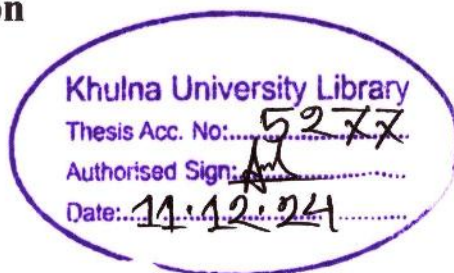


**Present Status and Prospects of Agricultural Journalism in
Technology Diffusion**



A Thesis

By

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**MASTERS OF SCIENCE
IN
AGRICULTURAL EXTENSION AND RURAL DEVELOPMENT**

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**DEDICATED
TO
MY BELOVED PARENTS**

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ABSTRACT

Radio, television and newspapers are the most effective media of journalism to accelerate farming population on appropriate track of their agricultural works. The ex-post facto explanatory cross-sectional study was conducted at Dumuria Upazilla of Khulna District to analyze the role of journalism and to identify the most effective mass media with their hindering factors which blocks the role of journalism for disseminating of agricultural innovations as well as the level of awareness and adoption of these innovations. 110 respondents were purposively selected without biasness to gather the data using a well-structured interview schedule. The study results point out that Majority of the respondents had the highest awareness regarding TV about the reliability and significance of different media sources of news, followed by newspaper and radio. Television is also determined to have the highest adoption rate to learn about new agricultural technologies among the respondents, with newspaper and radio or FM coming in second and third position. "Economic condition to afford TV", "illiteracy of the farmer" and "Bad signal and internet problem" were found to be the most significant hindering factor of television, newspapers and radio, respectively, to block the role of agricultural journalism. Television was determined to be the most effective mass media outlet for agricultural journalism, with radio and newspapers coming in as the respondents' second- and third-place selections. The findings of this study also demonstrate that respondents learn the most about the weather and market prices from television and other sources (peer groups, NGOs, and personal experience), whereas least information from radio or FM and newspapers. The study's findings also demonstrate that educational status, cosmopolitanism status and extension media contact had the most significant positive correlation, whereas age and cultivation experience had the most significant negative correlation with awareness about TV, radio or FM and newspaper at 1% level of significance.

Keywords: *Journalism, Agricultural Journalism, Technology Diffusion, Mass Media, Electronic Media, Print Media*

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ACRONYMS AND ABBREVIATIONS

Short Form	Full Form
S/N	Serial No

CHAPTER I

INTRODUCTION



2.1 General Background

The importance of agricultural journalism to the growth of the agriculture industry has recently gained increased attention, especially from researchers, academics, and decision-makers in developing nations. The primary goal of print media today is to have an impact on the media habits and attitudes of the learners (Agbamu, 2006). The mobilization of people through various types of agricultural journalism is recognized as the most significant source for the transmission of agricultural innovation which is essential to the accomplishment of agricultural development. Although the workforce in agricultural extension is multi-dimensional, the agricultural journalism emphasizes the key problems that farm families is facing today along with their information demands (Byler et al., 2013; Irwin & Poots, 2015). Print media, as well as radio and television programs, are used to disseminate information about agriculturally advanced technologies.

A quick and painstaking way for farmers to learn about farming is through the media of agricultural journalism. Agriculture-related journalism is becoming more and more popular because of on-growing agricultural industry, not only in rich nations like the United States but also in developing nations like Bangladesh. In Bangladesh, broadcast media (radio) was first launched in 1939 as the Dhaka station of "All India Radio" which later became "Radio Pakistan" and after the independence 1971, it was renamed as "Bangladesh Betar" (Biswas, 2000). Television was first introduced on 25 December 1964 in our country as "Pakistan Television Corporation" which later renamed as "Bangladesh Television" after liberation war (Biswas, 2000). The 'Daily Ajadi' published from Chittagong and considered as one of the first newspapers that appeared just after independence on December 17 (Yusuf, 2013). The first agriculture related TV program called "Amar Desh" was started at 1978 which later renamed as "Mati O Manush" in 1980 on Bangladesh. Following that, the majority of television networks launched agricultural programs based on the "Mati O Manush" model. This program drew intellectuals and young professionals in electronic media and had a positive impact on television viewers' attitudes toward agriculture (Kabir, 2021). A project called "Enhancing Rural Communication Services for Agricultural

Development through Community Rural Radio” was taken from the government of Bangladesh in 2010 with the collaboration of FAO to inform farmers about farming methods, to promote agricultural growth, to share information on food security and climate change adaptation issues at the community level along with harnessing of locally available indigenous knowledge (FAO, 2010).

News Paper, Radio, television are some of the greatest inventions of science which revolutionized communications among all sectors of human lives including agriculture (Das et al., 2022). Radio is the most effective communication medium which becomes evident during disasters and at inaccessible locations like the sea, hilly areas and other remote areas. In Asian countries large number of poor farmers uses radio to get agricultural information (Baig & Aldosari, 2013). Around 300,000 farmers were benefitted from the information broadcasted in the agricultural programs of four TV Channels in Bangladesh (Das et al., 2022). 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. For this reason, Das (2016) wants to call newspaper, radio and television as the most important media for diffusing the technical, systematic and scientific information to the farmer society.

Numerous research projects have examined the use of newspapers, radio and television in the distribution of agricultural information to help farmers make the best farming decisions. Hussain, (2005) exposed that Utilizing mass media such as newspaper, radio, television, documentary films, and print media will help to increase the production of agriculture in Pakistan. The study by CEDA 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 (Das et al., 2022). (Sharma, 2010) also stated that Radio Nepal’s agricultural programming have positive effects on both small-scale and large-scale development which inspires the “Enhancing Rural Communication Services for Agricultural Development through Community Rural Radio” project in Bangladesh. Alam & Haque, (2014); Irfan et al., (2006) and Murty and Abhinov, (2012) analyze the role that different newspaper, radio and TV channels play in providing farmers with agricultural information for their agricultural knowledge enrichment. Their findings show a favorable relationship between TV networks’

dependence and contribution. Buren, (2000) claimed that television and other mass media increased agricultural knowledge and information for productive agriculture. Age et al., (2012) revealed how farmers become aware of and knowledgeable about the usage of technology in cultivating agricultural produce thanks to different aspect of agricultural journalism. Nazari & Hasbullah, (2005) think that because of the poor levels of education among farmers in India, Pakistan, Bangladesh, and Sri Lanka, newspaper, radio and especially television is one of the most efficient mediums for informing people about the usage of various techniques and pesticides quickly.

The study of Okwu et al., (2007) found that the majority of farmers preferred to listen to agriculture programs on radio that provided knowledge on agronomy, plant production, and animals. Ani and Baba, (2009) suggested that radio and newspapers may help farmers in isolated locations to communicate and could improve their knowledge and abilities to advance in agriculture.

Bangladesh's agriculture is tremendously benefited by favorable agroclimatic conditions, where a variety of crops and other agricultural products are successfully grown. By introducing farm technologies, information and communication technologies have shown to be an important indication for improving agricultural production. At the moment, Bangladesh is working harder to use ICT and electronic and print media in its programs for agricultural development. To reap the greatest benefits, media and ICT's potential in the sphere of agricultural information transmission must still be completely exploited. Despite a variety of obstacles, such as poor infrastructure, ignorance, and a lack of media and ICT literacy, Bangladesh is slowly but steadily adapting to agricultural journalism and ICT technologies, particularly in the delivery of farmer information (Susmita Das, 2016).

Bangladeshi farmers require site-specific modern knowledge on agricultural productivity and protection methods, agro-climatological advice services, market information, and other things. The farmers use a variety of sources to find the information they need. However, the rural community's insufficient access to timely information has caused issues with both the manufacturing and selling of their products. These production, processing, and marketing-related issues may have been more effectively resolved if farmers had timely information from a dependable source at the local level (Susmita Das, 2016).

To employ modern ICTs, and communication systems for faster development in agriculture, first of all it is required to understand the present status and prospect of agricultural journalism in technology diffusion. Grasping the present circumstances will help to evaluate where to put the systems of agricultural journalism and way to harness the full potential of the systems. This study will draw a glimpse into the present situation of the agricultural journalism in the southern area of Bangladesh.

1.2 Statement of the Problem

In the context of general background, the present study commenced with the title “Present Status and Prospect of Journalism in Agricultural Technology Diffusion”. The study aimed at providing information regarding the following queries,

- i. What is the real deal of journalism in agricultural technology diffusion?
- ii. Which section of journalism is used by agriculture in most cases?
- iii. Which is the most effective medium of journalism for disseminating agricultural innovation?
- iv. Is there any barrier which affects the technology spreading processes through any medium of journalism?
- v. Is the farmer aware of any form of electronic and print media?
- vi. Does the farmer adopt any technology diffused by these media? If yes, then, to what extent?

1.3 Objectives of the Study

Given the facts, this study was conducted to find out the present status and prospect of journalism in agricultural technology diffusion. The specific objectives of the study were,

- i. To determine the level of farmers awareness about the reliability and significance of different media sources of news.
- ii. To ascertain the adoption rate of new agriculture technologies disseminated through mass media.
- iii. To find out the hindering factors which are blocking the information of news in diffusion of farming technologies.
- iv. To identify the most effective mass media as a source of information used for disseminating agricultural technologies.

