

## **MOTIVATIONAL EFFECTS OF BANGLADESH BETAR'S FARM PROGRAMS: MARKETING PROSPECTS ANALYSIS FOR DISTANCE EDUCATION**

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### **ABSTRACT**

Bangladesh Betar (BB) broadcasts farm programs (FP) for educating and motivating Bangladeshi farmers to adopt modern farm technologies. But the low listenership of the FP and the ignorance of farmers raised questions of the effectiveness of the FP. This study aimed at marketing prospects analysis of the FP of BB through its motivational effects on adopting new farm technologies. Data collected from surveying 465 farmers were analyzed with binary logistic regression analysis. This study reveals that the FP has motivational effects on the farmers that indicates its high marketing prospects. Befitting marketing strategies are to be formulated to ensure high listenership of the FP.

**Keywords:** Bangladesh Betar, Farmers of Bangladesh, Farm Programs, Motivation, Farm technologies.

### **INTRODUCTION**

Most of the farmers engaged in agricultural activities in Bangladesh have very poor knowledge in modern agro-technology and agro-information (Hasan, et al., 2017). On the other hand, farmers' access to different information sources is not adequate (Kashem and Islam, 2001). Most of the farmers use multiple sources of information for accepting or rejecting new practices (Mason, 1964). But the fact is that, most of them deserve negative attitude towards the authorized sources (Agricultural Officers, Fisheries Officers and Veterinary Surgeons) of farm information and do not search for information from them (Hasan, et al., 2017). Proper use of information by the farmers would help to achieve maximum production in their farms (Kashem and Islam, 2001). So, the farmers should be encouraged to adopt new modern uses of technologies. In recent past, considerable resources have been invested in the country as a result there are some matured technologies for farmers (Kashem and Rahman, 1995). But their proper diffusion has not been ensured so far. The basic function of extension is to assist the transfer of appropriate technologies among the farmers. The transfer of technologies, however, to a great extent depends on the effective use of different communication media (Kashem, Halim and Rahman, 1992). Besides, in the innovation-decision process, mass media channels are important means to create knowledge and spread information rapidly to a large audience and can change some weakly held attitudes (Heong, et al., 1999). Bangladesh Betar (BB), the national radio of Bangladesh from its very beginning has been trying to disseminate extension related information to the farmers by means of its farm programs (FP) with a view to changing the long cherished farm related wrong attitude and behaviours and motivating them to adopt scientific farm technologies. Because, it is proved that rural farmers in particular in many regions of the world find radio as a veritable source of deriving extension related information (Fadiji, 2005) and listening to farm programs especially in group is very influential in changing beliefs and attitudes towards innovations (Jain, 2014). A study on need assessment divulged that almost all the farmers wanted farm programs where they would get suggestions and solutions for the problems they face in farming and a reasonable number of farmers wanted radio farm programs (Hasan, et al., 2016); it was also seen that The farmers who listened to the FP were likely to acquire farm knowledge 6.62 times more than the farmers who did not listen to the FP (Hasan, et al., 2017) but only 6.67% of the farmers listen to the FP of BB (Hasan, et al., 2017). And this low listenership raised questions of the effectiveness and marketing prospects of the FP of BB. In this research work, the marketing prospects of FP of BB were analysed through the study of its effectiveness in motivating the farmers to adopt new farm technologies.

### **DATA AND METHODS**

*Sources of data:* Data from both the primary and secondary sources were collected by means of document analysis and sample survey. Relevant documents of BB and other pertinent organizations were analyzed. Primary data were collected from the sampled farmers through questionnaire survey technique.

