Bangladesh Journal of Extension Education *ISSN 1011-3916*
Volume 28, No. 1&2, 2016: 31-36 *Research Article*
Journal website: bjee.com.bd
Published by: Bangladesh Agricultural Extension Society

Use of Selected Mass Media by Fish Farmers in Receiving Technological Information

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Abstract

The main objective of the study was to determine and describe the use of mass media by the fish farmers in receiving technological information. The study also aimed at determining the selected socio-economic and demographic characteristics of the farmers and to explore the relationship between the extent of use of mass media by the fish farmers and their selected characteristics. Data were collected through personal interview schedule from 120 fish farmers of Kalihati upazila under Tangail district by using a structured interview schedule during September 15 to October 20, 2015. A rating scale was used to measure the extent of use of five selected mass media. Pearson's Correlation Coefficient was used to test the relationships of the concerned variables. The findings revealed that 44.2 percent of the respondent fish farmers had medium use of mass media, while 55.8 percent and had low use. No fish farmers were found having high use of mass media. Although television was found first in the use rank, the total numbers of frequent users were too few to make its significant use. Out of nine selected characteristics, education and attitude towards use of mass media correlated positively with fish farmers' extent of use of mass media, while family size was negatively correlated. On the other hand, age, farm size, pond size, annual income, organizational participation and cosmopoliteness of the fish farmers showed no relationship with their extent of use of mass media in receiving technological information.

Keywords: Mass media, fish farmers, radio, television, farm magazine

Introduction

In the new millennium, the success of technology transfer programmes in agricultural field in many countries largely depends on the utilization of mass media in mobilization of people for development. Like in the other parts of the world, in Bangladesh, researchers have already established the importance of communication media in developing agriculture sector and technology transfer process (Halim and Miah, 1996; Kashem and Halim, 1991). Mass media show considerably better results in creating awareness and increase adoption with the audience of low knowledge, attitude and practice level (Adhikarya, 1994). Therefore, a good number of researches have been accomplished on different issues of mass media use in agriculture. Different authors identified the nature and aspects of use of mass media in transferring technological information to the farming communities across Asian and African countries (Nataraju and Channegowda, 1985; Irfan et al., 2006; Muntaqha, 2007). Although many mass media are being used by different agencies, there is a dearth or research based information on the issues of use and farmers preferences of these media in the context of Bangladesh. This is particularly true in the cases of research on the field of fisheries and aquaculture. Fisheries and aquaculture also play major roles in nutrition, employment and foreign exchange earnings with about 12 million people are associated with the fisheries sector, of which 6.0 million people rely exclusively on fisheries related activities (DoF, 2015). It is an assumption that, unlike crop sector in Bangladesh, fisheries sector is not getting much attention for undertaking pragmatic

programmes towards use of mass media by the fish farmers. Therefore, the present study has been undertaken to investigate fish farmers' use of mass media in receiving technological information. The purpose of the study was to have answer to the following research questions: (i) what are the extents of use of different mass media by the fish farmers in receiving technological information in fish production? and (ii) what are the important characteristics of fish farmers that might have relationship with their use of mass media in receiving technological information?

Methodology

Locale, Population and Sample

The study was conducted in Kalihati upazila of Tangail district. The area was selected because of availability of a handful number of fish farmers in different unions (local administrative unit, consisted of a few villages), while fair availability of mass media and facilities in the upazila was reported by the concerned Upazila Fisheries Officer. This upazila was purposively selected based on the above criteria and other management issues of the research. Out of eleven unions of the upazila, Birbasinda union was randomly selected as the specific study location. All fish farmers of the Birbasinda union were the population of the study. An up to date list of all fish farmers of the union was prepared by the help of UFO (Upazila Fisheries Officer) and assistants of the UFO office. Records were checked for this purpose and it was found that there were 367 fish farmers in the union in June 2015. These 367 fish farmers constituted the population of the study. From this population, 33% or one-third of the fish farmers, i.e. 120 fish farmers were selected as the sample for the study. Random sampling method was used to select the farmers to be used as sample of the study. A reserve list of 37 fish farmers (10% of the population) was also prepared for using in case of unavailability of the sample farmers during data collection.

