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Use of Communication Media by the Farmers in Practising Rice-Cum-Fish Culture

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Abstract

The purposes of the study were to have an understanding on the extent of use of communication media by the farmers in practising Rice-Cum-Fish culture and to determine the relationships between the selected characteristics of farmers with their extent of use of communication media. Data were collected from 90 randomly selected farmers (out of 120) from two villages under Melandah Upazila of Jamalpur district. A pre-tested and structured interview schedule was used to collect data from the farmers during 20 February to 19 March, 2010. Pearson's Product Moment Correlation Coefficient (r) was used to explore relationships between the concerned variables. The most commonly used communication media by the farmers were Sub-Assistant Agriculture Officer (SAAO), neighbours, visiting agricultural fair, another member of the family, television, relatives, Upazila Fisheries Officer (UFO), poster, friends, leaflets, Upazila Agriculture Officer (UAO), daily newspaper, result demonstration, Local Extension Agent for Fisheries (LEAF), farmers field school, radio, magazine, field day, local leader, group discussion. The scores of extent of communication media were ranged from l4 to 25 with an average of 9.40. The proportion of the farmers having low and medium use of communication media were 91.11 and 8.89%, respectively. Correlation analysis indicated that education, farm size, annual income, organizational participation, cosmopoliteness, training exposure, and knowledge on Rice-Cum-Fish culture of the farmers had significant positive relationships with their extent of use of communication media. Thus, it is concluded that farmers need more exposure to commercial media to receive need-based information for better practising of Rice-cum-Fish culture.

Keyworks: *Use, communication media, rice-cum-fish culture, farmer.*

Introduction

A Bangla proverb says, "*Mache Bhate Bangalee*" which means "a Bangalee thrives on fish and rice". Rice and fish constitute an average Bangladeshi's principal diet. Fish and fisheries always play a significant role in the economy, culture and tradition of the people of Bangladesh. From time immemorial, the people are engaged themselves in hunting of fish both for subsistence and professional purposes. Fisheries sector contributes about 3.74% of total GDP, 20.87% of agricultural production, 4.04% of export earning and about 60% of animal protein to daily diet. Per capita annual fish demand of Bangladesh is 18.0 kg, but current consumption is 16.23 kg (DoF, 2009). Annual fish demand is 2.59 million MT and total annual fish production is 2.56 million MT. Hence, annual fish deficiency is 0.03 million MT (DoF, 2009). The main reasons behind this phenomenon are increasing rice production for the growing population, lack of new technologies, lack of inputs, lack of proper and timely information etc.

To minimize the fish deficiency the Department of Fisheries tried their best to overcome the above mentioned problems

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through introducing different cost-effective technologies. Fish culture in rice fields has been demonstrated to be one of the easiest and cost-effective methods of fish production requiring less capital and labour (Li, 1988; Gupta and Mazid, 1993). Integration of aquaculture with rice farming improves sustainability, productivity and profitability of the farm (Lightfoot *et al.,* 1990). Bangladesh possess more than 2.83 million ha of seasonal paddy field where water stands for four to six months (Karim, 1978), which provides great scope for rice-cum-fish culture. Fish harvested from these areas was around 3 kg/ha (MPO, 1985). Fish culture in rice fields provides not only an additional income from the yield of fish, but also improves the yield of rice (Arce and dela Cruz, 1979; Li, 1988; Lightfoot *et al.*, 1990 and Halwart, 1994). Thus, although the rice-cum-fish culture is a cost-effective technology but still practice of this technology is very low at farmers level in Bangladesh.

One of the main reasons was the poor access of farmers to different communication media as media is one of most important elements of diffusing new technology. Thus, it is prime need to determine the extent of use of communication media by the farmers for practising rice-cum-fish culture. The present study thus, has been undertaken with the objectives of (i) to identify and describe the extent of use of communication media by the farmers in practising rice-cum-fish culture; (ii) to identify the problems related to the use of communication media; and (iii) to determine the relationships between the extent of use of communication media by the farmers and their selected characteristics. The selected characteristics were age, education, family size, farm size, annual income, organizational participation, cosmopoliteness, training exposure, and knowledge on rice-cum-fish culture.

