

“Price Spread of Marketing Channels of Tomato Crops in Chitrakoot District of Uttar Pradesh”

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Abstract: Tomatoes are used in many dishes including soup, salad, pickles, ketchup, puree, and sauces. It doesn't matter how much yield you get if the farmer doesn't get paid for it! As a result, marketing plays a vital role in increasing the farmer's yield. Profitable production requires high quality vegetables to meet market demands. An agricultural grower's choice of vegetable depends on the market's demand and preferences. A lack of contact with the market channel sometimes prevents vegetable growers from receiving a fair price for their hard-earned produce. Marketing cost and margin analysis benefits both the seller and the buyer. The research used both primary and secondary data sources. An agricultural survey schedule was used to interview farmers to collect data on their income, employment, and farm activities for the 2018-19 agricultural years. Each of the five blocks in Chitrakoot district has its own distinct personality and culture. Ten farmers were chosen at random from each list A sample of 40 tomato growers from the 2018-19 production year were interviewed for the study. Channel III (P-W-R-C) received the most Tomatoes, accounting for 45.5% of the total disposed. During the marketing of Tomato, the producer, wholesaler, village trader, and retailer each incurred Rs.45/- per quintal marketing cost. This worked out to Rs. 612/- per quintal in Channel II, and Rs. 403/- per quintal in Channel III and IV. It was 270/- per quintal for wholesalers and 217/- for village traders in channel III. Consumption was Rs.1142/- per quintal in Channels I, II, III, and IV. Tomato price spread in channel-I was 96.09 percent, while marketing cost was 3.94 percent. Producer and Retailer paid 9.79% of marketing costs in channel II. Consumers paid Rs. 1410/qt., with producers taking 46.81 per cent of the profit. Producer, Wholesaler, and retailer marketing costs in channel III were 10.41%. Consumers paid Rs. 1473/qt in channel-III, with producers owning 43.11 per cent of the product. Producers, Village traders, and retailers spent 10.41% on marketing in channel IV. 1643/qt, with a 39.52 percent producer share. Channel II had the highest market margin at 43.40 %. In the Chitrakoot district, channel I was found to be more profitable than channels II, III, and

Keywords: Tomato, Marketing Costs, Marketing Channel

Introduction

Tomato (*Lycopersicon esculentum*) is a native of tropical America and belongs to family solanaceae. Tomato fruit contain water 93.1%, protein 1.9%, fat 0.3 gm, fiber

0.7%, carbohydrates 3.6%, calorie 23, vitamin 'A' 320, vitamin 'B' 0.07mg, Nicotine acid 0.4 mg, vitamin 'c' 31mg, calcium 20mg, phosphorus 36mg, and Iron 0.8mg in one kg. of tomato. Tomato is one of the most important vegetable crops cultivated for its fleshy. It is used in preserved product like Ketch-up, souse, Chutney, Soup, Paste, and Puree EST. In fact the daily consumption of two tomatoes provides human organism with 2/3 of the needed vitamin-c. The total cultivated area of tomato in India is about 865 thousand hectares with total production and productivity about 16826 thousand tones and 19.5 tones/ha, respectively (national horticulture board database 2010 -11). Area of tomato in India comprises about 8.5% of total area of vegetable. Tomato is rich source of vitamins A, C, Potassium, Minerals and Fibbers. Tomatoes are used in the preparation of soup, salad, pickles, ketchup, puree, and sauces and also consumed as a vegetable in many other ways. Higher yield is of no importance if the farmer does not get the remunerative price for his produce. Thus the marketing assumes significant importance to the farmer for getting higher income from the vegetable cultivation. If a grower wants to make profitable production, he must produce good quality of vegetable to acquire the specified market needs. Thus the grower's decision to cultivate various varieties of vegetables would largely depend upon the demand and preferences of the consumer's prevailing in the market. Some time vegetable producer are in the lack of contact with the market channel and consequently do not get the fair price of their produce which they obtain after putting a lot of labour and capital. The study of marketing cost and margins is useful both for the producer (seller) and consumer. A reference to the marketing costs and margins would show whether the service of the intermediaries are provided at reasonable cost or not. Moreover, the study of the marketing margins can be used to fix market functionaries and judge the efficiency of marketing system. There is great variation in prices from lean period to peak period affecting marketing costs and margins and producer's share in consumer's rupees and ultimately affecting the farmer's income. Thus the farmers, especially marginal and small can increase their income and employment from production of tomato.