1.4 Scope of the Study

The current study was intended to know the extent of present status and prospect of journalism in agricultural technology diffusion. The scopes of the study are as follows,

- i. The most effective mass media source will be identified for spreading agricultural innovation.
- ii. The hindering factors which lag the role of journalism in disseminating agricultural innovation will be determined.
- iii. The level of awareness among the farmers about the credibility, importance and relevance of different media sources of journalism will be discovered.
- iv. The adoption rate of technology disseminating by different sources of journalism will be known.

1.5 Assumptions of the Study

An assumption is the supposition that an apparent fact or principle is true in the light of available evidence (Goode, 1945). The following assumptions were in the mind of the researchers while conducting the study.

- i. The sampled respondents were able to provide adequate answers to the questions listed in the interview schedule.
- ii. The interviews were effectively tailored to the research area's social and cultural context.
- iii. The respondents' ideas and opinions accurately reflected those of the whole study population.
- iv. The responses furnished by the respondents were reliable and sincere.
- v. The interviewers were capable of accurately rating the answers.

All of the sustainability standards that the researchers took into consideration were present in the area's identified concerns.

1.6 Limitations

- i. In Khulna District's Dumuria Upazilla, the study was carried out. Due to the wide variations in nature and social systems, the findings might not accurately reflect the overall situation of the nation.
- ii. In this study, just a small number of characteristics were investigated.
- iii. While collecting data for the interviews, the English interview schedule was translated into the interviewees' native tongue.

1.7 Definition of the Terms

Certain key terms were used throughout this study which are defined here for clarity of understanding.

- i. **Farmers:** An individual who retains or oversees a farm.
- ii. **Age:** The age of the farmer is the number of years elapsed between the time of his birth and the interview.
- iii. **Educational qualification:** Educational qualification refers to a person's ability to read and write or their formal education up to the point where they have completed a set number of school years.
- iv. **Family size:** It signifies the precise number of members of a subject's family who were permanently residing in a fixed residence and consuming meals from the same cooking setup.
- v. **Farming experience:** It describes the real number of days that people spend working in agriculture, which was calculated using the number of years between that time and the interview.
- vi. **Farm size:** The term "farm size" implies the respondents' ownership area and cultivable area in hectares.
- vii. **Monthly family income:** Family income refers to the sum of all a respondent's family members' incomes from employment in agriculture or other jobs, businesses, services, and other easily accessible sources.
- viii. **Training received:** It related to the overall amount of training and total number of days that a respondent has gotten from various organizations as part of various training programs.

- ix. **Organizational participation:** It states as an individual's involvement in an organization can take the form of regular member, executive committee member, or executive committee officer.
- x. **Cosmopolitanism:** It referred to a person's exposure to social environments outside of his or her own, such as the closest village, union, Upazilla, districts, or locations of social or agricultural significance.
- xi. **Extension media contact:** A person's exposure to or contact with various communication channels, sources, and personalities was discussed as being utilized to stigmatize new technologies among farmers.
- xii. **Journalism:** Journalism has often been regarded as the publication of news and views on different aspects of human activities, mainly in newspapers and periodicals. The American Press Institute for instance defines journalism as "the activity of gathering, assessing, creating, and presenting news and information. It is also the product of these activities (Bassey, 2021).
- xiii. **Agricultural Journalism:** Agricultural journalism on the other hand is a branch of journalism which is concerned with receiving, writing, editing and reporting agricultural information through the media like newspapers, radio, television, advertising among others (Bassey, 2021). It is a form of gathering information on modern farming and disseminating the information to the farmers through mass media (Amadi & Raji, 2020).
- xiv. **Technology Diffusion:** Diffusion is the process by which an innovation is communicated through certain channels over time among the members of a social system. It is a special type of communication, in that the messages are concerned with new ideas (Rogers, 2010). Diffusion of agricultural technology means spreading newly developed technology or ideas or services to the farmers through a reliable and cost-effective medium of journalism.
- xv. **News:** It is the news that presents current and interesting events, obtained from every moment and everywhere, to the public in an accurate and fast manner, in an objective manner. The news must be impartial in accordance with its own ethical rules. The purpose of the news is to convey the information obtained to the public.

CHAPTER II

REVIEW OF LITERATURE

This chapter reviews earlier studies that are pertinent to this topic. Despite of the best efforts, adequate numbers of direct related literatures were not readily available for this study. However, this chapter just briefly discusses the literature of the research that is currently accessible.

2.1 Reviews on the present status of agricultural journalism in technology diffusion

Without the use of electronic and print media, it is almost impossible to disseminate information to a large scale of targeted audience to harness the actual benefit. Bangladesh wants to achieve upper middle-income status by 2040 under its Vision 2041 plan (Chowhan & Ghosh, 2020). For this reason, as a agro-based economy driven country, agricultural journalism needs to grow equally for that.

Information plays a key role in agricultural development and production and their effective communication will help facilitate mutual understanding among farmers, agricultural scientists and extension workers (Agboola, 2000). According to Kaye (1995) good information improves decision-making, enhances efficiency and provides a competitive edge. Knowledge and information are basic ingredients for increased agricultural production and productivity. Information is a critical resource in the operation and management of agricultural enterprises (Opara, 2008). Abbas et al., (2008a) argued that lack of information adapted to local needs and lack of technical knowledge at farm level are the important factors responsible for this low yield. Information is therefore considered as one of the most important resources in agricultural and rural development that assists the farmers to take decisions and appropriate actions for further development related to farming (Harris et al., 2001; Morrow et al., 2002; Stefano et al., 2005).

Mass media methods in agricultural information dissemination generally are useful in reaching a wide audience at a very fast rate. They are useful as sources of agricultural information to farmers and as well constitute methods of notifying farmers of new developments and emergencies. They could equally be important in stimulating farmers' interest in new ideas and practices (Ani et al., 1997). Radio, television and newspapers are the most effective tools in communication for the support of development (Hussain, 1997). TV can provide an illiterate person valuable instruction and education in agriculture, health population control, sanitation and other aspects of his daily life (Rahman, 1999).

2.1.1 Agricultural journalism

Agricultural journalism is a modern type of journalism and has been growing recently for past few decades. The job of an agricultural journalist is to provide news related to the agriculture land, problems and issues of the farmers of a country, and modern agricultural methods and techniques (Aggarwal & Gupta, 2001; Jana, 2014). This type of journalism has recently become popular among youngsters because many colleges are offering courses in agricultural journalism and demand for this course is increasing. There are multiple scopes and fields like environmental welfare, food industry, and wine industry, conservation bodies, on which news can be made and shared (Rahman, 2020).

In many countries, there are separate TV and Radio news channels and newspapers designated to share information related to agriculture. In Bangladesh, the BTV (Bangladesh Television) and Channel i (a private TV channel), some other private TV channels, Radio, Bangladesh are conducting separate agriculture program named *Mati O Manush* and *Ridaya Mati O Manush*, *Deshor Mati* in their regular broadcasting program (Department of Agricultural Extension, 2018). This type of broadcasting has a positive effect on our farmers, producers, and consumers in the country. Their educative and motivational works about agriculture and agro-related reports have encouraged many youths and young entrepreneurs to be self-employed in the urban and rural areas. They made and constructed many agro-farms, poultry, fisheries, animal husbandry, and dairy in their native areas (Rahman, 2020; Fukuda, 2005).

2.1.2 Necessity and Importance of agricultural journalism

In Bangladesh, there is also an agricultural marketing department and agriculture information service to inform and forecast of agriculture and agro-related products and its supply-demand management. But the role of agriculture information service is limited, not widely circulated and its news is not easily reachable to the common people and remote areas of the country (Susmita Das, 2016; Islam et al., 2017; Rahman et al., 2020). For this reason, people could not get actual and updated information about demand-supply, production, reserve of the commodities and so on. So, agricultural journalism is the crying need of the hour to inform the consumers, farmers and producers about the latest and day to day update of the agricultural news, the storages, reservations, prices of the products and services.

Agriculture is a special field of social activity which is closely related to important issues like ensuring food and nutrition of people, creating scope of income and poverty alleviation (Rahman, 2020).

Above 60% of the total population in the country depend on agriculture and Bangladesh has achieved a significant progress in food and agriculture (Statistics, 2018). It has attained food autarky and is able to export agro-based commodities in the world market. Now it is the time to give more attention to our agriculture for more return from this sector. The price scandal of onion has shown us the path that we should do and go suppressing all wrong news, rumor about our agricultural products so that our farmers, producers and consumers do not suffer from this type of wrong news and rumor. A strong, honest, accountable and exclusive agricultural journalism policy can solve the problems of rumor and sufferings of the people originated from this sector (Rahman, 2020).

The farmer to extension worker ratio is unarguably very wide, thus public extension system is unable to meet the demand of farmers for information. The mass media, especially in this age of technological advancement in new media technologies is capable of reaching vast widespread audience (Bassey, 2021). Also, technical information on improved agricultural practices needs to be provided to the farmers at the right time and in the right way, so that their productivity can be optimized. News about various agricultural activities, guidance and recommendations, successful achievements, market news, research findings, problems faced by the farming population and so on. The success of agricultural development programmes in developing countries has over time proven to largely depend on the extent to which the mass media is used in mobilizing the people towards development (Bassey, 2021).

2.1.3 Present Status of Electronic Media

To make the best use of farmland, farmers require accurate agricultural information. The utilization of electronic media through technology is getting popular to the farmer to develop the agricultural practice in Bangladesh over time. It opens two-way communication opportunities for farmers to communicate with the policy makers and expresses their utter needs (Das et al., 2022).

