

THE ROLE OF RADIO AND TELEVISION IN THE DISSEMINATION OF AGRICULTURAL TECHNOLOGIES AMONG FARMERS OF BANGLADESH

S. Das*, K.U. Ahmed and M.A. Awal

Bangladesh Agricultural Research Council (BARC)
Farmgate, Dhaka. Bangladesh

Abstract

Radio and television are the most influential mass media to stimulate farming community to proper direction of their farming works. These two powerful media have proved to be most useful ICT tools in the field of agricultural information source. Different studies reveal that farmers obtained right and time bound information from radio and television channels. This study was carried out to assess the role of radio and television in the dissemination of agricultural technologies among farmers in some regions of Bangladesh. It was conducted to assess how radio and television are contributing to the growth of agriculture sector. The study also reveals some problems faced by the farmers in using radio and television. A random sampling technique was used on 1170 respondents to collect the data through a well structure questionnaire. The study results point out that the radio and television had an effective role in improving awareness and increasing the modern technological knowledge of farmers. The television and radio programs also helped farmers' access marketing information. The study showed that the respondents have different degree of accessibility to different radio and television channels on agricultural programs.

Keywords: Agricultural knowledge, Agricultural technology, Community television, Radio

Introduction

Radio and television are two of the greatest inventions of science which revolutionized communications among all sectors of human lives including agriculture (Jannat, 2018). Radio is the most effective communication medium which becomes evident during disasters and at the inaccessible locations like sea, hilly areas and other remote areas. In Asian countries large number of poor farmers uses radio to get agricultural information (Baig and Aldosari, 2013). Around 300,000 farmers were benefitted from the information broadcasted in the agricultural programs of four TV Channels in Bangladesh (Katalyst, 2018). Radio and television, the most wonderful inventions of science are regarded as the best means of communications. These two powerful media transform communications in a different way for transferring effective agricultural information and technologies. They help the farmers disseminate modern technological information to a wider range of audience which help them to increase their

* Corresponding Author: s.das@barc.gov.bd

agricultural production too. In the field of agricultural information dissemination, radio and television are useful intermediate for farmers to make their appropriate technologies easy access and learn how to effectively utilize them in their farming systems and practices. Here Das (2016) wants to call radio and television the most important media for diffusing the technical, systematic and scientific information to the farmer society.

A number of research interventions have focused on the role of radio and TV in the field of agricultural information dissemination for farmers to take appropriate decision for their farming. Hussain, (2005) exposed that there is need of using new farm technologies to enhance the productivity of agriculture in Pakistan with the help of mass media like radio, television, documentary film and print media. The study by CEDA (2001) on the impact of agricultural programs transmitted by Radio Nepal mentioned that agricultural programs like Sukrabarko Budhi Aamai helped the farmers improve the farming methods in Nepal. Sharma (2010) also stated that agricultural programs transmitted by Radio Nepal had positive impacts in both small and large scale development. Tortermvasana, (2011) found the lack of accessibility to other communication technologies leading to a combination of broadcasting and narrow-casting media to deliver agricultural information in a number of research projects. Irfan *et al.*, (2006); Alam and Haque, (2014) and Murty and Albino, (2012) analyze the contribution of various TV channels on the dissemination of agricultural information to the farmers for their agricultural enrichment. Their findings indicate a positive curve towards the dependency and contribution of TV channels. Buren, (2000) asserted that mass media like TV increased agricultural knowledge and information for good agricultural output. Age and Demenorgu, (2012) exposed that television created awareness and knowledge among farmers about the use of technologies in farming agricultural produce. Nazari and Hasbullah, (2008) believe that in India, Pakistan, Bangladesh, and Sri Lanka the farmers' education is low and therefore, television is one of the effective media of communication for them about the use of different techniques and pesticides in short time. Goyal, (2010) argued that agricultural communities use ICTs in different ways to get information about weather and markets regularly. Sher, (2001) described that TV producers invite agriculture experts to suggest on new techniques and methods of sowing, ploughing, harvesting and seeding the crop.