Materials and Methods

Chitrakoot district is a promising district for tomato cultivation under protected condition; therefore the study was conducted in a leading tomato producing district of Uttar Pradesh. The study was conducted on the basis of both primary and secondary data. The primary data on socio-economic aspects of tomato growers; such as family size, educational status, size of land holding, source wise income, employment, etc. and data on farm activities pertaining to the agriculture year 2018-19, were collected personally by interviewing the farmers with the help of survey schedule. The secondary data were collected from various published and unpublished sources, such as reports, Journals, official records of government and other departments, websites, etc. In order to select farmer-respondents a list of the farmers growing tomato under protected condition was prepared for each selected block separately in consultation with different departments promoting under various schemes.

From each prepared list a sample of 10 farmers was drawn randomly. Thus, the study was conducted based on the data collected from a sample of 40 tomato growing farmers pertaining to the production year 2018-19. Survey and personal interview with farmers and intermediaries was conducted to study disposal pattern, the information on time and place of disposal of tomato were also collected. Simple statistical tools like averages, percentages, etc. were employed. Marketing channel is the path traced in the direct or indirect transfer of title of product, as it moves from a producer to an ultimate consumer. Market channel is the structure of intra-company agents and dealers, wholesalers and retailers through which the commodity, product or service is marketed. Information regarding marketing pattern revealed that there were three marketing channels were prevailing in the study area through which tomatoes moved from producer to ultimate consumer. These identified channels were;

Channel 1: Producer- wholesaler-cum-commission agent in main market (Karwi) - retailer-consumer

Channel 2: Producer- wholesaler-cum-commission agent in sub market (Pahari) - retailer-consumer

Channel 3: Producer - retailer- consumer

Marketing cost: Marketing cost is the actual expenses incurred in bringing the goods and services from the producers to the consumer. It included the transportation charges, packaging cost, commission charges, loading and unloading, mandi fee, weighing charges, etc. The cost incurred either in cash or in kind by the producer and middlemen involved in the sale and purchase of the tomato till the tomato reaches in the hands of consumer. The expenditure incurred in kind was converted into cash using appropriate prices, symbolically it can be written as;

$$C=C1+ Cm1 + Cm2 + Cmi$$

Where,

C = Total cost of marketing of the tomato.

C1 = Cost incurred by the producer.

Cmi = Cost incurred by ith middle-man in the process of buying and Selling the tomato,

Marketing Margin

In the present study marketing margin meant the remuneration that the intermediaries receive for the services rendered by them in moving the goods in the marketing channels. The margin was expressed on the following various measures;

- a) Absolute marketing margin (Ami) = $PR_i - (P_{pi} + C_{mi})$
- b) Percent marketing margin (Pmi) = $\frac{PR_i - (P_{pi} + C_{mi})}{P_{ui}} \times 100$

$$c) \text{ Mark-up margin (Mi) = } \frac{\text{PRi} - (\text{Ppi} + \text{Cmi})}{\text{Ppi}}$$

Where,

PRi = Total value of receipts per Qt. (sale price)

Ppi = Purchase value of goods per Qt. (purchase price)

Cmi = Costs incurred on mark

Price spread: Price spread here referred to the difference between price paid by consumer and price received by producer for an equivalent quantity of tomato as a percentage of price paid by consumer. The share of the producer as well as other intermediaries in the consumer's rupees was computed separately for each marketing channel using following formula;

$$\text{Price Spread} = \frac{Pe - Pf}{Pc} \times 100$$

Where,

Pe = Price paid by the consumer

Pf = Price received by the producer

Marketing Efficiency

Marketing efficiency was calculated using Acharya's (2004) approach. It is the ratio of price paid by the consumer to the total costs and margins.

$$\text{MME} = \frac{RP}{MC + MM} - 1$$

$$RP = FP + MC + MM$$

Where,

MME = The measure of marketing efficiency,.

RP = Price paid by consumer.

