally used to supply fruits to various retail outlets and juice companies such as Heritage, Mother dairy, Global fresh farmers, Tropicana etc. Mother dairy and Heritage mostly procure banginapally varieties Tropicana solely procures totapuri variety which was the most preferred juice variety. The FPO was also linked to an exporter – Nava Quality foods which procures maximum amount of juice varieties Totapuri and Alphonso from the member farmers and pays the premium of 20 per cent to farmers which leads to

increase in the income of farmers. They also supply fruits to the pulping units. Table 5 showed the mango fruits supplied to the Nava Quality foods and the percentage of fruits sold through external linkage. Figs. 11 and 12 showed the growth in the fruits sold through external linkage and its percentage respectively.

3.3.2 Linkages of Sri Siddeswara FPO

Sri Siddeswara FPO was in Geddavarapally of Chittoor district. The major crop covered by FPO was mango. The FPO was linked with Capricon and Leaf Company from 2015- 2018. The Capricon used to procure juice variety Totapuri and Leaf Company procured table varieties. They sent mangoes to local markets and biggest markets like Mumbai, Bengaluru, Tirupati etc. In 2018 they stated linking with Nava Quality Foods and selling the juice variety to company. The table varieties are being sold to bigger markets. Table 6 showed the amount of mangoes and percentage of mangoes sold through external linkage. Figs. 13 and 14 showed the growth in mangoes sold and percentage through external linkage.

Sri siddeswara FPO was covering wide range of crops like mango, paddy, tomato, groundnut, vegetables and papaya. The marketing was done highly for mango. After the registration in 2015 it has been linked with Leaf company which had procured table varieties of mango and Capricon company which procured juice variety of mango for three years. Recently from two years they got linked with Nava quality foods ltd. which was procuring high amounts of juice variety. Mostly the table varieties were sold to biggest markets in Mumbai, Banglore, Chennai and Hyderabad.

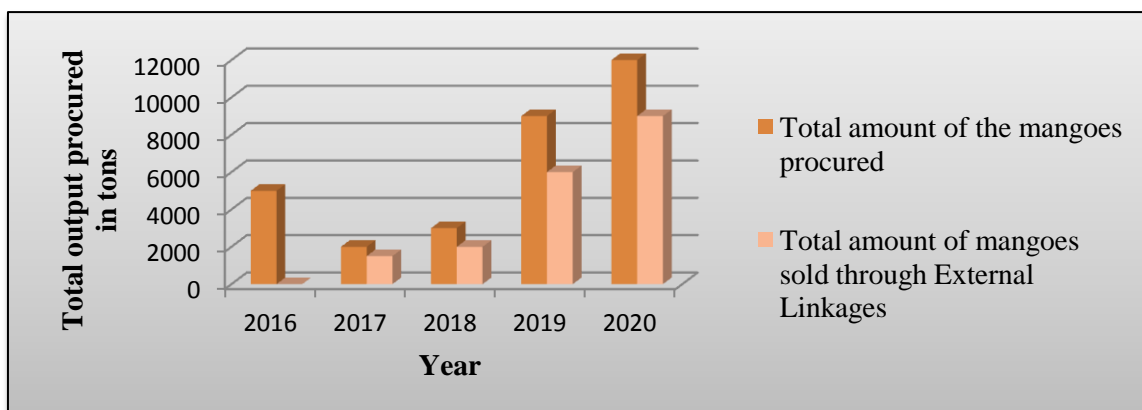


Fig. 12. Amount of mangoes sold through external linkage to the amount procured by Kissan Suvida FPO

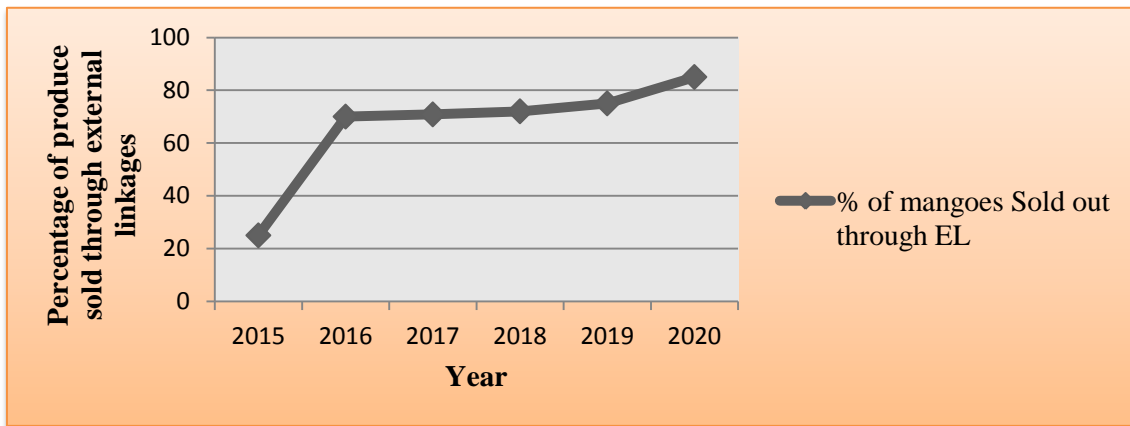


Fig. 13. Percentage of mangoes sold through external linkage by Sri Siddeswara FPO

