Original research article

Farmer's Constraints for Vegetables Marketing in Bangladesh

Abstract

Agricultural produce of vegetable growers is often lost after production due to many marketing challenges which make it difficult for vegetable growers to explore full market potentials and these also reduce incentives of participation in formal (commercial) or high-value markets. The main objective of the study was thus to index and analysis factors (constraints) affecting marketing of major vegetables from growers perspective. Data were collected from 113 vegetable growers with structured questionnaire, Pearson's correlation co-efficient (r) was used to determine the relationship between the selected socio-economic characteristics of the vegetable growers and their extent of marketing constraints faced. With regard to constraints, majority (68.1 percent) of the respondents faced medium constraints, while 16.9 and 15 percent of them had low and high marketing constraints, respectively. Among eleven characteristics, growers' training received, knowledge on vegetable marketing and availability of marketing information showed significant and negative relationship with their extent of marketing constraints faced. While age, education, family member, vegetable cultivation experience, annual family income, credit availability, extension contact did not show any significant relationship with their extent of marketing constraints. Results showed that lack of access to storage facilities was ranked the most prominent constraint followed by presence of middle man, lack of market information, inadequate access roads, lack of access to credit availability and high perishability of produce. Therefore development of better infrastructure in the form of storage facilities and availability of marketing information are vital for commercialization of vegetables.

Keywords: *Farmers, constraints, vegetable marketing.*

1. INTRODUCTION

Bangladesh is one of the pioneer countries in term of vegetable production in the South Asia. Vegetables production is profitable and the future performance of the sector will largely determine how successful the country is in diversifying its agricultural production and achieving higher agricultural growth rates. Subsistence farming is traditionally practiced by the farmers. So, there is no cost-benefit calculation. However, Bangladesh is now moving towards commercial agriculture from subsistence agriculture. Many entrepreneurs are investing in agriculture. Farmers are commercially cultivating crops specially vegetables. During the last decade, both area and production of vegetables increased in manifolds. Diversification into vegetable crops and increasing commercialization can support the development of the agricultural sector in several ways. Commercialization is characterized by households moving from subsistence systems into semi-commercial and commercial systems (with the main objective of achieving food self-sufficiency), thereby maximizing profits and generating surplus.Government of Bangladesh Government has called for a departure from "rice-led" growth to a more diversified production base that includes several non-rice crops like, maize, legumes, livestock, and vegetables. Successful commercial fresh vegetable production is a demanding task that requires a combination of production and marketing skills from the growers. This is a consequence of the special attributes of fresh produce. For instance, the perishability of fresh vegetables leads to fewer storage opportunities compared to other agronomic crops. As a result, growers are compelled to accept the market price close to, or during, their harvesting period. Furthermore, traditional risk mitigation options (i.e., future markets) do not exist for fresh vegetables. Thus, growers are more vulnerable to market fluctuations. Growers need to operate in a changing market environment with greater demand for more varieties and quality. If the vegetable produceddoes not meet the required standards, then the grower has to sell at a lower price or not at all. Crop production has increased by two to three times in the last few economic years. But it is evident that without an efficient agricultural marketing system, high crop production cannot be sustained for a long time. When the farmers do not get the fair price for their products they must be lost their interest to continue farming as for financial crisis. Vegetables, as high value crops, often require an intensive input regime, necessitating large labor input in planting and harvesting. In Bangladesh, higher profit variability in commercial cultivation of vegetables is evident due to variability in yields and market prices. So far, there have been several studies of the possibility of horticultural sector improvement in Bangladesh. Most of them have highlighted the potential of horticultural crops like vegetables. Agricultural marketing is an essential tool to uninterrupted, adequate and timely supply of agricultural products, inputs and services to target groups, including producers,

