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Marketing Analysis of Bangalore Red Rose Onion in Chikkaballapura District of Karnataka

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Abstract
The present study was conducted to examine the costs and returns in production, price spread in different marketing channels of Bangalore red rose onion. The study was conducted by using a random sample of sixty cultivators and twenty market intermediaries from Chikkaballapura and Chennai export markets. The primary data was collected by personal interview method with help of pretested and structured schedule during 2019-20 crop season. The major findings of the study revealed that About 78.40 per cent of the farmers sold through Channel-I (Producer→ Village level trader → Commission agent → Exporter → Foreign importer → Consumers), about 15.00 per cent in channel-II (Producer→ Contract trader → Exporter → Foreign importer → Consumers) and about 6.60 per cent in channel-III (Producer→ Trader in APMC → Exporter → Foreign importer → Consumers).The price spread was higher in Channel-I (Rs. 9,600) compared to Channel-II (Rs. 8,800) and channel-III (Rs. 9,150) due to more number of intermediaries. With a marketing efficiency index of 3.15, channel-II was the most efficient channel followed by channel-III (2.78) and channel-I (2.59) according to Shepherd's method.

Keywords: Price spread, Marketing channels, marketing efficiency

1. Introduction
The agricultural system, land use system, input usage, marketing, and most importantly monetary rewards are all undergoing incremental changes in Indian agriculture. On other hand, due to urbanisation, the amount of land accessible for agriculture is shrinking, while the need for increased productivity and returns from cultivable land is fast increasing. All of these variables have created excellent conditions for large diversification trends, particularly in favour of horticultural crops like fruits, vegetables, spices, plantation crops, and ornamental crops. India is blessed with a diverse range of soil types and agro-climatic conditions, allowing it to cultivate a wide range of horticultural and other crops such as Mango, banana, papaya, orange, mosumbi, guava, grape, apple, pineapple, sapota, ber, pomegranate, strawberry, litchi, and vegetables like onion, potato, tomato, okra, chilli, brinjal, green peas, cabbage, cauliflower, carrot, radish, turnip, pumpkin, squash, gourd, cucumber, and French beans are among the most commonly grown fruits and vegetables in India. Fruit and vegetable demand has been continuously rising over the years.

Horticulture has emerged as a lively sector and an important component of agriculture in India in recent years, providing potential for crop diversification, increased returns per unit area, improved land and water usage efficiency, as well as potential for employment creation. The wide range of horticultural crop varieties affords numerous chances to use multi-layer cropping to increase income while lowering the chance of crop failure. For profitable and increased production, effective onion growing necessitates a balanced and efficient use of modern inputs. Farmers require a large amount of capital to employ contemporary technologies for resource management before allocating land for onion growth, and they must be familiar with the various types of expenditures incurred and returns acquired from each crop. The growth of horticulture, particularly the production of fruits and vegetables, which are an important aspect of India's Dietary System (IDS), would be prioritized.

The onion (Allium cepa L.) is most important horticultural crop, increasing farmer income and playing an essential role in the Indian economy. It is a member of the Amaryllidaceae family. Bangalore red rose onion, also known as gulabi eerulli, is a Karnataka onion type grown in and around Bangalore. There is no other site in India where these onions are grown. This onion cultivar produces spherical bulbs with a flat base. Their intense scarlet red colour, anthocyanin, phenols, and extreme pungency are also distinguishing traits.

Protein, phosphorus, iron, and carotene are all known to be greater in them. Rose onion grows best in soil with a pH of 6.5 to 7, 70 to 75 percent relative humidity, and an average temperature of 25℃ to 30℃ [Because these circumstances are only present in the Bangalore area, the variety is only grown there]. It is high in nutrients and is excellent for weight loss; it also contains potassium, which helps to lower blood pressure. Antioxidants help to keep your arteries healthy and avoid heart attacks.

This variety's unique feature is its high pungency as compared to other types, which makes it quite popular in global markets. It is a pickling variety with flattish circular bulbs that are deep crimson red in colour and range in size from 2.5cm to 3.5cm diameter. Because of their spicy flavour, these onions are excellent for pickling. It has a high export potential, which is the ultimate goal for farmers. This cultivar is rarely consumed on the domestic market (maximum 10 percent of the production) While the Rabi season accounts for 70 percent of production, the Kharif season accounts for 10 percent and the summer crop accounts for the remaining 20 percent. This variety is currently exported to Southeast Asian nations such as Singapore, Malaysia, Bangladesh, Bahrain, Sri Lanka, Maldives, Indonesia, UAE, Thailand, Singapore, and Taiwan, where it is used in seasoning, pickling, and as a dehydrated powder.

