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Relationship between selected characteristics of potato growers and their perception towards cold storage facility

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Abstract

Indian agriculture is grappled with post-harvest losses, and it is mounting 18.00% for vegetable. Availability of cold storage solves this issue to a great extent. Potatoes are a semi-perishable crop. Unlike cereal grains, potatoes cannot be stored from one crop year to the next due to physiological deterioration. However, like many vegetables and fruits, potatoes can be stored for several months without serious loss of quality. This characteristic of the potato has enabled it to become available in markets year-round. Potato being perishable crop, requires special facilities for its storage. Potato cold storages are one of the links between producers to consumers that create another choice of market and price discovery. The perception and attitude of potato growers towards cold storage facilities play important role. Thus, this study was undertaken. Multistage random sampling technique was followed for selection of the potato growers. Banaskantha, Gandhinagar and Arvalli district were purposively selected because of having highest number of the cold storage. Out of the each selected districts two talukas were purposively selected. Five cold storages were randomly selected from the each selected taluka. From each selected cold storage, ten potato growers who used the cold storage facility were selected randomly. Thus, total 300 potato growers were selected as sample size. Out of fourteen variables education, potato farming experience, cold storage facility experience, social participation, land holding, annual income, extension contacts, mass media exposure, economic motivation, risk orientation and scientific orientation had positive and significant relationship with perception towards cold storage facility. While, age and innovativeness had a non-significant relationship with the perception of the potato growers towards cold storage facility.

Keywords: Potato, cold storage, perception, relationship

1. Introduction

Vegetables play an important role in balanced nutrition as they are rich sources of carbohydrates, proteins, vitamins and minerals. Vegetables provide more income per unit area of land. Vegetable cultivation among small land holders has always been a source of supplementary income, besides providing gainful employment through intensive cultivation. Thus, vegetable growers are normally more prosperous than those who grow only cereals. Potato is the third most important staple crop in the world after Introduction 2 wheat and rice. Potato is an economical food and provides a source of low-cost energy to human diet. It is as balanced vegetable food as any other cereal like wheat, rice and maize with high-quality protein content. Perishable products can be stored using various methods. Among various method of storage, cold storage is most common and very effective tool. Cold storage is a special kind of place where the temperature is kept very low perishable products can be stored using various methods. Among various method of storage, cold storage is most common and very effective tool. The cold storage facility solved the issue of post-harvest losses. Potato cold storages are link between producer and consumer. The cold storage facility solved the issue of post-harvest losses. Considering these facts, the present study has been designed in North Gujarat with

following objective.

2. Objectives

1. To study the selected characteristics of potato growers
2. To find out relationship between selected characteristics of potato growers and their perception towards cold storage facility

3. Methodology

The study was conducted in three districts viz., Banaskantha, Gandhinagar and Arvalli districts of North Gujarat. Two talukas having more than five cold storage were selected from each selected district. A total of six talukas were selected for the study. Five cold storage were randomly selected from selected taluka. Hence, total thirty cold storage were selected for study. From each selected cold storage, ten respondents who used the cold storage facility were selected randomly to form a sample of 300 respondents.

4. Results and Discussion

1. Selected characteristics of the potato growers

On the basis of extensive review of literature and discussions with the experts, some important personal, socio-economic, communicational, and psychological

characters have been selected for the study. The data of these characteristics were analyzed and presented in the table. Table.1 shows that majority of the potato growers (86.67%) were from middle to old age group, which indicated that they have enough maturity and have better experience of their field. The probable reason might be that the parental occupation and responsibility have taken by middle age potato growers. Majority of the respondents had primary to post graduate level of education. It is obvious from the results that the respondents as experienced and understood the significance of education as the means for improvement of overall living standard. The 46.00% of the potato growers had medium experience in potato cultivation and 66.33% of the potato growers had medium cold storage facility experience. The probable reason might be that experience is directly associated with age of the farmers, old aged farmers have more farming experience than young aged farmers. Thus, it helps to an individual to think better way and makes a person more mature to take right decision. The majority of farmers belonged to medium aged group who came from agricultural background and they joined farming at earlier and started getting experience of farming. Majority (68.00%) of the potato growers were members either in one or more than one organization. It was observed in survey area that most of the potato growers were

members in service co-operative societies or village milk co-operative societies to get the benefit of loans and subsidies *etc.* It might be the probable reason for this finding. Majority of the potato growers (88.67%) had medium to large family and 69.00% of the potato growers had semi medium and less size of land holding. Inherited land division among heirs from generation to generation results in a reduction in size of land holding at each generation. This might be the probable reason for this finding. More than two third (67.67%) of the potato growers had medium level of extension contacts and that nearly half (49.67%) of the potato growers had medium level of mass media exposure. In the study area, KVK, FTC, ATMA, potato research stations, various NGOs and FPO are working. Therefore, potato growers had more chances to contact extension personnel to obtain information regarding potato. This might be the reason for this finding. Majority (73.66%) of the potato growers had medium to low level of scientific orientation and great majority (85.33%) of the potato growers had medium to high level of risk orientation. Great majority (82.67%) potato growers had medium to high level of innovativeness. The probable reason for this finding might be due to fact that majority of the potato growers were ready to accept new is some extent and they embraced the ideas whole heartedly.