consumers and intermediaries and agricultural marketing is not just a means of distributing agricultural product but also a way of stimulating new forms of production. There are a number of factors that obstruct the farmers from getting fair price for their products. Farmers are compelled to sell their products at the harvest time when the prices are minimal resulting in a very low return for their produced products. Ultimately, the farmers who produce and bear the risks associated with the crop production are deprived of the major benefits of their products. Therefore, identifying the constraints on the expansion of vegetables production and marketing are important, since the supply of vegetables is quite irregular in most Asian countries, including Bangladesh. It is reported that due to various constraints farmers are not getting expected benefit from their investment. Moreover, constraints vary from one farmer to another due to influence of various factors. It implies increased market transactions since farmers participate in the process to capture gains from specialization. Similarly, increasing capital intensity in production and processing leads to growth in the agribusiness sector. As a result, the number of agro processing, distribution and farm-input provision companies increases. In most cases, solutions to existing constraints in the vegetable marketing requires use of available information and application of available efforts at the appropriate scale and also trying as much as possible to increase the efforts to be more effective. Also, overcoming the socio economic constraints is essential to achieving the goal of reducing marketing constraints. Conclusively, reductions of marketing constraints to the barest minimum continue to be of utmost importance to the country's aspiration for the attainment and sustenance of national food security. The researcher intended to take an attempt to understand how the vegetable growers are being encountered by marketing constraints. Viewing and analyzing the aforesaid conditions the researcher has become interested to undertake a research entitled "farmers' constraints for vegetable marketing in Bangladesh". The focal point of the research work was to indexing marketing constraints of vegetable growers in the locale.

This is why the following objectives were framed out in order to provide an appropriate track to the research work: to determine and describe characteristics of vegetable growers, to determine the constraints faced by the farmers in vegetable marketing, to explore relationship between each of the selected characteristics of the growers and their extent of vegetable marketing constraints and to index the constraints faced by the growers in vegetable marketing;

2. MATERIALS AND MEHODS

Sampling

The study was conducted at Raynagar union of Shibganjupazila under Bogura district. Out of twelve unions, Raynagar union was purposively selected because of higher vegetables production. Thereafter, three villages namely, Pareaschili, Tepagari and Binnapara were selected randomly from 11 villages of this union. Three separate lists of vegetable growers of the selected three villages were prepared by the researcher himself with the help of the Sub-Assistant Agriculture Officer (SAAO) of Upazila Agriculture Office (UAO), Shibganj. The list comprised a total of 547 vegetable growers from which 147 farm family heads from Pareachli village, 213 from Tepagari village and 187 from Binniapara village under the union of Raynagar which constituted the population of the study. By using theYamane's (1967) formula, the sample size was determined 113 for this study. Separate sample sizes of each of the villages were determined proportionately. Sample was drawn from the population by using proportionate random sampling method.A reserve list of 11 vegetable farmers was also prepared by using 10 percent of the sample size so that the respondent of this list could be used for interview if the respondents included in the original sample were not available at the time of conduction of interview. The distribution of the population sample and number of respondent in the reserve list are given.

Table 1 Distribution of the population and sample of the respondents in three

Villages of Raynagar union with reserve list

Name of villages	Population (No. of total vegetable farmers)	Sample Size	Reserve list
Pareachli	147	30	3
Tepagari	213	44	4
Binnapara	187	39	4
Total	547	113	11

Measurement of predicted variable

Constraints faced by the vegetable grower in marketing was the main focus and marketing constraints of vegetable grower were measured on the basis of twenty two constraints. Each of the sample vegetable farmers was asked to indicate the degree of constraints faced by him / her against each of 22 selected constraints. The alternative a response were 'very high', 'high', 'medium', 'low' and 'not at all' constraints. The score of 4, 3, 2, 1 and 0 were assigned to these alternative responses respectively. Finally, marketing constraints score of a respondent was determined summing up the weights of his / her responses to all the twenty two statements. Thus, marketing constraint face score of the respondent was ranged from zero (0) to 88, where '0' indicating no constraints of vegetable growers and highest '88' indicating very high constraints of vegetable growers.

Attempts were made to compare the constraints by using Constraints Faced index (CFI) with the following formula

$$CFI = C_{vh} \times 4 + C_h \times 3 + C_m \times 2 + C_l \times 1 + C_0 \times 0$$

Where, CFI= Constraint Faced Index

C_{vh} = No. of vegetable growers faced very high constraints

C_h = No. of vegetable growers faced high constraints

C_m = No. of vegetable growers faced medium constraints

C_l = No. of vegetable growers faced low constraints

C_0 = No. of vegetable growers faced no constraints

Thus, the possible CFI of constraints items could range from 0 – 452, where '0' indicating no constraints and '452' indicating very high constraints. To compare the severity of the constraints, rank order was made by the descending order of the CFI.