In Karnataka, the Chikkaballapura district is known for its own agricultural and horticultural crops. This region is dominated by small and medium-sized farmers. Small- sized land owners are poor, but medium-sized and large land owners do better than small land owners. Bangalore red rose onion is a very important commercial and cash bulb crop, with a high average productivity in the area and an excellent marginal substitution for the low-value crops that grow there. The onion has long been a staple of the Indian diet, and demand for it has risen year after year. There has been a steady increase in the production and area of cultivation of onion in Chikkaballapura district over the years due to adoption of advanced and improved technology.

Based on the foregoing, it can be concluded that production and productivity are not the only requirements for the development of Bangalore red rose onion cultivation. Farmers always want to acquire a better price for their goods, but they are unable to do so because to a lack of fair marketing functionaries, market efficiencies, and marketing systems. In remunerative agricultural output, particularly cash crops like onion, the marketing mechanism and its efficiency are critical. Farmers in the current condition of affairs are primarily concerned with the production system, and they pay little attention to the various aspects of marketing. They spend the entire year for producing, but the system does not take marketing into account. In fact, marketing has traditionally been maintained separately from farmer production. As a result, the producers' share of the consumer's price is minimal. Efficient marketing aids in the efficient transfer of farm products and inputs from producers to consumers at the lowest possible cost, yet rose onions have a very small domestic market. Such a situation is extremely tough for both producers and consumers. As a result, the efficiency of onion marketing was also investigated.

Special feature of this study

The main aim of this research is to determine how well farmers in Chikkaballapura district use their resources in the cultivation of the Bangalore red rose onion crop, and how much more money they make compared to ordinary crop production. The results of profitability and cost efficiency in onion production at various sizes and with various production technologies will show that there is room to expand their area, production, and productivity, as well as to use resources and critical inputs more wisely. In light of the shifting cropping pattern, an attempt should be made to assess the economics of production and price structure, i.e. produce marketing.

In the absence of necessary infrastructures, such as transportation and storage facilities, the rose onion crop's great production potential has an impact on orderly marketing. Existing marketing entities scoop up a substantial portion of the consumer's rupee, decreasing producer profits. This situation needs a study of the numerous market channels for rose onion, as well as the price spreads in each channel, so that farmers can choose the most efficient method of selling their goods.

Methodology

The study incorporated data from both primary and secondary sources. Six taluks in the Chikkaballapura district of Karnataka were chosen for research based on high value crop and area under production, and the important primary data was acquired from 60 Bangalore red rose onion farming farmers. In addition, constraints regarding production and marketing, these farmers samples were also taken. and marketed intermediaries. For gathering data on trend aspects contacted district horticulture department. The primary data of the year 2019-20 was gathered from the respondents who had been chosen and market intermediaries through a personal interview using a pre-tested structured schedule intended for the study purpose.

Secondary data such as general information about the Chikkaballapura district, land use patterns, rainfall, and area under Bangalore red rose onion were collected from the district official website and by visiting Karnataka state Dept. of Horticulture, Chikkaballapura district at a glance 2018.

Results and Discussion

Marketing channels involved in marketing of Bangalore red rose onion

In the study area three marketing channels were identified, sellers and buyers were selected to understand the marketing channels of Bangalore rose onion. The sample respondents marketed rose onions through following channels.

- Channel I: Producer → Village level trader → Commission agent → Exporter → foreign importers → Consumer
- Channel II: Producer → pre-contract trader → Exporter → foreign importer → Consumer
- Channel III: Producer → Trader in APMC → Exporter → foreign importer → consumer

Farmers in the study region choose different channels for marketing of Bangalore red rose onion. The channels chosen by the farmers varies from season to season. In Chikkaballapura district three predominant types of marketing channels were identified.

The average yield, gross and net returns per acre of Bangalore red rose onion among the sample farmers are presented in Table 1

The average yield of Bangalore red rose onion was 17 tonnes per acre. Total cost (which include TVC+TFC) of Bangalore

rose onion production was Rs. 70,847 per acre. The net returns were Rs. 2,01,153 due to higher yield and better management practices. (Table 1)

The analysis of costs and returns indicated that the net return per rupee of expenditure in Bangalore rose onion production was Rs. 2.83. As the ratio is above unity, the cost of cultivation could be considered as a profitable. (Table 1)

The majority of producers (78.40 %) sold their produce through channel-I, with the majority of the rest (15.00 %) selling through channel-II and with the channel-III (6.60%).

