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Constraints faced by potato growers in adoption of production technology and marketing of potato

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Abstract

The study to know the constraints faced by potato growers as well as suggestions offered by them in adoption of production technology and marketing of potato was carried out in Aravalli district of Gujarat State. It was conducted through Ex-post Facto research design. Multistage sampling method was used for selection of respondents. Three taluka of Aravalli district viz., Modasa, Bayad and Dhansura were purposively selected for study due to having highest area and production of potato. Five villages from each of taluka was randomly selected. From each selected village, ten potato growers were selected randomly. Thus total 150 potato growers were selected for study. The data were collected through personal interview and then after it was compiled, tabulated and analyzed to get proper answer with the help of appropriate statistical tools. The major constraints faced by the potato growers in adoption of production technology were; high cost of fertilizer and pesticides, high cost of potato seed and high wages of labour. While for marketing of potato, major constraints faced by the potato growers were; low market price of potato at time of harvesting and fluctuation of price. The important suggestions offered by the potato growers for adoption of production technology were; Government agencies should provide subsidy for purchase of seed and inputs like fertilizers and others should made be available in time with low cost, while for marketing of potato, important suggestions endorsed by the potato growers were; step should be taken by Government for fix minimum support price for the potato followed by the co-operative and banks should provide loan in time and convenient procedure.

Keywords: Potato production technology, marketing, constraints, suggestions

Introduction

Potato (*Solanum tuberosum* L.) is one of the important vegetable crop in India and is known as the "poorman's food". It is quite a cheap food providing wholesome diet for human beings which contains important nutrients viz., carbohydrates, proteins, minerals and vitamins. Potato also plays an important role in the world's food economy.

Potato is the king of vegetables which provides higher returns along with providing more food per unit area in unit time that's why potatoes are increasingly being figured as an important cash crop. It is short duration fertilizer responsive crop with the life span of 110-120 days and successfully grown to a wide variety of agro-climatic conditions. It has a good self-storage life, which can be extended over a long period by converting in to dry products viz., wafers, flakes, finger chips, potato powder and papad.

Gujarat had a 7.81% contribution in the country's total production of potato, which was fourth highest in the country. (Anonymous, 2018^a)^[1]. Gujarat state constitutes an area of 133.29 thousand ha under potato cultivation with production of 3806.95 thousand tonnes. The average productivity of the state was 28.56 tonnes/ha. The major potato producing districts in the state were Banaskantha, Aravalli, Sabarkantha, Mehsana, Gandhinagar and Kheda. The average productivity of potato in Aravalli district was 31.42 tonnes/ha, which was highest in the state. (Anonymous, 2018^b)^[2].

Objectives

1. To identify the constraints faced by potato growers in adoption of production technology and marketing of potato
2. To seek suggestions to overcome the constraints faced by potato growers in adoption of production technology and marketing of potato

Methodology

An "Ex-post Facto" design of social research was used for the present investigation.

The multistage sampling technique was used for select a representative sample of respondents. The study was conducted in Aravalli district of Gujarat state. Out of six talukas of district, three talukas *viz.*, Modasa, Dhansura and Bayad were selected purposively due to highest area and production of potato in district. Five villages were randomly selected from each selected taluka. Thus, total 15 villages having potato growers were selected. Ten potato growers from each village were selected randomly and thus total 150 potato growers were selected. A well-structured and pre-tested interview schedule was developed to collect data. The constraints were operationalized defined as the difficulties experienced by the potato growers in adoption of production technology and marketing of potato. The potato growers were provided with the list of some constraints and responses were recorded on a three point continuum *i.e.* most important, important and not important, which was assigned 3, 2 and 1 scores, respectively. Mean score was calculated

from each constraint and on the basis of mean score, rank was given to each of the constraint. To measure the suggestions to overcome constraints, potato growers were asked to give their valuable suggestions. The suggestions offered by them were ranked on the basis of frequency and percentage of potato growers for the respective suggestions.

Results and Discussion

1. Constraints faced by potato growers in adoption of production technology and marketing of potato

The responses of potato growers with regards to the constraints in adoption of production technology and marketing of potato are presented in Table 1 and Table 2, respectively.

A) Constraints faced by potato growers in adoption of potato production technology

Table 1: Distribution of potato growers according to constraints faced in adoption of production technology

(n=150)						
Sr. No.	Constraints	Most Important	Important	Not Important	Mean Score	Rank
1	High cost of fertilizer and pesticides	101	26	23	2.52	I
2	High cost of potato seed	99	25	26	2.49	II
3	High wages of labour	91	24	35	2.37	III
4	Lack of disease free seed	66	56	28	2.25	IV
5	Shortage of labour at the time of the sowing and harvesting	73	29	48	2.17	V
6	Lack of technical training of potato cultivation	41	58	51	1.93	VI
7	Shortage of fertilizers at required time	45	40	65	1.87	VII
8	High cost of fuel	25	65	60	1.77	VIII
9	Lack of technical know how	26	51	73	1.69	IX
10	Irregular supply of electricity	2	47	101	1.34	X

A critical look in the Table 1 bring into focus that among all the ten constraints in adoption of potato production technology the most important constraints faced by the potato growers were; high cost of fertilizer and pesticides (mean score 2.52) with rank first followed by high cost of potato seed (mean score 2.49), high wages of labour (mean score 2.37), lack of disease free seed (mean score 2.25) and shortage of labour at the time of the sowing and harvesting (mean score 2.17) were ranked second, third, fourth and fifth, respectively.