Methodology

The study was conducted in purposively selected two villages of Melandaha upazila under Jamalpur district. The reason behind was these villages are free from normal flood and water holding capacity is higher than other villages. The selection was made on the basis of suggestions made by the Upazila Fisheries Officer (UFO), Upazila Agriculture Officer (UAO) and other relevant officials of Melandaha upazila. The total numbers of rice-cum-fish culture farmers in the selected two villages were 120, which constituted the population of the study. Seventy five percent (i.e. 90) of the farmer was selected as the sample for the study. A pre-tested and structured interview schedule was used to collect data from the farmers between 20 February to 19 March, 2010. Data collected from the respondents were compiled, tabulated and analyzed in accordance with the objectives of the study.

Extent of use of communication media was the dependent variable of the study. Twenty communication media of different nature were selected to measure the extent of use of communication media in practising rice-cum-fish culture. Extent of use of each communication mediam was determined by using a 4-point rating scale and 3, 2, 1, and 0 weights were assigned against the scale. Hence, the communication media use score of each of the 20 media was first ascertained by computing their totals score. Then, the extent of use of communication media score of a respondent for all the 20 media were added together to ascertain his total

score. Thus, the extent of use of communication media score of a respondent could range from 0 to 60, where 0 indicated no use and 60 indicated highest level of use of communication media in practising Rice-cum-Fish culture.

Findings and Discussion

Farmers' Extent of Use of Communication Media in Practising Rice-Cum-Fish Culture

The overall communication media use score of a farmer ranged from 4 to 25 against the possible range of 0 to 60. The mean value and standard deviation were 9.40 and 4.40, respectively. The farmers were classified into three categories on the basis of their extent of using different communication media as shown in Table 1.

Table 1 Distribution of the farmers according to their extent of use of communication media

Categories of use of communication media	Distribution of farmers		Mean	Standard deviation
	Number	Percent		
Rarely use (up to 16 score)	82	91.11	9.40	4.40
Occasionally use (17-32 score)	8	8.89		
Frequently use (33-60 score)	0	0		
Total	90	100		

Data in Table 1 indicated that an overwhelming majority (91.11%) of the farmer fell in the low use categories while 8.89% fell in the medium use category. This means that farmers of the study area in general maintained rare contact with all 20 communication media in practising Rice-Cum-Fish culture.

Extent of Use of Communication Media with their Average Use Score in Practising Rice-Cum-Fish Culture

Farmers' extent of use of communication media in practising Rice–cum-Fish Culture was judged on a 0 to 3 ranged scale. The average value was considered as the indicator of extent. That meant a mean value between 2 to 3 indicated 'frequently', while mean values between 1 to 2 and 0 to 1 indicated 'occasional use' and 'rare use', respectively. The average media use score of the farmers ranged form 0.02 to 1.72 as shown in Table 2.

Table 2 Rice-cum-Fish farmers' extent of use of extension media with their average use score

Sl No.	Communication media	Extent of use (N= 90)				Mean
		Frequently	Occasionally	Rarely	Not at all	
1	Another member of the family	1	7	66	16	0.92
2	Neighbours	5	48	37	-	1.64
3	Relatives	-	8	38	44	0.6
4	Local leader	-	-	4	86	0.04
5	Friends	1	4	25	60	0.4
6	Local Extension Agent for Fisheries (LEAF)	-	-	-	90	0