Statistical Analysis

Data collected from the respondents were analyzed and interpreted in accordance with the objectives of the study. The analysis of data was performed using statistical treatment with SPSS (Statistical Package for Social Science) computer program, version 20.The statistical measures such as range, mean, standard deviation, percentage, rank order were used for describing both the independent and dependent variables. Tables were also used in presenting data for clarity of understanding. Initially, Pearson Product Moment correlation was run to determine the relationship between the selected characteristics of the vegetable grower with their marketing constraints. Five percent (0.05) level of

probability was used as the basis for rejection of a null hypothesis throughout the study. Co-efficient values significant at 0.05 level is indicated by one asterisk (*) and that at 0.01 level by two asterisks (**). For determining severity of the constraints, rank order was made based on the descending order of the Constraint Faced Index (CFI).

3. RESULTS AND DISCUSSION

3.1 Characteristics of the Vegetable Growers

This section deals with the selected characteristics of vegetable growers which were assumed to be associated with the constraints faced by the vegetable growers in marketing. Different farmers possess different characteristics which are focused by his/her behavior. In this section 11 characteristics have been discussed. The selected characteristics of the farmers were; age, level of education, family size, area under vegetable cultivation, vegetable cultivation experience, annual family income, training received on vegetable cultivation, extension contact, knowledge on vegetable marketing, availability of marketing information and constrains faced by the vegetable growers in marketing. Measuring unit, range, mean and standard deviations of those characteristics of vegetable growers were described in this section. Table 2 provides a summary profile of vegetable growers' characteristics.Age of the respondents varied from 21 to 87 years, the average being 44.83 years withthe standard deviation of 14.69. According to their age, the respondents were classifiedinto three categories as "young aged", "middle aged" and "old aged".Data represented in Table 1 indicate that the old aged vegetable grower comprised the highest proportion 36.3% followed by young old aged category 32.7% and the lowest proportion were made by the middle aged category 31.0%. Data also indicates that the old and young aged respondents constitute almost 63.7% of total respondents. The young and middle aged respondents were generally more involved in vegetable cultivation than the old aged. Education level of the respondents ranged from 0-15 in accordance with year of schooling. The average education score of the respondents was 4.12 with a standard deviation of 4.29. On the basis of their level of education, the farmers were classified into six categories as shown in Table 1.Data shown in the Table 1 indicates that respondent under can sign only category constitute the highest proportion 31.0% followed by primary education category 28.3%. On the other hand, the lowest proportion (3.5%) in above higher secondary education category followed by higher secondary education category (6.2%), can't read and write category 15% and secondary education category 15.9%. Education broadens the horizon of outlook of vegetable grower and expands their capability to analyze any situation related to vegetable production and marketing. An educated vegetable grower is likely to be more responsive to the modern facts, ideas, technology and information of vegetable production and marketing. To adjust with the same, they would be progressive minded to adopt as well as involve with modern cultural, processing and marketing facilities of vegetables along with searching for the opportunities to exports their vegetables in different countries through proper marketing channel.The number of family members of the respondents ranged from 2-10 with an average of 4.47 and standard deviation of 1.49. Based on the family size the respondents were classified into three categories as small, medium and large family as shown in Table 1. Data furnished in the Table 1 indicated that the highest proportion 54.9% of the respondents had small family size consisting up to 4 members, while 40.7% of the respondents belonged to the category of medium family compared to 4.4 of them having large family size. Such findings is quite normal as per the situation of Bangladesh. The trend of nuclear family has been rising in the study area and subsequent the family member becoming smaller than the extended