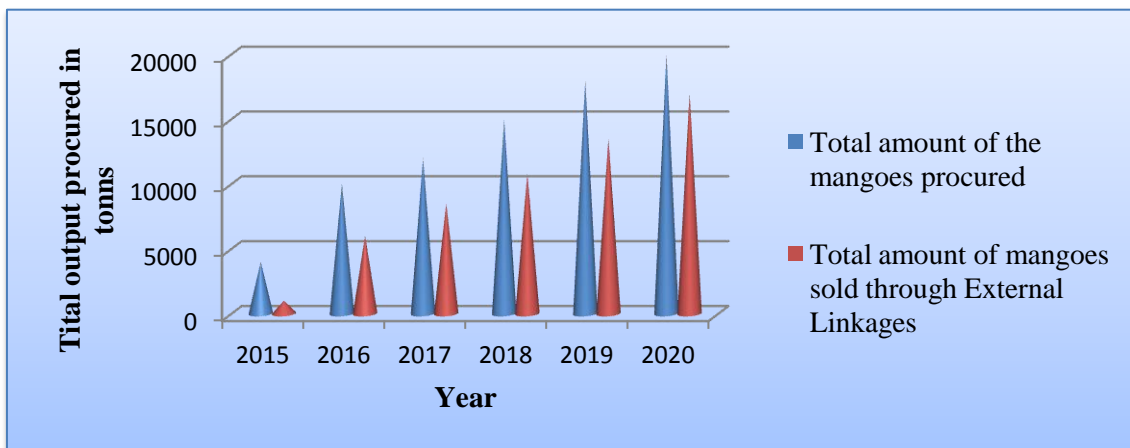


Fig. 14. Amount of mangoes sold through external linkage to the amount procured by Sri Siddeswara FPO

Kissan Suvida FPO had been covering a single crop mango, which markets Totapuri (Juice variety) and Baneshan (table variety) of mangoes. The FPO supplies mangoes to various companies like Heritage, Mother Dairy, Global fresh farmers, Tropicana etc. The FPO had also been linked with pulping units. The FPO mostly provides its produce to Nava Quality foods Ltd. which procures high amounts of Totapuri variety of mango and helps in the export of the Produce. It also exports mangoes through Kaybee exports. Because of this wide range of linkages the FPO had nearly sixteen crores of turn over.

4. CONSTRAINTS AND SUGGEST MEASURES TO IMPROVE THE FUNCTIONING OF FPOs

4.1 Constraints Faced by FPOs

To study the constraints faced by FPOs Garrettes' ranking technique was used. The

different constraints faced by FPOs were identified and ranks were given to them. The different constraints faced by FPOs were lack of capital to provide sufficient funds, awareness among the people is less, no technology adoption, no storage and ware house facilities, competition from other markets, no proper marketing facilities and poor infrastructure facilities. The results from the Garrettes' ranking technique were presented in the Table 7.

From the Table 7 seven problems were identified which were faced by FPOs and results revealed that the major problem faced by FPOs were lack of capital to provide sufficient funds with a score of 68.83 which was highest. The awareness among the people was less ranked second position with a score of 54.33 in constraints faced by FPOs which was followed by competition from other markets with a score of 51.67 ranked third. Then they prioritized poor infrastructure facility

Table 7. Constraints faced by the FPOs

Problems	Total	Average Score**	Rank
Lack of capital to provide sufficient funds: P1	413	68.83	1
Awareness among the people is less: P2	326	54.33	2
No technology adoption: P3	258	43.00	6
No storage and warehouse availability: P4	266	44.33	5
Competition from other markets: P5	310	51.67	3
No proper marketing facilities: P6	245	40.83	7
Poor infrastructure availability: P7	294	49.00	4

(49.00), no storage and ware house facilities (44.33), no technology adoption (43.00) and no proper marketing facilities (40.83).

FPOs need proper financial support to enter into a market and to focus on capturing a large market, but right now there was no proper financial support except the amount given by NABARD for establishment. Awareness among the people is less regarding the facilities provided by the FPOs and benefits from the FPOs. Competition from other markets is more mostly from wholesale markets and local markets. Due to lack of capital FPOs cannot proper infrastructure and storage facilities and good technology to its members. Some of the FPOs do not have proper marketing facilities due to seasonality problems.

5. SUGGESTIONS TO IMPROVE FUNCTIONING of FPOs

- Government has to provide financial support for the efficient functioning of FPOs to build infrastructure and provide better services to its members.
- Mostly FPOs prefer to perform the business on commission basis taking commission from intermediaries while marketing the produce.
- Awareness among the people should be brought by scientists by conducting training and exposure visits to farmers.
- Proper storage and credit facilities must be provided by the FPOs so that farmers will be interested to join as members.

6. CONCLUSIONS

The growth of agriculture and allied sector is heavily dependent on small and marginal farmers' success. The declining total factor profitability and increasing risk is being considered as major challenges in improving the livelihoods of the farmers in India. Linking

farmers with appropriate market is always a challenging task. FPOs/FPCs have emerged as one of the most effective pathways to address these many challenges of agriculture. Producer organisations have the advantage of flexible production methods, they integrate the local knowledge, are locally embedded, they are most sustainable with regard to the environment and the livelihoods of people involved. They leave the means of production and most of the decisions related to the production process in the hands of farmers. Through FPOs farmers can access quality inputs at low cost, can obtain market information on different markets, secure access to new technologies and tap into high value chains.

The concept of producer organisations has captured so little attention which is needed to be addressed. The government does not actively promote those organisations, but leaves their set up to the civil society. There is need for identifying right support system with appropriate technical guidance/experts with workable and scalable business plan/models.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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