



## **An Economic Analysis of Marketing of Tomato (*Lycopersicon esculentum*) in Prayagraj District of U.P.**

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### **Abstract**

*The main aim of this study was to examine the nature and extent of investment involved in marketing of tomato in Soraon block of Prayagraj district, Uttar Pradesh. Three main marketing channels were indentified through which Tomato passes from producer to consumer. The total market cost was higher in channel III (Rs.626.00) compared to channel-I (Rs.145.00) and channel-II (Rs. 305.00). A total marketing margin and price spread of Rs. 990.00 and Rs. 1464.00 was realized in channel II and III respectively, which happens to be higher in channel-III than channel-II because, channel-III there are four intermediates, where as in the channel-I and channel-II there is only one, and two intermediate. The producer share in consumer rupee was also higher in channel-I (85.50%) than channel-II (82.14%) and channel-III (65.68%). Likewise the marketing efficiency it was found to be higher in channel-I (5.90%) than channel-II (3.71%) and channel-III (1.56%). Heavy damages and loss of produce at time of transportation, seasonal glut and lack of technical know-how on processing are consider being the major constraints that hinders and affect tomato marketing; unpredictable market, lack of government support on losses and glut and price instability are more severe in the study area. Regular power supply may be ensured to the cold stores particularly in the summer months. Quality testing laboratory for tomato may be set up at in Prayagraj district. It will help the tomato traders in the export of the produce.*

**Key words:** Marketing channels, marketing efficiency, marketing margin, heavy damages, technical knowhow, unpredictable market, glut, producer share in consumer rupee, Soraon, Prayagraj, Uttar Pradesh.

### **I. Introduction**

Marketing of tomatoes is done by middlemen present in vegetable markets who are least interested in farmers or consumers well-being. The middlemen involved in the supply chain of tomatoes can be classified into two categories, namely, the market commissioning agents and traders. Market commissioning agents operate at the market level and pay a fixed percent of charges to the government. Traders, on the other hand, are wholesalers who purchase tomatoes from one market or directly from farmers and sell the latter to markets of other states to realize the profits on their purchase. Market commissioning agents maintain a good relationship with the

same professionals operating at other markets all over India. These middlemen are supposed to play a vital role in matching demand with supply in the market. India has experienced a tremendous change in the supply pattern of tomatoes, particularly from the local supply in urban areas to the global supply chain. In one way this can be interpreted as farmers getting an opportunity to sell in the market situated in any part of India. A majority of the Indian population living in urban cities are engaged in non-farm industrial activities with high incomes. These urban cities have become major markets with a high demand for vegetables like tomatoes. This latent demand is satisfied by supply from rural villages that are major producers and supplier of tomatoes. Thus, it is important to maintain regularity in the supply of essential commodities at reasonable prices for different classes of urban consumers. Government should intervene to ensure supplies of essential commodities to all cities with price control.

## **II. Research Methodology**

Buxi Bandhin the Prayagraj District of U.P is the main market where the marketing of Vegetables from the Soraon Block area takes place. Therefore this market is purposively selected for the study of price spread in the marketing of tomato. Buxi Bandh is basically primary Market, where the producer/farmer brings the Vegetables for sale and from there it is dispatched to different parts of Prayagraj district and also to different parts of the states. The means of transport varies according to the distance of the village and the quality of the Vegetables brought to the market. Rickshaw, Ekka, Tractor, Tempo, Thela, etc; are some of the common means of transportation for outside disposal mostly the trucks are used for transportation. A list of all market functionaries of both primary and secondary market was prepared with the help of market head out of total market functionaries 20% market functionaries were selected randomly from the Buxi Bandh Market of Prayagraj District for the present study. These market functionaries were considered for data collection regarding different marketing cost, marketing margins, and other marketing charges in different marketing channels. An attempt was made to collect primary data. In this survey, the method was used for the collection of primary data. In conducting the survey a detailed three pre-tested schedules were used for farmers, wholesalers, retailers, commission agents and consumers.

## **III. Results and Discussion**

**Producer → Consumer-** the average marketing cost of tomato for the channel (I) in the study area is Rs. 145.00/qtl. Sorting and grading (Rs. 35.00/qtl) and transportation (Rs. 30.00/qtl) charges were among the highest percentage of the total cost; miscellaneous charges which were Rs. 20.00/qtls loading and unloading cost Rs. 20.00/qtl, market fee Rs. 15.00/qtl. The producer net share was 85.50% in consumer price. Producer sale price to the consumer was Rs. 1000/qtl and the price spread was Rs. 145.00/ha with marketing efficiency of 5.90%.

**Producer → Village merchant → Retailer → Consumer-** the average marketing cost of tomato incurred by the producer and village merchant for the channel (II) in the study area is Rs. 145.00/qtl and Rs. 16000/qtl respectively. The producer net share was 71.79 in consumer price; village merchant net share was 70.71%. Producer sale price to the consumer was Rs. 1150/qtls and the price spread was Rs. 1295.00/qtls. This channel was also considered as the good channel with a minimum number of market functionaries hence the marketing efficiency was 3.59%.