The study of Okwu *et al.*, (2007) revealed that majority of the farmers liked to listen to agriculture programs on agronomic, plant production and livestock information through radio. Ani and Baba, (2009) argued that radio and newspaper could transfer information among the farmers in remote areas and can enhance the knowledge and skills for the development of agriculture. It is found that radio was used to broadcast much useful agricultural content like discussions related to agricultural problems and solutions in Zambia. It is also used to broadcast 14 agricultural programs in multiple languages such as English, Hausa, Igbo and Yoruba in Nigeria. Nyareza and Dick, (2012) stated that community radio can successfully be incorporated into agricultural extension service programs in Zimbabwe for broadcasting agricultural information. Waters *et al.*, (2011) assessed the impact of community radio in Indonesia and concluded that effective radio activities can make a significant change in the community life. Research was conducted on the contribution of community radio movement for conscientization and development

of deprived rural people in various parts of world in general and south Asia (India) in particular.

In Bangladesh, Public television channels are BTV, BTV World and Sangsad Television. There are 29 private television channels in Bangladesh (Wikipedia, 2018). Among the television channels BTV, Channel i, Bangla Vision, ATN Bangla, Mohona TV, Boishakhi TV, My TV, Dipto TV, Ekattor TV etc. have prominent agricultural programs which are popular among farmers, entrepreneurs and interested people.

Many informative agricultural programs are broadcast on radio and public and private channels of television in Bangladesh. Mati o Manush, Banglar Krishi, Krishi Dibanishi, Bangladesh Krishi, SAARC Krishi, Hridoye Mati o Manush, Hridoye Mati o Manusher Dak, Fire Cholo Matir Tane, Shamol Bangla, Shabuj Bangla, Dipto Krishi, Matir Shubash, Shonali Din, Krishi Jog, Khamarbari etc. are broadcast on television. Desh Amar, Mati Amar, Krishi Samachar, Amar Desh, Shonali Fasal, Krishikatha etc. are broadcast on radio (Alam *et al.*, 2012; DAE, 2016). Agricultural news is also broadcast embedded in the national and regional news. Three categories of radio transmission are available now in Bangladesh: Bangladesh Betar, FM Radio and Community radio (abid). Seventeen community radio programs are in existence in the country (abid). The community radio established in Amtali, Barguna is dedicated for agricultural programme broadcasting and the slogan of this community radio is 'My Radio My Voice' (AIS, 2018).

Materials and Methods

The study was conducted on farmers from seven administrative divisions of Bangladesh- Dhaka, Chittagong, Rajshahi, Khulna, Barisal, Rangpur and Sylhet. The sampling covered almost 39 out of 64 districts of the country. Questionnaire, interviews and FDG were employed as data collection instruments in the study for data collection. Questionnaire was the main instrument served among rice, vegetable and fish farmers. Random sampling was used in the study. One thousand and seven hundred is the sample size of the present study. Semi-structured interviews were employed to triangulate the data. The arrangement of interviews was assisted by the local farmers. Seven Focus Group Discussions (FGDs) were conducted for generating information on collective views. Extensive field visits in those areas were also added. The data for the present study were collected at the end of 2019. All the questionnaires have been administered in the face-to-face sittings. While administering the questionnaire survey in different sites, the researcher collected the production and income information on rice, vegetable and fish. This production was the dependent variable, whereas radio and television programs were independent variables. The data were analyzed with statistical inference. Statistical Package for Social Sciences (SPSS) version 23.0 was used to interpret the quantitative data.

Results and Discussion

This section describes the sources of information from radio and television. It analyses access to television, and farmers' favourite television programs with channels. Its different subtitles describe different technologies access to radio, radio listener with

their station and programs along with weather forecast, crop variety selection. At present a great number of farmers possess a television set and most of them watch it regularly. Those who do not have a TV set can have an access to watching TV programs in a common place like tea stall or in neighbours' house. The number of TV watching farmers is more than that of TV owners.