MC = Total marketing cost,

MM = Absolute marketing margin,

FP = Price received by grower,

Results

Price spread under selected marketing channels

1. Marketing of Tomato vegetable

Channel I: Producer → Consumer.

Channel II: Producer → Retailer → Consumer.

Channel-III: Producer → Wholesaler → Retailer → Consumer

Channel IV: Producer → Village trader → Retailer → Consumer.

The marketing channels were used by selected vegetable grower for disposal of their produce discussed in the Table 1 It revealed that all four channels were used by the farmer for disposal of Tomato vegetable in the study area. The most widely used channel for disposal of Tomato was channel III (P-W-R-C) which accounts 45.5 per cent of total disposed quantity of Tomato vegetable.

2. Price spread under selected marketing channels

Producer to consumer is the direct marketing channel of marketing. Consumer purchase required quantity of selected vegetables directly from the producer; hence consumer incurred lowest marketing cost. Table 2 revealed the total marketing cost incurred by producer, wholesaler, village trader and retailer in marketing of Tomato were Rs. 45/- per quintal, Rs.55 /- per quintal, Rs.78 /- per quintal and Rs. 93 /- per quintal respectively. The retailer’s margin in Channel-II, Channel-III, and Channel-IV were worked out Rs. 612 /- per quintal, Rs. 403/- per quintal and Rs. 373/- per quintal respectively. The wholesaler margin in channel-III was Rs. 270/- per quintal and village trader margin in channel-IV was Rs. 217/ - per quintal. The prices paid by consumer were Rs.1142/- per quintal, Rs. 1410/- per quintal, Rs.1473/- per quintal Rs.1643/- per quintal in Channel-I, Channel-II, Channel-III, and Channel-IV respectively.

3. Price spread in marketing of Tomato vegetable

Table 3 described the price spread of Tomato in channel-I the producers shares in consumer rupee was 96.09 per-cents while the marketing cost incurred by producer was 3.94 per-cents. The marketing cost incurred by Producer and Retailer in channel-II was 9.79 per cent. The price paid by the consumer was Rs. 1410/qt. in which producers share was 46.81 per cent. The marketing cost incurred by Producer, Wholesaler and Retailer in channel-III was 10.41 per cent. The price paid by the consumer in channel-III was Rs. 1473 /qt in which producers share was 43.11 per cent. The marketing cost incurred by Producer, Village trader and Retailer in channel-IV was 10.41 per cent. The price paid by the consumer in

Table 1: Channel wise disposal of Tomato Vegetable

Sr.No.	Channels	Farmers no.	Quantitiesold by Marginal	Quantity sold by Small	Quantity sold by Medium	Quantity sold by Large	Quantity sold by Average
1.	Channel I	10	30(19.4)	29(18.8)	30(19.1)	32(20.0)	29(18.6)
2.	Channel II	10	43(27.7)	42(27.3)	43(27.3)	43(26.9)	42(26.9)
3.	Channel III	10	69(44.5)	69(44.8)	70(44.6)	71(44.4)	71(45.5)
4.	Channel IV	10	13(8.4)	14(9.1)	14(8.9)	14(8.8)	14(8.9)
Total		10	155(100)	154(100)	157(100)	160(100)	156(100)

