

Marketing of Tomato in Kolar District of Karnataka, India

P. K. SINGH*, O. P. SINGH AND N. RAKESH

Department of Agricultural Economics, Institute of Agricultural Sciences, Banaras Hindu University, Varanasi-221 005 (Uttar Pradesh), India

**(e-mail : pksbhu222@gmail.com; Mobile : 87650 00465)*

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ABSTRACT

Horticultural sector in the recent years made remarkable achievement in terms of augmentation in area and production under different crops, enhancement in productivity, crop diversification, technological interventions for production, post-harvest and marketing channels. The present study was an attempt to study the marketing channels, marketing cost, marketing margin, marketing efficiency and producers' share in consumers' rupee for tomato crop. Primary data were collected from farmers and market intermediaries from Kolar district of Karnataka. Results suggested that four different marketing channels prevailed in the study area for movement of tomato from producers to consumers. Out of these channels, channel-I (organised sector) was identified as more efficient and higher share of producers' share in consumers' rupee than the other marketing channels. Therefore, from the study it was concluded that there was inverse relationship between number of market intermediaries and marketing efficiency and producers' share in consumers' rupee.

Key words : Marketing efficiency, price spread, organized sector, marketing channels, producers' share in consumers' rupee

INTRODUCTION

Agricultural sector is playing an important role in Indian economy as it contributes about 13.14% to India's gross domestic product at market price during 2018-19 (GOI, 2019). The fruits and vegetables contribute about 28% to the agricultural gross value added in 2017-18. Agriculture is one of the largest sectors in the country, which provides employment opportunity to nearly 42.38% population of the country in 2019 (World Bank, 2020). Horticultural sector has been recognized as a vibrant sector in agriculture, which provides avenue for crop diversification, enhanced farm income per unit area, better land and water used with opportunities for employment generation (Kumari *et al.*, 2018; Singh *et al.*, 2020). Horticultural crops are integral component for achieving the goal of doubling farmers' income (Jha *et al.*, 2019). The wide range of horticultural crops provides ample opportunities by farmers to adopting multi-layer cropping for minimising risk of crop failure and maximising their farm income (Shende and Meshram, 2015). Fruits and vegetables account for nearly 90% horticultural production in the country (Neeraj *et al.*, 2017) and vegetables are considered as cheap source

of minerals, vitamins and high calorie (Patel and Pundir, 2016). These nutrient and non-nutrient molecules reduce the risk of chronic diseases (Septembre-Malaterre *et al.*, 2018). The country has witnessed the shift in area from food grain production towards horticultural crops from 2012-13. The production of horticultural crops in India has outpaced the production of food grain since 2012-13 (Singh and Singh, 2020). During 2017-18, total production of horticultural crops was 311.71 million tonnes from an area of 25.43 million hectares (GOI, 2018). The production of vegetables in the country has increased to the level of 184.40 million tonnes from an area of 10.26 million hectares during 2017-18. Tomato ranks third in priority after potato and onion in India, however, ranks second after potato in the world. India ranks second both in the area as well as in production of tomato (Ramappa and Manjunatha, 2017). During 2017-18, total tomato production in the country was 19.759 million tonnes from area of 0.789 million hectares. The productivity of vegetables in India has been rising from last many years due to adoption of high yielding variety of vegetable seeds (Jorwar *et al.*, 2017). Karnataka state is highly progressive with regard to vegetable production, because of

extreme climatic conditions without extreme temperature (Ramappa *et al.*, 2015). Among different Indian states, Karnataka state ranked third in tomato production during 2017-18 with 2.082 million tonnes and total area under tomato cultivation in the state was 0.064 million hectares. Average yield of tomato in the state was 32.40 tonnes per hectare. The demand for tomato in the country is growing very fast due to increase in purchasing power of the people, increasing standard of living in the cities and rapid urbanisation taking place in rural area and it is expected that consumption of tomato-based products goes up steadily (Ramappa and Manjunath, 2016). Keeping in view the above facts, the present study was carried out to identify the major stakeholders involved in marketing of tomato; and to analyze the marketing cost, marketing efficiency and price spread of different channels of the value chain for fresh tomato in the study area.