Sl No.	Communication media	Extent of use (N= 90)				Mean
		Frequently	Occasionally	Rarely	Not at all	
7	Sub Assistant Agriculture Officer (SAAO)	12	42	35	1	1.72
8	Upazila Fisheries Officer (UFO)	-	9	35	46	0.59
9	Upazila Agriculture Officer (UAO)	-	2	14	74	0.2
10	Group discussion	-	-	2	88	0.02
11	Field day	-	-	5	85	0.06
12	Result demonstration	-	3	7	80	0.14
13	Farmer Field School	-	-	8	82	0.09
14	Daily newspaper	-	-	16	74	0.18
15	Radio	-	-	8	82	0.09
16	TV	1	3	67	19	0.84
17	Poster	-	1	35	54	0.41
18	Leaflet	-	-	21	69	0.23
19	Magazine	-	-	8	82	0.09
20	Visiting agricultural fair	2	32	34	22	1.16

Data in Table 2 indicated that occasionally used commercial media by the farmers were Neighbours, Sub-Assistant Agriculture Officer and rarely used extension media were other members of the family, TV, visiting agricultural fair.

A close look into data presented in Table 2 reveals the fact that out of two occasionally used extension media one was personal localite and other was personal cosmopolite media (Individual contact media). As Sub-Assistant Agriculture Officer (SAAO) and Upazila Fisheries Officer (UFO) personally encourage the farmers to Rice-Cum-Fish Culture and they (farmers) bought fish fry from fishermen, who also played a major source of information. These three persons have vital roles as sources of information. On the other hand, farmers took day to day information from neighboring farmers, who had previous experience in rice-cum-fish Culture.

Selected Characteristics of the Farmers

Distribution of farmers according to their selected characteristics is shown in the Table 3. The findings indicate that the highest proportion (45.6%) of farmers were in young aged category. Near about half of the farmers were illiterate. The majority (47.78%) of the farmers had medium size family, and 50.0% of the farmers had small farm.

The average farm size of the fish farmers was 1.05 ha, which was slightly higher than that of the national average (0.81 ha). More than half (52.3%) of the fish farmer had low annual family income. The highest proportion (71.1%) of the farmers had no participation. The major proportion of the (58.89%) farmer had medium cosmopoliteness. The highest proportion (66.67%) of the respondent had no training, and 53.4% of respondents had high knowledge.

Table 3 Salient features of the selected characteristics of rice-cum-fish farmers

Characteristics	Scoring system	Range		Farmers categories	Respondents (N = 90)		Mean	SD
		Possible	Observed		Number	Percent		
Age	Years	unknown	25-65	Young (up to 35)	41	45.6	39.81	8.84
				Middle (36-50)	34	37.8		
				Old (above 50)	15	16.6		
Education	Year of schooling	unknown	0-14	Illiterate (0)	4	4.4	6.62	4.36
				Can sing only (0.5)	20	22.2		
				Primary (1-5)	14	15.6		
				Secondary (6-10)	39	43.4		
				Above secondary (more than 10)	13	14.4		
Family size	Number	unknown	3-12	Small (up to 4)	26	28.9	5.50	1.66
				Medium (5-6)	43	47.8		
				Large (above 6)	21	23.3		
Farm size	Hectares	unknown	0.17-2.47	Marginal (up to 0.2 ha) ???	2	2.22	1.05	0.51
				Small (0.2-1.0) ???	45	50		
				Medium (0.11-3) ?	43	47.78		
Annual income	'000 Tk.	unknown	33-200	Low (up to 60)	47	52.3	70.68	34.25
				Medium (61-150)	38	42.2		
				Medium high (151-250)	5	5.5		
Organizational participation	Scale score	0-21	0-4	No participation (0)	64	71.1	0.44	0.88
				Very low (1-2)	22	24.5		
Cosmopoliteness	Scale score	0-21	5-20	Low (up to 7)	27	30.11	9.70	3.51
				Medium (8-14)	53	58.89		
				Long (above 14)	10	11		
Training exposure	Scale score	unknown	0-183	No training	60	66.67	25.14	61.22
				Short (1-5)	4	4.44		
				Medium (5-16)	14	15.5		
				Long (above 16)	12	13.3		
Knowledge on rice-cum-fish culture	Scale score	0-20	11-20	Medium (11-15)	42	46.6	15.71	2.20
				High (above 15)	48	53.4		