The Table 1 illustrates that 60% of the respondents have television sets and 40% don't have any TV sets. About fifty percent farmers do not have television sets but next finding says more than 40% farmers watch TV programs. Communication gap is to some extent filled by TV which plays a vital role in the promotion of agriculture and rural development. So the usefulness of TV programs can't be denied.

Table 1. Frequency distribution of having television sets

Having Television	Number	%
Yes	702	60
No	468	40

The Fig. 1 shows that 50% of the respondents opined that TV programs are very useful, 39% think that these are also useful and 10% think are in between the two. Lastly 1% of the farmers think that these programs are not useful at all. The Fig.1 verifies that half of the farmers realize the necessity of TV programs.

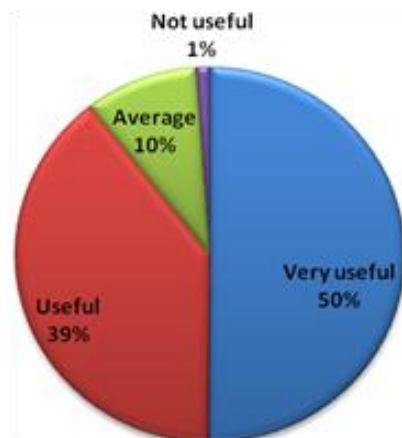


Fig. 1. Usefulness of TV programs

Farmers watch TV for different purposes. They watch TV for agricultural programs too. Almost all TV Channels telecast some programs related to agriculture at least once a week. Channel I and BTV have more focus on agriculture and the programs are becoming more popular and penetrated into urban and rural life as these channels broadcast special bulletin on agricultural activities and development every day. These agricultural programs have been graded by the farmers with a view to assessing their

needs. The results were showed in Fig. 2. About 41% of the farmers consider that these services are useful, about 20% consider them to be very useful but some farmers (35%) think that these services are neither useful nor useless. However, a small portion of the respondents (4%) are in favour of assessing that the services are not useful at all.

Farmers choose different programs for different purpose. Some of their favourite programs are mentioned here as news, movies, agricultural programs and some other programs like drama, short film, reality show (agriculture success stories). Farmers of both groups opt their favorite TV programs at will.

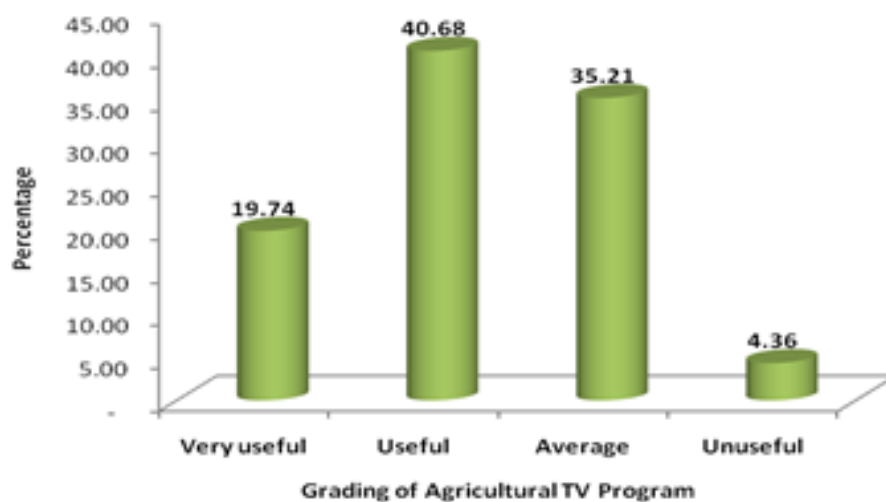


Fig. 2. Grading of agricultural TV programs

The Table 2 shows that about 74.36% farmers listen to news. Agricultural programs are watched by about 17% farmers. It is proved that farmers are more conscious of listening news than watching agricultural programs. Movies are watched by 17.09% farmers and few farmers watch other programs. Farmers watch TV for other purposes too. Out of 1170 farmers, 94.87% watch TV regularly and 5.13% do not watch TV programs. This percentage indicates that farmers have tendencies for watching TV regularly than they own TV sets (Table 3).