MATERIALS AND METHODS

The Kolar district of Karnataka was purposively selected for the present study because farmers of the district are diverting their land for tomato cultivation. The Agriculture Produce Market Committee (APMC) of Kolar has been chosen for the collection of primary data about farmers and intermediaries. Farmers, who were selling tomato directly to the organized retailers, were selected randomly in and around Kolar and interviewed systematically. Furthermore, some of the organized retailers like Reliance fresh, HOPCOMS and Big basket were chosen in Kolar and Bangalore for collection of primary data. A total of 30 farmers, 20 commission agents, 20 traders, 20 wholesalers, 30 retailers and 20 consumers were interviewed to collect the relevant primary data for the period of 2019-20. Total costs incurred by the producers and all the intermediaries involved in the sale and purchase of the tomato until it reached the ultimate consumer were computed using following formula :

$$C = C_f + C_{m_1} + C_{m_2} + C_{m_3} + \dots + C_{m_i}$$

Where, C was total cost of marketing of the tomato; C_f was cost incurred by the producer from the time the product leaves the particular

stakeholder, and C_{m_i} was cost incurred by the i^{th} middle man in the process of buying and selling the product.

The marketing margin was the difference between the i^{th} middle man's receipts (sale price) and total payments (cost + purchase price). The absolute margin of the i^{th} middle man as per the equation below was worked out :

$$A_{m_i} = P_{R_i} - (P_{P_i} + C_{m_i})$$

Where, A_{m_i} was absolute margin of the i^{th} middle man; P_{R_i} was total value of receipts per unit (sale price); P_{P_i} was purchase value of goods per unit (purchase price); and C_{m_i} was cost incurred in marketing per unit.

The price spread for the marketing channels listed in the study area was worked out separately. Price spread was estimated using following formula :

$$\text{Price spread} = \text{Consumers' price} - \text{Producers' price}$$

It was the price received by the farmers as a percentage of the sale price of retailers. If P_r was the retail's price and P_f was the farmers' received price, the consumer purchase price was (P_s). The producer's share was worked out by :

$$P_s = (P_f / P_r) \times 100$$

The effectiveness of the marketing system with which it worked was marketing efficiency. The marketing efficiency was worked out by using following equation :

$$ME = FP / (MC + MM)$$

Where, ME was marketing efficiency, MC was marketing cost and MM was marketing margin.

RESULTS AND DISCUSSION

Four marketing channels of tomato were prevailing in the study area (Fig. 1). Marketing channel-I was observed in retail stores/organized retailers. Organized retailers contacted tomato growers and they purchased tomatoes to prevent middlemen. The marketing channels-II, III and IV were identified as traditional marketing channels

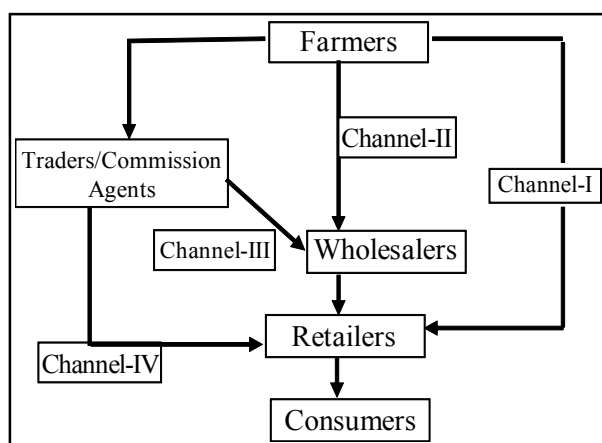


Fig. 1. Marketing channels prevailing in the study area.

for moving tomato from producers to consumers. In the traditional marketing channels, large number of middle men was observed like traders/commission agents, wholesalers and retailers.

