

Use of Communication Media by the Farmers in Receiving Information on Selected Winter Vegetable Cultivation in Bangladesh

N. Das¹, M.R. Amin², M M Adhikary³, M.A. Islam⁴, M. Rokonzaman⁵ and N. Islam⁶

¹MS Student, Department of Agricultural Extension Education, Sylhet Agricultural University, Sylhet, Bangladesh

^{2,4,5}Department of Agricultural Extension Education, Sylhet Agricultural University, Sylhet, Bangladesh

³Department of Agricultural Extension, Bidhan Chandra Krishi Viswavidyalaya, West Bengal

⁵UAO, DAE, Bangladesh

Abstract—The purpose of the study was to reveal the extent of use of communication media by the farmers in receiving information on selected winter vegetable cultivation. Attempt was also made to explore the relationship between the concerned variables. Nine selected characteristics (age, education, family size, farm size, annual income, organizational participation, innovativeness, cosmopolitanism and agricultural knowledge) of the farmers constituted independent variables of the study, while use of communication media by the farmers was the dependent variable. The findings revealed that 61% of the farmers were middle aged, 95% had primary to secondary education, 62% had medium family size, 50% had medium farm size, 88% had medium to high income, 70% had medium organizational participation, 75% had medium cosmopolitanism, 53% had medium innovativeness and 83% had medium to high agricultural knowledge. The study also revealed that, 64 percent of the respondents had medium use, 20 percent had low use and 16 percent had high use of communication media in receiving information on selected winter vegetable cultivation. As regard to relationships, positive correlation was evident of the selected characters like education, organizational participation, cosmopolitanism and innovativeness at one percent level of significance. Again Age, family size, farm size, annual income, and knowledge on agriculture of the farmers had no significant relationship with their use of communication media in receiving information on winter vegetable cultivation.

Keywords: Communication media, Information, winter vegetable, Farmer.

1. INTRODUCTION

Bangladesh is predominantly an agro based country. Agriculture supplies raw materials for industrial production and food stuff for human and animal consumption. So the Crop production of Bangladesh needs to be maximized in order to meet the increasing food demand and other basic requirements. In Bangladesh, a remarkable portion of the population is under the poverty line and suffers from various health problems. Severity of malnutrition and iron deficiency (anaemia) is the highest among females of all age groups and

children. Approximately one million Bangladeshi children have clinical signs of vitamin a deficiency and more than 900,000 children under 6 years suffer some degree of Xerophthalmia and over 30,000 children go blind each year due to severe vitamin A deficiency. In addition to that the normal diet of the people of Bangladesh is cereal based, particularly rice based. The intake ratio of cereals and vegetable is about 5:1, whereas in many other developing countries it is about 1:2. Hence, vitamin and mineral deficiency diseases are very common in Bangladesh (HRDP, 2002). So, Vegetables are being considered as one of the most important groups of food crops due to their high nutritive value, labor-intensive production, relatively higher yield and higher return in Bangladesh. These are also considered as a cheaper source of natural supplementary food and can be grown within short duration.

Communication media has a vital role to carry the message of improved agricultural practices through media to the intended audience. It is expected that the winter Vegetable production can be increased significantly by improving farmers existing knowledge, skills and availability of the production inputs. Agricultural information has been considered as an important input for increased farm productivity. Farmers usually use various media for obtaining farm information. Various research studies reported that the use of communication media is varied on the basis of social, economic and psychological setting of the farmers. A sound system of communication for the effective flow of scientific information through media to the ultimate user has become burning question of the day. Rogers (1962) after reviewing many studies on media information by stages, made a generalization that impersonal communication media were most important at awareness stage and personal media were most important at the evaluation stage in the adoption process. So the communication media suitable in receiving agricultural information to the farmers are to be studied with greater emphasis as it should be considering the above facts, the

researcher felt a thrust to conduct a study with the hope to identify the extend of use of communication media by the farmers in receiving agricultural information on winter vegetable cultivation. Thus the study was designed with the following objectives:

1. To determine and describe some selected characteristics of the farmers
2. To determine and describe the extent of use of communication media in receiving information on winter vegetable cultivation
3. To explore relationship between selected characteristics of the farmers and their use of communication media in receiving information on winter vegetable cultivation.

