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A study on marketing of potatoes in Sabarkantha district of Gujarat state

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Abstract

The study was carried out with a view to analyse marketing cost, margin and price spread of potatoes and main constraints faced by the farmers in production and marketing of potatoes in Sabarkantha district of Gujarat State, a total of 126 farmers were selected for this study. Idar Agricultural Produce Market Committee was selected purposively because the market showed the highest arrivals of potatoes in the district and a representative sample of 30 market functionaries such as wholesalers and retailers dealing with potatoes were selected from the area covered by market. Both primary data and secondary data were collected for the study. The various statistical tools such as average, tabular analysis indices *etc.*, were adopted for analytical procedure. The results indicated that, the total price spread was 33.75 percent of consumer's price when produce was sold through wholesalers and retailers. The consumer's paid higher prices (₹ 1078.94 per quintal) for potatoes, but 33.75 percent advantage of higher price had gone into the pocket of intermediaries, while rest of the 66.23 percent advantages went to the producers of Sabarkantha district. The major problems faced by the potatoes growers were price instability, high storage charges, high transportation cost, lack of storage credit facilities and inadequate storage facilities. The cold storage charges are very high so Government should introduce subsidies to reduce the cold storage charges to cold storage owners.

Keywords: Marketing of potatoes, Sabarkantha district, cold storage charges

Introduction

Potatoes (*Solanum tuberosum* L.) belong to the family Solanaceae is one of the most popular vegetables grown all over the world. It can be rightly called as the "King of Vegetables." It is assumed that at the beginning of the 17th century the Portuguese navigators first brought potatoes in India. The first record about the cultivation of potatoes in India is seen in the year 1847 in the issues of "The Gardening Monthly," a magazine published from London. Initially, potatoes were cultivated in areas around Calcutta, from there it's cultivation spread to Cherapunjee. By the 19th century, potatoes were widely grown throughout the country (Marwaha *et al.*, 2003) [9].

The average consumption of potatoes in many countries of the world *viz.*, Netherlands, Russia, China, Belgium, France and Canada varies from 50 to 175 kg of tubers *per capita* per annum, both as fresh and processed, whereas in India, it is less than 15 kg. Our diet consists of nearly 2.5 percent of potatoes. In several industrially advanced countries of Europe and America, 50 to 60 percent of the daily diets are derived from potatoes (<http://www.faostat.fao.org>). In India, an average person eats nearly 40 g of raw potatoes per day which provides about 45 calories or only about one fiftieth equivalent (1/50th) of the daily energy requirement (2200 cal. per day) (<http://www.fao.org>).

The nutritional qualities of potatoes often go unrecognized by as many people have myths about potatoes being only a source of starch contributing to weight and obesity. But potatoes almost completely lacks fats or has it in a very low amount (0.1-0.2%), a substance with twice the calorie value of carbohydrates. Potatoes can thus be consumed in much larger quantities without running the risk of becoming fat (Chadha, 1994) [4]. Potatoes is one of the most important and popular vegetables available through the year in all parts of India. Potatoes are an ideal crop that is highly efficient in converting sunlight into nutritious food.

The success of the potato cultivation by and large depends upon how the farmers get remunerative price as well as higher share in consumer's rupees. Assuming the significance of potato marketing the study has been undertaken with following objectives:

- To measure Marketing cost, margin and price spread of potatoes

- To identify the main constraints faced by the farmers in potatoes production and marketing of potatoes

Methodology

This study was carried out in Sabarkantha district of Gujarat State, the sampling technique adopted was multi-stage (three stages) random sampling. Potatoes cultivation in the state of Gujarat is largely concentrated to Banaskantha, Sabarkantha, Gandhinagar, Mehsana and Kheda. Hence, Sabarkantha district was selected purposively based on its accessibility and relevance of the study. Two taluka Modasa and Idar were selected purposively where high potential and production of potatoes is practiced. Three villages from each selected taluka were selected randomly. Total of six villages were selected for the study. From each selected villages, 21 farmers were selected by sampling method. Thus, a total of 126 farmers were selected for this study. Idar Agricultural Produce Market Committee was selected purposively because the market showed the highest arrivals of potatoes in the district and it is the only regulated market for selling of potatoes. From the selected market a representative sample of market functionaries such as wholesalers and retailers dealing with potatoes were selected from the area covered by market. In all, 30 market functionaries were selected. The cold storage information was also collected from the selected farmers by personal interview.

