

Farmers' Perception to Agricultural Information and Communication Centre

S. Rana¹, M. Rahman² and S.M.M.A. Dipu³

Abstract

The objectives of the study were to determine the farmers' perception of Agricultural Information and Communication Centre (AICC) and to explore the relationship between the selected socio- economic characteristics of the respondents and their perception of AICC. The research was conducted in Rangunia and Mirsharai upazilas under Chittagong district. Data were collected randomly by using a per-tested structured questionnaire from a total of eighty farmers of the study areas. Moreover, Focus Group Discussions (FGD) was conducted to more clear data. It was found that 15% farmers had less favourable perception, 60% had moderately favourable perception and 25% farmers had highly favourable perception of AICC. The services of AICC were found effective in relation to improved technology dissemination for production efficiency. Farmer's training received in agricultural issues and extension media contact has the positive and significant relationship with perception of AICC.

Key words: AICC, Farmers, Perception

Introduction

Agriculture is the core sector of Bangladesh economy which is contributing more than 15% of country's GDP and employs around 43% of labour force (BBS, 2016). The challenge of feeding the increasing population from the shrinking land and water resources is a great task. The Government of Bangladesh is committed to take necessary steps to achieve self sufficiency in crop, milk, chicken and livestock production with a view to meet the food demand of the nation (Bangladesh Economic Review, 2010).

Many agencies are working to support the farmers to produce food materials and related products. A number of approaches are taken to provide farmers required information to support their farming operations. The agricultural system of Bangladesh has a long history of coping with the challenges. The system has experienced remarkable development over time. Inclusion of Information and Communication Technologies (ICT)

enhanced the capacity of the system to face the challenges. Agricultural technologies generated by Agricultural Research Institutes are now being disseminated to the farmers by the Agricultural Extension agencies. The use of ICT technologies for disseminating agricultural technologies has been proved to be useful for enhancement of agricultural production (Rahman and Islam, 2015).

Agricultural Information and Communication Center (AICC) is a new concept in Bangladesh for agricultural extension service delivery based on Information and Communication Technology (Das, 2015). AICC provides update information about crop cultivation, livestock and fish rearing, local and international market information, information about disaster management; disseminate new agricultural technologies, training to farmers etc. AIS under the Ministry of Agriculture have a strategic plan to establish a center (AICC) in each

¹Assistant Professor, Dept. of Agricultural Economics and Social Sciences, Chittagong Veterinary and Animal Sciences University, Khulshi, Chittagong-4225, Bangladesh, ²Senior Scientific Officer, Soil Resource Development Institute (SRDI), Chittagong, Bangladesh & ³Lecturer, Dept. of Agricultural Economics and Social Sciences, Chittagong Veterinary and Animal Sciences University, Khulshi, Chittagong-4225, Bangladesh

village (87362 villages) within 2021 (AIS, 2013). Main objectives of AICC are to establish E-agriculture, to provide ICT facilities to all categories of farmers and to disseminate agricultural information through public media.

Agricultural Extension service is very important for maintaining good productivity and economic utilization of resources in agricultural sectors of a country and it also provides critical access to the knowledge, information and technology that farmers require to improve the productivity and thus improve the quality of their lives and livelihoods (Anderson, 2007) Hence, it is crucial to provide farmers with the knowledge and information in a quality and timely way. The ratio of the farm families to the grassroots level extension agent is 1000:1 which is really very less (Rahman and Islam, 2015). So initiative should be taken by the government and private sector as well to provide need based information at the right time. Although some ground-breaking tools like the telecenters can serve as major catalysts for information, knowledge and development opportunities, the access for farmers in remote villages is restricted due to the lack of infrastructure (UN, 2005). There are many initiatives has already taken by the Ministry of Agriculture, Government of the Peoples Republic of Bangladesh. These are establishment of AICC, agriculture related bangla website development; establishment of Community radio, mobile based agricultural extension service, establishment

of call center, launching e-book, online farmer television, online fertilizer recommendation system etc. (AIS, 2013). Different Apps like Krishoker Janala, Krishikotha, Krishoker Digital Thikana etc. has been developed and used by DAE people in Bangladesh, Rice Knowledge Bnak apps developed by BRRI and Krishi Projukti Bhandar apps developed by BARI (Krishi Dairy, 2017).

