

Use of union information and service center by the farmers in receiving agricultural information

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Abstract: The main purpose of this study was to determine the extent of use of Union Information and Service Center (UISC) by the farmers in receiving agricultural information and to explore its relationships with their selected characteristics. Data were collected using interview schedule from a sample of 102 farmers selected by multi-stage random sampling procedure from 43 villages of Satair and Bhognagar unions under Birganj Upazila of Dinajpur district during 15 March to 25 April 2013. The use of UISC was determined initially on three dimensions viz. information reception, application and dissemination and finally the overall use of UISC by the farmers in receiving agricultural information was determined. Overall use of UISC could range from 18 to 52, against the possible score of 0 to 90. The highest proportion (47.06 percent) of the farmers had medium use of UISC compared to 29.41 percent had high use and 23.53 percent had low use. The findings revealed that more than three-fourths (76.47 percent) of the farmers had medium to high use of Union UISC in receiving agricultural information. Therefore, it can be said that the UISC play a significant role in dissemination of agricultural information among the farmers. Seven characteristics of the farmers' viz. family education, farm size, family income, cosmopolitaness, agricultural knowledge, innovativeness and socio-economic status showed positive significant relationship with their use of UISC; while their age and marketing orientation had no relationships.

Key words: UISC, farmers receiving, agricultural information.

Introduction

Bangladesh is an agricultural country with an area of 1,47,570 square kilometers. The country has an approximate population of 153.6 millions (BBS, 2012). About three-fourth of the total population lives in rural areas, all of them making their living exclusively or substantially from agriculture. Bangladesh though an over populated country, it is blessed with fertile land, but due to poverty and limited application of modern technologies and inputs it's per hectare yield of crop is still very low (Anonymous, 2004). There is a big gap between actual and potential yield of many crops and therefore, there is an ample scope to increase yield of many crops (Mondol, 2010). It is an agrarian economy with almost 60 percent of the population still employed in the agriculture sector and that the country has a course for self-sufficiency in food production by 2013 (Karim, 2010). It is the paramount importance that the newly generated technologies need immediate application at farmer's field to reduce techno-extension gap (Akanda, 2005). This requires generation of technology, which can fit in the participation of overall farming situations depending upon the need of the potential users and their effective communication in such a way that they can be adopted in the shortest possible time (Khan, 2002). Dissemination of agricultural information from the research system to the farmers and farmers' feedback to the research system is one of the critical considerations in transfer of agricultural technology. The extension personnel usually disseminate the technological messages to the farmers manually. Through this approach information have not been able to reach majority of the farmers who are spread across the whole country. This gap remains a challenge for the extension system even today. In addition farmers' need is much more diversified and the knowledge required to address them is beyond the capacity of the grass root level extension functionaries (Sharma, 2003). The huge number of population in Bangladesh need proper communication system and advanced knowledge about information technology to develop their skill on modern agricultural technologies. Under this circumstance, government of Bangladesh established 4501 Union Information and Service Center (UISC have often will be used as UISC) for smoothly

providing information among the rural people which are situated in the Union Council premises. It helps rural people to link up with information technology, adding that it would help to achieve her vision for Digital Bangladesh by 2021. All unions (the lowest tier of the local government) are now linked to the UISC. The UISCs commonly offered three types of services; government services, information services and commercial services. Information services consists providing different information and services on agriculture, health, education, law and human rights, tourism, environment and disaster management, science and technology, industry and commerce, employment, internet browsing, e-mailing, video conferencing with web cam, computer composing, scanning and printing, photography, computer training etc. For an overall development innovations alone are not enough to increase farm production. To have an impact on production, it is essential to develop farmers' need oriented technology and then to disseminate these technologies along with required information among the farmers through successfully communication and the UISC can help in this connection. Considering the importance of the UISC, attempt has been made to assess the process of information dissemination that could provide a tenable solution to the problem chosen, in respect to determine the extent of use of UISC by the farmers in receiving agricultural information, and to explore the relationship between the selected characteristics of the farmers with their use of UISC.

Materials and Methods

The study was conducted in two unions namely Satair and Bhognagar out of 11 unions of Birganj upazila under Dinajpur district. Multi-stage random sampling procedure was followed in the study. A total of 102 farmers were selected randomly from a population of 400 farmers constituted the sample of the study. The data were collected during the period from 15 March to 25 April 2013 using interview schedule. Simple statistics like range, frequency, percentage, mean and standard deviation were used to describe the data. Coefficient of correlation were computed to find out the relationships between selected characteristics of the farmers and their use of UISC. Nine selected characteristics of the farmers were

considered as independent variables were age, family education, farm size, family income, cosmopolitaness, agricultural knowledge, innovativeness, socio-economic status and marketing orientation. On the other hand, use of UISC by the farmer was dependent variable of the study and was measured by using three dimensions of information namely (i) reception (ii) application and (iii) dissemination.

