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MARKETING PROBLEMS OF POTATO FARMERS IN MUNSHIGONJ DISTRICT OF BANGLADESH

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A B S T R A C T

The study was conducted in the Lohajang upazilla under Munshigonj district. The main purposes of the study were i) to describe the selected characteristics of the potato farmers; ii). to determine the extent of marketing problems faced by the farmers and iii). to explore relationship between selected characteristics of the farmers and their marketing problems. From the findings it was revealed that about one half of the respondents were middle aged and another half was young (41.9%) and old (8.6%). The highest proportion (73.3%) achieved education ranging from primary to above secondary. Rest of the respondents had no school education. All the respondents had organizational participation. More than two third had medium to high organizational participation. Potato growers of Lohajang were not so much financially sound as the result showed that only (6.7 %) had high capability and the overwhelming majority (58.1% & 35.2%) were under low to medium category. Regarding knowledge, one half of the respondents had low knowledge and the other half had medium to high knowledge. Distance of market place showed not much problems because (81%) of the respondents stayed within 2 km of market place. Among the respondents, the highest (52.4%) proportion had medium storage facilities, while (23.8 %) potato growers had low and high storage facilities. Among the respondents the highest (49.5 %) potato growers faced medium problem in potato marketing. Regarding the relationship between the selected dependent and independent variable, it was observed that age and distance of market place had significant positive relationships with marketing problems of potato growers. Educational level, financial capabilities, extent of use of quality control, availability of marketing information and storage facilities had significant negative relationships with marketing problems of potato growers. On the other hand, organizational participation had no relationship with marketing problems of potato growers.

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INTRODUCTION

Potato *(Solarium tuberosum*) is considered as a vegetable as well as substitute of rice, wheat and maize. It is rich in carbohydrate and used as the staple food in more than 40 countries of the world especially in East and West Europe and in North and South America. In Bangladesh, however potato is consumed almost absolutely as vegetable. It occupies third position among food crops in Bangladesh following rice and wheat, respectively. The Dutch introduced the cultivation of potato in Indo-Pak subcontinent in the early 17th century (Ahmed, 1977). The quality of carbohydrate in potato is higher than other vegetables. Potato is the major contributor of the required calories for the people of Bangladesh. Rice and wheat, the two leading staple food, do not contain vitamin A and vitamin C. On the other hand, potato contains some vitamin A and large amount of vitamin C. Usually 100 g boiled potatoe with its skin can provide half of the daily requirement of vitamin C of an adult. One pair of potatoes can supply the same amount of vitamin C that supplied by 3 apples, 1 tomato, 1 mango and 1 orange (Hussain, 2000). Besides these, the same amount of rice and boiled potato contain almost the same amount of carbohydrate and protein. Biological food value of potato protein is higher than the rice and wheat protein and similar to boiled potato contain almost the same amount of carbohydrate and protein. Biological food value of potato protein is higher than the rice and wheat protein similar to beef and milk protein (FAO, 1999). The quantity of fat in potato is lesser than rice and wheat. Potato is also an important source of fiber. Boiled potato contains more fiber than rice and wheat. There are many varieties of potato developed by BARI such as Diamont, Multa, Cardinal, Granola etc. Potato is cultivated in every district of the country. Regional marketing channels consist of an extended chain of intermediaries between producer and consumer. Inter-regional marketing channels are the lengthiest, because a number of traders are involved in the system (BARI, 1992). Market intelligence provides information relating to some market forces such as demand, supply, prices, transportation, storage etc. Dissemination of market information is a useful tool for making competition among producers and traders. In the developing economics, greater specialization, diversification and commercialization depends upon the timely movement of agricultural inputs and finished products. Storage is necessary to reduce the seasonal and regional fluctuations of prices. The storage facilities are very inadequate and insufficient in Bangladesh, which is also perceived as an important marketing problem at the grass root level (Ibid, 1973).