2. MATERIALS AND METHODS

Daudpur union covering three villages namely Tirashigram, Shirajpur and Konachor taking from South Surmaupazilla under Sylhet District were selected purposively for this study. The total number of vegetable grower was 400 in the three villages. About twenty five percent of the farmers were selected randomly by using random numbers which constituted the sample of 100 for the present study and a reserve list of 10 farmers also made. The researcher personally collected data for this study by using an interview schedule in Bengali. Simple, easy and direct questions were included in the interview schedule. The data were collected from October 15, 2015 to November 15, 2015. Use of communication media by the farmers in receiving information on production of selected winter vegetable was the dependent variable of this study. Nine characteristics of farmers were selected as independent variables. These characteristics were age, level of education, family size, farm size, annual income, organizational participation, Cosmo politeness, innovativeness and agricultural knowledge. The methodology followed for measuring the dependent and independent variables are described below:

2.1 Measurement of independent variables

Age of a farmer was measured in terms of actual years from his birth to the time of interview. The **education** of a farmer was measured in terms of formal years of schooling. **Family size** was calculated by computing the total number of members of the respondents' family who jointly lived and ate together. The area possessed by the farmers under farm and homesteads were the basis for calculation of **farm size**. **Annual family income** was measured considering the total yearly earnings from agriculture and non-agricultural sources of the members of a respondent's family. **Organizational participation** of the respondents was measured on the basis of two dimension; nature of involvement and number of organizations in which the respondents were involved. **Cosmo politeness** of a farmer was measured by computing a **Cosmo politeness** score on the basis of his frequency of visits to 10 different places outside to his own social system.

Innovativeness of the farmers was measured on the basis of their adoption of 12 new technologies related to agriculture and others considering earliness in the use of a technology by a farmer and agricultural knowledge was measured by assigning 40 score for all the 20 questing.

2.2 Measurement of dependent variable

A five point scale was used to compute the extent of use of communication media. Fifteen selected media such as Individual media: Sub- Assistant Agricultural Officer, experienced farmer, relatives, input dealers, neighbours, local leaders and result demonstration; Group media: Group discussion, farmers' rally, result demonstration meeting, agricultural exhibition and method demonstration and Mass media: Radio, agricultural printed materials and Television were used in this regard. Then the extent of use of these fifteen media were added together to ascertain his total score in receiving agricultural information on winter vegetable cultivation. In this regard weight was assigned like Regularly use=4, Occasionally use =3, Seldom use =2, Rarely use =1, Not at all =0. Thus, the use of communication media score of a respondent could range from 15 to 60 where, 15 indicate very low use and 60 indicate very high use of communication media in receiving agricultural information.

Among inferential statistics, correlation analysis was used to explore relationship between selected characteristics of the farmers and their use of communication media in receiving information on winter vegetable cultivation as the principal statistical method. These analyses were done using the SPSS (Statistical Package for Social Science). The level of probability fixed for the rejection of a null hypothesis was 0.05.

3. RESULT AND DISCUSSIONS

3.1 Selected Characteristics of the Farmers

Age scores of the farmers ranged from 28 to 70 with an average of 45.15 and the standard deviation was 11.25. Findings indicate that a large proportion (61 percent) of the farmers were middle aged compared to 18 and 21 percent being young aged and old respectively. This indicates that the nature and extent for receiving agricultural information in the study area took place to a considerable level among the middle aged group who were the active working group in that social unit although majority (51 percent) of the them had primary education compared to 5 and 44 percent having illiterate and secondary education respectively. It is expected that the family having more number could invest better labour in their farming enterprises than those of the farmers having small size family. Seventy eight percent of the farmers having medium to large size families may have scope to invest more labour force in their vegetable farms. In the study area, 88 percent farmers belong to medium to high income group although 50 percent of them possessed medium farm size, 40 percent marginal to small and only 10 percent possessed large farms which

indicates that they might have some other sources of income besides vegetable cultivation. Almost 90 percent of the vegetable farmers had medium to high organizational participation as well as cosmopolitanness. This means that the respondents of the study area are not engaged in their farm works only but they also participate in other social activities with self-mobilization. Almost three-fourth percent of the vegetable growers were found to have medium to high innovativeness and used interpersonal, group and mass media

sources of information for getting agricultural information on selected winter vegetable cultivation. On the other hand, 26 percent of them appeared as laggard and received agricultural information from their peer groups. However, overwhelming majority (83 percent) of the farmers had average to high knowhow's about winter vegetable cultivation which might lead them to use the communication media at medium to high extent.