Table 2. Frequency distribution of television programs

Television Programs	Number	%
News	870	74.36
Movies	80	6.84
Agricultural Programs	200	17.09
Others	20	1.71
Total	1170	100.00

In the past, radio was the only common source of entertainment for the rural people when TV set was very expensive for them. In the early twentieth century TV occupied its place. However, very recently Band radios with FM, community and Krishi radios have become more popular among the farmer society. Mobile radio is another addition to easy and cheap access to information and entertainment world. The Table 4 illustrates that 47% of the respondents have access to radios whereas more farmers 63% don't have any access to radio but few listen to others' radios.

Table 3. Frequency distribution of television watching

Status of TV Watching	Number	%
Yes	1110	94.87
No	60	5.13
Total	1170	100.00

Table 4. Frequency distribution of access to radio

Access to radio	Number	%
Yes	550	47
No	620	63

Farmers' radio listening period varies from one service area to another. Farmers of some area listen to radio for longer and some for shorter. Listening time is divided into three periods 1-10 year, 10-20 year and 20-30 year. Here the ICT farmers are regarded as long time radio listener. The Table 5 shows farmers' listening period (radio). 47% of the total respondents (1170) listen to radios whereas 63% of them do not have access to radios. 49.64% of farmers listen to radio programs for one to ten years. This is the highest percentage of radio listening farmers. For 10 to 20 years, radio is listened to by 45.64% farmers. This group is the second highest radio listening group of respondents. However, 30 to 40 years of listening radio is done by 4.73% farmers. It is also shown in the table that the farmers are more conscious of listening period.

Table 5. Frequency distribution of radio listening

Period	Number	%
01-10 years	273	49.64
10-20 years	251	45.64
20-30 years	26	4.73
Total	550	100.00

Farmers of different regions listen to different radio at different degrees of times. Bangladesh Betar, F M Radio, Regional Radios and Community Radios are listened to by the farmers for amusement, recreation and agricultural activities. Among these stations, they prefer Bangladesh Betar for the reason that the station is available to them and its frequency is

smooth and after all, they are habituated to listening Bangladesh Betar. The Table 6 indicates that 550 farmers listen to radio and out of them 69.09% listen to Bangladesh Betar. In comparison, Bangladesh Betar is listened to more farmers and 12.73% farmers listen to Community Radio, 12.72% FM Radio and 5.45% Regional Radio.

Table 6. Frequency distribution of radio station

	Number	%
Bangladesh Betar	380	69.09
FM Radio	70	12.72
Regional Radio	30	5.45
Community Radio	70	12.73
Total	550	100.00

Agro metrological information is an integral part of farm practice. Farmers use their common indigenous knowledge in farming. In fact, indigenous knowledge is a big resource for weather forecast information. Farmers' farming strategy and production largely depend on proper source of weather forecast that can change their production radically. Therefore, they are very eager to obtain weather forecast information from many sources. The information sources have been changed and are changing day by day. Some are traditional means and some modern sources have been added. The respondent groups still depend on TV, a widespread source of modern entertainment, for weather forecast. This service is more important for coastal farming as the region is prone to frequent cyclone attack for the Bay of Bengal. About 55.13% information about weather forecast comes from TV (Table 7). The second option is radio. 330 farmers gather weather news from radios including mobile FM stations. Therefore, it is an important finding in the study that 13.68% farmers play an important role in delivering reports of humidity, cloud, rainfall drought, fog, heat etc. Call center plays a little role in providing the farmers with this necessary information. Radio and TV are chosen as source of information more in ICT areas than non-ICT areas.