Both primary data and secondary data were collected for the study from the selected farmers, the primary data were collected on the area covered by potatoes, cost incurred in inputs, cost of cultivation, prices received, the quantity sold, the output, net profit earned and cold storage information *etc.* This information was collected through personal interviews with the farmers with the help of pre-tested schedule for the year 2013-14. Similarly, relevant information on the quantity of potatoes brought for processing, transportation cost, investment cost, raw materials used for processing, output of

processed potatoes, the quantity sold, prices received, net profit earned and value added due to processing *etc.*, were obtained from the selected processors. This information was also collected through personal interviews of the selected processors with the help of pre-tested schedules for the year 2013-14. The various statistical tools such as average, tabular analysis indices *etc.*, were adopted for analytical procedure. The Marketing Efficiency was estimated by using

(a) Shepherd's formula,

$$ME = (V/I) - 1$$

Where,

$$\begin{aligned} \text{M.E.} &= \text{Marketing Efficiency} \\ V &= \text{Total value of the produce sold ₹/qtl.} \\ I &= \text{Total cost of marketing ₹/qtl.} \end{aligned}$$

(b) Acharya's formula was used as given below

$$\text{M.E.} = \frac{\text{Net price received by farmers}}{\text{Total marketing cost and margins}}$$

Results and Discussions

Marketing cost, margin and price spread of potatoes

The marketing cost and margin influence the return to the producers as well as cost to the consumer. The knowledge of price spread helps in improving the operational efficiency of marketing system and rationalizing the margins and reducing the costs.

Price spread

Price spread refers to the difference between price paid by the ultimate consumer and the price received by the producer for equivalent quantity of the produce.

Marketing cost incurred by potatoes growers

Table 1: Marketing cost incurred by potatoes growers (n = 126)

S. No	Charges	Charges on sales (without storing in cold storage) (₹/qtl.)	Charges on sale (after storing in cold storages) (₹/qtl.)	Overall cost (₹/qtl.)	Percentage
Sabarkantha district :					
1.	Grading and packing	22.25	23.51	22.88	17.01
2.	Loading, unloading and weighing	2.96	5.12	4.04	3.00
3.	Transportation	20.34	21.39	20.87	15.52
4.	Storage	10.53	145.63	78.08	58.07
5.	Spoilage and other	2.42	14.73	8.58	6.38
	Total	58.50	210.38	134.44	100.00

Figures in parentheses indicate percentage to total of the respective column.

The major cost component for the producers was storage charges, which accounted 58.07 percent of the total cost. The grading and packing charges and transportation charges were accounted 17.01 and 15.52 percent of the total marketing cost incurred by the growers of Sabarkantha district. In case of producers, who sold potatoes after storing in cold storage had to bare maximum storage charges of ₹ 145.63 per quintal. The total marketing cost was estimated as ₹ 210.38 per quintal when potatoes sold after storing in cold storage in Sabarkantha district. Besides, such a high cold storage charges taken from the potatoes growers in the study area is the eye catching feature. The study revealed that the cold storage charges observed considerably higher than other cost

components. Similar result was found in the study conducted by Singh *et al* (1996) ^[11].

Marketing cost incurred by wholesaler

Table 2 shows cost incurred by wholesaler was worked out as ₹ 19.12 per quintal, which was 1.77 percent of the consumer's price. It includes the highest storage cost (0.88%) followed by loading, unloading and weighing charges (0.34%), inter market transport cost (0.33%) and market fee (0.22%) of the consumer's price. The wholesaler's cost was less as compared to retailers due to their higher risks like storage and large purchasing besides perishable nature of potatoes they sold immediately after purchasing.

Table 2: Cost of marketing of potatoes incurred by wholesaler (n = 126)

S. No	Trade level	Cost (₹/qtl.)	Percent to consumer price
1.	Inter market transport cost	3.56	0.33
2.	Market fee	2.35	0.22
3.	Loading, unloading and weighing charges	3.64	0.34
4.	Storage and spoilage charges	9.57	0.88
	Cost incurred	19.12	1.77

Marketing cost incurred by retailers

Table 3 data reveals that the cost incurred by retailers was worked out as ₹ 27.01 per quintal, which was 2.50 percent of the consumer's price. It includes the highest transportation cost (1.04%) followed by spoilage charges (0.67%), grading

(0.43%), labour charges and weighing (0.36%) to consumer's price. Cost incurred by retailer was high as compared to wholesaler due to long distance between market and selling area.

Table 3: Cost of marketing of potatoes incurred by retailers (n = 126)

S. No	Trade level	Cost (₹/qtl.)	Percent to consumer price
1.	Transportation	11.23	1.04
2.	Grading	4.67	0.43
3.	Labour charges and weighing	3.89	0.36
4.	Storage and spoilage charges	7.22	0.67
	Cost incurred	27.01	2.50

Estimates of producer's share, marketing cost and margins
The costs, margin and producers share in consumer's rupees

are analysed for Channel-I only and the results are given in Table 4.