*Sampling:* All the regional stations of BB have their own FPs developed as per the requirements of the local farmers but the contents and formats are fixed by the head office (BB, Dhaka). So, in respect of subjects, topics and formats of all the programs are the same and can be represented by any of them. So, the whole of BB can be

represented by any single regional station. This study purposively selected BB, Khulna; and BB, Rajshahi. The BB, Khulna is one of the biggest radio stations covering the total of the south-west of Bangladesh and the BB, Rajshahi is also one of the biggest radio stations covering almost all of the northern part of Bangladesh. There are eighteen upazillas (sub-districts) in Khulna and Rajshahi districts (nine for each). Multistage stratified sampling technique was used. At the 1<sup>st</sup> stage, eight upazillas were selected out of eighteen (four from each district) of Khulna and Rajshahi districts. At the 2<sup>nd</sup> stage, eight Unions (the smallest local government unit) were selected from eight upazillas (one from each upazilla) and at the 3<sup>rd</sup> stage, sixteen villages (two from each union) were selected. At the 4<sup>th</sup> stage, the farmers (respondents) were selected by means of random sampling technique from each village and the total sample size was determined using the following formula:

$$n = \frac{Z^2 pq}{\epsilon^2}; \text{ assuming that } p = 0.5 \text{ and } q = 0.5.$$

Where,  $n$  = sample size,  $Z$  = tabulated value = 1.96 (for large sample at 5% level of significance),  $p$  = proportion of success,  $q = 1 - p$  = proportion of failure,  $\epsilon$  = margin of error = 0.05.

Based on this formula 384 respondents are to be selected from the two districts. But for conducting a research 465 respondents were selected from the two study areas and the area and sector-wise sampling are presented in Table 1.

**Table1** Area and sector-wise sample sizes of the farmers and listeners of FPs of BB

Sectors	Khulna ( $n_1$ )	Rajshahi ( $n_2$ )	Total	Listeners
Crop	81	191	272	17
Livestock	33	42	75	6
Fisheries	79	39	118	8
Total	193	272	$N = 465$	31

*Data collection:* A sample of 465 farmers was surveyed from June to September, 2014 to collect primary data pertinent to the study objective. Content analysis technique was followed to collect secondary data from the documents of BB and other relevant organizations viz. Ministry of Agriculture and, Ministry of Fisheries and Livestock.

*Data analysis:* Frequency distribution,  $z$ -tests and binary logistic regression analysis were conducted for the data collected. Farmers from each sector (crop, livestock and fisheries) were grouped separately for better comparison. From the crop sector 272 respondents, from the livestock sector 75 respondents and from Fisheries sector 118 respondents were selected. Farmers of each sector were then divided into listener (coded 1) and non-listener (coded 0) group. To make a comparison between the listener and non-listener of the FP of BB some scientific practices of each sector (ten from crop, nine from livestock and seven from fisheries sector) were selected which were regularly broadcast through the FP of BB. A frequency distribution of the responses of the farmers was conducted to check whether they follow the scientific practices or not. Each positive response was coded '1' and otherwise '0'. Then the significance test ( $z$ -test) of the differences was conducted. In the binary logistic regression models scientific practices ( $Y$ ) was treated as the dependent variable. The dependent variables ( $Y_i$ ,  $i=1,2,3,4,5,6,7,8,9$ ) were classified in the following manners:

$$Y_i = \begin{cases} 0, \text{ low,} \\ 1, \text{ high,} \end{cases} \quad \text{where } i = 1,2,3,4,5,6,7,8,9$$

Statistical Package for Social Sciences software version 17.0 (SPSS Inc., Chicago, IL, USA) and STATISTICA 8 were used for data analysis.

## RESULTS

This study reveals that the farmers of Bangladesh are generally accustomed to unscientific farm practices. The FPs of BB were designed to motivate the farmers to use the scientific technologies in farming and to alleviate the negative attitude towards the experts and farm technologies from the minds of the farmers. It was observed that in the crop sector out of 272 farmers only 17 (06.25%) farmers (Table 1) listened to the FPs of BB. This study also reveals that in the comparison between the listeners and non-listeners of FPs of BB the scientific practice adoption rate is high among the farmers who listen to the FPs of BB (Table 02).