The major constraints to the development of marketing in Bangladesh are production shortage, high domestic price, non-availability of export quality produce, seasonality of domestic supply, lack of proper sorting and grading facilities, absence of improved packaging materials, absence of an efficient transportation system, inadequate cargo space and high air freights (BARI, 1992). There are three principal markets: 1. shipping point market; 2. wholesale markets, and 3) retail markets. This marketing system is undergoing change as a result of vertical integration, decentralization, new handling and transportation methods, and the growth of the away-from-home and direct farmer consumer markets. The principle according to which farm produce and farm income are distributed is followed by a look into the problems of agricultural marketing. Surplus cropping operations necessitate the emergence of marketing problems in the agricultural sphere (Alam, 2002). Marketing system is essential for any farm products. In consideration of potato it is also most important. Because potato mainly used year round, but easily deteriorated its quality. There is no way of government control of potato marketing. Mainly its marketing depends on consumers demand and supply of traders. All the problems for marketing of potato may not be addressed timely. But it is necessary to acquire knowledge on different problems of potato marketing process (Mizanur, 1992).

Munshigonj district is an intensively potato growing area, compared to other areas of Bangladesh. Therefore, the study was conducted for exploration of marketing problems of potato farmers in Munshigonj district. In view of the problem as stated above the present work was carried out to know the characteristics of the potato farmers and their marketing problems.

METHODOLOGY

Location of the study

The study was conducted in the Lohajang upazilla under Munshigonj district. This upazilla is situated 50 km east/west from Munshigonj districts headquarters. Among the 9 union of Lohajang upazilla Kalma union was selected purposively as the locale of the study area. Then three (3) villages namely Douhuri, Gorakandha and Noapara from Kalma Union have been selected purposively as study area. All potato growers of Kalma union under Lohajang upazilla constituted the population of the study. An update list of 525 potato growers from the selected villages was prepared with the help of Sub-Assistant Agriculture officer. Twenty (20%) percent of the population were randomly selected as the sample of the study by

using random number table. Thus, 105 farmers constituted the sample of the study. A reserve list of ten farmers was also prepared by the same method so that the respondents of this list could be used for interview if the respondents included in the original sample were not available at the time of data collection. Data collection was started on 12 April, 2008 and completed on 20 May, 2008.

Table 2. Distribution of the population sample and number of farmers in the reserve list

Name of the unions	Name of the of villages	No. of potato growers	No. of potato growers included in the sample	No. of potato growers in the reserve list
Kalma	Douhuri	200	40	5
	Gorakandha	140	28	3
	Noapara	185	37	5
Total		525	105	13

Measurement of independent variables

Age

Age of a respondent was measured by the period of time from his/her birth to the time of interview and it was measured in terms of complete years on the basis of his/her response. A score of one (1) was assigned for each year age.

Education

Education was measured in terms of grades (class) passed by respondent. If a respondent received education outside the school, their education was assessed in terms of education of the school, i. e. one (1) score was given for one year of schooling. Each illiterate person was given a score of zero. The respondent who did not know how to read or write but able to sign only was given a score of 0.5

Organizational participation

Organizational participation of a respondent was measured by computing an organizational participation score according to his/her nature and duration of participation in nine (9) selected different organizations upto the time of interview. The organisational participation score was evaluated for each respondent on the basis of his/her membership with those organisations. The following scale was used for computing the organisational participation score. The nature of participation was no participation, participation as ordinary member, participation as executive member and participation as secretary/president. The score was 0, 1, 2 and 3 respectively. Organisational participation score of a respondent was determined by adding together the scores obtained from each of the nine types of participation.

Financial capabilities

Financial capabilities of the potato growers were measured by adding a. financial capabilities from crop, b. financial capabilities from domestic animals and fisheries and financial capabilities from non-agricultural sources. Financial capabilities from crop were measured by adding all of the total value of their field crops including cereals, vegetables fruits etc. On the other hand, financial capabilities from domestic animals and fisheries were measured by adding return from livestock and fisheries product and byproduct. Financial capabilities from other sources were measured by adding return from service, business, day labour and others if any. By adding all of the source's income financial capabilities of the respondents were measured and it was expressed in thousand taka. A score of one was assigned for each thousand taka.