The important constraints were; lack of technical training of potato cultivation (mean score 1.93), shortage of fertilizers at required time (mean score 1.87), high cost of fuel (mean score 1.77), lack of technical know-how (mean score 1.69) and irregular supply of electricity (mean score 1.34) with rank sixth to tenth, respectively.

B) Constraints faced by potato growers in marketing potato

Table 2: Distribution of potato growers according to constraints faced in marketing of potato

(n=150)						
Sr. No.	Constraints	Most Important	Important	Not Important	Mean Score	Rank
1	Low market price of potato at time of harvesting	116	24	10	2.71	I
2	Fluctuation of price	99	27	24	2.50	II
3	High charges of transportation	31	68	51	1.87	III
4	Lack of credit facilities	45	25	80	1.77	IV
5	Open auction sale fetches low price for potato produce	21	53	76	1.63	V
6	Lack of formal contract system	15	39	96	1.46	VI
7	Lack of transport facility in rural area	0	23	127	1.15	VII
8	Lack of cold storage facility in rural area	0	19	131	1.13	VIII

The data in the Table 2 reveals that the most important constraints faced by the potato growers were; low market price of potato at time of harvesting (mean score 2.71) with rank first followed by fluctuation of price (mean score 2.50), high charges of transportation (mean score 1.87), lack of credit facilities (mean score 1.77) and open auction sale fetches low price for potato produce (mean score 1.63) were ranked second, third, fourth and fifth, respectively.

The important constraints were; lack of formal contract system (mean score 1.46), lack of transport facility in rural area (mean score 1.15) and lack of cold storage facility in rural area (mean score 1.13) with rank sixth, seventh and eighth, respectively.

The findings are similar with Gurjar *et al.* (2017) ^[4] and Ghaghod *et al.* (2018) ^[3].

2) Suggestions offered by potato growers to overcome the constraints faced by them in adoption of production technology and marketing of potato

Suggestions were collected from the potato growers to overcome their constraints and difficulties for adoption of potato production technology and marketing of potato. The

data in this regard are presented in Table 3 and 4, respectively.

A) Suggestion offered by potato growers to overcome the constraints in adoption of production technology

Table 3: Distribution of potato growers according to their suggestions to overcome constraints faced by them in adoption of production technology

(n=150)				
Sr. No.	Suggestions	Frequency	%	Rank
1	Government agencies should provide subsidy for purchase of seed	109	72.66	I
2	Inputs like fertilizer and others should made be available in time with low cost	91	60.67	II
3	Training on new technologies should be imparted to the farmers	86	57.33	III
4	Subsidy should be given on plant protection chemicals and fertilizers	76	50.67	IV

As seen in Table 3 the important suggestions offered by the potato growers in adoption of potato production technology were; Government agencies should provide subsidy for purchase of seed (72.66%) with rank first followed by inputs like fertilizer and others should made be available in time with low cost (60.67%), training on new technologies should

be imparted to the farmers (57.33%) and subsidy should be given on plant protection chemicals and fertilizers (50.67%) were ranked second, third and fourth, respectively.

B) Suggestion offered by the potato growers to overcome the constraints in marketing of potato

Table 4: Distribution of potato growers according to their suggestions to overcome constraints faced by them in marketing of potato

(n=150)				
Sr. No.	Suggestions	Frequency	Percent	Rank
1	Step should be taken by the Government for fix minimum support price for the potato	116	77.33	I
2	The co-operative institution and banks should provide loan in time and convenient procedure	93	62.00	II
3	Timely information about market price of potato should be made available	65	43.33	III

It was observed from the Table 4 that the important suggestions endorsed by the potato growers in marketing of potato were; step should be taken by the Government for fix minimum support price for the potato (77.33%) with rank first followed by the co-operative institution and banks should provide loan in time and convenient procedure (62.00%) and timely information about market price of potato should be made available (43.33%) were ranked second and third, respectively.

The findings are in line with the result of Gurjar *et al.* (2017) [4] and Uikey *et al.* (2018) [5].

Conclusion

The most important constraints faced by the potato growers in adoption of production technology were; high cost of fertilizer and pesticides followed by high cost of potato seed, high wages of labour and lack of disease free seed. In case of marketing of potato, the most important constraints faced by the potato growers were; low market price of potato at time of harvesting followed by fluctuation of price and high charges of transportation.

The important suggestions endorsed by the potato growers were Government agencies should provide subsidy for purchase of seed followed by inputs like fertilizer and others should made be available in time with low cost. The important suggestions endorsed by the potato growers in marketing of potato were; step should be taken by the Government for fix minimum support price for the potato followed by the co-operative institution and banks should provide loan in time and convenient.

These problems affect the production and marketing of the potato growers greatly. Hence, the concerned agencies should take a greater interest to mitigate these constraint of potato

growers as well as suggestions endorsed by the potato growers should took in to account for it.

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