family. Farm size of the respondents ranged from 0.07-2.01 ha with the mean of 0.40 and standard deviation of 0.36. On the basis of their farm size, the farmers were classified into three categories as shown in Table 1. Data presented in the Table 1demonstrated that highest proportion 67.3% of the farmers had small farm compared to 26.5% having marginal farm and only 6.20% had medium farm. The findings indicated that overwhelming majority 93.8% of the farmers had marginal to small farm size. In Bangladesh most of the farmers live on below a subsistence level. This in one of the vital reasons for notadopting improved farming practices in their farm as well as having lower skill on marketing practices.Computed scores of the farmers about experience in vegetable production ranged from 2-35 years with a mean of 13.35 and standard deviation of 5.91. On the basis of farming experience, the respondents were classified into three categories as follows in Table 1.Data contained in Table 1 showing that 48.7% of the farmers had medium farming experience, where as 28.3% had long farming experience and 23.9% had short farming experience. Farming experience is helpful to increase knowledge, improve skill and change attitude of the farmers. It also builds confidence of the farmers for making appropriate decisions at the time of need. Above three fourth (77%) of the farmers had medium to long farming experience.Generally, experience helps to cope up any problematic situation. Therefore, the higher experience might be increased the risk bearing ability of the farmers in vegetable cultivation as well as increase their knowledge and skill on marketing practice.Annual family income of the respondents ranged from 95-903.00 thousand taka. The mean was 199.99 thousand taka and standard deviation was 99.97. On the basis of annual family income, the respondents were categorized into three groups as shown in Table 1.Data shown in Table 1 presented that the highest proportion 59.3% of the respondents had medium family income while 31.9% and 8.8% of the respondents had low and high annual family income respectively. The gross annual family income of a farmer is an important indicator of how much s/he can invest in his farming. Generally higher income encourages one's integrity to achieve better performance and to show his/her individual better status in the society. The higher income increases the risk taking capacity of the farmers' vegetable production and marketing. Farmers with low income generally invest less in their farms. It is therefore, likely that a considerable portion of farmers may face difficulty in vegetable production and marketing. The score of training exposure on vegetable cultivation of the farmers ranged from 0-3 days. The mean was 0.08 days and standard deviation was 0.48. On the basis of training exposure on vegetable cultivation, the respondents were categorized into three groups as shown in Table 1.Data presented in the Table 1 showed that three fourth (85%) of the farmers had no training exposure; while only 15% of the farmers had low training exposure. It means that an overwhelming majority (85%) of the farmers had no training exposure. Training develops farmers' knowledge, skill, and attitude in positive manner. However, the findings show interns of training received, respondent status was found unsatisfactory.The observed extension contact scores of vegetable grower ranged from 7 to 18 against the possible range from 0 to 28, the mean and standard deviation were 8.63 and 1.49 respectively. According to this score, the summer tomato farmers were classified into three categories: "low extension contact" (up to 7), "medium extensioncontact" (8 to10) and "high extension contact" (above 10). The distribution of the vegetable grower according to their extension contact is shown in Table 1.Data presented in the Table 1 showedthat a proportion of 84.1% of the vegetable grower had medium extension contact compared to 9.70% of them having low extension contact. Only 6.2% of the vegetable grower had high contact. Thus, overwhelming majority (93.8%) of the vegetable grower had

low to medium extension contact. Extension contact is a very effective and powerful source of receiving information about various new and modern technologies. The status of no or having low and medium contacts might have significant impacts on the constraints on marketing of vegetables. Knowledge on vegetable marketing of selected vegetables score of the respondents ranged from 16 to 23 against the possible range of 0 to 26 having an average of 18.93 and standard deviation of 1.37. On the basis of knowledge scores, the respondents were classified into three categories namely, 'low knowledge', 'medium knowledge' and 'high knowledge'. The distribution of the respondents according to their knowledge on marketing of vegetables is given in Table 1.Data of Table 1 show that 66.4% of the respondents felt in high knowledge category followed by 33.6% in medium knowledge category. Knowledge is to be considered as vision of an explanation in any aspect of the situation regarding vegetable cultivation and marketing. It is act or state of understanding; clear perception of fact or truth, that helps an individual to foresee the consequence he may have to face in future. It makes individuals to become rational and conscious about related field. To perform optimum production and marketing, vegetable growers should have adequate knowledge and skill on different aspects of marketing. The observed score of marketing information of the respondents' vegetable growers ranged from 10 to 18 against the possible range of 0 to 28 having the mean of 11.45 and standard deviation of 1.29. Based on their marketing information, the potato growers were classified into three categories: "low level market information" (up to 9), "medium level of market information" (10 to 12) and "high level market information" (above 12). The distribution of the farmers according to their marketing information is shown in Table 1. The Table 1 shows that the highest portion 85.0% of the vegetable grower were in medium level market information group and only 15% were in high level group. Most of vegetable growers of the study area had medium level of information but it is necessary to have available market information for attaining highest market price. Therefore it could be conducted that marketing information was not readily available in the study area. Constraint means the threat or use of force to prevent, restrict, or dictate the action or thought of others. Constraint defined by Matthew Arnold is the state of beingchecked, restricted, or compelled to avoid or perform some action. Constraint faced, therefore, refers to the extent to which individual faces restricted situations about which something needs to be done. The scores of constraint faced in vegetable marketing of the respondents ranged from 45 to 72 against the possible range of 0 to 88 with an average of 57.61 and standard deviation of 5.44. Based on the observed scores of constraints faced in vegetable marketing, the respondents were classified into the three categories i.e. Low level marketing constraints, Medium level marketing constraints and High level marketing constraints. The distribution has been shown in Table 1.