Information and Communication Technology (ICT) has becoming a potential extension tool for enhancing development process in general and agricultural development in particular (Kashem *et al.* 2010). ICT has been found as an effective means of delivery of farm information to the farming community. It could enable extension service providers to gather, store, retrieve and disseminate a broad range of information needed by crop producers such as information on best practices, new technologies, better prices of inputs and outputs, better storage facilities, improved transformation links and weather etc. In different locations of Bangladesh 499 AICC has been established (Krishi Dairy, 2017). However the objectives of the study were as follows:

- a) To determine the farmers' perception of AICC;
- b) To explore the relationship between the selected socio economic characteristics and their perception of AICC.

Methodology

Location of the Study: The study was conducted in those areas which have AICC. Rangunia and Mirshari upazila under Chittagong district were selected as suitable area for this study. The villages namely

nogoreritla under Mariomnogor union at Rangunia and South Talbaria under Mirshari Pouro area were selected as the specific study location. Two AICC clubs were selected, one from Rangunia upazila

and another from Mirshari upazila. Each club having 100 member farmers from which 40 farmers were selected as sample following simple random sampling technique. Thus the total number of sample respondents was 80. Face to face interviewing by using structured interview schedule was used to collect data and the entire process of data collection was done from September 2016 to January 2017.

Data Processing and Analysis: The collected data were properly edited and coded before final analysis. The Statistical Package for Social Science (SPSS) was used for data management. Mainly descriptive techniques such as percentage, frequency, mean, standard deviation and correlation were used in data interpretation.

Measurement of Variables: Farmers perception to AICC was the focus variable of the study. For measuring the perception of the respondents, a 5 point Likert scale (Likert, 1932) was used. There were 10 statements including both positive and negative to avoid the biasness of the respondents. Each respondent was asked to indicate his extent of agreement or disagreement against each statement along a 5 point scale: strongly agree, agree, undecided, disagree and strongly disagree. Weights assigned to these responses were 5, 4, 3, 2, and 1, respectively (Ullah *et al.*,

2011; Ghosh and Hasan, 2013). The total score of a respondent was determined by summing up the weights for responses against all 10 statements.

Perception Score (PS)

$$= 5 \times SA + 4 \times A + 3 \times U + 2 \times DA + 1 \times SDA$$

Where,

SA= Total number of respondents expressing their attitude 'strongly agree' for the statement

A= Total number of respondents expressing their attitude 'agree' for the statement

U= Total number of respondents expressing their attitude 'undecided' for the statement

DA= Total number of respondents expressing their attitude 'disagree' for the statement

SDA= Total number of respondents expressing their attitude 'strongly disagree' for the statement.

This formula was considered for positive statements; on the other hand scoring was reverse for negative statements. In case of negative statements strongly agree, agree, undecided, disagree and strongly disagree were assigned weight as 1, 2, 3, 4 and 5 respectively. Thus, the perception score of a respondent would be ranged from 10 to 50.

Result and Discussions

Major Characteristics of the Respondents: The salient features of the selected characteristics of the respondents have been presented in Table 1. Without giving detailed classification of the

respondents' characteristics, only the mean values and standard deviations were presented for understanding the centrality of the characteristics.