**Producer → Village trader → Wholesaler → Retailer → Consumer-** is the longest channel for tomato marketing. Therefore, most of the growers do not prefer to sale their produce through this channel due to the maximum involvement of middlemen. The average marketing cost when producers sold their produce to the village merchant is Rs. 136.00/qtl; village merchant to wholesaler was found to be Rs. 160/qtl; wholesaler to retailer was Rs. 180.00/qtl and retailer to ultimate consumer was found to be Rs. 150.00/qtl. Among these cost, miscellaneous charges was most important which accounted for Rs. 30/qtl followed by transportation cost Rs. 30.00; sorting and grading Rs. 25/qtl; loading and unloading cost Rs. 16/qtl; market (mandi) fees was Rs. 15/qtl and weighing charges Rs. 20.00/qtl. The net price received by the producer was Rs. 664.00/qtl. Sale price of the producer to the village merchant was Rs. 800.00/qtl, also the marketing cost of the producer; village merchant/commission agents;

**Table 1: Marketing cost marketing efficiency and price spread for different channels in study area. (Rs. /qtls)**

Particulars	Channel-I	Channel-II	Channel-III
Total marketing cost	145.00 (9.67)	305.00 (21.79)	626 (39.13)
Total marketing margins	145.00 (14.50)	990.00 (70.71)	1464.00 (91.5)
Price spread	145.00 (9.67)	1295.00 (92.5)	1426.00 (89.13)
Producer share in consumer rupee in %	85.50%	82.14%	65.68%
Marketing efficiency in %	5.90%	3.71%	1.56%

(Note: figures in the parenthesis indicates percentage to the total)

wholesaler and retailers was found to be 8.50%, 10.00%, 11.25%, and 9.38% of consumer's paid price respectively. The retailer's margin was higher Rs. 550.00/qtl followed by wholesaler margin (estimated) as Rs. 300.00/qtl, and village merchants margins was Rs.200.00/qtl. Producer share in consumer price was 4.73%. Price spread was Rs. 1426.00/qtl in different size of farms groups. The marketing efficiency (1.56%) of channel-III is very low if compared to the channel-I and channel-II. Hence, this channel was considered as the poorly performing channel to follow for the producer.

### **Estimated marketing cost marketing efficiency and price spread in different channels**

Table 1 below reveals that the total marketing cost marketing margin, price spread, producers share in consumer rupee and marketing efficiency in all the three marketing channels. The total market cost was higher in channel III (Rs.626.00) compared to channel-I (Rs.145.00) and channel-II (Rs. 305.00) respectively. A total marketing margin and price spread of Rs. 990.00 and Rs. 1464.00 was realized in channel II and III respectively, which happens to be higher in channel-III than channel-II. Channel-III has four intermediates, where as in the channel-I and channel-II there is only one, and two intermediate. The producer share in consumer rupee was also higher in channel-I (85.50%) than channel-II (82.14%) and channel-III (65.68%)

respectively. Likewise the marketing efficiency was found to be higher in channel-I (5.90%) than channel-II (3.71%) and channel-III (1.56%).

### **Marketable and marketed surplus of tomato**

The high marketable surplus was due to the perishable nature of the tomato that it cannot be stored for a long period of time. Hence, the farmers cultivated tomato mainly for sale in the market to generate profit, which resulted in a high marketable surplus for tomato in the study area. The marketable surplus for tomato in the area was found to be 327.55, 337.53 and 356.89 quintals per farm which constituting (98.92%), (99.86%) and (99.29%) to their total tomato production. And rest quantity used for home consumption and gifts to the relatives and dears ones. The marketable surplus was also higher in large size group as compared to medium and small farm size groups. This increase shows that more production at large farms comparatively too small and medium farms.

### **Constraints**

The result on table 2; and fig. 1 reveals that the major problems affecting the marketing of Tomato in the study area, are heavy damages and loss of produce at time of Transportation (96.67); lack of technical know on processing (93.33); seasonal glut (86.67); lack of government support on losses and glut (78.33) and poor market infrastructure (71.67). Other problems such as an unpredictable market, lack of government support on losses and glut and price instability are more severe in the study area.

**Table 2: Constraints affecting tomato marketing in the study area.**

<b>Constraint in tomato marketing</b>	<b>Frequency (%)</b>	<b>Rank</b>
Heavy loss of produce at time of transportation	58 (96.7)	1 <sup>st</sup>
Lack of government support on losses and glut	47 (78.3)	4 <sup>th</sup>
Lack of technical knowhow on processing	56 (93.3)	2 <sup>nd</sup>
Poor market structure	43 (71.7)	5 <sup>th</sup>
Poor packaging materials	9 (15)	9 <sup>th</sup>
Poor transportation facility (village to market)	27 (45)	7 <sup>th</sup>
Price instability	36 (60)	6 <sup>th</sup>
Seasonal glut	52 (86.7)	3 <sup>rd</sup>
Unpredictable market	11 (18.3)	8 <sup>th</sup>

### **IV. Conclusion**

This study goes in line with the report of Shankara Naika et al. (2005), on the issue of heavy damages and loss of produce at time of harvesting post harvesting period and period of transportation in which he also reported that; harvesting on time and proper post harvest treatment of the fruit is very important. The high water content of tomatoes makes them vulnerable to post-harvest losses. Over mature fruit gets easily damaged or starts rotting. Findings also agreed with the report of Sharma, et al. (2003).that the export competitiveness of

tomato and its products can be improved through improved techniques of production and processing and also by providing adequate government support for making production and marketing of these products more economical,. The establishment of market infrastructure measures may also help in improving competitiveness in the market.

### **Implications of the study**

- The first measure to help limit the extent of postharvest damage is harvesting at the right moment.
- Modern market infrastructure may be built in the regulated markets by the Uttar Pradesh Mandi Board / State Government.
- Regular power supply may be ensured to the cold stores particularly in the summer months. Quality testing laboratory for tomato may be set up at in Prayagraj district. It will help the tomato traders in the export of the produce.
- The State Union Government may provide financial / technical / logistic support to the tomato growers for cooperative / group marketing.

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