Extent of use of quality control

Extent of use of quality control of a respondent was measured by computing a score on the basis of potato growers' responses to seven questions. The score obtained by a respondent for responses to all the seven questions were added together to compute total score of extent of use of quality control. Each question was assigned score of three. Therefore, seven questions carried a total score of 21. For correct responses to a question, a respondent could get a score of three. While for wrong response to a question she could get a score of zero (0). For partial correct responses, scores were assigned accordingly. The sum of total scores for all the 7 questions made quality control knowledge score of a respondent.

Distance of the market place

Distance of the market place was measured by asking the question "what is the distance of market place from your farm or home". The respondents replied based on their idea. From their responses as the distance of the market place was categorized as short, medium and high distance. Upto 1.5 km was expressed as low distance; 1.6 to 2.0 km was expressed as medium distance and above 2.0 km was expressed as high distance.

Availability of marketing information

Availability of marketing information of the respondent was measured by computing a score on the basis of potato growers" reply to six questions. The score obtained by a respondent for responses of the entire six questions were added together to compute their availability of marketing information scores. Each question had assigned 3, 2, 0 score for regularly, occasionally and not at all, respectively. The sum of total scores for all the six questions made marketing information score of a respondent.

Storage facilities

Storage facilities of potato growers were identified as field store, at home, and cold store. It was measured on the basis of time period i.e. long potato growers kept their potato in those storage facilities. The time period was categorized into three short time period, medium time period and long time period and in some cases no time period which was assigned score as 0, 1, 2 and 3 respectively. However, for no time period zero score was assigned.

Measurement of dependent variable

Marketing problems of the potato growers was the only dependent variable of this study. Marketing problems of the potato growers was measured on the basis of nine problems. Each problem was categorized into severe, medium and low score assigned against each of them was 3, 2 and 1, respectively. However, no problem was assigned score of zero. Marketing problems of potato growers score of a respondent was determined by summing up the weights of their responses to all the 9 statements.

Data analysis

Data collected from the respondents were complied, coded, tabulated and analyzed in accordance with the objectives of the study. Various statistical measures such as frequency counts, percentage distribution, average, and standard deviation were used in describing data. SPSS (version 11.5) computer program were used for analyzing the data. For determining the association of the selected characteristics of the potato growers with the marketing problem, Pearson Product Moment Correlation was used. Five percent (0.05) level of probability was used as the basis for rejecting any null hypothesis.

RESULTS AND DISCUSSION

This Chapter deals with the findings that were recorded in accordance with the objective of the study along with their logical interpretation. An individual possesses various interrelated characteristics of the respondents of potato growers were collected under the present study. It was therefore, hypothesized that the characteristics of the potato growers would have an effect on marketing problems. The 8 selected silent features of the respondents' potato growers such as age, education, organizational participation, financial capabilities, and extent of use of quality control, distance of the market place, availability of marketing information and storage facilities that might influence on marketing problems of potato growers are presented in Table 3.

Among the respondents middle aged potato growers constitute the highest proportion (49.5 percent) followed by young aged category (41.9 percent) and the lowest proportion were made by the old aged category as 8.6 percent. Potato growers under can sign only category constituted the lowest proportion (6.7 percent) compared to 9.5 percent above „secondary level category. On the other hand, the highest 45.7 percent under the group of primary education, 20.0 percent can sign only and 18.1% under secondary level education. Among the total respondents' medium organizational participation constitutes the highest proportion (56.2 percent) followed by low participation (29.5 percent) and high participation (14.3 percent). Among the total potato growers having low financial capabilities constitute the highest proportion (58.1 percent) followed by the potato grower's family having medium financial capabilities (35.2 percent) and high financial capabilities (6.7 percent). In consideration the knowledge score of the potato growers over 50.5 percent of the respondents fell under low

extent of use of quality control category and 35.2 percent felt medium category, however only about 14.3 percent felt under high extent of use of quality control category. Among the respondents' potato growers about 56.2% potato growers were stay in short distance and 24.8% respondents were stay in medium distance and 19.0% stay in high distance. The highest portion (62.9 percent) of the potato growers were low level market information group, while 27.6 percent respondents were medium level market information group and only 9.5 percent were high level market information group. Among the respondents of potato growers', the highest 52.4 percent potato growers had medium storage facilities, while 23.8 percent potato growers had low and high storage facilities.