Table 4: Estimates of producer's share, marketing cost and margins for Potato growers (n = 126)

S. No	Items	Sabarkantha	
		₹ Per quintal	Percentage to consumer's price
1.	Net price received by producer	714.66	66.25
2.	Cost incurred by producer	134.44	12.46
3.	Producer's sale price	849.10	78.69
4.	Cost incurred by wholesaler	19.12	1.77
5.	Net margin of wholesaler	17.36	1.60
6.	Price paid by retailer	885.58	82.08
7.	Cost incurred by retailer	27.01	2.50
8.	Net margin of retailer	166.35	15.41
9.	Consumer's price	1078.94	100.00
10.	Total cost of marketing	180.57	16.73
11.	Total marketing margin	183.71	17.02
12.	Total marketing cost and margin	364.28	33.75
13.	Producer's share in consumer's rupees	-	66.25

Because, in Channel-I produce moved from producers to consumer through wholesalers and retailers dealing 97.85 percent of total market trade for potatoes in Sabarkantha district. Therefore, this channel has been considered as better for estimating cost and margins.

It can be observed from the Table 4 that the net price received by the growers was ₹714.66 per quintal, which accounted 66.23 percent producer's share in consumer's rupee. The average expenses incurred for the marketing of potatoes by the producers, wholesalers, retailers were 12.46, 1.77 and 2.50 percent to consumer's purchase price, respectively. The retailer's share in consumer's rupees was about 15.41 percent followed by wholesalers 1.60 percent to consumer's price.

The total price spread was observed 33.75 percent of consumer's price when produce was sold through wholesalers and retailers. The consumer's paid higher prices (₹ 1078.94 per quintal) for potatoes, but 33.75 percent advantage of higher price had gone into the pocket of intermediaries, while rest of the 66.23 percent advantages went to the producers of Sabarkantha district. The results are in conformity with the study conducted by Leua (2001) [7].

Problems of marketing of potatoes

The perusal of the data presented in Table 5 reveal that, "high storage charges" was the main problem faced by 52.38 percent potatoes growers and was ranked second.

Table 5: Problems faced by farmers in potatoes marketing (n = 126)

S. No	Problems	Frequency	Percentage	Rank
1.	Inadequate storage facilities	44	34.92	V
2.	High storage charges	66	52.38	II
3.	Price instability	72	57.14	I
4.	Lack of marketing information to the farmer	34	26.98	VII
5.	High transportation cost	53	42.06	III
6.	Non-remunerative price for potatoes	42	33.34	VI
7.	Inadequate Institutional facilities	28	22.23	VIII
8.	Lack of storage credit facilities	47	37.30	IV

This was followed by "price instability" *i.e.*, high seasonal price variation was observed during marketing season as reported by 57.14 percent of potatoes growers and was ranked first. The constraint *viz.*, high transportation cost (42.06%) obtained third rank. While lack of storage credit facilities (37.30%) and inadequate storage facilities (34.92%) secured fourth and fifth rank, respectively. Non-remunerative price for potatoes (33.34%), lack of marketing information to the farmers (26.98%) and inadequate institutional facilities (22.23%) received VI, VII and VIII ranks, respectively.

This result indicates that, the major problems faced by the potatoes growers were price instability, high storage charges, high transportation cost, lack of storage credit facilities and inadequate storage facilities.

The important problem faced by the farmers was high storage charges. This may be due to the fact that construction of cold storage requires high cost, for which owner has to take the loan. On the other hand the electric charges were also high. As a result they are charging high rent from the farmers in order to maintain their profit.

The second important problem faced by the farmer was price instability. Potatoes are a risky crop and its production is uncertain, if season favours farmers get bumper production in case of several diseases production goes down and hence the prices are fluctuating every year, secondly potatoes is a perishable crop. This finding is supported by Akramul-Haque (1997-1998) and Anonymous (2001) ^[2].

Conclusion and Policy Implication

The study brought out that the sale of potatoes of selected farmers in market is done by Channel-I and Channel-II, among which Channel-I was more popular than Channel-II. The per quintal net price received by the producers of Sabarkantha district was ₹ 714.66, which was 66.23 percent of consumer's price. Auction sale was prevalent in market. The charges of commission agent were also paid in market. The marketing cost paid by producers was higher (₹ 134.44 per quintal) than retailer (₹ 27.01 per quintal) and wholesalers (₹ 19.12 per quintal). The major items of marketing cost for producers were transportation, grading and packing, sewing and barden, loading and unloading and storage charges. In market the retailer's profit was 15.41 percent of consumer's price, which is very high as against to wholesaler's profit. In the market the price spread was higher ₹ 364.28 per quintal, which was 33.75 percent of consumer's price. The major problems faced by the potatoes growers were price instability, high storage charges, high transportation cost, lack of storage credit facilities and inadequate storage facilities.

The farmers are compelled to sell their produce in the market just after the harvest because of their immediate cash needs. So adequate and timely credit may be provided to potatoes growers through co-operative credit societies and other institutional agencies. There are only four regulated markets for vegetables in the Sabarkantha district. It is not fully functioning so Government should start more regulated markets at taluka level. The cold storage charges are very high so Government should introduce subsidies to reduce the cold storage charges to cold storage owners. Government should declare minimum support price for potatoes and purchase the same if market price falls below that level.

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