Table 1 Salient feature of the selected characteristics of the respondents

Characteristics	Measuring unit	Observed range	Categories	Respondents Percent (N=80)	Mean	SD
Age	Year	25-82	Young (upto 35)	8.8	51.34	12.12
			Middle aged (36-50)	46.2		
			Old (above 50)	45.0		
Education	Year of schooling	3-12	Primary (1-5)	36.2	7.39	2.34
			Secondary (6-10)	60.4		
			Higher secondary (>10)	3.4		
Family size	Number	2-16	Small (up to 4)	25	6.10	2.42
			Medium (5-6)	43.8		
			Large (above 6)	31.2		
Farm size	Hectare	0.1-3.92	Small (up to 1 ha)	85.0	0.88	0.83
			Medium (1.01-3.0 ha)	10.0		
			Large (>3 ha)	5.0		
Annual household income	'000' Tk	53.6-1374	up to 60	11.2	223.34	219.74
			61-150	48.8		
			151-250	21.2		
			> 250	18.8		
Extension media contact	Scale score [Possible range 0-33]	13-22	Low (up to 11)	0.0	16.56	1.75
			Medium (11.1-22)	100		
			High (>22)	0.0		
Agricultural training exposure	Days	0-3	No training received	10.0	1.26	0.47
			1 day	67.5		
			2 days	21.2		
			3 days	1.2		

The analysed data on the characteristics of the respondents and the data presented in the Table1 indicates that the respondents of the study area were relatively middle aged and had primary to higher secondary level of education (36.2% primary and 60.4% having secondary level education). The average family size (6.10) was higher than that of the national average of 4.48 (BBS, 2015). The average farm size of the respondents was 0.88 ha which was higher than that of national average of 0.51 ha

(BBS, 2015). Half of the respondents had medium annual household income, while 21.2% had medium high annual household income. It was found that majority of the respondents received training on agricultural issues especially on crop cultivation for the duration of one to three days. Majority of the farmers had medium extension media contact. Media is a very effective source of receiving information about new and modern agricultural technologies. It was an indication of good

extension service to that areas provided by government and other NGOs.

Farmer's perception about AICC: The major objective of the study was to have an understanding on perception about AICC by the farmers. The perception score of the

respondents towards AICC ranged from 30 to 46 with an average of 38.3 and standard deviation 3.98 and they were categorized into three groups according to Hasan *et al.* (2015) and shown in Table 2.

Table 2 Distribution of the farmers according to their perception score

Categories	Farmers		Mean	Standard deviation
	Number	Percent		
A. Less favourable perception (up to 34)	12	15.0	38.30	3.98
B. Moderately favourable perception (35-42)	48	60.0		
C. Highly favourable perception (over 42)	20	25.0		
Total	80	100		

Note: A = Low: Mean - 2SD < B ≤ Mean - SD; B = Moderate: Mean - SD < C < Mean +SD; C =High: Mean + SD ≤ D < Mean + 2SD; Range = 30-46

Data presented in the Table 2 reveals that 15% had less favourable perception, 60% had moderately favourable perception and 25% had highly favourable perception of Agricultural Information and Communication Centre (AICC). The above table reveal that majority of the respondents had moderately to highly favourable perception towards AICC; this indicates they are closely connected with the AICC and its services. This may be due to active participation with the activities of AICC like information providing crop cultivation, improved technology dissemination, providing agriculture related leaflet and booklets free of cost or with minimum cost. The concept of establishing AICC at rural level has driven from the farmers' club like the Integrated Pest Management Clubs that aimed at providing farmers with demand led agricultural technologies and information at their doorstep. AICC is also the centre of integration among different categories of farmers. So if the efforts of AICC are continued the farmers would remain more

benefited for sustainable agricultural development.

The information in Table-3 showed details about the respondents' perception regarding individual statement about AICC. The respondents had highest perception mean score (4.56) on the statement-1 which indicated that the respondents were aware about the aim of establishing AICCs in rural areas to disseminate improved agricultural technologies at doorstep of the rural farming communities through ICT tools. The respondents had highly favorable perception mean score regarding farming knowledge improvement (4.18), disseminate improved agricultural technologies (4.16), providing useful agricultural information especially about pest management (4.10) and providing market information of agricultural product (4.08). Majority of the farmers were reported that AICC is unable to solve the farming problems within short period of time (perception mean score 2.58).