**Table 2** Significance test of difference of proportions of farm practices (crop sector)

Name of Practices	Variables	Number of farmers (n)	Practicing Farmers	percentage (%)	p values
Integrated Pest Management (IPM)	Non-listener of FP	255	25	09.80	0.0774
	Listener of FP	17	4	23.52	
Using Balanced Fertilizer	Non-listener of FP	255	16	6.27	0.0091
	Listener of FP	17	4	23.52	
Using Guti Urea	Non-listener of FP	255	13	5.09	0.0004
	Listener of FP	17	5	29.41	
Using Pesticides Scientifically	Non-listener of FP	255	38	14.90	0.0278
	Listener of FP	17	6	35.29	
Scientific Seedbed	Non-listener of FP	255	24	9.41	0.0649
	Listener of FP	17	4	23.52	
Harvesting separately	Non-listener of FP	255	102	40	0.0139
	Listener of FP	17	12	70.58	
Irrigation at Critical moment	Non-listener of FP	255	6	2.35	0.3824
	Listener of FP	17	1	5.88	
Using Organic Fertilizer	Non-listener of FP	255	184	72.15	0.88866
	Listener of FP	17	12	70.58	
Drying seeds at times	Non-listener of FP	255	138	54.11	0.70394
	Listener of FP	17	10	58.82	
Examining the soil for using fertilizers	Non-listener of FP	255	4	1.56	0.59612
	Listener of FP	17	0	0	

Note: Here FP refers to the farm programs of Bangladesh Betar.

In the significant tests it was seen that in most of the cases of scientific practices in crop sector the differences between the listeners and non-listeners were quite significant ( $p < .05$ ). In the logistic regression model it was seen that in case of crop sector if a farmer listened to the FPs, he/she was likely to adopt scientific farm technologies- Following IPM, Using balanced fertilizers, Using guti urea, Using pesticides scientifically, Harvesting seeds separately, Using scientific seed beds 2.96 times (OR: 2.962; 95% CI: 0.895-9.802), 4.596 times (OR: 4.596; 95% CI: 1.344-15.719), 7.756 times (OR: 7.756; 95% CI: 2.376-25.321), 3.316 times (OR: 3.316; 95% CI: 1.138-9.662), 3.553 times (OR: 3.553; 95% CI: 1.215-10.390), 2.962 times (OR: 2.962; 95% CI: 0.895-9.802) respectively more than the farmers who did not listen to the FPs (Table 3).

**Table 3** Effects of farm programs (FPs) of Bangladesh Betar on the farm practices of the farmers

Scientific Practices	Characteristic	Coefficient ( $\beta$ )	SE ( $\beta$ )	p values	Odds ratio (OR)	95% CI for OR	
						Lower	Upper
Following IPM	Listening to FP				1.00		
	Do not listen (R)	1.086	0.611	0.075	2.962	0.895	9.802
	Listen	-2.264	0.214	0.000	0.104		
	Constant						
Using balanced fertilizer	Listening to FP				1.00		
	Do not listen (R)	1.525	0.627	0.015	4.596	1.344	15.719
	Listen	-2.704	0.258	0.000	0.067		
	Constant						
Using guti urea	Listening to FP				1.00		
	Do not listen (R)	2.049	0.604	0.001	7.756	2.376	25.321
	Listen	-2.924	0.285	0.000	0.054		
	Constant						
Using pesticides scientifically	Listening to FP				1.00		
	Do not listen (R)	1.199	0.546	0.028	3.316	1.138	9.662
	Listen	-1.710	0.176	0.000	0.181		
	Constant						
Harvesting seeds separately	Listening to FP				1.00		
	Do not listen (R)	1.268	0.548	0.021	3.553	1.215	10.390
	Listen						

