

Marketing Analysis of Potato Crop in Telangana State

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ABSTRACT: In Telangana state the estimated gross income from one hectare of Potato crop was Rs.1, 12,800, with a net income Rs.63, 440 and benefit cost ratio was 1.7 which indicated the production profitability of crop. Most of the quantity of potato is sold through APMC i.e. 94.90% in the study area, because there is a lot of chance for purchase of produce by any of the buyers or commission agents at APMC from where it moves to the other parts of the state. Remaining less quantity is sold through local wholesalers and retailers directly. The major constraints include the price fluctuations, lack of cold storage facilities, spoilage losses and fault in weighing faced by the different stake holders involved in the marketing channels. Promoting the export of the produce in case of glut in the market, establishment of cold storages at farmers level, modernize the APMCs, and reduce the entry barriers for the organized retail were the major policy changes required to improve the strategy of potato marketing in Telangana state.

Keywords: Constraint analysis, marketing channel, market committee, Potato

Abbreviations: APMC- Agricultural Produce Market Committee

INTRODUCTION

Potato is the fourth most important food crop in India after rice, wheat and maize. It is a nutritionally superior vegetable due to its edible energy and protein. In India, Potato is cultivated in almost all states under diverse agro-climate conditions and bulk of the potatoes are grown in winter season under short day conditions and harvested from January to March. About 85% of potatoes are cultivated in Indo-gangetic plains of North India. Uttar Pradesh (138.69 lakh tonnes), West Bengal (115.50 lakh tonnes) Bihar (68.42 lakh tonnes), Gujarat (24.99 lakh tonnes) and Punjab (21.29 lakh tonnes) are the major states producing the Potato crop in India. The farmers in study area purchase seed potato from Agra and harvested produce mainly sold in the regulated markets. In Telangana, Hyderabad is the major market which attracts the largest share of arrivals of vegetables, from where the produce will move to the other parts of the state. The major arrivals of Potato in these markets are from December to March months corresponding to *rabi* crop harvest. During off-season Potato from other states like Punjab and Uttar Pradesh will arrive in these markets. The crop is important in human diet and also provides quicker income to the farmers. But

the fluctuating prices, more production costs, existence of large number of intermediaries, unorganized marketing etc decreases the efficiency of Potato marketing. In the light of these facts, the study was undertaken to study the production and marketing strategies and constraints analysis of different stake holders in marketing of potato.

METHODOLOGY

Four stage sampling technique was used for the selection of district, mandals, villages and respondents. Medak district was purposively selected for the study as it is the highest potato producing district in Telangana with an area of 4,297 ha and production 38,853 tonnes. The two mandals in the district *viz.*, Zaheerabad and Jharasangam which have largest area under potato were selected purposively for the present study. Two villages from each selected mandal were chosen purposively making the total number of villages to four with a sample of 120 farmers.

All the necessary information required was collected through survey method, by personally interviewing the farmers using the pre-tested schedule. An opinion survey was carried out to

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identify the marketing problems of potatoes. The secondary data regarding the arrivals and prices of the regulated markets along with related information were collected from market committee records.

The study was conducted during the months of January to April 2014, and the data pertaining to the Agricultural year 2013-14, was collected

Constraints Perceived by the Stake Holders

Garrett's Ranking Technique

$$\text{Percent position} = \frac{100 (R_{ij} - 0.50)}{N_{ij}}$$

Where,

R_{ij} is the rank given by i^{th} item by j^{th} individual

N_{ij} is the number of items ranked by the j^{th} individual

RESULTS AND DISCUSSION

Cost of Cultivation of Potato in Medak District

The cost of cultivation of Potato crop was represented in the Table 1

From the Table 1 it was revealed that the total costs incurred on potato crop was Rs.49, 358.40 per hectare of which fixed costs amounted for Rs.11, 537.50 (23.75%) and variable costs accounted for Rs.37,820.90/ha (76.25%). The major expenditure was on seed and labor costs which accounted for 52.25 per cent of the total cost. The average yield per hectare was 120 quintals and the average price per quintal was Rs. 940.

It is evident from the Table 2 that there was no leasing activity among the sample in the study area farmers and hence Cost A1 and Cost A2 remained the same. The total per hectare cost of cultivation (Cost C) of potato crop was worked out to Rs. 49358.40. Cost A1/A2 was estimated at Rs. 36035.40. Cost B was estimated to be Rs. 47271.50.