Data of Table 1 show that among the respondents the highest 68.1% vegetable growers belong to the group of medium level marketing constraints and the lowest 15% in high level marketing constraints followed by low level marketing constraints (16.9%) by the vegetable grower in marketing constraints. Among the growers, most of the vegetable grower (85%) have low to medium constraints of vegetable marketing.

Table 2. Characteristics of the Vegetable Growers

Characteristics	Categories	Range	Number	Percent	Mean	STD
Age (years)	Young aged	$21 - 87$	37	32.7	44.83	14.69
	Middle aged		35	31		

Characteristics	Categories	Range	Number	Percentage	Mean	SD
	Old aged		41	36.3		
Level of education (schooling years	Illiterate	0.0 – 15	17	15	4.12	4.29
	Can sign only		35	31		
	Primary		32	28.3		
	Secondary		18	15.9		
	Higher secondary		7	6.2		
	Above higher secondary		4	3.5		
Family size (number of members)	Small family	2-10	62	54.9	4.47	1.50
	Medium family		46	40.7		
	Large family		5	4.4		
Farm size under vegetable cultivation (hectare)	Marginal farm	07 - 2.01	30	26.5	0.40	0.36
	Small farm		76	67.3		
	Medium farm		7	6.2		
Vegetable cultivation experience (years	Short farming experience	2 – 35	26	23.0	13.35	5.91
	Medium farming Experience		55	48.7		
	Long farming experience		32	28.3		
Annual family income ('000'BDT)	Low income	95 – 903	36	31.9	199.97	99.97
	Medium income		67	59.3		
	High income		10	8.8		
Training received (Number of days)	No training	0 – 3	96	85.0	.08	.48
	Low training		17	15.0		
Extension contact(Score)	Low extension contact	7 – 18	11	9.7	8.63	1.49
	Medium extension Contact		95	84.1		
	High extension contact		7	6.2		

Knowledge on vegetable marketing (Score)	Medium knowledge	16 – 23	38	33.6	18.93	1.37
	High knowledge		75	66.4		
Availability of marketing information (Score)	Medium level market Information	10 – 18	96	85.0	11.45	1.29
	High level market information		17	15.0		
Constraints faced by the vegetable growers in marketing (Score)	Low level marketing constraints	45 – 72	19	16.9	57.61	5.44
	Medium level marketing constraints		77	68.1		
	High level marketing constraints		17	15.0		
Total			113	100		

3.2 Relationship between Selected Characteristics of the Vegetable Grower and Their Constraints Faced in Vegetable Marketing

To explore the relationships between the selected characteristics of farmers with their Constraints faced in vegetable marketing, Pearson Product Moment correlation was run to find out the relation between the selected characteristics of the vegetable growers and their constrains faced during marketing of vegetables. From this correlation test, it was found that vegetable farm size of the farmers had significant positive and training received, knowledge on vegetable marketing and availability of marketing information had significant negative relationship with their constrains faced during marketing. Beside these four characteristics, rest seven characteristics of the farmers (age, level of education, family size, vegetable cultivation experience, annual family income, credit availability and extension contact) had no significant relationship with their constraints faced in vegetable marketing (Table 3)