To adopt modern agricultural technologies and enhance production in a sustainable manner electronic media can be efficiently used for disseminating and sharing timely and accurate news on weather, inputs, markets, and prices; by feeding information into

research and development initiatives (FAO, 2017). Application of ICT and electronic media in agriculture, i.e. e-agriculture promotes a multi-stakeholder, people-centric, cross-sectoral platform that will bring together all stakeholders, especially farmers and enable them to access timely and relevant information, exchange opinions, experiences, good practices and resources related to agriculture (Singh et al., 2015).

2.1.3.1 Journalism Via Television

The history of television in Bangladesh began when a state-owned national TV station Bangladesh Television (BTV) started its terrestrial operations in 1964. On April 11, 2004, BTV started “BTV World” satellite Transmission. The channel has contributed to the nation building process for more than 34 years without any partner. Besides education and entertainment, its mandate is to ensure the equitable dissemination of information to the masses of people. It telecasts various programs comprising drama, documentaries, musicals, education and information, including 14 News bulletins in English and Bangla daily (Alam & Haque, 2014).

BTV has potential coverage of about 97 percent of the country's population. For the greater interest of the nation 78% of the total programme include issues like agriculture, health and population, children and women, education and human rights etc. Its content mix comprises 20% news, 30% development and educative, 35% cultural and entertainment and other program 15%. (Bangladesh Television, 2013).

On July 15, 1998, Bangladesh entered in the new era of TV channel history as ATN Bangla the first private satellite TV channel started its transmission (Alam & Haque, 2014). The first private terrestrial TV channel in Bangladesh was Ekushey Television which started its operation on April 14, 2000. Later the channel started its satellite transmission, stopping the terrestrial transmission. At present there are 3 state-owned and about 24 private TV channels in Bangladesh (Ministry of Information, 2010; Wikipedia, 2013).

There are around 45 private television channels in Bangladesh as of 2019 (Wikipedia, 2023). 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 (Department of Agricultural Extension, 2018).

In present Bangladesh, there are a lot of educational agriculture programs that are broadcast on public and private television networks. TV channels have dedicated programmes on agriculture such as *Mati o Manush*, *Banglar Krishi*, *Krishi Dibanishi*, *Hridoye Mati o Manush*, *Hridoye Mati o Manusher Dak*, *Fire Cholo Matir Tane*, *Shamol Bangla*, *Shabuj Bangla*, *Deepto Krishi*, *Matir Shubash*, *Shonali Din*, *Krishi Jog*, *Khamarbari* etc., and all are in Bangla language (Choudhury et al., 2019; Department of Agricultural Extension, 2018). These agricultural programmes have created awareness about the recent developments in agriculture and aided in development of skillful farmers and concerned stakeholders. Apart from the dedicated agricultural programmes discussed, the TV news programmes also cover information related to agricultural production constraints and successes. The prime focus of most of the programmes is on application of agricultural technologies/success stories from different parts of the country. One of these channels (Channel I) and another news-based channel (Ekattor) broadcast separate agriculture bulletins (Kabir, 2021).

Journalist Rezanur Rahman (2016: p.6) mentioned in one of his articles that the agricultural programme of the Channel I have been contributing to the development of the farmers and the agriculture of Bangladesh. He rated “*Hridoye Mati O Manush*” programme as the most popular TV documentary on agriculture in the country (S. M. S. Islam, 2018).

Chhachhar et al., (2012) conducted a study titled ‘Role of Television in Agriculture Development of Sindh, Pakistan’ where they found that 97.5 percent respondents perceived the television as the best source for agricultural-related information. According to 86 percent respondents, television programmes were effective in increasing agricultural income of the farmers in Sindh.

Television is a powerful medium of information exchange these days. The common electronic media, viz; radio and TV are regarded as very effective in communicating the latest knowledge to the farmers. Television is the most effective tool in communication for the support of development (Hussain, 1997). A study conducted in the central Punjab showed that more than 56% farmers listened/watched agricultural programmes on television (Abbas et al., 2003b). Farooque, (2004) stated that all the respondents regarded print media and fellow farmers as their major sources of agricultural information followed by TV (80.83%) and radio (75%).

2.1.3.2 Journalism Via Radio

Radio is considered as an effective tool to disseminate agricultural information among the farmers, and it is the most powerful mass media for broadcasting Information quickly. It is a powerful communication medium, particularly in India where, in the absence of regular and stable electric supply in rural areas. People have to depend on radio to meet their needs of information (Kakade, 2013).

Radio can reach large audience at the same time. In terms of cost, it is an extremely economical medium as compared to other extension media and methods involving individual and group contacts. Radio is considered a credible source of information and is taken as authentic, trustworthy and prestigious medium of communication. (Kakade, 2013).

In Bangladesh, there are a lot of educational agriculture programs that are broadcast on public and private radio or FM networks. Desh Amar, Mati Amar, Krishi Samachar, Amar Desh, Shonali Fasal, Krishikatha etc. are broadcast on radio (Alam *et al.*, 2012). The local and national news are presented along with agricultural news. Bangladesh Betar, FM Radio, and Community radio are the three radio broadcasting categories that are now present in Bangladesh. There are seventeen community radio stations across the nation (Das *et al.*, 2022). 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' (FAO, 2010).

Nyareza & 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.

Ani & 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.

Opara, (2008) found that 88.10% of the farmers regarded the extension agents as their source of information, followed by the fellow farmers, radio, and television as indicated by 71.20, 63.20, and 43.30% of the farmers, respectively. The majority (70.00%) of the farmers preferred the extension agents over the other sources (including radio, friends & relatives, and television).

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.

Nazam, (2000) found that 68.8% of the respondents became aware of modern technology through radio/TV while extension worker, newspaper and agricultural magazines served as sources of information for 23.3, 13.3 and 3.3% of respondents respectively. The possible reason for the difference may be time factor; the gap between two studies is more than twenty years. Thus with the passage of time situation might have changed. The difference may also be due to the nature of respondents; in the present case all the respondents were literate.

Tamuli et al., (1999) reported that in progressive village the dairy farmers perceived that veterinary assistant surgeon was unequivocally ranked top as far as credibility of information source is concerned and trustworthy, similarly radio and television are ranked second and third as credible and trustworthy source of information as perceived by farmers.

According to Chandra mouli (1990) radio was first in order of channels utilized by farmers for getting information about all the practices.

Kabir, (1988) shows in his doctoral study titled, 'Effectiveness of Radio farm programmes on the Ruralites of Bangladesh' that the village people in both the transitional and traditional villages find the radio farm programmes useful and beneficial to adopt better farming methods. However, the rate of use and adoption of information is somewhat higher in the transitional villages due to the better socio-economic conditions.

Joshi (1985) found radio as the effective source credibility utilized by the farmers in sixth position.

2.1.4 Present Status of Print Media

Mass media can be classified as print media and electronic media. Print media include words, pictures and diagrams to convey precise and clear information on a mass scale. Farmers can use printed material for long period as permanent reminder and can use again and again (Farooq et al., 2007; Ani et al., 1997).

Newspapers are distributed nationwide and read widely by rural people. Newspapers have accurate and informative messages and can be used as a cost-effective medium to disseminate information. Current examples of newspapers which print agricultural messages are: Prothom Alo (Khet Khamar), Jugantar (Krishi Katha), Naya Diganta (Chashabad), Kaler Kantha (Chashbash), Ittefak (Hridaye Mati O Manush), Jay Jay Din (Krishi O Shamvabana) etc. (Department of Agricultural Extension, 2018).

While major publications published from metropolitan areas focus on national and international concerns, they pay little attention to programs for agricultural and rural development. These newspapers only have urban residents as readers. The acceptance and use of print media are limited due to the low literacy rate. Many of these institutions launched farm magazines for their internal audiences as agricultural research advanced and their role in technology transfer expanded (Rahman, 1995).

The Agriculture Information Service (AIS) of the government publishes Krishi Katha, a monthly magazine that focuses primarily on agriculture but also includes poems, short tales, and agricultural news. It is an old magazine that has been published for 52 years and has thousands of subscribers. Samprasharan Barta is a monthly tabloid published by the Agriculture Information Service (AIS), which is targeted at extension personnel of the Agriculture Department. It primarily covers the activities of the Agriculture Department's extension agents and publishes articles on related topics as well as success stories in agriculture, livestock, and poultry. However, this magazine has relatively little impact due to its monthly publication schedule and little audience (Rahman, 1995).

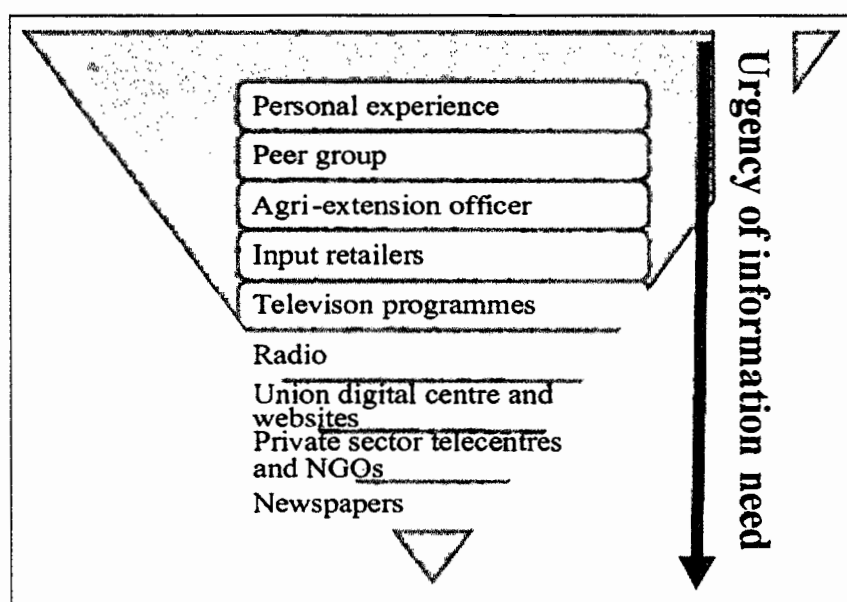


Figure 2.1: Farmers' Preferences of the Sources of Agricultural Information According to the Urgency and Importance of the Information Needed. (Rahman et al., 2020)

Print media can effectively be used if their form and content are tailored to the needs and interest of the target audience, offer options and facilitate decision making, encourage the adaptation of technology to local situation, provide a more explicit treatment of sustainability in relation to the technical content, and give information on the economic and financial implications of any recommended technologies, including the uncertainties and risks involved (Sharma, 2010; Farooq et al., 2007).