Table 1: Farmers Characteristics profile

Socio-economic characters	Percent	Mean	Standard deviation	Socio-economic characters	Percent	Mean	Standard deviation
Age (year)		45.15	11.25	Medium(100-200)	58		
Young(up to 30)	18			High (Above 200)	30		
Middle age(31-50)	61			Organizational Participation (Score)		18.54	5.69
Old (above 50 years)	21			Low(up to 13)	14		
Education (Year of schooling)		4.65	3.05	Medium(14-24)	70		
Illiterate(0)	5			High(above 25)	16		
Primary (.5-5)	51			Cosmopolitanness (Score)		17.19	4.33
Secondary(6-12)	44			Low (up to 13)	9		
Family size (member)		5.87	1.66	Medium (14-23)	75		
Small(2-4)	22			High(24)	16		
Medium(5-6)	62			Innovativeness(Score)		13.85	2.70
Large(above 6)	16			Low(up to 11)	26		
Farm size (ha)		1.53	1.10	Medium(12-17)	53		
Marginal(up to 0.20)	2			High(above 18)	21		
Small(.21-1.00)	38			Knowledge on Agriculture(Score)		29.92	4.37
Medium(1.01-3.00)	50			Poor (up to 24)	17		
Large (above 3.00)	10			Medium(25-32)	67		
Annual Income (In Tk 1000)		176.40	92.44	High(above 32)	16		
Low(up to 100)	12						

Use of communication media by the farmers in receiving information on winter vegetables cultivation

The observed use of communication score of the farmers in receiving information on winter vegetable cultivation ranged from 21 to 41 having an average of 29.10 with a standard deviation 5.12 against the possible range of 0 to 60. On the basis of their extent of use of communication media score, the farmers were classified in to three categories: ‘‘Low use’’ (up to 24), ‘‘Medium use’’ (25-34), and ‘‘High use’’ (above 35). The distribution of the farmers according to their extent of use of communication media in receiving information on winter vegetable cultivation is shown in table below:

Table 2: Distribution of the farmers according to their communication media use

Categories	Farmers		Mean	Standard Deviation
	Number	Percent		
Low use(up to 24)	20	20	29.10	5.12
Medium use(25-34)	64	64		
High use(above 35)	16	16		
Total	100	100		

The table further revealed that majority (64 percent) of the farmers of the study area maintained moderate contact with 15 selected communication media for receiving agricultural information related to winter vegetable cultivation. Data also revealed that majority (80percent) of the respondents of the study area had medium to high level of use of communication media in receiving information on selected winter vegetable cultivation. They usually practiced to get their required information mainly from Individual media like Sub- Assistant Agricultural Officer, experienced farmer, relatives, input dealers, neighbours, local leaders and result demonstration; Group media: Group discussion, farmers’ rally, result demonstration meeting, agricultural exhibition and method demonstration and Mass media: Radio, agricultural printed materials and Television were used in this regard whereas rest 20 percent used to received agricultural information from their peer groups.

Relationship between the selected characteristics of the farmers and their use of communication media

The purpose of this section is to examine the relationship between nine selected characteristics of the farmers and their use of communication media in receiving information related to the cultivation of selected winter vegetable cultivation. The characteristics included: age, level of education, family size, farm size, annual income, organizational participation, Cosmo politeness, innovativeness and agricultural knowledge. Each of the characteristics constituted an independent variable, while the use of communication media by the farmer in receiving information related to winter vegetable cultivation was the only dependent variable in this study. **Table below** has been used for descriptive interpretation of the meaning of ‘r’:

Table 3: The meaning of ‘r’ values

r	Meaning
0.00 to 0.19	A very low correlation
0.20 to 0.39	Low correlation
0.40 to 0.59	A moderate correlation
0.60 to 0.79	A high correlation
0.80 to 1.00	A very high correlation

Source: Cohen and Holliday, 1982

Coefficient of correlation (r) was used to explore relationship between the selected characteristics and use of communication media in receiving agricultural information by the farmers. Five percent (0.05) level of significance was used as the basis for acceptance or rejection of any null hypothesis and positive correlation was evident of the selected characters like education, organizational participation, cosmopoliteness and innovativeness (Kashem and Halim, 1991) at one percent level of significance. This means that with the increase of those characters, the use of communication media in getting agricultural information would be increased. Again Age (Roy, 1981), family size, farm size, annual income, (Bhuiyan,1988) and knowledge on agriculture of the farmers had no significant

relationship with their use of communication media in receiving information on winter vegetable cultivation. However the aforesaid characters were not related to the comprehensive use of the communication media by the farmers.