Age, level of education, farm size, vegetable cultivation experience, annual family income and extension contact of the farmers had no significant relationship with their constraints faced on vegetable marketing. The findings indicated that farm size of the farmers had a significant positive relationship with their constraints faced in vegetable marketing. Farmers' having big farm size need to work hard to manage their farm efficiently. As a result they might perceived higher constraints in managing their farm. Training received of the farmers had a significant negative relationship with their constraints faced in vegetable marketing. Based on the above findings, it can be summarized that a vegetable grower had more training increased the capabilities to reduce marketing constraints of vegetable grower in Bogura district. Because training received develops the farmers' knowledge, skill, and attitude in positive manner. Although the findings showed that most of the respondent had no training but suggest that training experience might be the most important factor for the respondents to change their knowledge and skill on marketing practices of vegetables. Knowledge on vegetable marketing of the farmers had a significant negative relationship with their constraints faced in vegetable marketing. Based on the above findings, it can be summarized that a vegetable grower had more knowledge increased the capabilities to reduce marketing constraints of vegetable grower in Bogura district. Knowledge makes individuals to become rational and conscious about related field. It enhance

the abilities of the vegetable growers at short time than other to reduce marketing constraints. So, knowledge has significant negative relationship with their constraints faced in vegetable marketing in Bogura district. Availability of marketing information of the farmers had a significant negative relationship with their constraints faced in vegetable marketing. Based on the above findings, it can be summarized that the vegetable grower of this particular area were not in contact of market information. So, they are being deprived to get a good price in the appropriate time. Educated people usually try to keep themselves updated about the marketing information. They seek market information from different sources to get a good and reasonable price for their hard-earned crops. More marketing information means greater opportunity to justify the market condition for the best time and place to sell their harvested crops. So, the availability of marketing information has significant negative relationship with their constraints faced in vegetable marketing in Bogura district.

Table 3

 Co-efficient of correlation   showing relationship between selected characteristics   of the   vegetable   growers   and   constraints   faced   in vegetable marketing

Predicted variable	Experimental variable	Computed value "r"	Tabulated value of "r"	
			At 0.05 level	at 0.01 level
Constraints faced in vegetable marketing	1. Age	-0.005^{NS}		
	2. Level of education	-0.041^{NS}		
	3. Family size	0.024^{NS}		
	4. Farm size under vegetable cultivation	0.397^{**}		
	5. Vegetable cultivation experience	-0.017^{NS}	0.185	0.241
	6. Annual family income	0.066^{NS}		
	7. Credit availability	0.097^{NS}		
	8. Training received	-0.293^{**}		
	9. Extension contact	0.122^{NS}		
	10. Knowledge on vegetable marketing	-0.247^{**}		
	11. Availability of marketing information	-0.218^{*}		

∗

Significant at 0.05 level of probability

∗∗

Significant at 0.01 level of probability

3.3Indexing of the constraint faced by the vegetable growers

Indexing the twenty two dimensions of marketing constraints of vegetable grower is presented in Table 4.15. According to Constraint Facing Index (CFI), insufficient space for storage of produce positioned the 1st and misleading information of marketing intelligence in the last. Marketing constraints of vegetable grower in Bangladesh according to descending order through analysis of the received data from respondents are presence of insufficient space for storage of produce, more number of middleman, inadequate market information, inadequate availability of vehicle for each packing, lack of pucca road, unavailability of packing material, high and undue market charge, undefined standard for grading, payment in parts, inadequate facilities for storage, bulkiness and perishable nature of the produce, auctioning, inadequate govt. assistance, weighing, qualitative losses, arbitrary commission charges, poor quality of packing material, late information of market, lack of machine facilities for grading, road block due to land slide, etc. and misleading information of market. The result showed that the highest constraints among the marketing constraints faced by the vegetable grower was insufficient space for storage. The lowest constraints in vegetable marketing was misleading information about market intelligence. This happened because the respondent use some local technique and most of the respondents had awareness about marketing.