The print media gain popularity and attract the attention of the end users when they address the real problems faced by the farmers and provide feasible solutions to them. Extension workers can use printed material along with other communication channels to reinforce the learning process of farmers (Farooq et al., 2007).

Oakley & Garforth, (1985) considered print media as permanent message senders in Agricultural Extension. However, they acknowledge their limitation for illiterate population. Thus, they can mainly be useful for literate farmers. It is obvious that with the passage of time the literacy rate has increased in Bangladesh. So, the print media seem very important, as at least half of the population is literate. In this context, Farooq et al., (2007) reported that group discussions were ranked the best by 70% of the respondents, print media as the second best by 40% and TV was the third best by 37.5% of the respondents.

Mosher, (1979) indicated that the reading material including posters, pamphlets and other printed material changed the behaviors of 98% farmers. The present paper is based on a study conducted to evaluate the role of print media in the dissemination of agricultural information among farmers.

2.2 Reviews on the prospects of agricultural journalism in technology diffusion

Bangladeshi villagers continue to make the majority of their living from agriculture. Technological developments may increase productivity and farm diversification. Agri-industrialization, new markets, and rural companies are all possible outcomes. Farmers would be organized nationally, socially conscious, and economically active. The primary areas where agricultural journalism might be very useful in putting things into effect are listed below.

2.2.1 Human resource development

The knowledge and skill development of farmers, researchers, educators, extension agents, and other agri-stakeholders is greatly influenced by education and training in the field of agriculture. Agricultural journalism through newspapers, television and radio is becoming more important for offering distance learning in rural areas. Although it could be telecommunication based, it might also serve multimedia in addition to content.

2.2.2 Research and development

To ensure the optimum use of agri-journalism in the field of agricultural research, agricultural research organizations must draw lessons from nations that have experience comparable issues like Bangladesh and develop a framework that is similar. Conversely, various climate simulation models should also be taken into account for the development of climate change resilient technology and the prediction of future crop production and weather data.

2.2.3 Knowledge management

An ICT based agri-journalism system is necessary to identify and disseminate information to the farmers for the prompt and accurate identification, diagnosis, prevention, and control of zoonotic diseases, which are contagious illnesses that can infect both people and animals.

To ensure effective managements in a sustainable way, appropriate information of all aspect of agriculture needs to be delivered to the farmers doorstep as soon as possible.

SL.	Problems	Extent of problems			
		High	Medium	Low	Not At All
1	Poor level of education	49 (61.25)	31 (38.75)	0 (0)	0 (0)
2	Lack of knowledge on availability of ICT facilities	43 (53.75)	34 (42.5)	3 (3.75)	0 (0)
3	Lack of operational knowledge of computer	54 (67.5)	25 (31.25)	1 (1.25)	0 (0)
4	Social and religious restriction	0 (0)	1 (1.25)	8 (10)	71 (88.75)
5	Limited number of ICT center	45 (56.25)	33 (41.25)	1 (1.25)	1 (1.25)
6	High cost of internet service	13 (16.25)	57 (72.25)	10 (12.5)	0 (0)
7	Lack of personal interest	46 (57.5)	26 (32.5)	5 (6.25)	3 (3.75)
8	Low bandwidth speed of internet	22 (27.5)	42 (52.5)	16 (20)	0 (0)
9	Lack of ICT software	21 (26.25)	43 (53.75)	16 (20)	0 (0)
10	Electricity problem	42 (52.5)	37 (46.25)	1 (1.25)	0 (0)
11	Lack of training facilities	50 (62.5)	24 (30)	6 (7.5)	0 (0)

Number in the parentheses indicate percentage of the farmers; Source: [22]

Figure 2.2: Restraints in obtaining agricultural information (Chowhan and Ghosh, 2020)

2.2.4 Digital content for information dissemination

In order to increase the ability of the farmers, digital content-based advocacy, awareness, and capacity building initiatives may be leveraged even more by using emerging channels like improved and dedicated agri-contended based television channel, informative radio program, dedicated agri based newspapers and mobile content dissemination. Multimedia material is an efficient technique to convey important and complicated topics because the majority of farmers are illiterate or simply have rudimentary reading skills. Agricultural journalism can close the gender gap and provide women with the required data and services right at their doorsteps.

Main Information Sources		Current Value to Farmers (N = 200)	Reason the Source Was or Was Not Valuable to Farmers
Traditional Media	Newspapers	Very low (9%)	- Limited access at village level - Limited reading culture - Some farmers illiterate - Limited information on agriculture
	Radio	Very low (18%)	- Very limited use by farmers - Traditional technology - Information not location-specific - Information not time-specific
	Television	High (69%)	- Programme formats easy to follow - Live programmes - News programmes share innovation - Many television channels

Figure 2.3: Available sources of agriculture-related information and their value to the farmers (Kumar et al, 2020)

2.2.5 Use of television and radio-based technology

The most widely used media in the nation is radio. It has several inherent qualities that offer it a competitive edge over other mass media, including speed, breadth, mobility, and adaptability. Radio is also renowned for its inexpensive production, transmission, and reception costs, ability to evoke ideas and visions, and capability to convey messages in engaging ways. However, because it is simply a sound medium, radio has limits when conveying complex ideas and technical knowledge.

Radio has tremendous promise for rural residents. The designer of radio programs should develop a plan for the nation's rural majority with this in mind. The share of rural activities in broadcast programming is only 4.6%, which is greatly disproportionate. It is sometimes countered that the public in rural areas may just as easily listen to other general programming, which is widely available. However, a few music, theater, and news programs stand out as being of interest to rural people within the general programming. The religious program receives a lot of interest. While radio news is urban-focused, some listeners are interested in news updates. For gathering news and reporting events in remote locations, there are no logistics. More care and attention must be given to this area.

Rural residents should have access to TV programs and services through government financing. Its program structure could be changed to better serve rural farmers. Messages from TV news are also accessible to rural residents. One area of broadcasting that doesn't stay static is TV news; it offers a wealth of opportunities for depth, truth, and originality. We shouldn't just focus on the affluent urban dwellers who regularly subscribe to newspapers and magazines and view television news as a simple visual summary of global and domestic happenings. The demand to provide TV service to our rural regions and places with varied cultures and dialects is rising.

2.2.6 Others sector

While major publications published from urban areas focus on national and international concerns, they pay little attention to programs for agricultural and rural development. These newspapers only have urban residents as readers. The adoption and usage of print media is limited due to the low literacy rate. Many of these institutions launched farm magazines for their internal audiences as agricultural research advanced and their role in technology transfer expanded.

By promptly disseminating information regarding farming and harvesting, the rural press may assist villagers' families and farmers. Additionally, it can serve to support and inspire the community's development and accomplishment of its social, economic, and cultural goals. Local farmers can benefit from such a press by receiving the most recent market prices for agricultural goods. It may also be used as a powerful tool to reveal local corruption and nepotism at the grassroots level.

By acting as a conduit for information between the public and the government, local officials, and others, as well as by establishing a workable forum in this respect, the rural press may play a crucial part in energizing the community's life. This will assist in continuing the reciprocal process. The rural press may be very helpful in the discussion of ideas between agricultural organizations and farmers. It is a potential force for change that may foster friendly dialogue and the dissemination of scientific knowledge to rural occupations.