Table 1: Distribution of potato growers according to their potato growers (n = 300)

Personal profile	Category	No.	%
Age	Young age (Up to 35 years)	40	13.33
	Middle age (36 to 50 years)	164	54.67
	Old age (Above 50 years)	96	32.00
Education	Illiterate	26	08.67
	Functionally literate	32	10.67
	Primary school education (1 st to 8 th standard)	52	17.33
	Secondary school education (9 th to 10 th standard)	46	15.33
	Higher secondary school education (11 th to 12 th standard)	101	33.67
	Graduate and post-graduate	43	14.33
Potato farming experience	Low level of farming experience (below to 5 years)	53	17.67
	Medium level of farming experience (6 to 10 years)	138	46.00
	High level of farming experience (above 10 years)	109	36.33
Cold storage facility experience	Low level of cold storage facility experience (below to 5 years)	33	11.00
	Medium level of cold storage facility experience (6 to 10 years)	199	66.33
	High level of cold storage facility experience (above 10 years)	68	22.67
Social Participation	No member	55	18.33
	Member in one organization	139	46.33
	Member in more than one organization	65	21.67
	Member with office bearer	41	13.67
Family size	Small (up to 4 members)	34	11.33
	Medium (5 to 7 members)	199	66.33
	Large (above 7 members)	67	22.34
Land holding	Marginal (Up to 1.00 ha)	39	13.00
	Small (1.01 to 2.00 ha)	66	22.00
	Semi medium (2.01 to 4.00 ha)	102	34.00
	Medium (4.01 to 10.00 ha)	67	22.33
	Large (Above 10.00 ha)	26	08.67
Annual income	Lower annual income	23	19.16
	Medium annual income	56	46.68
	Higher annual income	41	34.16
Extension contact	Low extension contact	34	11.33
	Medium extension contact	203	67.67
	High extension contact	63	21.00
Mass media exposure	Small level of exposure	59	19.67
	Medium level of exposure	149	49.67
	High level of exposure	92	30.66

Economic motivation	Lower economic motivation	45	15.00
	Medium economic motivation	153	51.00
	High economic motivation	102	34.00
Scientific orientation	Lower scientific orientation	88	29.33
	Medium scientific orientation	133	44.34
	High scientific orientation	79	26.33
Risk orientation	Low risk orientation	44	14.67
	Medium risk orientation	153	51.00
	High risk orientation	103	34.33
Innovativeness	Low level of innovativeness	52	17.33
	Medium level of innovativeness	142	47.33
	High level of innovativeness	106	35.34

2. Perception of potato growers towards cold storage facility

Understanding the perception towards cold storage facility by potato growers is important as perception can shape the preparedness of these actors to adopt and change their

practices. Table 2 indicates that 45.00% of the potato growers had medium level of perception towards cold storage facility, followed by 29.67% of them had high level of perception and 25.33% of the farmers had low level perception towards cold storage facility.

Table 2: Distribution of the potato growers according to perception towards cold storage facility (n 300)

Sr.	Categories	Frequency	Percentage
1.	Low (< 56.68 score)	76	25.33
2.	Medium (56.68 to 68.08 score)	135	45.00
3.	High (< 68. 08score)	89	29.67
Total		300	100.00

3. Relationship between selected characteristics of the potato growers with their perception towards cold storage facility

The results of correlation analysis indicated that independent variables viz., education, potato farming experience, cold storage facility experience, social participation, land holding, annual income, extension contacts, mass media exposure, economic motivation, risk

orientation and scientific orientation had positive and significant relationship with perception towards cold storage facility. While, age and innovativeness had a non-significant relationship with perception of the potato growers towards cold storage facility. Whereas, family size had a negative and non-significant relationship with perception of the potato growers towards cold storage facility.

Table 4: Relationship between selected characteristics of the potato growers with their perception towards cold storage facility (n = 300)

Sr.	Independent variable	Perception
1.	Age	0.016 ^{NS}
2.	Education	0.125*
3.	Potato farming experience	0.118*
4.	Cold storage facility experience	0.190**
5.	Social participation	0.098*
6.	Family size	-0.051 ^{NS}
7.	Land holding	0.154**
8.	Annual income	0.240**
9.	Extension contact	0.119*
10.	Mass media exposure	0.103*
11.	Economic motivation	0.397**
12.	Scientific orientation	0.127*
13.	Risk orientation	0.415**
14.	Innovativeness	0.015 ^{NS}

(NS: Non-significant, *Significant at 0.05 level of probability, **Significant at 0.01 level of probability)

4. Conclusion

Above results inferred that the education, potato farming experience, cold storage facility experience, land holding, annual income, social participation, economic motivation, extension contact, scientific orientation, risk orientation of respondents plays significant role in the perception towards cold storage facility while age, family size and innovativeness had no relation with perception towards cold storage facility.

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