Table 4. Indexing of the marketing constraints of vegetable grower in the locale

Constraint items	CFI	Rank Order
Lack of pucca roads	407	4
Road blockade due to land slide, etc.	149	21
Bulkiness and perishable nature of the Produce	301	12
Inadequate availability of vehicle for	382	6
Uneven road condition	204	19
Lack of machine facilities	164	20
Undefined standards	330	8
Poor quality	213	17
unavailability during harvesting time	394	5
Inadequate facilities	310	10
Insufficient space	439	1
Qualitative losses	259	15
Inadequate govt. assistance	296	13
Weighing	285	14
In bidding / auctioning	301	11
High and undue market charge	366	7

More number of middleman	429	2
Arbitrary commission charges	219	16
Late information	207	18
Payment in parts	314	9
Inadequate information	416	3
Misleading information	127	22

4.CONCLUSIONS

Insufficient space for storage of produce is the highest ranked marketing constraints of vegetable growers in Bogura district. The number of the cold storage is not enough in comparison of the large production of this area. Along with this, the location of the cold storage is not well planned. So, the long distance of cold storage is more costly for the vegetable growers for conserving these perishable crops till a suitable time to sell their hard-earned crops at a good price for earning a good profit.The effect of middle man is the 2nd highest ranked marketing constraints of vegetable growers in Bogura district. The farmer are being deprived of getting a right price for their produce. Therefore, concerned authority should take proper steps to minimize the constraints so that the commercial vegetable grower can get expected return from their investment.Availability of marketing information is the 3rd highest ranked marketing constraints of vegetable growers in this locale. The farmer are being deprived of getting a price in the appropriate time. More marketing information means greater opportunity to justify the market condition for the best time and place to sell their harvested crops.Transport facility to market place is the 4th highest ranked marketing constraints of vegetable growers in this locale. If the transport facility become improved, it will be easy to reduce marketing problem through minimizing transportation cost of the produce.Overwhelming majority (83.50 percent) of the vegetable growers had no training on vegetable cultivation and marketing. Pearson product momentcorrelation also revealed that training on vegetable cultivation of the respondent had significant negative relationship with their knowledge and skill on marketing practices of vegetables. Therefore, it may be concluded that individuals having more training exposure had more knowledge and skill on marketing practices of vegetables.Overwhelming majority (77.0 percent) of the vegetable growers faced medium constraints in vegetable marketing. Pearson product moment correlation also revealed that constraints faced in vegetable marketing of the respondent had significant negative relationship with their knowledge on vegetable marketing. Therefore, it may be concluded that individuals having more knowledge faced low constraints in vegetable marketing.

Near about 74.3% vegetable grower are less literate in this study area. A vegetable grower with more education increased the capabilities to reduce marketing constraints of vegetable growers in Bogura district. Education enhances the ability of the vegetable growers to face the marketing constraints and reduce it at short time than others.

5. REFERENCES

1. AIS (Agriculture Information Service). 2001. Krishi Diary, Agriculture Information Service, Ministry of Agriculture, Govt. People's Repub. Bangladesh. Dhaka. p.3.

2. AIS (Agriculture Information Service). 2011. Krishi Diary, Agriculture Information Service, Ministry of Agriculture, Govt. People's Repub. Bangladesh. Dhaka. Pp.12-13.

3. Azad, M.J., Ali, M.S., and Islam, M. R., 2014. Farmers Knowledge on Postharvest Practice OF Vegetables. *International Journal of Experimental Agriculture*. 4(3):7-11

4. Azad, M.J., Ali, M.S., Islam, Yasmin, M. R. M. and K.H. PK. 2014. Problem perceived by the farmers in vegetable cultivation. *Journal of experimental bioscience*. 5(2):63-68

5. Bachmann, J., and Earles, R., 2000. Post-harvest handling of fruits and vegetables. [Online]. Available: http://www.attra.org/attrapub/postharvest.html [Accessed on 20 June 2012].

6. Bangladesh Bureau of Statistics (BBS). 2017. Ministry of Planning, Government of the People's Republic of Bangladesh.

7. Bezabih, E., and Hadera, G., 2007. Constraints and opportunities of horticulture production and marketing in eastern Ethiopia. Dry Lands Coordination Group Report No 46. Grensen 9b. Norway. 90p

8. Bhopal, M.P., 2004. Storage Facilities in Agriculture. [Online]. Available: www.mpkrishi.org/EngDocs/AgriLeft/agriStorage.aspx. [Accessed 21 November 2012].