2.3 Conceptual Framework of the study

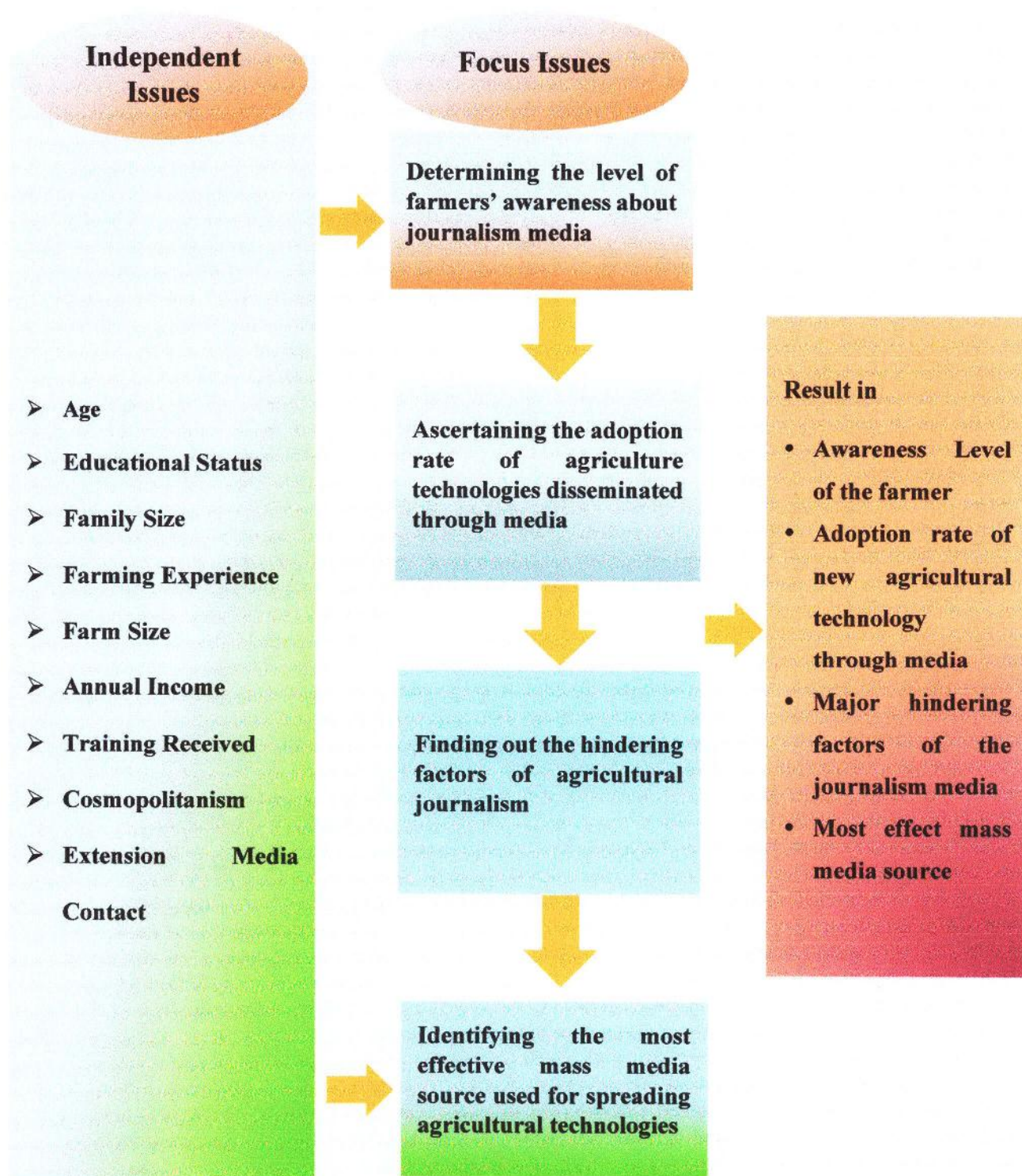


Figure 2.4: Conceptual framework of the study

CHAPTER III

METHODOLOGY

This section includes the description of techniques and methods used to carry out the current study.

3.1. Research Design

An ex-post facto explanatory cross-sectional research design was used for the study. The study sought to find out the role of journalism and to identify the most effective mass media with the hindering factors which blocks the role of journalism for disseminating of agricultural innovations as well as the level of awareness and adoption of these innovations.

3.2. Locale of the Study

The study was conducted at different Unions of Dumuria Upazilla under Khulna district. The coordinates of Dumuria are 22.8083°N and 89.4250°E. Farmers in Dumuria Upazilla were engaged in crop cultivation (both grain crops and vegetables) and fish culture, but they were more active in vegetable agriculture. This is one of the distinctive characteristics of the research region. The study region was close to Khulna University, and the neighborhood has a sophisticated communications infrastructure. Dumuria Upazilla has a total area of 454.23 square kilometers. Dumuria Upazilla's map is depicted in Figure 2.



Figure 3.1: Dumuria Upazilla of Khulna district

3.3. Population and Sampling Technique

The population of the research was deemed to consist of all farmers working in the Dumuria Upazilla study area's crop output. Because of the limitation of resource, manpower, time and budget, 110 of them (both male and females) were purposively chosen to make up the study's sample. The unbiasedness during the sampling was strictly maintained.

3.4 Preparation of Interview Schedule

An interview schedule was formulated for gathering valid and reliable information from the respondents. The interview schedule was designed according to the goals of the research. According to the researcher's supervisor's guidelines, modifications and rearrangements were made to the interview schedule before final data collection. After that, the final interview schedule was created, and the quantity of copies required for the study were printed. The English version of the interview schedule has been added in Appendix A.

3.5 Method and Time of Data Collection

After establishing the final interview schedule, the data was appropriately gathered and validated. The researcher personally conducted face-to-face interviews utilizing an interview plan to gather information. The researchers took every endeavour to clarify the purpose of the study to the respondents in order to gather accurate and pertinent data. The researcher took every precaution to build rapport with each respondent before the interview began so that they would feel comfortable providing precise responses. In addition, the opinions of a few important informants were used to supplement and validate some of the data amassed during the interview program. The local people of the area assisted and co-operated the researchers in data collection. Data was collected from the respondents during March to April 2023.

3.6. Selection of the Study Variables

The selection and measurement of variables are important tasks in survey research. When relationships are involved, it is crucial to define the issue and choose the variables because relationships are the structural building blocks on which all sciences are established. Two different types of variables are found in every relationship; one is the independent variable and the other is the dependent variable. The element that the investigator manipulates in an effort to understand how it relates to an event observed is known as an independent

variable. A dependent variable, on the other hand, is a variable that changes when the experimenter adds, eliminates, or alters the independent factors. (Townsend, 1953).

Table 3.1 Selected characteristics of respondents

Independent Variables or Socioeconomic characteristics	Dependent Variables or Focus Issues
i. Age	i. Awareness
ii. Educational qualification	ii. Adoption Rate
iii. Family size	iii. Hindering factors
iv. Farming experience	Most effective media source
v. Farm size	
vi. Family income	
vii. Training received	
viii. Cosmopolitanism	
ix. Extension media contact	iv. • Status of journalism instrument owned • Status of journalism instrument watched • Preferred TV channels • Preferred programs • Types of information received

3.7 Data Processing and Analysis

All of the collected data in the interview schedule was edited after the data had been collected. For analysis and discussion, all of the dependent and independent variables were grouped and set up in straightforward tables. When necessary, appropriate scoring was used to convert local units into standard units and qualitative data into quantitative ones. A microcomputer running OriginPro 2021, MS Excel 365, SPSS 26.0, and other programs were used for data analysis. Descriptive data were interpreted using basic statistics including frequency counts, percentages, ranges, means, and standard deviations. The respondents' level of awareness, hindering factors, and adoption rate were all measured using a five-point Likert scale. Throughout the analysis, Spearman rank correlation was used to investigate the relationships between the relevant variables. At least five percent (0.05) level of significance was used as basis of rejecting a null hypothesis.

3.8. Measurement of Socioeconomic Characteristics of Farmers

3.8.1 Age

The interviewees' ages were calculated using the number of real years between their birth and the interview. However, one score was given for each, and every full year of the respondent's age based on the information that was accessible about them. Age belongs to item number 1 in the interview schedule (Appendix A). The respondents were divided into the following groups based on their age, as indicated in Table 3.2.

Table 3.2 Categories of respondents according to their age

Categories	Score
Young	≤35
Middle	36-55
old	>55

3.8.2 Educational qualification

A respondent's level of education was assessed using their number of years spent in school. Respondents who are illiterate, that is, unable to read and write, received a score of zero (0). The education equivalent score for a respondent who got education outside of school was determined by the formal education level that respondent possessed. A "one" was given for each year of schooling that was successfully completed. The lowest and highest scores are 0 and unknown, respectively. In the interview schedule, item number 3 is related to educational background (Appendix A). The respondents were divided into the following categories based on their level of education, as indicated in Table 3.3.

Table 3.3 Categories of respondents according to their educational qualification

Categories	Score
Illiterate	0
Can sign only	0.5
Primary	1-5
Secondary	6-10

Higher secondary	11-12
Undergraduate	13-16
Postgraduate	>16



3.8.3 Family size

The respondent's own family members as well as any additional dependents were counted for determining the size of the family. A farmer's family size score was determined using their actual family size. Family size is the second question on the interview schedule (Appendix A). Respondents were divided into the following categories based on family size, as indicated in Table 3.4.

Table 3.4 Categories of respondents according to their family size

Categories	Number of family members
Small	≤ 4
Medium	5-6
Large	> 6

Source: BBS (2016)

3.8.4 Cultivation experience

The amount of time from a respondent's first year of cultivation until the interview was calculated based on the respondent's statement number 4 in the interview schedule (Appendix A). The minimum and maximum score is unknown. On the basis of the cultivation experience, they are classified into the following categories as shown in Table 3.5.

Table 3.5 Categories of respondents according to their cultivation experience

Categories	Score
Low	≤ 10
Medium	11-20
High	> 20

3.8.5 Farm size

The term "farm size" describes the overall amount of land that a respondent owns, incorporating the homestead area. It also includes property that has been acquired through share cropping agreements or leased from third parties. It was determined how valuable the region was to farmers in terms of benefits. The following procedure was used to find out the size of the farm:

$$FS = A1 + A2 + 1/2 (A3 + A4) + A5$$

Serial	Use of land
A1	Homestead area
A2	Own land under cultivation
A3	Land given to others on barga
A4	Land taken from others on barga
A5	Land taken from others on lease
A6	Others
FS	Farm Size

The farm's size was initially measured in local units before being changed to hectares. In the interview schedule, item number 5 is related to farm size (Appendix A). Farmers were divided into five groups according to the size of their farms, as indicated in Table 3.6.