Measures of Farm Income of Potato Farmers

The estimated gross income from one hectare of potato crop was Rs. 112800.00. Although gross income is a good measure to gauge the productivity and efficiency of the farm, but it alone does not reveal the success of a farm business. Hence, net income of the farmer was analyzed. Higher the net income, more success is the farm business. The potato farmers realized a net income of Rs. 63441.57 per hectare. The farm business income realization per hectare was Rs. 76764.60. The family labor income earnings per hectare were Rs. 65528.50. The farm investment

Table 1
Cost of cultivation of potato per hectare (Rs/ha)

S. No	Particulars	Costs
Variable costs		
1	Owned human labor	2086.90 (4.20)
2	Hired human labor	4606.00 (9.30)
3	Bullock labor	1555.00 (3.15)
4	Machinery	5235.50 (10.60)
5	Seed	12385.70 (25.00)
6	FYM	3250.00 (6.50)
7	Fertilizer	2745.00 (5.50)
8	Plant protection	1302.70 (2.60)
9	Repairs and maintenance	601.90 (1.20)
10	Interest on working capital	4052.20 (8.20)
	Subtotal (A)	37820.90 (76.25)
Fixed costs		
1	Land revenue	20.00 (0.04)
2	Rental value of owned land	10000.00 (20.25)
3	Depreciation	281.30 (0.60)
4	Interest on fixed capital	1236.16 (2.50)
	Subtotal (B)	11537.50 (23.75)
	Grand total (A+B)	49358.40 (100.00)
	Average yield (Qtl/ha)	120
	Average price (Rs/Qtl)	940

Note: Figures in the parentheses show percentage to the grand total.

Table 2
Cost concepts of potato farmers on per hectare basis (Rs/ha)

S. No	Particulars	Costs
1	Cost A1/A2	36035.40
2	Cost B	47271.50
3	Cost C	49358.40

income realization on per hectare basis was Rs. 74677.70. B.C Ratio was worked out as 1.7 as shown in Table 3.

Table 3
Farm income measures of potato farmers on per hectare basis

S. No	Particulars	Income in Rs
1	Gross income	112800.00
2	Farm business income	76764.60
3	Family labor income	65528.50
4	Net income	63441.57
5	Farm investment income	74677.70
6	B:C Ratio	1.7

Marketing Channels Involved in Potato Marketing in Study Area

The marketing channels are linked with the chains of intermediaries involved at various levels of marketing for smooth distribution of the products. The channels are generally determined by the factors like location of growers, distance of the market centers, townships, processing units etc.

The Major Marketing Channels Identified Are

1. Producer - APMC- Wholesaler- Retailer- Consumer (P-APMC-W-R-C)
2. Producer - APMC- Super market- Consumer (P-APMC-SM-C)
3. Producer - APMC- Processor- Consumer (P-APMC-PR-C)
4. Producer - Wholesaler- Retailer- Consumer (P-W-R-C)
5. Producer - Retailer- Consumer (P-R-C)

1. Marketing Channel- I (P-APMC-W-R-C): This channel involved producer, APMC, wholesaler, retailer and consumer. The growers brought the produce to the APMC who bear the cost of harvesting, transportation, packing and commission charges etc. Most of the farmers prefer to sell their produce in the APMC. Because in the APMC more number of buyers will come to purchase the produce, there is lot of chance to sell their produce at APMC than the direct sale to wholesaler or retailer. In the presence of commission agent the farmer sells the produce to wholesaler. From the wholesaler local retailer purchases the potatoes and sells to the consumer.

2. Marketing Channel - II (P-APMC-SM-C): In this channel producer, APMC, super market and consumer are involved. The branded super markets like Reliance fresh, Heritage mart, Spencer's etc will purchase the potatoes from APMC and sell to the consumer. The operations done by the super markets include cleaning, grading, packaging and storing.

They provide some value addition to the produce at this level.

3. Marketing channel - III (P-APMC-PR-C): This channel involved the producer, APMC, processor and consumer. The processors included in the study are small and marginal. They purchase potatoes from APMC and prepare the value added products like potato chips, French fries etc., and sell by packing to the consumer as per their requirement.

4. Marketing channel - IV: (P-W-R-C): This channel involved producer, wholesaler, retailer and consumer. When the farmer gets less quantity of produce he will not prefer to sell at the APMC, he will sell to local wholesaler. Then the commission charges and transportation charges will be reduced from his marketing costs. The wholesaler purchases the potatoes in bulk and sells to the local retailer.

5. Marketing channel V (P-R-C): This channel involved little number of functionaries' producer, retailer and consumer. The farmers prefer to sell at the retailer when the quantity is less.

Quantity of Produce Moved through Different Channels

The percentage of farmers selling potatoes through different channels along with quantity of produce marketed is presented in Table 4.