Table 7. Frequency distribution of the means for weather forecast by service area

	Number	%
Radio	330	28.20
Television	645	55.13
Ext. worker	160	13.68
Call centre	25	2.14
Total	1170	100.00

$\chi^2 = 185.46, \text{Sig} = 0.000$

Source of information for market price is a vital issue for the farmers. Findings from FGD reveal that farmers get the information from various sources- traditional sources and modern sources. At present, radio, television, mobile phone, call centers and ICT based information centers along with different websites are preferred by the farmers. For example, Aktar Hossain, an active member of Dariapur AICC, Magura Sadar and Abdul Hye, another active member of Nrsinghopur AICC of Jenaidah Sadar asserted that they use radio, TV, mobile communication more for obtaining the information of market price of agricultural commodities. They also informed that different zilla and Upazila wise websites (such as DAM website, MoA) are effective for wholesale and retail price of various agricultural commodities. The Fig. 3 illustrates that ICT farmers obtain information 65.32% from radio, 68.4% from television, 61.39% from mobile whereas 27.09% from extension workers, 21.23% from progressive farmers and local agents. 100% information comes from call center. So, traditional farmers depend on the extension workers, progressive farmers and local agents for the information of market price.

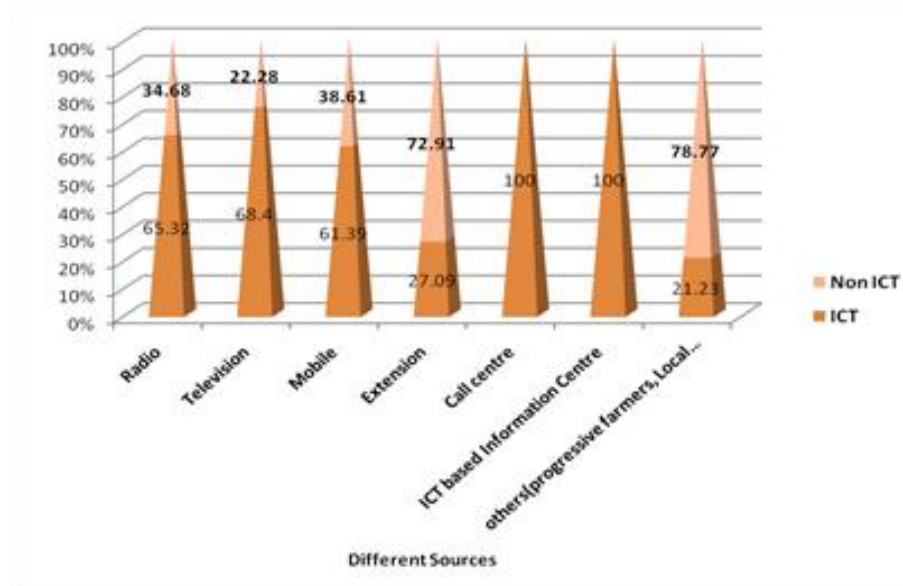


Fig. 3. Sources of information for market price

Conclusion

Radio & television have a positive role in increasing level of knowledge of the farmers and adoption of improved agricultural technologies. Regardless of their potential, the use of radio and television as sources of agricultural knowledge among farmers in Bangladesh is still low. Inadequate ownership of these tools and poor infrastructure & poor number of programs limiting the level of usage. It is therefore recommended that radio and television stations may promote their agricultural programs before airing them and should also increase the number of agricultural programs to be aired per week. The Government and the private sector should work together and improve the radio and television infrastructure in the country. Television has effective role in increasing

agricultural knowledge of the farmers, increasing production and agricultural income of the farmers. The programs of radio and television may be more frequent for agricultural development through their use along with other agricultural extension methods and integration with other technologies. Effective measures should be taken to overcome the constraints faced by the farmers in using radio and television.

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