Table 3.6 Categories of respondents according to their farm size

Categories	Score (ha)
Landless	≤ 0.02
Marginal	0.02-0.2
Small	0.21-1.0
Medium	1-3
Large	> 3

3.8.6 Family income

Family income (yearly) of a farmer was calculated by considering the total amount earned over the previous year from all sources, including agriculture, business, services, and others. The 6th item on the interview schedule is a question on family income (Appendix A). The minimum and maximum score is unknown.

Table 3.7 Categories of respondents according to their monthly family income

Categories	Taka (BDT)
Low	<150000
Medium	150000-300000
High	>300000

3.8.7 Training received

Depending on how much training the respondent had gotten, his or her training score was calculated. Score (1) was given receiving on the training alone in order to compute the training score. A score of 1, 2, or 3 was given to respondents based on how many training sessions they had, respectively. If they do not participate in any training, a score of 0 was given. Training received is included in the interview schedule as item No 7 (appendix A). The respondents were classified into following categories in the Table 3.8.

Table 3.8 Categories of respondents according to their training received

Categories	Score
Low	≤ 2
Medium	3-5
High	> 5

3.8.8 Cosmopolitanism

A respondent's level of cosmopolitanism was assessed using the frequency of his or her travels to locations outside of their own social system to get their cosmopolitanism score. The scores were 3, 2, 1 and 0, respectively, and were calculated by counting the number

of trips made to five distinct locations that represent the frequency of visitation as frequently, occasionally, rarely and not at all. The score might be between 0 and 15, with a score of 0 denoting no cosmopolitanism and a score of 15 denoting very high cosmopolitanism. Item 8 of the interview schedule displays the respondents' cosmopolitanism (Appendix A).

Table 3.9 Categories of respondents according to their cosmopolitanism

Categories	Score
Low	≤5
Medium	6-10
High	>10

3.8.9 Extension media contact

A respondent's degree of exposure to various extension media and individuals who served as information sources to inspire him or her and extend his outlook to new practices was used to determine the extent of that respondent's extension media engagement. The score may fall between 0 and 68, with "0" denoting rare extension media exposure and "68" denoting regular extension media exposure. The respondents were grouped into the subsequent classes according to extension media exposure as shown in Table 3.10. Item 9 of the interview schedule displays the respondents' cosmopolitanism (Appendix A).

Table 3.10 Categories of respondents according to their extension media contact

Categories	Score
Rare	1-17
Occasional	18-34
Often	35-51
Regular	52-68

3.9 Measurement of Focus Issues

3.9.1 Awareness about the significance and reliability of various media of agricultural journalism

3.9.1.1 Awareness Category of the respondents

Awareness about the significance and reliability of various media of agricultural journalism indicates the respondent's level of familiarity to the existing and new technology of agriculture through different medium of journalism. To determine awareness level of the respondents, 15 questions (5 questions on each category) were asked to each the respondents . The questions encompassed discrete aspects of journalism regarding awareness. The scores were 3, 2, 1 and 0, respectively, and were calculated by carefully judging the answer to the asked question which represents the level of awareness as very high, high, average and not at all. Awareness of the respondents is included in the interview schedule as item No 10 (appendix A).

Table 3.11 Categories of respondents according to their awareness

Categories	Score
Not at all	0
Average	1-5
Medium	6-10
Very High	11-15

3.9.1.2 Awareness Index of the respondents

The extent of awareness was determined based on the score. The awareness score was determined by using the after formula derived from the article of Mim & Islam, (2022),

$$PS= N1\times3+N2\times2+N3\times1+N4\times0$$

Where,

AS= Awareness score

N1= Number of respondents had very high awareness

N2= Number of respondents had high awareness

N3= Number of respondents had average awareness

N4= Number of respondents had no awareness

The possible range of awareness score was 0 to 330.

For example, among 100 respondents 17, 11, 9 and 8 respondents indicate the extent of awareness as very high, high and not at all respectively. Thus the PS for that practice is

$$\begin{aligned} AS &= 17 \times 3 + 11 \times 2 + 9 \times 1 + 8 \times 0 \\ &= 51 + 22 + 9 + 0 = 82 \end{aligned}$$

After determination of PS, the practice index was determined by following formula

$$(\%) \text{ Practice Index} = \frac{\text{observed practice score}}{\text{possible highest practice score}} \times 100$$

3.9.2 Adoption rate of technology through mediums of agricultural journalism

Adoption is the decision-making process to make full use of an innovation as the best course of action available. Adoption level refers to the rate of adoption of a product or service by the respondents through the different medium of journalism. The scores were 3, 2, 1 and 0, respectively, and were calculated by carefully rating the answer to the asked question which represents the level of adoption as very high, high, moderately high and not at all. Adoption level of the respondents is included in the interview schedule as item No 10 (appendix A).

Table 3.12 Categories of respondents according to their adoption level

Categories	Score
As of before	0
Moderately High	1-5
High	6-10
Very High	11-15

3.9.3 Hindering factors which are blocking the role of journalism.

3.9.3.1 Category of hindering factors

Hindering factors refers to issues which impede the progress or positive activity of a undertaking to some extent. The possible scores are between 5 and 25, total 15 to 75 for each category (TV, Radio or FM and Newspaper). Hindering factors are included in the

interview schedule as item No 17 (appendix A). The 5-point Likert scale was used to measure the difficulty of the hindering factors is given below and the results are shown below for each positive opinion.

Table 3.13 Score of the viewpoint regarding to the positive statement

Opinion	Score
Strongly Agree	5
Agree	4
Undecided	3
Disagree	2
Strongly Disagree	1

Table 3.14 Score of the viewpoint regarding to the negative statement

Opinion	Score
Strongly Agree	1
Agree	2
Undecided	3
Disagree	4
Strongly Disagree	5

3.9.3.2 Hindering Factors Index (HFI)

The severity of a problem was determined based on problem severity index (HFI). The HFI was determined by using the after modified formula derived from the article of Mim & Islam, (2022),

$$PSS = N1 \times 5 + N2 \times 4 + N3 \times 3 + N4 \times 2 + N5 \times 1$$

Where,

HFS= Hindering factor score

N1= Number of strongly disagreed respondents

N2= Number of disagreed respondents

N3= Number of undecided respondents

N4= Number of agreed respondents

N5= Number of strongly agreed respondents

The possible range of problem severity score (PSS) was 0 to 550.

For example, among 100 respondents 34, 25, 17, 11 and 8 respondents indicate the extent of problem regarding problem number as highly severe, severe, less severe and not at all respectively. Thus the PSS for that problem is

$$\begin{aligned} \text{HFS} &= 34 \times 5 + 25 \times 4 + 17 \times 3 + 11 \times 2 + 8 \times 1 \\ &= 170 + 100 + 51 + 22 + 8 = 351 \end{aligned}$$

After determination of HFS, the hindering factor index of the problem was determined by following formula

$$(\%) \text{ Hindering factor index of the problem} = \frac{\text{observed problem score}}{\text{possible highest problem score}} \times 100$$

3.9.4 Most effective mass media source of information used for disseminating agricultural technologies

To determine the most effective mass media source, the average percentage of index score of several specific categories (awareness, owing journalism instruments, using journalism instruments, adoption rate, accessing programs on different media and types of information the respondent get, hindering factors) was counted.

3.9.4.1 Status of Owing Journalism Instruments

For each category (TV, Radio or FM and Newspaper), positive and negative questions were asked to the respondents and then frequency of the positive and negative answers were counted and converted into percentage. Status of owing journalism instruments of the respondents is included in the interview schedule as item No 11 (appendix A).

3.9.4.2 Status of using instruments of journalism

Adoption level refers to using the mediums of journalism for various purposes, especially to get agricultural information in this case. The scores were 3, 2, 1 and 0, respectively, and were determined by carefully rating the answer to the asked question which represents the status of using journalism instruments as regularly, occasionally, rarely and not at all.

Status of using journalism instrument of the respondents is included in the interview schedule as item No 12 (appendix A).

Table 3.15 Score of the statement regarding using journalism instruments.

Categories	Score
Not at all	0
Rarely	1
Occasionally	2
Regularly	3

3.9.4.3 Status of accessing programs on different mediums of journalism

For each category (TV, Radio or FM and Newspaper), the scores were 3, 2, 1 and 0, respectively, and were determined by carefully rating the answer to the asked question which represents the status of accessing programs on different mediums of journalism as regularly, occasionally, rarely and not at all. Status of accessing programs on different mediums of journalism of the respondents is included in the interview schedule as item No 13 (appendix A).

Table 3.16 Categories of respondents according to accessing programs

Categories	Score
Not at all	0
Rarely	1
Occasionally	2
Regularly	3

3.9.4.4 Preferred medium and agricultural programs of agricultural journalism

Positive and negative questions were posed to respondents for each category (TV, Radio or FM, and Newspaper), and the frequency of the positive and negative responses was tallied and converted into a percentage. Preferred medium and agricultural programs of

agricultural journalism of the respondents is included in the interview schedule as item No 14 (appendix A).

3.9.4.5 Types of agricultural information the respondents get through agricultural journalism

For each category (TV, Radio or FM, Newspaper, and Other), respondents were asked 15 positive and negative questions, and the frequency of the positive and negative responses was counted and interpreted into a percentage. Types of agricultural information the respondents get through agricultural journalism is included in the interview schedule as item No 16 (appendix A).