Table 3. Distribution of the farmers according to their selected characteristics

Characteristics	Scoring method	Categories	Percent	Range	Mean	SD
Age	Years	Young (up to 35)	41.9	25-55	38.27	8.52
		Middle (36-50)	49.5			
		Old (above 50)	8.6			
Education	Years of schooling	Illiterate (0)	6.7	0-16	3.82	3.23
		Can sign only (0.5)	20.0			
		Primary (1-5)	45.7			
		Secondary (6-10)	18.1			
		Above secondary	9.5			
Organizational participation	Scores	Low participation (Up to 10)	29.5	6-32	14.65	5.98
		Medium participation (11-20)	56.2			
		High participation (above 20)	14.3			
Financial capabilities	'0000' thousand taka	Low financial capabilities (up to 200)	58.1	100-539	213.10	112.80
		Medium financial capabilities (201-400)	35.2			
		High financial capabilities (above 400)	6.7			
Extent of use of quality control	Scores	Low knowledge (up to 10)	50.5	3-17	10.30	4.22
		Medium knowledge (11-15)	35.2			
		High knowledge (above 15)	14.3			
Distance of market place	Scores	Short distance (up to 1.5 km)	56.2	1-2.5	1.69	0.53
		Medium distance (1.6-2.0 km)	24.8			
		High distance (above 2.0 km)	10.0			
Availability of marketing information	scores	Low (up to 10)	62.9	3-18	9.66	3.72
		Medium (11-15)	27.6			
		High (above 15)	9.5			
Storage facilities	Scores	Low (up to 4)	23.8	3-8	5.65	1.35
		Medium (5-6)	52.4			
		High (above 6)	23.8			

Marketing problems of potato farmers

Marketing problems of the potato growers was measured on the basis of 9 statements. Marketing problems of potato growers score of a respondent was determined by adding all the 9 items. Thus marketing problems score could range from zero (0) indicating no problem, upto 10 indicate low problem, 11 -20 indicate medium problem and above 20 indicating high problems of potato marketing. The findings are presented in Table 4.

The average marketing problems score was 24.56 with standard deviation 10.12 and range was 8-42 scores. Among the respondents the highest 49.5 percent potato belongs to the group of medium problem group followed by 28.6 percent in high problem group and 21.9 percent in low problem group. Among the respondent potato grower's total 79.1 percent respondents' potato growers facing medium to high level problem in potato marketing. Uddin (2004) reported that marketing problem severely affected the farmers.

Table 4. Distribution of the potato growers according to their marketing problems

Categories	Number of respondents	Percent (%)	Mean	S D
Low problem (upto 10)	23	21.9		
Medium problem (11-20)	52	49.5	24.56	10.12
High problem (above 20)	30	28.6		
Total	105	100		

Relationship of the selected characteristics of potato growers with their marketing problems

Pearson product moment correlation co-efficient was computed in order to find out the extent of relationship between the dependent variable and independent variables. To reject any the null hypothesis 0.05 was used. A statistically significant and non-significant relationship was observed when the computed value or "r" was greater or smaller than the tabulated value, respectively. Relationship of eight selected characteristics (age, education, organizational participation, financial capacities, extent of use of quality control, distance of market place, availability of marketing information and storage facilities) of the farmers with their marketing problem of the potato growers have been shown in Table 5.