Table 2: To work out the price spread under selected marketing channels

<i>Marketing Cost incurred by Producer</i>				
	<i>Channel I</i>	<i>Channel II</i>	<i>Channel III</i>	<i>Channel IV</i>
1. Assembling/Preparing	5	5	5	0
2. Packing	5	5	5	0
3. Loading/Unloading	5	5	5	0
4. Transport	15	15	15	0
5. Tax	5	5	5	0
6. Spoilages	5	5	5	0
7. Other	0	0	0	0
8. Marketing Cost Total	45	45	45	0
9. Selling Price of Producer	1142	705	680	655
<i>Marketing Cost Incurred By Wholesaler</i>				
1. Assembling/Preparing	0	0	6	0
2. Packaging	0	0	7	0
3. Loading/Unloading	0	0	10	0
4. Transport	0	0	30	0
5. Tax	0	0	1	0
6. Spoilages	0	0	3	0
7. Other	0	0	6	0
8. Marketing Cost Total	0	0	55	0
9. Market Margin of Wholesaler			625	
10. Selling Price of Wholesaler			950	
<i>Marketing Cost Incurred By Village Trader</i>				
1. Assembling/Preparing	0	0	0	10
2. Packaging	0	0	0	20
3. Loading/Unloading	0	0	0	10
4. Transport	0	0	0	30
5. Tax	0	0	0	10
6. Spoilages	0	0	0	15
7. Other	0	0	0	10
8. Marketing Cost Total	0	0	0	78
9. Market Margin of Village Trader	0	0	0	217
10. Selling Price of Village Trader	0	0	0	950
<i>Marketing Cost Incurred By Retailer</i>				
1. Assembling/Preparing	0	5	0	5
2. Packaging	0	5	0	5
3. Loading/Unloading	0	3	0	4
4. Transport	0	10	0	15
5. Tax	0	3	0	3
6. Spoilages	0	5	0	4
7. Other	0	2	0	3
8. Marketing Cost Total	0	93	93	93
Market Margin of Retailer	0	612	403	373
Selling Price of Retailer/Purchase Price of Consumer	1142	1410	1473	1643

Table 3: Price spread in marketing of Tomato vegetable

S.No.	Particulars	Total Price (Rs./qtl.)			
		Channel I	Channel II	Channel III	Channel IV
1	Net price received by producer	1097 (96.06)	660 (46.81)	635 (43.11)	655 (39.87)
2	Total Marketing cost incurred by producer, wholesaler, retailer, village trader	45 (3.94)	138 (9.79)	193 (13.10)	171 (10.41)
3	Total market margin of wholesaler and retailer	0 (0.0)	612 (43.40)	430 (29.19)	600 (36.52)
4	Selling price of retailer/purchase price of consumer	1142 (100)	1410 (100)	1473 (100)	1643 (100)

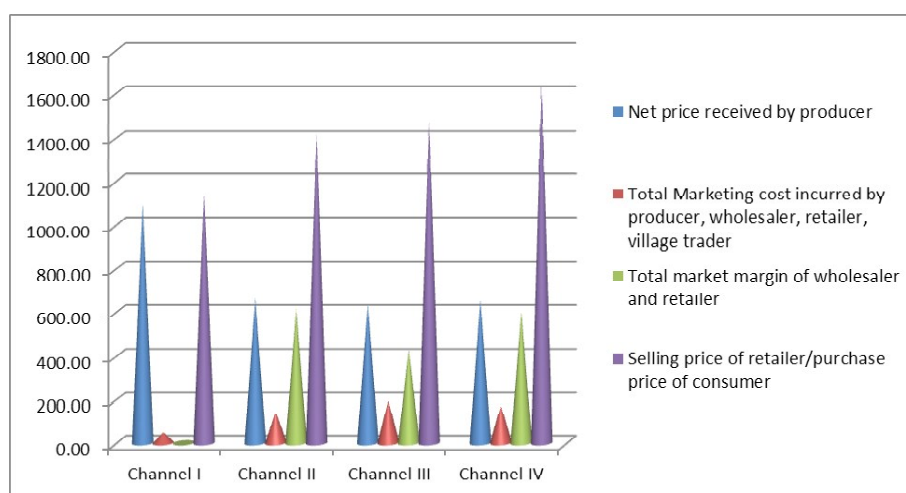


Figure 1: Price spread in marketing of Tomato vegetable

channel-III was Rs. 1643/qt in which producers share was 39.52 per cent. Highest market margin was observed in Channel-II i.e. 43.40 per cent. It was found that comparatively channel-I found more profitable than channel-II channel-III and channel-IV in Tomato marketing in chitrakoot district.

Conclusion

The most widely used channel for disposal of Tomato was channel III (P-W-R-C) which accounts 45.5 per cent of total disposed quantity of Tomato vegetable. The total marketing cost incurred by producer, wholesaler, village trader and retailer in marketing of Tomato were Rs. 45/- per quintal, Rs.55 /- per quintal, Rs.78 /- per quintal and Rs. 93 /- per quintal respectively. The retailer’s margin in Channel-II, Channel-III, and Channel-IV were worked out Rs. 612 /- per quintal, Rs. 403/- per quintal and Rs. 373/- per quintal

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