Table 3 Extent of perception of the respondents towards individual statement regarding AICC

SL. No.	Statement	Opinion					Total Score	Mean
		SA	A	U	D	SD		
1	AICC has been introduced to develop the farming condition of the farmers	45	35	0	0	0	365	4.56
2	AICC provide useful agricultural information	23	42	15	0	0	328	4.10
3	Farmers can develop their existing agricultural knowledge from AICC	18	52	8	2	0	326	4.07
4	AICC disseminate improved agricultural technologies	19	55	6	0	0	333	4.16
5	AICC provides weather information for better agriculture	9	43	21	7	0	294	3.67
6	AICC provide market information for better product price	19	55	2	2	2	327	4.08
7	AICC helps farmers to improve knowledge on balanced use of natural resources	23	51	4	2	0	335	4.18
8	AICC introduce important government public policies	5	54	14	7	0	297	3.71
9	AICC can help the farmers to solve the problems within short duration	8	7	12	50	3	207	2.58
10	AICC helps in overall livelihood improvement of farmers	9	29	9	31	2	252	3.15

SA= Strongly Agree, A=Agree, U=Undecided, D=Disagree and SD= Strongly Disagree

Usefulness of AICC: Farmers were benefited from AICC by obtaining new agricultural technologies, training like basic computer, use of internet, modern pest management etc. The services from the centre were free of cost and few reported the service cost was very cheap. Mainly they asked to the centre for agricultural information specially related to crop production and pest control. Hasan *et al.* (2009) found that farmers visited to different ICT centers for seeking agricultural, health and environmental information. Sometimes the AICC provides public service like showing results of public

examinations like SSC or JSC examinations. It's also an income source of centre. Pandit and Miah (2015) showed that average 50 farmers per day are getting benefit from AICC and through AICC rural farmers can actively participate in the farm telecast and farm broadcast programs by phone-in-programme to get their desired information.

Relationship between selected characteristics of the farmers and their perception towards AICC

The Table 4 showed that training received on agricultural issues and extension media

contact had significant positive relationships with their perception towards AICC. However, the rest of the characteristics of the farmers did not show any significant relationship. The correlation indicates that the person having more training exposure and contact with extension media like mass media, contact with extension agents to have more favorable perception towards AICC. Pandit and Miah (2015) found the similar results regarding this issue.

Table 4 Relationship between the selected characteristics of the farmers and their perception

Characteristics of the farmers	Computed r values
Age	-0.040
Education	0.037
Family size	-0.016
Occupation	-0.133
Farm size	-0.186
Annual household income	0.083
Training received on agricultural issues	0.336**
Extension media contact	0.284*

* Correlation is significant at the 0.05 level and

** Correlation is significant at the 0.01 level

Conclusion

Findings of the research indicated that the farmers had moderately to highly favorable perception towards Agricultural Information and Communication Centre. Selected farmers clubs of rural areas were developed as AICC through equipped with ICT tools and capacity building of some selected members. AICC found effective to enhance agricultural production through providing appropriate information including pest management, cultivation method, balanced fertilization etc. A few of the AICC members create income generation through started social service business by composing, printing, e-mailing and renting multimedia etc.

Today's farmers are now very potential. They require specific information and demand doorstep extension service. So, ICT tools, no doubt, is enhancing agricultural productivity and facilitating poverty alleviation among rural farmers. ICT facilities are increasing day by day in rural areas as well as remote areas. So, this is a great opportunity for extension service

providers to reach farming community very easily through using these ICT tools. Different organizations have many efforts for enhancing ICT based agricultural extension services. Development of AICC by AIS, FIAC by NATP project, online fertilizer recommendations by SRDI, different Apps for SAAO of DAE and so many.

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). In view of the advancement of the technology and importance of communication, its swiftness in 21st century, it is necessary to explore the use of ICT based agricultural extension services as the important means for accelerating dissemination of farm information among the farmers. Farmer's training received on agricultural issues and extension media contact has positive and significant relationship with their perception towards AICC.

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