Relationship between the Selected Characteristics of the Farmers and Their Extent of Use of Communication Media

The summary of the results of the correlation analysis between the selected characteristics of the respondents and their extent of use of communication media has been shown in the Table 4. The findings reveal that education, farm size, annual income, organizational participation, cosmopoliteness, training exposure and knowledge on rice-cum-fish culture of the farmers showed significant positive relationship with their extent of use of communication media in practising rice-cum-fish culture. On the other hand, age and family size of the respondents did not show any significant relationship with their extent of use of communication media. This result indicates that comparatively young farmers use more communication media than those of old farmers in practising rice-cum-fish culture. The more the education of the respondents the more will be their use of communication media in

practising rice-cum-fish culture. Education upgrades individuals in all aspects. Education enables individuals to gain knowledge and thus, increase their level of understanding, consequently broadened their outlook and horizon of knowledge is expanded. The educated persons used to have frequent contact with radio, TV, progressive farmers, printed materials and are exposed to various external sources which increase their power of understanding compared to the individuals with less educational background. Similar findings were also found by Bhuiyan (1988), Kashem and Jones (1988); Islam (1995); Sarker (1995); and Hossain (1996) in their respective studies.

Table 4 Relationships between the selected characteristics of the farmers and their extent of use of communication media

Independent variable	Correlation co-efficient (r)
Age	-0.083
Education	0.579**
Family size	-0.181
Farm size	0.243*
Annual income	0.654**
Organizational participation	0.499**
Cosmopoliteness	0.716**
Training exposure	0.368**
Knowledge on rice-cum-fish culture	0.737**

**Significant at 0.01 level of probability
*Significant at 0.05 level of probability
Dependent variable: Extent of use of communication media in practising rice-cum-fish culture

Farm size plays a significant role in the use of communication media in practising rice-cum-fish culture. Medium large farmer use more communication media in practising rice-cum-fish culture. If annual income of the farmers increases then their extent of use of communication media will also increase. High annual income makes strong economic base of the farmer and contributes to increase use of communication media in practising rice-cum-fish culture.

If organizational participation of the farmers increases then their extent of use of communication media in practising rice-cum-fish culture will also increase. The farmers having more organizational participation would have more opportunity to increase their use of communication media in practising rice-cum-fish culture. The finding indicates that with the increase of cosmopoliteness of the farmers, the increase of use of communication media by the farmers also increases. A cosmopolite person communicates with different external sources. He used to visit his own union, other upazilas and important places. This helps to be exposed to different media. The results indicate that the training exposure of the farmers helped them to improve their outlook and exposure towards improved farming practices which lead them to use different communication media to obtain farm information.

It may be concluded that there was a significant and positive relationship between knowledge on rice-cum-fish culture and extent of use of communication media by the farmers, which indicate that with the increase of knowledge on rice-cum-fish culture of the farmers, their use of communication media for getting information also increases. Similar findings were found by Parveen (1995); Sarker (1995); Islam (1995) and Khan (1996) in their respective studies.

Conclusions

The findings of the study revealed that an overwhelming majority (91.11%) of the farmer fell in the low use categories while 8.89% fell in the medium use category. This

means that farmers of the study area had lower use of extension media for practising rice-cum-fish culture. However, the commonly used communication media by the farmers were Sub-Assistant Agriculture Officer (SAAO), neighbours, another member of the family, and television. Thus, the Department of Fisheries (DoF) can take initiatives to influence farmers through SAAO and farmers' family member. Through television the DAE can broadcast programmes on using communication media by the farmers easily. Among the nine selected characteristics of the farmers, seven namely education, farm size, annual income, organizational participation, cosmopoliteness, training exposure, and knowledge on rice-cum-fish culture of the farmers showed significant positive relationships with their extent of use of communication media. So, to increase the extent of use of communication media by the farmers and above mentioned characteristics may be considered. Thus, necessary programmes should be made by the DoF those can be run with the present condition of the farmers.

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