3.9.5 Rank

Based on the problem's (percent) severity, a problem's rank was established. The issue with the highest (percent) severity holds the top spot, followed by the issue with the second-highest (percent) severity, and so on.

CHAPTER IV

RESULTS AND DISCUSSION

This chapter's goal is to summarize the study's results. The goal of the study was to pinpoint the present status and prospect of agricultural journalism in technology diffusion. Presentations of the results have been given in this chapter with correct sequence.

4.1 Distribution of respondents according to their awareness about the reliability and significance of different media source of journalism

Data presented in Table 4.1 showed that 58.2% of the respondents had high awareness about the reliability and significance of TV followed by 32.7% and 9.1% categorized as “very high” and “average”, respectively. In the case of radio, 54.5% respondents had average awareness about the reliability and significance of radio followed by 27.3% (High), 12.7% (not at all) and 5.5% (Very High) respondents, respectively. Whereas 45.5% respondents had high awareness about the reliability and significance of newspaper followed by 25.5, 15.5, 14.5 respondents titled as “average”, “very high” and “not at all”, respectively. The awareness score ranged from 2 to 13 with a mean of 8.87 and standard deviation 2.56 in case of TV followed by 0 to 12 with a mean of 4.00 and standard deviation 3.36 for radio and 0 to 13 with a mean of 4.82 and standard deviation 4.16 for newspaper, respectively.

Table 4.1 Distribution of respondents according to their awareness

Parameters	Categories	Score	N = 110		$(\bar{x} \pm \sigma)$	Range	
			F.	%		Min.	Max.
TV	Not at all	0	0	0	8.87±2.56	2	13
	Average	1-5	10	9.1			
	High	6-10	64	58.2			
	Very High	11-15	36	32.7			
Radio of FM	Not at all	0	14	12.7	4.00±3.36	0	12
	Average	1-5	60	54.5			
	High	6-10	30	27.3			
	Very High	11-15	6	5.5			
Newspaper	Not at all	0	16	14.5	4.82±4.16	0	13
	Average	1-5	50	25.5			
	High	6-10	28	45.5			
	Very High	11-15	16	15.5			

Data shown in figure no 4.1 depicts the Index percentage of awareness level among the respondents where the respondents show highest level of awareness in case of TV (74.55%) followed by newspaper (46.67%) and the lowest level of awareness in case of radio (41.81), respectively.

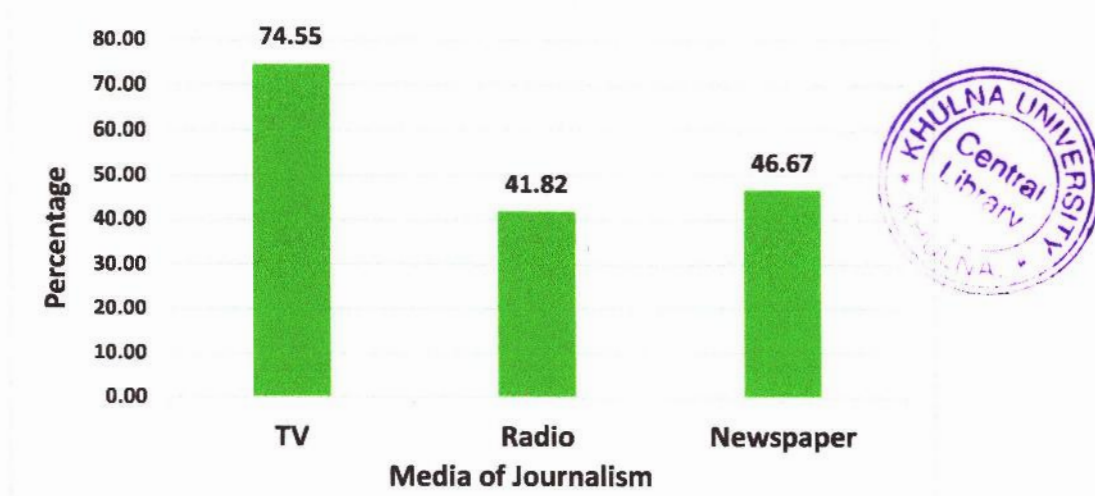


Figure 4.1: Respondent awareness about the reliability and significance about the medium of journalism

Table no 4.1 and figure no 4.1 confirms that the respondents were highly aware about the television which means TV is the most widespread medium working for the dissemination of the newly agricultural technology among the farmers. Newspaper and radio were found to be the second and third that the respondents were aware of as a medium of journalism. As the progress of technology, TV inputs a complete visual of the information that the respondents consume which radio and television don't. Osondu and Ibezim, (2015) also found comparatively same result about the awareness of the respondents that farmers are more aware of radio than TV and newspaper in Nigeria as well as in case of using and accessing. The difference is caused by the economic and geographical factors which determines the effectiveness of a medium of journalism in a country (Aggarwal and Gupta, 2001).

4.2 Adoption rate of technology through different medium of journalism

Table no 4.2 details the adoption rate about agricultural technology that farmers learn through various medium of journalism. In the case of TV, 46.4% of the respondents (n = 51) had a high adoption rate of the new agricultural technology followed by 32.7%, 20% and 0.9% categorized as "very high", "moderately high", "as of before", respectively.

Regarding radio, 64.5% of the respondents had zero adoption rate followed by 27.3% (moderately high), 7.3% (high) and 0.9% (very high) respondents, respectively. In the matter of newspapers, most of the respondents (64.5%) had zero adoption rate, whereas 17.3% respondents had the moderately high adoption rate of the new agricultural technologies followed by 16.4% (high) and 1.8% (very high) respondents, respectively.

Table 4.2 Adoption rate of technology through different medium of journalism

	Frequency			Percentage		
	TV	Radio	Newspaper	TV	Radio	Newspaper
As of before	1	71	71	0.9	64.5	64.5
Moderately High	22	30	19	20	27.3	17.3
High	51	8	18	46.4	7.3	16.4
Very High	36	1	2	32.7	0.9	1.8

Data shown in figure no 4.2 depicts the frequency index percentage of adoption rate of new agricultural technologies among the respondents where 70.30% respondents adopt new agricultural technologies through television followed by newspaper reading (18.48%) and listening to radio (14.85%), respectively.

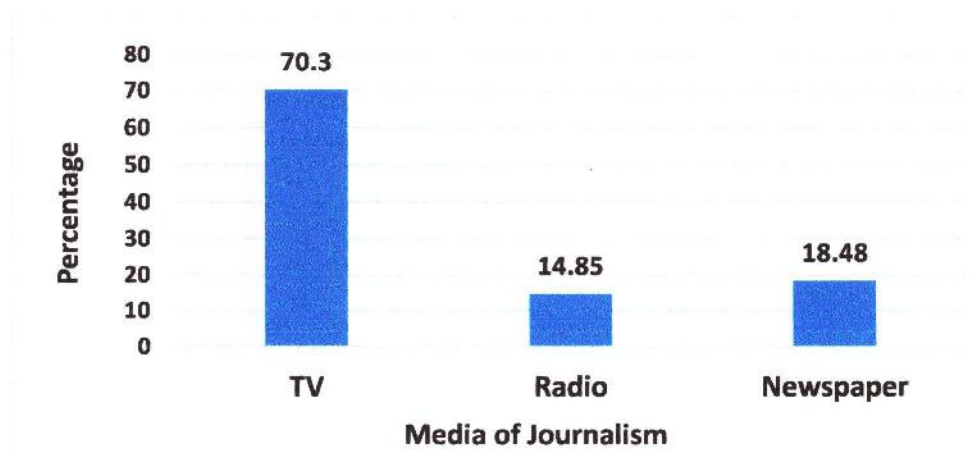


Figure 4.2: Adoption rate index of technology through various medium of journalism

If anyone is motivated by something to do anything, he/she tries to accomplish the task as of his/her strength. The respondents in this study were found to be motivated more by the programs of television than radio or newspaper programs. Adoption rate was found to be more among the young male respondents rather than old male and female respondents according to table no 4.2 and table no 4.2. In the study of Alam & Haque, (2014) and

Amadi & Raji, (2020), the adoption rate was found more in case of television followed by newspaper and radio as medium of journalism.

4.3 Hindering factors which are blocking the role of journalism in agricultural technology diffusion.

Data presented in table 4.3 depicts that, regarding television, among the respondents “economic condition to afford TV (74.91%)” was found to be the most significant hindering factor and “social and religious restriction (46.73%)” was found to be the least significant factor. In the case of radio or FM, “bad signal and internet problem ” ranked first with 60.73% respondents as the most significant hindering factor. On the other hand, “economic condition to afford radio or FM (35.45%)” was found to be the least ranked factor to hinder the role of journalism for agricultural technology diffusion. In the matter of newspapers, “Illiteracy of the respondent (96.73%) was found to be the most substantial cause to hinder the role of journalism whereas “limited access at village level (59.82%) was found to be the least important reason to deter the role of journalism in newly agricultural technology diffusion.

Table 4.3 Hindering factors which are blocking the role journalism.