	Constant	-0.392	0.128	0.002	0.675		
Using scientific seed beds	Listening to FP						
	Do not listen (R)				1.00		
	Listen	1.086	0.611	0.075	2.962	0.895	9.802
	Constant	-2.264	0.214	0.000	0.104		
Using anthelmintic regularly	Listening to FP						
	Do not listen (R)				1.00		
	Listen	1.931	1.122	0.085	6.897	0.764	62.217
	Constant	-1.609	1.095	0.142	0.200		
Cleaning dwelling places	Listening to FP						
	Do not listen (R)				1.00		
	Listen	2.369	1.125	0.035	10.682	1.177	96.976
	Constant	-1.609	1.095	0.142	0.200		
Routine vaccination of the chicken	Listening to FP						
	Do not listen (R)				1.00		
	Listen	1.891	0.912	0.038	6.625	1.109	39.565
	Constant	-1.198	0.285	0.000	0.302		

Note: 'R, the reference category', 'CI, the confidence interval'.

In the livestock sector out of 75 farmers only 6 farmers (8%) listen to the farm programs (Table 1). The study also revealed that in the comparison between the listeners and non-listeners of FPs of BB the scientific practice adoption rate is high among the farmers who listen to the FPs of BB (Table 4).

**Table 4** Significance test of the difference of proportions of farm practices (livestock sector)

Name of Practice	Variables	Number of farmers (n)	Practicing Farmer	percentage (%)	p values
Routine usage of anthelmintic	Do not listen to FP	69	29	42.00	0.0551
	Listen to FP	6	5	83.33	
Artificial Insemination	Do not listen to FP	58	31	53.44	0.25014
	Listen to FP	5	4	80.00	
Cleaning with antiseptics	Do not listen to FP	69	22	31.90	0.0141
	Listen to FP	6	5	83.33	
Regular Vaccination before rainy season	Do not listen to FP	65	23	35.38	0.13104
	Listen to FP	6	4	66.67	
Feeding urea molasses straw	Do not listen to FP	58	7	12.06	0.08726
	Listen to FP	5	2	40.00	
Vaccinating the Chickens Regularly	Do not listen to FP	54	16	29.63	0.02202
	Listen to FP	5	4	80.00	
Drying the grass before feeding in the rainy season	Do not listen to FP	58	9	15.51	0.79486
	Listen to FP	5	1	20.00	
Separating the sick animals from the others	Do not listen to FP	69	45	65.22	0.08012
	Listen to FP	6	6	100.00	
Burying the dead animals	Do not listen to FP	69	37	53.62	0.79486
	Listen to FP	6	5	83.33	

Note: FP refers to the farm programs of Bangladesh Betar.

In the significant tests it was seen that in most of the cases of scientific practices the differences between the listeners and non-listeners were quite significant ( $p < .05$ ). In the logistic regression model it was seen that if a farmer listened to the FPs, he/she was likely to adopt scientific farm technologies-Using anthelmintic regularly, Cleaning dwelling places, Routine vaccination of the chicken 6.897 times (OR: 6.897; 95% CI: 0.764-62.217), 10.682 times (OR: 10.682; 95% CI: 1.177-96.976), 6.625 times (OR: 6.625; 95% CI: 1.109-39.565) respectively more than the farmers who did not listen to the FPs (Table 3).

In the fisheries sector out of 118 farmers only 8 farmers (6.78%) listen to the FPs of BB (Table 1). The study also revealed that in the comparison between the listeners and non-listeners of FPs of BB the scientific practice adoption rate is high among the farmers who listen to the FPs of BB (Table 5).

**Table 5** Significance test of difference of proportions of farm practices (fisheries sector)

Name of practices	Variables	Farmers (n)	Practicing farmer	Percentage (%)	p values
Water Purification	Do not listen to FP	110	93	84.54	0.2311
	Listen to FP	8	8	100.00	
Using lime for keeping water fresh and fish healthy	Do not listen to FP	110	16	14.56	0.4263
	Listen to FP	8	2	25.00	
Maintaining the food-ratio	Do not listen to FP	110	18	16.36	0.5329
	Listen to FP	8	2	25.00	
Examining health	Do not listen to FP	110	77	70.00	0.2935
	Listen to FP	8	7	87.50	
Maintaining fish number	Do not listen to FP	110	9	8.18	0.4009
	Listen to FP	8	0	0	
Separating the infected fish from others	Do not listen to FP	110	80	72.73	0.08186
	Listen to FP	8	8	100.00	
Seeking doctor's suggestions during diseases	Do not listen to FP	110	47	42.73	0.07672
	Listen to FP	8	6	75.00	

Note: FP refers to farm programs of Bangladesh Betar.