Variable and their Measurements

The focus variable of the study was extent of use of selected mass media by the fish farmers in receiving technological information. Six mass media were selected for the study, namely radio, television, farm magazine, leaflet and smart phone for using internet. A four point rated scale was developed by using the six mass media. Each respondent was asked to indicate her/his extent of using a specific media for receiving technological information by indicating any one of the four responses viz. "frequently", "less frequently", "rarely" and "not at all", while scores were assigned as 3, 2, 1 and 0, respectively. Finally, for measuring extent of use score, the obtained scores of a respondent against all selected media were summated together. Thus, the use score could range from 0 to 18, where 0 indicating no use of mass media and 18 indicating highest level use of mass media in receiving technological information by fish farmers. In order to make a comparison of use among the mass media, a "Media Use Index" was developed by using the following formula:

Media Use Index= $N_1 \times 3 + N_2 \times 2 + N_3 \times 1 + N_4 \times 0$
where,

$N_{1=}$ Number of the 'frequently' responses
N_2= Number of 'less frequently' responses
N_3= Number of 'rarely' responses
N_4= Number of 'not at all' responses

On the other hand, nine characteristics of the fish farmers were selected for the investigation. They were age, education, family size, farm size, pond size, annual income, organizational participation, cosmopoliteness and attitude towards use of mass media. Standard methods were used for measuring the selected characteristics (Table 1).

Data Collection and Analysis

Data were collected using a pretested structured questionnaire during September, 15 to October, 20, 2015. SPSS software was used for data management and analysis. Descriptive statistical measures were used to describe th data as and where possible. Correlation and regression analyses were conducted to test the hypotheses of the study.

Findings and Discussion

Selected Characteristics of the Farmers

Nine selected characteristics of the farmers were selected for exploring the hypothesis of the study. Salient features (descriptive statistics) of the selected characteristics of the respondents have been presented in Table 1.

Data presented in the table show that the fish farmers were in mature age in average with relatively higher level of educational attainment comparison to usual rural areas of Bangladesh. On the other hand, the fish farmers' average family size was almost similar to the national average. Relatively larger farm size and higher annual income reflect the reality that fish farmers are the well off people of the rural areas. Higher score in organizational participation and cosmopoliteness also indicate their affiliation to different social entities and communication to information sources in and outside their social system.

Table 1: Descriptive statistics of the selected characteristics of the fish farmers

Variables	Scoring unit	Range value		Mean	Standard Deviation
		Possible	observed		
Age	Years	Unknown	26-75	48.47	10.44
Education	Years of schooling	Unknown	0-17	8.10	4.48
Family size	Number of members	Unknown	3-12	5.81	2.98
Farm size	Hectares	Unknown	0.253-9.190	1.45	1.12
Pond size	Decimal	Unknown	10-500	57.86	54.63
Annual income	'000' Tk.	Unknown	147.36-1658	604.98	286.17
Organizational participation	Scale score	Unknown	0-62	12.52	10.54
Cosmopoliteness	Scale score	0-18	7-15	10.79	1.87
Attitude towards mass media	Scale score	10-50	14-48	32.43	9.67

Use of Mass Media by the Fish Farmers

Fish farmers' use of mass media in receiving technological information was the major focus of the study, while the variable was measured in terms of extent of use. In the present study it was found that, score of mass media use ranged from 3 to 12 with an average of 6.63 and standard deviation of 2.36. Based on the mass media use scores the respondents were classified into three categories as shown in Table 2.

Table 2: Fish farmers' extent of use of mass media in receiving information

Categories of fish farmers and score range	Respondents		Mean	Standard deviation
	Number	Percentage		
Low use of mass media (up to 6)	67	55.8	6.63	2.36
Medium use of mass media (7-12)	53	44.2		
High use of mass media (>12)	0	0		
Total	120	100.0		

Results of Table 2 show that 44.2 percent of the respondents had medium use of mass media, while the majority 55.8 percent and zero (0) percent had low use and high use of mass media, respectively. The findings clearly indicate that the majority of the respondents used mass media

in low to medium levels, while no one was found having high use of mass media in receiving technological information. The results indicate that although a huge number of mass media are available nowadays for farmers; only few of them use those mass media for receiving information to run the farms. The concerned agencies should look into the issue seriously for further actions and policy decisions.