Information reception means the amount of information which the respondents were received from UISC. The respondents were obtained a lot of agricultural information but, the study was confined only ten agricultural activities namely soil fertility, seed, intercultural operation of rice, intercultural operation of wheat, intercultural operation of maize, intercultural operation of potato, intercultural operation of vegetable, crop pest control, pit preparation for seedling plantation of fruit plant cultivation and insect and diseases of fruit plant. In measuring the information received, scores were separately assigned for each of the agricultural activities on the basis of the response of the farmers in such a way that 0 (zero) was assigned for no contact, 1 for low contact, 2 for medium contact and 3 for high contact. The received information by the farmers was therefore determined by adding the score against the 10 selected agricultural activities.

The second dimension of the dependent variable means after received information from UISC how much information they apply in their agricultural field. It was assumed that the application of information may be less than information received. In measuring the information application, scores were also separately assigned for each

of the 10 agricultural activities in such a way that 0 (zero) was assigned for never applied, 1 for low (up to 49 percent application), 2 for medium (50-79 percent application) and 3 for high (80-100 percent application).

The third dimension of dependent variable is dissemination of information. It was assumed that the dissemination of information among others may be less than information application. In measuring the information dissemination, scores were also separately assigned for each of the selected agricultural activities in such a way that 0 (zero) was assigned for never disseminate, 1 for low (disseminate among 1-2 persons), 2 for medium (disseminate among 3-4 persons) and 3 for high (disseminate among 4-5 persons).

The overall use of UISC by the farmers in receiving agricultural information was determined above mentioned three dimensions. In this purpose assigned score of total selected agricultural activities (ten for each of information received, application and dissemination) was summated, so overall use of UISC could range from 0 to 90, when 0 indicate never use of UISC and 90 indicate high use of UISC.

Results and Discussion

Selected Personal Characteristics of the Farmers: In the present study nine selected characteristics of the farmers such as age, family education, farm size, family income, cosmopolitaness, agricultural knowledge, innovativeness, socio-economic status and marketing orientation and their use of UISC by the farmers were studied. The salient findings of the characteristics of the farmers are presented in Table 1.

Table 1. Characteristics profile of the respondents (n = 102)

Characteristics (measurement unit)	Possible	Observed	Respondents			Mean	SD
			Category	No.	%		
Age (year)	Unknown	22-51	Young (≤ 35)	24	23.53	40.15	4.88
			Middle aged (36-50)	76	74.51		
			Old (> 50)	2	1.96		
Family education (year of schooling)	Unknown	16-55	Low (≤ 32)	41	40.20	36.37	9.01
			Medium (33-41)	36	35.30		
			High (> 41)	25	24.50		
Farm size (hectare)	Unknown	1.12-27.0	Small (≤ 1)	2	1.96	2.51	2.62
			Medium (1.1-3)	83	81.37		
			Large (> 3)	17	16.67		
Family income (‘000’ Taka)	Unknown	150-1440	Low (≤ 389)	42	41.18	543.57	309.15
			Medium (390-544)	17	16.67		
			High (> 544)	43	42.15		
Cosmopolitaness (score)	0-18	7-17	Low (≤ 11)	39	38.24	11.94	2.54
			Medium (12-13)	32	31.37		
			High (> 13)	31	30.39		
Agricultural knowledge (score)	0-36	12-27	Poor (≤ 18)	39	38.24	19.71	3.60
			Fair (19-22)	42	41.18		
			Good (> 22)	21	20.58		
Innovativeness (score)	0-30	7-22	Low (≤ 14)	29	28.43	15.54	2.83
			Medium (15-17)	35	34.31		
			High (> 17)	38	37.26		
Socio-economic status (score)	Unknown	18-124	Low (≤ 48)	44	43.14	58.08	20.84
			Medium (49-69)	35	34.31		
			High (> 69)	23	22.55		
Marketing orientation (score)	6-24	9-18	Low (≤ 15)	44	43.14	15.57	1.79
			Medium (16-17)	48	47.06		
			High (> 17)	10	9.80		

Use of UISC by the Farmers: The use of UISC by the farmers is the dependent variable of this study. An attempt

was made to determine the use of UISC in receiving agricultural information by the respondents on the 10

selected areas of agriculture. After completion of the training provided by the UISC the common interest groups (CIG) members received information, the CIG members may or may not be apply the received information in their respective areas. On the other hand, they may or may not be disseminate their received information among their neighbor farmers.

Information reception from UISC on the selected agriculture areas: The farmers had received information by participating training program provided by UISC on 10

selected areas of agriculture with varying degrees. The information received on the 10 selected areas of agriculture varied to a great extent. The information received scores of the farmers ranged from 6 to 24. The mean and standard deviation were 17.02 and 3.56 respectively. The farmers were classified into three categories such as low reception (≤ 15), medium reception (16 to 19) and high reception (above 19) on the basis of their reception score on the selected agricultural areas in Table 2.

Table 2. Distribution of the respondents according to their information receive

Categories	Farmers		Observed range	Mean	SD
	Number	Percent			
Low reception (≤ 15)	26	25.49			
Medium reception (16-19)	53	51.96	6-24	17.02	3.56
High reception (>19)	23	22.55			
Total	102	100.00			

Data contained in Table 2 indicate that the highest proportion (51.96 percent) of the farmer had medium received of agricultural information, while 25.49 percent had low and 22.55 percent had high reception information on the selected areas of agriculture. The findings reveals that (74.51 percent) of the farmers had medium to high reception of information from training on the selected areas of agriculture. These findings imply that the farmers had considerable amount of information received from UISC.