In channel-I, village traders buy rose onions from farmers at the farm gate and sell them to a commission agent, who pays him a commission per kilogram of designated quality produce delivered. The exporter in Chennai determines the quality and form of grade that has a strong demand in importing countries, and the commission agent sorts the produce by grading and packing it before transporting it to the Chennai seaport in the necessary quantity. These commission agents will be paid after the product has been purchased by the exporter. Importers from other countries indent the quantity to a Chennai-based exporter, who then exports the rose onion after receiving his commission. Some of the produce will be sold to wholesalers and retailers in their local market before reaching customers, while the rest will go to the pharmaceutical industry. About 47 farmers (78.40%) sold through this channel as shown in table 2. This channel reduces the burden of transportation cost to farmers so majority of the farmers goes through this channel.

In the channel-II, Farmers sell their produce to a pre-contract trader who also works as a commission agent. These pre-contract traders communicate with farmers on a regular basis and assist them by providing inputs such as seeds, fertiliser, and other inputs. This mutual understanding develops after they sign a contract, with the farmer agreeing to sell his or her produce only to this pre-contract dealer at market prices. Pre-contract trader sorts the produce by drying, grading, and packaging it before supplying it to the exporter in the quality and quantity required, and he collects his commission from the exporter after deducting all of his costs, including transportation to the port. The exporter ships the product to countries with a large demand, and the product eventually reaches customers through wholesalers and retailers. As shown in the table 1, approximately 9 farmers (15%) in the study area sold via this channel. The majority of farmers are still unaware of this channel, which allows them to avoid village level traders. Since these village level traders are part-time workers and full-time farmers, they place more trust in them than pre-contract traders. (Table 2)

In the channel-III, Farmers sold their produce to a trader at the APMC near to them. If the produce meets the standards of the trader, the farmer earns the price quoted by APMC on that day; otherwise, the trader quotes a lower price than the market price. Traders in the APMC always exploit the farmer without offering him a fair price because they have a common understanding and always quote a lower price. (Table 2)

Traders sort the produce according to the exporter's specifications and sells the produce to the exporter with a commission for processing and transportation. Foreign importers indent the orders and imports from the exporter and exporters get their full commission once produce reach the destination. Foreign importers distribute the produce to consumers through wholesalers and retailer and also to the pharmaceutical companies. About 4 farmers (6.60%) sold through this channel as shown in the table 2.

Farmers usually not prefer the channel-III because of higher market costs like transportation, labour charges and farmers reported that most of the time traders in APMC exploited the farmer without fetching him remunerative price. This channel is used only when government changes its exports policies and announces ban on onion due to recession. (Table 2).

Price spread of Bangalore red rose onion (/Quintal)

As noted the price spread was higher in the lengthy channel (involving village level trader, commission agents, traders in APMC, exporters and foreign importers) and lesser in shorter channels when producer marketed to contract trader and then realized shares upwards 16.99 percent of the consumer rupee. The producer's share of consumer's rupee for Bangalore red rose onion in the most common channels is summarized below in the table 3.

The price spread is more in the Channel -1 (Rs.11,200) than the Channel-2 (Rs. 10,600) and Channel-3 (Rs. 11,000) with the producer share in consumer rupee 14.29 percent, 16.99 percent and 16.81 percent respectively. The producer share in consumer rupee is more in Channel-2 because of the smaller number of intermediaries and newly emerging channel in the study area. More number of intermediaries lesser producer share in consumer rupee which shows that consumers were paid more to the market intermediaries than the producer. (Table 3)

Marketing efficiency

Table 4revealed that the marketing efficiency of Bangalore red rose onion in different marketing channels for the year 2019-2020. Marketing efficiency according to Acharya's method (Modified Measure of Marketing Efficiency) under different marketing channels i.e. channel I, channel II and channel III were 0.16, 0.20, and 0.19 respectively. From the efficiency index, it was clear that channel II was the most efficient among all marketing channels. This was because of the fact in the channel II. Less number of intermediaries were involved and this channel was very efficient than other channels. Moreover, marketing efficiency increased with decreased in number of market intermediaries between producer and consumer. The marketing efficiency according to conventional method under different marketing channels i.e. channel I, channel II and channel III were 2.22, 2.61 and 2.31 respectively. From this efficiency index, it was evident that the channel II was the most efficient among all marketing channels. The marketing efficiency according to Shepherd's method under different marketing channels i.e. channel I, channel II and channel III were 2.59, 3.15 and 2.78 respectively. From the efficiency index, it was concluded that channel II was the most efficient channel among all other marketing channels of Bangalore red rose onion.