Price spread was maximum in channel-III (Rs. 1068.60/q) followed by channel-II (Rs. 935.6/q) due to large number of intermediaries, marketing cost and marketing margin. However, the channel-IV, which was prevalent in the study area, had the lower price spread (Rs. 868.60/q) due to absence of wholesalers. The retailers directly purchased tomato from traders/commission agents and sold it to consumers (Table 1). Whereas in the case of channel-I (modern retail/organized retail), the price spread was Rs. 949.6/q. Pavithra and Singh (2020) worked on the economics of

production and marketing of cauliflower in Indore district of Madhya Pradesh and found that price spread was more or less similar to the present investigation.

Even though these retailers sold tomato at a higher price (Rs. 1920/q) but the comparatively higher price being paid to the farmer made the price spread relatively low than the traditional channel-III. Retailers were the only intermediaries in the supermarket channel and owing to higher marketing cost and higher marketing margin, it summed up to the higher price. Four marketing channels were observed for moving tomato from producers to ultimate consumers. Out of these marketing channels, channel-I (organized retailers) was found to be more efficient (1.02) than other channels prevailing in the study area due to absence of intermediaries and lower marketing cost (Table 1). The second most efficient (0.85) marketing channel for tomato was channel-IV. In marketing channel-IV, tomato was purchased by the traders/commission agents from tomato growers and sold to the retailers. The third and fourth efficient market channels were channel-II (0.81) and channel-III (0.69). The highest producers' share in consumer's rupee was found in marketing channel-I (50.54%) followed by channel-II (44.96%), channel-III (40.96%) and lowest for channel-IV with 40.04% (Table 1). Patel and Pundir (2016) worked on the marketing of cauliflower in middle Gujarat, India and results were more or less similar to the present investigation.

Table 1. Price spread in different channels of the tomato in the study area (Rs./q)

Particulars	Marketing channels			
	I	II	III	IV
Producers' sale price (Rs.)	1100.00	880.00	920.00	920.00
Marketing cost paid by producers	129.60	115.60	178.60	178.60
Net price received by producers	970.40	764.40	741.40	741.40
Marketing cost borne by traders/commission agents	-	-	192.43	192.43
Marketing margin of traders/commission agents	-	-	102.56	197.56
Traders sale price	-	-	1215.00	1310.00
Purchase price of wholesalers	-	880.00	1215.00	-
Marketing cost borne by wholesalers	-	170.80	113.10	-
Marketing margin of wholesalers	-	269.20	151.90	-
Wholesalers' sale price	-	1320.00	1480.00	-
Retailers' purchase price	1100.00	1320.00	1480.00	1310
Marketing cost borne by retailers	597.33	177.20	178.80	165.20
Marketing margin of retailers	222.66	202.80	151.20	197.56
Retailers' sale price or consumers' purchase price	1920.00	1700.00	1810.00	1610.00
Total marketing cost (Rs.)	726.93	463.60	646.93	536.23
Total marketing margin (Rs.)	222.66	472.60	401.66	332.36
Marketing efficiency	1.02	0.81	0.69	0.85
Producers' share in consumers' rupee (%)	50.54	44.96	40.96	40.04

CONCLUSION

Four marketing channels for selling of tomato were found in the study area. Out of these channels, channel-I was found in organized sector, whereas channels-II, III and IV were traditional channels. The net price received by the tomato growers was highest in channel-I as compared to other marketing channels prevailing in the study area for tomato selling. As far as marketing efficiency was concerned, channel-I was more efficient followed by channel IV, channel II and less efficient market channel was channel-III. The highest producers' share in consumers' rupee was observed for channel-I followed by channel-II, channel-III and lowest for channel-IV. The present study suggested that when number of intermediaries reduced for the movement of tomato from producers to consumers, it augmented market efficiency and producers' share in consumers' rupee (Sharma and Guleria, 2020).