Table 5. Pearson's product moment co-efficient of correlation showing relationship between dependent and independent variables

Dependent variable	Independent variable	Value of coefficient of correlation with 103 df	Tabulated Value'	
			0.05	0.01
	Age	0.612**		
	Education	-0.401**		
	Organizational participation	-0.171		
Marketing problems of	Financial capabilities	-0.414**		
potato growers	Extent of use of quality control	-0.211*	0.196	0.254
	Distance of the market place	0.679**		
	Availability of marketing information	-0.477**		
	Storage facilities	-0.503**		

**Significant at the 0.01 level of probability and *Significant at the 0.05 level of probability

Data presented in Table 5 shows that a significant negative relationship between the education, financial capabilities, extent of use of quality control, availability of marketing information and storage facilities. Based on the above findings it was concluded that education, financial capabilities, extent of use of quality control, availability of marketing information and storage facilities had significant negative relationships with marketing problems of potato growers. This represents that education, financial capabilities, extent of use of quality control, availability of marketing information and storage facilities of the potato growers were an important factor in marketing problems and with the increase of education, financial capabilities, extent of use of quality control, availability of marketing information and storage facilities of the potato growers marketing problem decreases.

CONCLUSIONS

Overwhelming (79.1 percent) of the respondents faced medium to high level problem in potato marketing, therefore, it may be concluded that marketing problem of potato growers is a serious issue to be addressed to maximize potato production. Based on the findings of the study the following conclusions have been drawn:

- Among the respondents middle aged potato growers constitute the highest proportion (49.5 percent). Therefore, it may be concluded that most of the potato growers of the study area were middle aged.
- The highest (45.7 percent) of potato growers were under the group of primary education. Therefore, it may be concluded that the education level of the potato growers was not yet at satisfactory level.
- Among the total respondents' medium level organizational participation constitutes the highest proportion (56.2 percent). There is scope to increase the organizational participation in order to improve the overall orientation of the potato growers.
- Among the potato growers' low financial capabilities constituted the highest proportion (58.1 percent), therefore, it may be concluded that the financial capabilities of the respondents' potato growers were not in satisfactory level.
- The extent of use of quality control score of the potato growers was over 50.5 percent under low use category. Therefore, it may be concluded that the respondent farmers did not use the quality control measures on a high-quality level.
- Among the respondent's potato growers about 56.2% stayed in short distance from market place. Therefore, it may be concluded that marketing system was readily available to most of the potato growers.
- The highest portion (62.9 percent) of the potato growers were in low level market information group. Therefore, it may be concluded that adequate marketing information was not available to most of the potato growers.
- Among the respondents of potato growers, the highest (52.4 percent) proportion had medium storage facilities. Therefore, it may be concluded that storage facilities were more or less satisfactory to the respondent's potato growers.
- Age and distance of market place showed significant positive relationship between marketing problems. Therefore, it may be concluded that aged growers and farmers having high distance of market place face more problem.
- Education level, financial capabilities, extent of use of quality control, availability of marketing information and storage facilities showed negative relationship between marketing problems of potato growers, Therefore, it may be concluded that these characteristics need to be improved for the potato growers so that they confront minimum marketing problems.

Recommendations

Based on the findings and conclusions of the study, the following recommendations were made for policy implication:

- The characteristics of the potato growers as education level, financial capabilities, extent of use of quality control, availability of marketing information and storage facilities showed negative relationship between marketing problems of potato growers. In view of the above facts, it may be recommended that these characteristics need to be improved address marketing problems of the potato growers more carefully.
- Age showed significant positive relationship with marketing problems. It is necessary to create scope for the younger farmers for potato cultivation. As well as proper support for the other aged potato growers is also necessary.
- Distance of market place showed significant positive relationship between marketing problems. It is necessary to increase the marketing facilities near by the potato growers.
- Proper steps should be taken for increasing the financial abilities of the potato growers. The concerned authorities should increase the availability of credit from any commercial bank or non-government organization.
- Availability of inputs in proper time might be helpful for maximum production. It is therefore, necessary to take care for ensuring the availability of inputs for potato cultivation as per as possible.

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