9. Bhuiyan, M. A. S. 2002. Constraints Faced by the Farmers in Banana in Cultivation in Kuliarcharupazila under Kishoreganj District. *M.Sc. (Agril, Econ.). Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.

10. Chonhenchob, V. Sittipod, S., Swasdee, D., Rachtanapun, P., Singh, S. P., and Singh, J., 2009. Effect of truck vibration during transport on damage to fresh produce shipments in Thailand. *Journal of Applied Packaging Research*, 3 (1), pp. 27-38.

11. Farhad, A.K.M. 2003. Knowledge attitude and practices of rural women in using IPM vegetable cultivation. An *M.S. (Ag. Ext. Ed.). Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.

12. Gumataw, K. Abebe, Jos Bijman, j., Annie Royar, A. 2016. Are middleman facilitators or barriers to improve smallholders` welfare in rural economics? Empirical evidence from Eethopia. *J. of Rural Studies*. Retrieved from: www.elsevier.com/locate/jrurstud.Doi:http://dx.doi.org/10.1016/j.jssas.2016. 01. 005

13. Gustavsson, J., Cederberg, C., Sonesson, U., Van Otterdijk, R., and Meybeck, A., 2011. Swedish Institute for Food Global food losses and food waste. [Online]. Available: http://www.fao.org/docrep/014/mb060e/mb060e.pdf. [Accessed on 20 June 2012].

14. Islam, M. N. 2008. Knowledge on Vegetables Production Activities by Woman Members In Homestead Area Under World Vision Project. *M.S. (AEIS). Thesis*, Department of Agricultural Extension and Information System, Sher-e-Bangla Agricultural University, Dhaka.

15. Kabir, K. H., Kashem, M. A. and Miah, A. M. A., 2011. Constraints faced by the nursery owners in the production of saplings. *Bangladesh J. Extn. Edu*. 23 (1&2): 53-60

16. Mabuza, M. L., Ortmann, G., and Wale, E., 2013. Effects of transaction costs on mushroom producers" choice of marketing channels: implications for access to agricultural markets in Swaziland. South African *Journal of Economic andManagement Sciences* 17 (1), pp. 99-111.

17. Omiti J., Otieno, D., McCullogh, E. and Nyanamba, T., 2007. Strategies to promote market oriented smallholder agriculture in developing countries: A Case of Kenya. AAAE Conference Proceedings (2007), 259-264.

18. Pandict, J. C., and Basak, N. C., 2013.Constraints faced by the farmer in commercial cultivation of vegetables. *Bangladesh Journal of Agricultural Economics*. 11(2): 193-198.

19. Pramanik, N. K., 2001. Crop Cultivation problems of the Farm Youth in A Selected Block of MuktagachaUpazila under Mymensingh District. *M.S. (Ag. Ext. Ed.)Thesis*, Dapartment of Agricultural Extension Education, BangladeshAgricultural University, Mymensingh.

20. Rahman, M. M., Akanda, M. G. R. and Hossain, M. A., 2008-10. Problem confrontation of the farmers in vegetable cultivation. *Bangladesh J. Train*. Dev. 21-23(1&2): 59-66.

21. Rashid, M. Z., 2003. Participation of School Dropout Rural Youth in Madhupur Union of Tangail District. *M.S. (Ag. Ext. Ed.) Thesis*, Department of Agricultural Extension Education and Teachers Training, Bangladesh Agricultural University, Mymensingh.

22. Sandip, M. A., Mookherjee, D., Maximo Torero, M. and SujataVisaria, S., 2013. Asymmetric Information and Middleman Margins: An Experiment with West Bengal Potato Farmers; International Food Policy Research Institute (IFPRI), Washington DC.

23. Uddin, M. J. 2004. Constraints Faced by the Farmers in Commercial Cultivation of Vegetables. *M.S. (Ag. Ext. Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.

24. Weinberger, K. and Genova II, C. A., 2005. "Vegetable Production in Bangladesh: Commercialization and Rural Livelihoods," Technical Bulletin no. 33. Taiwan: AVRDC – The World Vegetable Center.