Application of information received from UISC on selected areas of agriculture: The farmers applied

information received from training of UISC to their respective fields. The application score of information received on the 10 selected areas of agriculture by the farmers of CIG were also examined by analyzing the application scores. The application of information scores of the respondents ranged from 5 to 17. The mean and standard deviation were 13.10 and 2.91 respectively. The farmers were also classified into three categories namely low application (≤ 12), medium application (13 to 15) and high application (>15) on the basis of their information application score in Table 3.

Table 3. Distribution of the respondents according to their information application

Categories	Farmers		Observed range	Mean	SD
	Number	Percent			
Low application (≤ 12)	29	28.43			
Medium application (13-15)	59	57.84	5-17	13.10	2.91
High application (>15)	14	13.73			
Total	102	100.00			

The findings indicated that the highest proportion (57.84 percent) of the farmers had medium application of information, while about 28.43 percent had low application and 13.73 percent had high application. The findings also imply that about three-fourths (71.57 percent) of the farmers had medium to high application of information. This means that the farmers' application of information was satisfactory.

Dissemination of received information after application:

The dissemination score of information on the 10 selected areas of agriculture by the farmers of CIG were also examined by analyzing the dissemination scores. The information dissemination scores of the respondents ranged from 3 to 15. The mean and standard deviation were 10.39 and 2.76 respectively. The farmers were also classified into three categories namely low dissemination (≤ 9), medium dissemination (10 to 12) and high dissemination (>12) on the basis of their information dissemination score in Table 4.

Table 4. Distribution of the respondents according to their information dissemination among the neighbor farmers

Categories	Farmers		Observed range	Mean	SD
	Number	Percent			
Low dissemination (≤ 9)	30	29.41			
Medium dissemination (10-12)	57	55.88	3-15	10.39	2.76
High dissemination (>12)	15	14.71			
Total	102	100.00			

The findings indicate that the majority (55.88 percent) of the farmer had medium dissemination of agricultural information while 29.41 percent had low and 14.71 percent had high dissemination of agricultural information on the selected areas of agriculture. The findings also reveal that more than two-thirds (70.59 percent) of the farmers had medium to high dissemination of information

after application of information on the selected areas of agriculture. These findings imply that farmers had considerable amount of information disseminated after application of agricultural information received from UISC.

Overall Use of UISC by the Farmers: The overall use of UISC by the farmers in receiving agricultural information

was determined by three dimensions for total selected agricultural activities (ten for each of dimensions reception, application and dissemination). Thus, the overall observed UISC scores of the farmers ranged from 18 to 52. The mean and standard deviation were 40.51 and

8.63 respectively. The respondents were classified into three categories namely low use (≤ 36), medium use (37 to 45) and high use (above 45) on the basis of their UISC sources in Table 5.

Table 5. Distribution of the farmers according to their overall use of UISC

Categories	Farmers		Observed range	Mean	SD
	Number	Percent			
Low use (≤ 36)	24	23.53			
Medium use (37-45)	48	47.06	18-52	40.51	8.63
High use (>45)	30	29.41			
Total	102	100.00			

The highest proportion (47.06 percent) of the farmers had medium use of UISC compared to 29.41 percent had high use and 23.53 percent had low use. The findings revealed that more than three-fourths (76.47 percent) of the farmers had medium to high use of Union Information and Service Center in receiving agricultural information. Therefore, it can be said that the UISCs can play a significant role in dissemination of agricultural information among the farmers.

Relationships between the Selected Characteristics of the Farmers and their Use of UISC: Relationships of the nine independent variables with the use of UISC as found by correlation test are described in this section. The computed co-efficient of correlation (r) between the independent and dependent variable are presented in Table 6.

Table 6. Relationships between the dependent and independent variables

Dependent variable	Independent variables	Computed values of 'r' with 100 df	Tabulated value of 'r'	
			0.05 level	0.01 level
Use of Union Information and Service Center	Age	-0.025		
	Family education	0.268**		
	Farm size	0.203*		
	Family income	0.430**		
	Cosmopolitaness	0.537**	± 0.194	±0.254
	Agricultural knowledge	0.484**		
	Innovativeness	0.666**		
	Socio-economic status	0.389**		
	Marketing orientation	0.163		

The findings at Table 6 reveal that among the selected nine characteristics of the farmers seven as family education, farm size, family income, agricultural knowledge, cosmopolitaness, innovativeness and socio-economic status showed significant positive relationship with their use of UISC. Thus, those are the important determining factors to use of UISC. While farmers' age, and marketing orientation had no relationships.

Educational implications: From the findings it can be said that the UISC can play a significant role in dissemination of agricultural information among the farmers. The technical competences of the SAAOs need to be improved for further improvisation of the functions of UISCs. An interdisciplinary (crop, livestock, fisheries, etc.) technical expertization for strengthening the Farmers Information and Advice Center (FIAC), within the framework of UISC need to be emphasized for achieving full potential out of it.

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