Fish farmers' extent of use of six selected mass media was also observed. For this purpose, as stated earlier, a Media Use Index was used. All six mass media were ranked on the basis of the Use Index as presented in Table 3.

Results presented in Table 3 clearly indicate that with regards in receiving technological information fish farmers do not make good use of mass media. Although television was found first in the use rank, the total numbers of frequent users were too few to make of its significant use. However, it was also possible that television used for recreational purpose might include in the responses. But at the same time, use of other mass media like leaflet, radio and internet is not encouraging. That means although agency like AIS spending huge resources for dissemination of information through different mass media, only few farmers are using this message. On the other hand, unavailability of internet depicts a scenario of low use of ICT based information sources by the fish farmers even in this age of information technology.

Table 3: Selected mass media and their ranked order based on use index

Mass media	Frequency of responses for extent of use				Media Use index	Rank Order
	Frequently	Less frequently	Rarely	Not at all		
Television	17	53	23	27	180	1
Radio	7	17	77	19	132	2
Leaflet and booklet	0	14	74	32	102	3
Use of internet by using Smart phones or other facilities	1	28	19	0	78	4
Farm magazine	1	14	43	62	74	5
Poster	0	6	41	73	53	6

Relationship between Fish Farmers' Use of Mass Media and their Selected Characteristics

A total of nine selected characteristics of the fish farmers were considered for understanding the relationships between those characteristics and fish farmers extent of use of mass media in receiving technological information. To test the relationship, Pearson's correlation coefficients were computed and the results have been presented in Table 4.

Table 4: Relationship between fish farmers' selected characteristics and their use of mass media

Focus variable	Selected characteristics	Correlation coefficient (r) with 118 d.f.
Fish farmers' use of mass media in receiving information	Age	-0.118
	Education	0.606**
	Family size	-0.385**
	Farm size	0.030
	Pond size	-0.030
	Annual income	-0.169
	Organizational participation	0.031
	Cosmopoliteness	0.097
	Attitude towards use of mass media	0.318**

** Correlation is significant at 1% level of probability

Out of nine selected characteristics, education and attitude towards use of mass media correlated positively significant with fish farmers' extent of use of mass media. Family size of the farmers showed a negative and significant correlation with farmers' use of mass media. Age, farm size, pond size, annual income, organizational participation and cosmopoliteness did not show any significant relationship with farmers' extent of use of mass media. The results indicated that education plays a key role in making farmers use of mass media effectively. The same findings were also observed by some other contemporary researchers (Nataraju and Channegowda, 1985; Kashem and Halim, 1991; Muntaqha, 2007). However, education is a variable for which extension agencies have very little to do with. On the other hand, attitude towards mass media is also an important factor and the concerned agencies may undertake appropriate steps in this regard.

Conclusions

The findings of the study indicate that majority (55.8 percent) of the fish farmers had low use of mass media, while 44.2 percent had medium use. On the other hand, no fish farmers were found having high use of mass media in receiving technological information. It may therefore be concluded that although many mass media are available for farming community, these are not properly used by the intended target groups. Therefore, mass media, once considered as the instrumental to technological dissemination in the context of modernization paradigm of development during the 1960s and 1970s, are gradually losing their relevancy by the farming community. The other interpretation might be that farmers cannot use them due to their literacy level (indicated by significant relationship of the concerned variables). Therefore, proper emphasis should be given by different extension agencies and Agricultural Information Services (AIS) to popularize use of mass media for disseminating technological information. This statement is not only applicable in fisheries sector, but also all sectors of agriculture. Use of television was found relatively higher than the other mass media as indicated by the fish farmers. It was notable to observe that only few farmers used smart phone based internet for getting online available data and browsing useful websites. It may be concluded from this observation that proper steps should be undertaken to make all mass media more user friendly so that people can easily access the message contents. Education plays an important role in enabling farmers in using mass media in receiving technological information. Farmers having larger sized family were found having low use of mass media an interesting issue that need clearer understanding. On the other hand, extension agencies should undertake appropriate programmes for increasing people's interest on mass media through changing their attitude on it.

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