Table 4: Relationship between farmers selected characteristics and the effect of information media

Dependent Variable	Selected characteristics of the farmers	Correlation of Co-efficient with effect of information media	Tabulated value significant at	
			0.05 level	0.01 level
Use of communication media in receiving information on winter vegetable cultivation	Age	-0.074	0.196	0.256
	Education	0.626**		
	Family size	0.053		
	Farm size	-0.035		
	Annual income	0.050		
	Organizational participation	0.608**		
	Cosmopoliteness	0.489**		
	Innovativeness	0.379**		
Agricultural knowledge	-0.157			

** Correlation is significant at 0.01 level of probability

* Correlation is significant at 0.05 level of probability

4. CONCLUSIONS AND RECOMMENDATIONS

The study indicated that 64 percent of the respondents maintained medium use while only 16 percent as high of various communication media for receiving agricultural information. These 80 percent vegetable farmers are trying to maintain adequate flow of farm information among the farmers. The findings lead to the conclusion that the farmers maintained moderately satisfactory contact with the communication media available to them in receiving agricultural information for performing various farming operations. On the other hand, middle aged farmers with largely primary level education having medium family and small farm holdings, medium cosmopoliteness, organizational participation, annual income with medium innovativeness and agricultural knowledge prevailed in the study area. However, among the selected characteristics, strong positive correlation was evident of the selected characters like education, organizational participation, cosmopoliteness and innovativeness at one percent level of significance. Again Age, family size, farm size, annual income, and knowledge on agriculture of the farmers had no significant relationship with their use of communication media in receiving information on winter vegetable cultivation. Based on the above findings, the following recommendations can be made:

1. Group approach of extension could effectively be used by different extension agencies in disseminating information. Extension agent has an example such to farm listening class of radio, TV etc.
2. Considering the overall situation, it was recommended that care should be taken by the Department of Agricultural Extension (DAE) and other development agencies in properly handling communication media with the farmers. It should be remembered that failure of one effort may lead to reduce credibility of a particular communication medium which may take long time to overcome associated psychological barriers for proper use of the source.
3. Sub Assistant Agricultural Officer and the key informants of agricultural information, should be trained up them for developing their capability to disseminate information to the farmers through use of cell phone along with other ways.
4. Extensive training sessions and formal as well as non-formal education should be availed to enhance knowledge and skills in farm production and ways of getting information from the extension agents to be opened to the farmers through collaborative attempt of GOs and NGOs.

REFERENCES

- [1] Bhuiyan, M.S.I (1988). Use of Communication Media by the Farmers in the Adoption of Selected Improved Farm Practices in Rice cultivation. M.Sc. (Ext. Ed.) Thesis. Department of Agricultural Extension and Teacher's Training, Bangladesh Agricultural University, Mymensingh.
- [2] Cohen, L. and M. Holliday. (1982). Statistics for Social Scientists: An introductory text with computer programmes in basic. London Harper and Row Publishers: 92-93.
- [3] HRDP (2002). Training manual winter vegetable and Spices Production. FAO/UNDP/ASDB Project BGD/87/025, Dhaka. Department of Agricultural Extension (DAE) and Bangladesh Agricultural Development Corporation, Dhaka. pp. 43-47.
- [4] Kashem, M. A. and A. Halim. (1991). Use of Communication Media in the Transfer of Technologies to Farmers: A Farm Level Study. Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh and Bangladesh Agricultural Research Council, Dhaka.
- [5] Rogers, E. M. (1962). Diffusion of Innovation. New York: The Free Press.
- [6] Roy, G. L. (1981). Communication Behavior of the Small Income Farmers Receiving Information on the Use of Balance Doses of Fertilizer for Transplanted Aman cultivation in the Agrivarsity Extension Project Area. M. Sc. (Ex. Ed.) Thesis, Bangladesh Agricultural University, Mymensingh.