In the significant tests it was seen that in most of the cases of scientific practices the differences between the listeners and non-listeners were not significant. But the fact is that the listeners are motivated more to accept the new scientific technologies.

In this study it was also seen that many of the farmers who do not listen to the farm programs of Bangladesh Betar have negative attitudes towards the government experts. A vast majority of the respondents consider that the experts especially the agriculture officers and fisheries officers do not know anything. Even some of the farmers thought that if they follow the suggestions of the experts, they would be at stake and that was why they used to do everything according to their own indigenous farm knowledge. But none of the farmers who listen to the farm programs made any negative comments about the expert and modern technologies. This is a clear indication of the effectiveness of the farm programs in changing the mindset of the farmers and motivating them thereby.

## DISCUSSION

The objective of the study was to reveal the effectiveness of FPs of BB in motivating the farmers to adopt the scientific farm practices. It is seen that in most of the cases the farmers who listened to the FPs tried to follow the scientific practices more than the farmers who did not listen to the FPs. It means, the FPs of BB were effective in motivating the farmers to adopt the scientific technologies in farming and this finding agrees with the studies of many researchers (Jain, 2014 and Piotrow, P. T. et al., 1992). The reason behind this finding might be that the farm programs are *Ashor* (a program format where actors of different actors like farmers, teacher, neighbor and so on discuss in a dramatic way) based discussion programs where there are some actors along with the expert who discuss on a certain topic of scientific farm technologies in local vernacular where their conversation were inspirational and in some programs successful farmers of any sector present the success stories which might act as a motivational force. In comparison among the sectors (crop, livestock and fisheries) it was seen that the fisheries and livestock farmers are less motivated than the crop farmers. The reason behind this is due to fewer programs on livestock and fisheries are broadcast. The study reveals that only one day per week is fixed for each of the two sectors (livestock and fisheries) whereas programs on crop sector were broadcast four days per week. Even the mindset of the farmers who listen to the farm programs shaped up better than that of the farmers who do not listen to the farm programs. This result is in agreement with those of the studies (Jain 2014, Sasidhar, Majumdar and Garg, 2008 and Heong, et al., 1999). The reason behind this finding might be that after listening to the FPs of BB they could make a comparison between the information they got from FPs and what the field level experts suggested. When the experts' suggestion matched with the information got from FPs they got motivated. This study revealed that the FPs have the ability to motivate the farmers. According to marketing philosophies (Production, product and marketing concepts) a quality product or service with market demand will be marketed properly if its availability can be ensured in the market. As the farmers of Bangladesh have a dire need of FPs (Hasan, et al., 2016) and the FPs have motivational effects on the farmers, the marketing prospects of FPs of BB are very high for the extension services for the diffusion of the modern farm technologies among the farmers of Bangladesh.



The limitation of the study is that the study is confined to crop, fisheries and livestock sectors and the forest sector is deliberately excluded for time and economic restraints. Another limitation of the study is that out of eight divisions only Rajshahi and Khulna were selected as study area. There may be further studies on developing a listener driven marketing strategy, finding out the device which is culturally fit to convey the FPs to the farmers and so on for accelerating the extension services.

## CONCLUSION

The farmers who listen to the farm programs of Bangladesh Betar are more aware of the modern technologies for farming and are more motivated to adopt the new technologies. Even the mindset of the farmers who listen to the farm programs shape up better than those of the farmers who do not listen to the farm programs. This implies that the farm programs of Bangladesh Betar have motivational effects on the farmers in adopting the modern technologies. From this study it is reasonably inferred that there is a high prospect of marketing the FPs of BB. BB authority should formulate befitting marketing strategies for the FPs of BB.

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