REFERENCES

- Government of India (2018). *Horticultural Statistics at a Glance*. Ministry of Agriculture and Farmers Welfare, Department of Agriculture, Cooperation and Farmers Welfare, Government of India.
- Government of India. (2019). *Agricultural Statistics at a glance-2018*. Directorate of Economics and Statistics, Department of Agriculture, Cooperation & Farmers Welfare, Ministry of Agriculture & Farmers Welfare, Government of India, New Delhi.
- Jha, Girish K., Suresh, A., Bhoopesh Punera and Supriya, P. (2019). Growth of horticulture sector in Karnataka-Post reform period. *Ind. J. Econ. Develop.* **11** : 661-672.
- Jorwar, R. M., Ulemale, D. H. and Sarap, S. M. (2017). Economics of production and marketing of tomato in Amravati district. *Int. Res. J. Agric. Eco. Stat.* **8** : 56-59.
- Kumari, Priyanka, Singh, K. M. and Atre, Santosh Kumar (2018). Problems and constraints in banana cultivation : A case study in Bhagalpur district of Bihar, India. *Int. J. Cur. Micro. Appl. Sci.* **7** : 1752-1959.
- Neeraj, Akshay Chittora, Bisht, Vinita and Johar, Vishal (2017). Marketing and production of fruits and vegetables in India. *Int. J. Cur. Micro. Appl. Sci.* **6** : 2896-2907.
- Patel, Palakben and Pundir, R. S. (2016). A study on marketing of cauliflower in middle Gujarat, India. *Int. J. For. Crop Imp.* **7** : 72-78.
- Pavithra, S. and Singh, S. P. (2020). Economics of production and marketing of cauliflower in Indore district of Madhya Pradesh. *The Pharma Innovation J.* **SP 9** : 80-83.
- Ramappa, K. B. and Manjunatha, A. V. (2016). Value chain analysis of tomato marketing in Karnataka. Agriculture Development and Rural Transformation Centre, Institute of Social and Economic Change, Bengaluru.
- Ramappa, K. B. and Manjunatha, A. V. (2017). Tomato value chain in Karnataka. *Fin. J. Agric. Value Chain India* **18** : 125-141.
- Ramappa, K. B., Upadhyay, Joyoti and Nagaraju, Y. (2015). Growth of horticulture sector in Karnataka-Post reform period. *Ind. J. Econ. Develop.* **11** : 661-672.
- Septembre-Malaterre, A., Remizeb, F. and Pouchereira, P. (2018). Fruits and vegetables as a source of nutritional compounds and phytochemicals : Changes in bioactive compound during lactic fermentation. *Food Res. Int.* **104** : 86-99.
- Sharma, Isha and Guleria, Amit (2020). Economics of marketing of apple crop and the problems faced by growers in Himachal Pradesh. *Economic Affairs* **65** : 285-293.
- Shende, N. V. and Meshram, R. R. (2015). Cost-benefit analysis and marketing of tomato. *Am. Int. J. Res. Formal App. Nat. Sci.* **15** : 46-54.
- Singh, O. P. and Singh, P. K. (2020). Growth performance of production and export of major vegetable crops in India. In : *Agricultural Development and Economic Transformation in Global Scenario, Part-II*, Rao, Ratnesh Kumar (ed.). Published by Mahima Research Foundation and Social Welfare, 194, Karaundi, Banaras Hindu University, Varanasi. pp. 113-119.
- Singh, O. P., Singh, P. K. and Bishi, Gyanprakash (2020). Economic analysis of production and marketing of onion in Deogarh district of Odisha, India. In : *Agricultural Development and Economic Transformation in Global Scenario, Part-II*, Rao, Ratnesh Kumar (ed.). Published by Mahima Research Foundation and Social Welfare, 194, Karaundi, Banaras Hindu University, Varanasi. pp. 105-112.
- World Bank (2020). The global economy, business and economic data for 200 countries based on World Bank estimation. <https://www.theglobaleconomy.com/India/>.