Conclusion

The production and marketing of Bangalore red rose onion in Chikkaballapura district of Karnataka is profitable for both the farmers and also for the market intermediaries with the evidence of above facts and figures. Since, Bangalore red rose onion have no domestic market and domestic consumers, it costs for more value and farmers can yield more income if they explore themselves to new marketing practices in exports.

Table 1: Average yield and returns from Bangalore red rose onion cultivation (n=60)

Sl. No.	Particulars	Values
1.	Yield (tons /acre)	17.00
2.	Price (Rs. /ton)	16,000
3.	Gross returns (Rs.)	2,72,000
4.	Total cost (Rs.)	70,847
5.	Net returns (Rs.)	2,01,153
6.	Production cost/quintal (Rs.)	416.74
7.	Benefit cost ratio	2.83

Table 2: Major marketing channels involved in marketing of Bangalore red rose onion (n=60)

Sl. No.	Channels	Number of intermediaries involved	No of farmers sold through these channels	Percentage
1.	**I**	Producer → Village level trader →Commission agent→Exporter → Foreign importers→ Consumer	47	78.40
2.	**II**	Producer → Contract trader → Exporter→ Foreign importer → Consumer	9	15.00
3.	**III**	Producer → Trader in APMC → Exporter → Foreign importer →consumer	4	6.60
Total			60	100.00

Table 3: Price spread of Bangalore red rose onion (/Quintal)

Sl. No.	Particulars	Channel - I		Channel - II		Channel - III	
		Cost	% consumer price	Cost	% consumer price	Cost	% consumer price
1.	Producer sale price	1,600	14.29	1,800	16.99	1,850	16.81
	Market cost	120	1.07	60	0.56	200	1.81
	Producer net price	1,486	13.27	1,540	14.52	1,650	15.00
2.	Village level trader purchase price	1,600	14.28	-----	-----	-----	-----
	Marketing cost	300	2.67	-----	-----	-----	-----
	Market margin	400	3.57	-----	-----	-----	-----
3.	Commission agent purchase price	2,300	20.53	-----	-----	-----	-----
	Marketing cost	600	5.35	-----	-----	-----	-----
	Market margin	800	7.14	-----	-----	-----	-----
4.	Contract trader purchase price	-----	-----	1,800	16.99	-----	-----
	Marketing cost	-----	-----	350	3.31	-----	-----
	Market margin	-----	-----	1,200	13.32	-----	-----
5.	Trader in APMC purchase price	-----	-----	-----	-----	1,850	16.81
	Marketing cost	-----	-----	-----	-----	450	4.10
	Market margin	-----	-----	-----	-----	1,200	10.10
6.	Exporter purchase price	3,700	33.03	3,350	31.60	3,500	31.81
	Marketing cost	1,700	15.18	1,350	12.73	1,700	15.45
	Market margin	1,400	12.50	1,500	14.15	1,400	12.72
7.	Foreign importer purchase price	6,800	60.71	6,200	58.49	6,600	60.00
	Marketing cost	1,600	14.29	1,600	15.10	1,600	14.54
	Market margin	2,800	25.00	2,800	26.41	2,800	25.45
8.	Consumer price	11,200	100.00	10,600	100.00	11,000	100.00
	Producer share in consumer rupee	**1,600**	**14.29**	**1,800**	**16.99**	**1,850**	**16.81**

Source: Derived from primary and secondary data

Table 4: Marketing efficiency of Bangalore red rose onion in different marketing channels

Sl. No.	Particulars	Unit	Channel - I	Channel - II	Channel - III
1.	Consumer purchase price (RP)	Quintal	11,200	10,600	11,000
2.	Total marketing costs (MC)	Quintal	4,320	3,360	3,950
3.	Total margins of intermediaries (MM)	Quintal	5,400	5,500	5,400
4.	Price received by farmer	Quintal	1,600	1,800	1,850
5.	Value added by the marketing system (1-4)	Quintal	9,600	8,800	9,150
Index of Marketing Efficiency					
A.	Acharya's method 4÷ (2+3)	Ratio	0.16	0.20	0.19
B.	Conventional method (5÷2)	Ratio	2.22	2.61	2.31
C.	Shepherds method	Ratio	2.59	3.15	2.78

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