Table 4
Particulars of farmers along with the quantity sold in different channels

S. No	Channel	No. of respondents	Quantity of produce in qtl	Average (per farmer) in qtl
1	P-APMC-W-R-C	70 (58.34)	11270.40 (62.72)	161.00
2	P-APMC-SM-C	30 (25.00)	4785.40 (26.63)	159.50
3	P-APMC-PR-C	6 (5.00)	997.80 (5.55)	166.30
4	P-W-R-C	8 (6.66)	535.48 (2.98)	67.00
5	P-R-C	6 (5.00)	380.03 (2.11)	63.30
	Total	120 (100.00)	17969.11 (100.00)	766.80

Note: Figures in the parentheses indicate the percentages to the total

The data indicates (Table 4.) that the most prevalent marketing channel in potato marketing was channel -I through which 58.34% of the farmers disposed the potatoes. It is followed by channel -II through which 25% of the farmers disposed their produce. Through channel - III only 5% of the farmers sold the produce. The percentage of produce sold through these three channels was 94.90 and average

quantity sold by the farmer was 160.88 quintals. It revealed that in the sample farmers 88.33% of farmers preferred to sell through APMC, because there is more scope for sale. In channel – IV 6.66% of the farmers sold their potatoes and quantity moved through this channel is also very low i.e., 2.98% only. In case of channel – V also 5% of the farmers sold 2.11% of produce because the local wholesalers and retailers cannot purchase huge quantity of produce at a time due to high perishability and lack of storage facilities. The average quantity sold per farmer through channels IV and V was 67 and 63.30 quintals respectively.

The results are in accordance with Jadav *et al* [2] but not coinciding with Nalini *et al* [3] due to the absence of contract farming and cold storages in the study area.

Constraints Analysis in Marketing of Potato

Garrett's ranking technique was used to rank the constraints identified in potato marketing. The analysis was done according to farmers, wholesalers and retailers opinion separately.

Regarding farmers, price fluctuations was ranked as the most important constraint with mean score value 77.96 followed by lack of storage facilities (71.78).

Most of the farmers did not get the remunerative price for their produce. At APMC the prices of potatoes were changed based on the demand and supplies; hence most of the farmers felt price fluctuations as the major constraint. As the potato is highly perishable commodity, due to the lack of cold storage facilities farmers were unable to store their produce even for few days and for every season farmers purchased the seed from North Indian states. Because of this it was noted as one of the major constraints. Next major constraint reported as high marketing costs which include the packing, transporting, labor charges etc. The constraints analysis of farmers in the study area was represented in Table 5.

Table 5
Constraints analysis of farmers in potato marketing

S.No	Constraints	Mean score value	Garrett Ranking
1	Price fluctuations	77.96	1
2	No storage facility	71.78	2
3	High market costs	64.47	3
4	High cost of cultivation	59.60	4
5	More post harvest losses	55.06	5
6	Very high commission charges	49.40	6
7	Fault in weighing	46.22	7

In case of wholesalers the major constraints identified was more spoilage losses with mean score value 80.8 followed by fault in weighing (73.00). The other major constraints felt by wholesalers were more marketing costs, less quality of produce, price fluctuations, no cold storage facilities, high market fee and lack of infrastructure facilities at market committee etc indicated in Table 6.

Table 6
Constraints analysis of wholesaler in potato marketing

S.No	Constraints	Mean score value	Garrett ranking
1	More spoilage losses	80.80	1
2	Fault in weighing	73.00	2
3	lack of quality produce	64.00	3
4	High market costs	60.80	4
5	Price fluctuations	56.80	5
6	No storage facility	51.70	6
7	Lack of market information about prices	46.10	7

In case of retailer also similar kind of opinions were reported as wholesaler where the major rank was given to spoilage losses (80.8), followed by fault in weighing (70.1), the other constraints were also similar to wholesaler. The results were represented in Table.7. Similar constraints are reported by Anil and Arora [1], Pandit *et al* [4], Pandey *et al* [5], Sharma *et al* [6], and Sidhu *et al* [7].

Table 7
Constraints analysis of retailer in potato marketing

S.No	Constraints	Mean score value	Garrett Ranking
1	More spoilage losses	80.8	1
2	Fault in weighing	70.1	2
3	High market costs	68.9	3
4	Lack of market information about prices	59.2	4
5	lack of quality produce	53.8	5
6	Price fluctuations	51.1	6
7	Presence of exploitative middlemen	44.5	7

CONCLUSION

Potato cultivation is profitable in the study area but some of the issues need to be addressed to improve the efficiency. Farmers faced a problem regarding sharp decline in the prices of bumper harvest. So, there is a need for providing facilities/ concessions for promoting the export of the produce in case of glut in the market to stop the distress sale. Production price should be stabilized by fixation of minimum and maximum prices. Provision of cold storage facility nearer to village which reduces the seed potato cost.

The facilities of packing, grading and transportation of potatoes to distant markets should be subsidized so that the farmers get remunerative price of their produce. Closed places for trading, better roads, better hygiene, better waste disposal system etc need to be addressed. Build capacity to boost agricultural research in terms of high yielding varieties so that better farm techniques can find their way to the fields.

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