S/N	Medium	Statement	Score	Index (%)	Ranking	SD
1	TV	Economic condition to afford TV	412	74.91	1 st	10.58
		Lack of operational knowledge	299	54.36	4 th	
		Electricity Problem	352	64.00	2 nd	
		Bad signal and Internet Problem	337	61.27	3 rd	
		Social and religious restriction	257	46.73	5 th	
2	Radio and FM	Economic condition to afford radio of FM	195	35.45	5 th	12.60
		Lack of operational knowledge	198	36.00	4 th	
		Electricity Problem	312	56.73	2 nd	
		Bad signal and Internet Problem	334	60.73	1 st	
		Social and religious restriction	199	36.18	3 rd	
3	Newspaper	Illiteracy of the respondent	532	96.73	1 st	14.77
		Limited reading culture	489	88.91	2 nd	
		Limited information on agriculture	402	73.09	4 th	
		Limited access at village level	329	59.82	5 th	
		Economic condition to afford newspaper	485	88.18	3 rd	

Among the farmers surveyed, radio, television, and newspapers were to be significant sources of agricultural information. But several hindering factors are lagging behind the full potential of television, radio and newspapers as a medium of agricultural journalism. Television was the most preferred medium of the farmers but economic condition to afford TV was found to be the significant cause to block the role as a medium of journalism. Electricity problems and bad signals were found to be one of the prominent causes of it. Farmers in the studied area did not frequently read newspapers. The main cause was found to be the illiteracy of the farmers in the studied area followed by limited newspaper reading culture. The increasing influence of social media (Facebook, YouTube) continuously lowers the demand of newspapers to the respondents. Moreover, expenses for the newspapers and limited information were another crucial cause for the limited opportunity as a medium of agricultural journalism. Radio was found to be the least important source of information for the young farmers but the second most important for the old farmers who were illiterate. But, for the advancement of technology, convention radio is getting replaced with smart phone in which radio or FM is included. So, bad signal for the radio was the most significant hindering factors which are blocking the role of agricultural journalism. Kumar et al., (2020) found the similar results in their study which supports the claim of this study.

4.4 Prospects of agricultural journalism in technology diffusion

4.4.1 Most effective mass media source used by the respondents for disseminating agricultural technologies

4.4.1.1 Status of owning journalism instrument

Table 4.4 shows that among 110 respondents, 10% of respondents had no televisions, whereas 90% had televisions. Furthermore, 64.5% respondents had possession of radio, whereas 35.5 had not. In the case of newspapers, 90% respondent did not have access to newspapers, whereas 10% respondent did.

Table 4.4 Population percentage having instruments of journalism.

	Frequency			Percentage (%)		
	TV	Radio	Newspaper	TV	Radio	Newspaper
Yes	99	71	11	90	64.5	10
No	11	39	99	10	35.5	90

According to Das et al., (2022), majority of the farmer (about 60%) of Bangladesh has television set at their houses, uses TV as the main sources of information which matches with the finding of this study. This percentage of the farmer having television set differs on mainly three factor bases as regional, economical and religious factor (Aggarwal and Gupta, 2001).

4.4.1.2 Status of using journalism instrument

Of the 110 respondents, 46% usually watch TV occasionally, 53% regularly and 2% rarely. In the case of radio, 59.1% respondents do not listen to radio at all, whereas 20% respondents listen to radio rarely followed by 19.1% occasionally and 1.8% regularly. In the case of newspapers, 57.3% respondents do not read newspaper at all, whereas 22.7% respondents read the newspaper occasionally followed by 11.8% rarely and 8.2% regularly, respectively. This percentage shows that farmers are more likely to watch TV on a regular basis than they are TV owners (Table 4.5).

Table 4.5 Frequency distribution of accessing journalism instruments.

	Frequency			Percentage (%)		
	TV	Radio	Newspaper	TV	Radio	Newspaper
Not at all	0	65	63	0	59.1	57.3
Rarely	2	22	13	2	20	11.8
Occasionally	50	21	25	46	19.1	22.7
Regularly	58	2	9	53	1.8	8.2

Data shown in figure no 4.3 depicts the frequency index percentage of using journalism instruments among the respondents where 83.64% respondents watch TV for the news and entertainment purposes followed by newspaper read by 27.27% respondents and radio listen by 21.21% respondents.

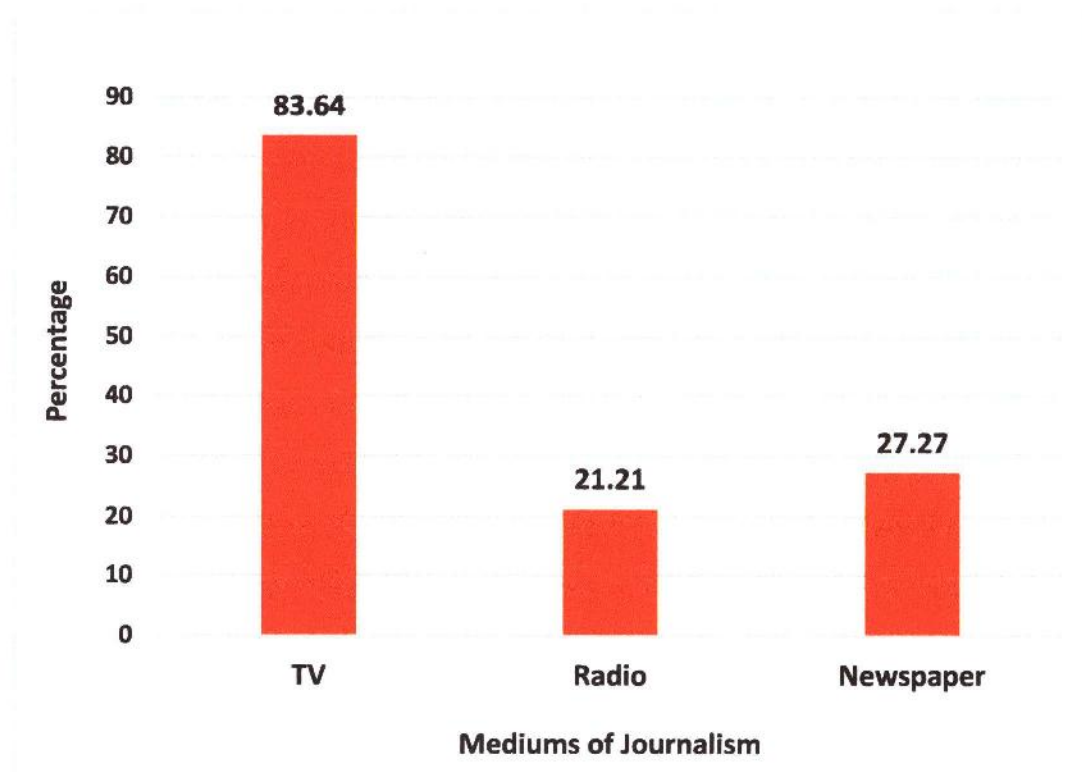


Figure 4.3: Frequency distribution of accessing journalism instruments.

Table no 4.5 and figure no 4.3 validate that the respondents use TV most of the time followed by newspaper and radio, to update themselves with updated information, especially for newly agricultural information and technologies. Das et al., (2022) and Irfan et al., (2006) also found that between television and radio, television is the most used medium of journalism which supports the claim of this study. Yaseen et al., (2019) and Osondu and Ibezim, (2015) also found the same result in their study in terms of newspaper that it is the least chosen medium of journalism by the farmers. Most of the farmers are illiterate in Bangladesh which is the main reason for newspapers to be the least chosen medium of agricultural journalism. However, in geographical, economical, and educational context, the effectiveness of journalism medium can be different (Aggarwal and Gupta, 2001).

4.4.1.3 Accessing various programs on different media of journalism

Table 4.6 depicts that regarding TV, 80.61% of respondents listen to the news most of the time, whereas about 72% of respondents watch entertainment followed by agri-news (57.88%), agricultural programs (54.85%) and sports (54.55%). It has been demonstrated that farmers pay greater attention to news broadcasts than to agricultural programs. In the

case of radio, the respondents listen to news (24.85%) most of the time and agricultural programs (7.88%) least of the time. In the matter of newspaper, 32.12% respondents read news most of the time and entertainment (10.61%) least of the time.

Table 4.6: Status of accessing different programs on various mediums of journalism.

S/N		Platform	Score	Index (%)	Ranking
1	TV	News	266	80.61	1
		Agri-news	191	57.88	3
		Sports	180	54.55	5
		Entertainment	238	72.12	2
		Agricultural Programs	181	54.85	4
2	Radio or FM	News	82	24.85	1
		Agri-news	41	12.42	4
		Sports	68	20.61	2
		Entertainment	56	16.97	3
		Agricultural Programs	26	7.88	5
3	Newspapers	News	106	32.12	1
		Agri-news	68	20.61	2
		Sports	57	17.27	3
		Entertainment	35	10.61	5
		Agricultural Programs	38	11.52	4

Most of the farmers are generally illiterate or little educated in our country. As a result, the prefer television for information, and entertainment over newspapers and radio. With the advancement of technology, conventional radio becomes obsolete in Bangladesh. In present days radio comes with a package in smartphone. But the inability of operating smartphones is one of the main causes of losing interest in radio listening in the older farmer in Bangladesh. Most of the respondents in this study prefer TV over radio and newspapers most of the time for news, entertainment, agricultural programs as well as sports because TV offers a visual input of the adhering situation to the respondents. The study of Das et al., (2022) also supports the claims of the findings of this study.

4.4.1.4 Status of most preferred channel on TV for agricultural programs

Figure 4.4 demonstrates the preferred television channel for agricultural programming. The majority of respondents, about 88%, watch a Dipto TV program focusing on

agricultural information, followed by BTV (77.3%), Channel I (74.5%), Bangla Vision (53.6%), ATN (50%), MY TV (44%) and Ekattur TV (31.8%).

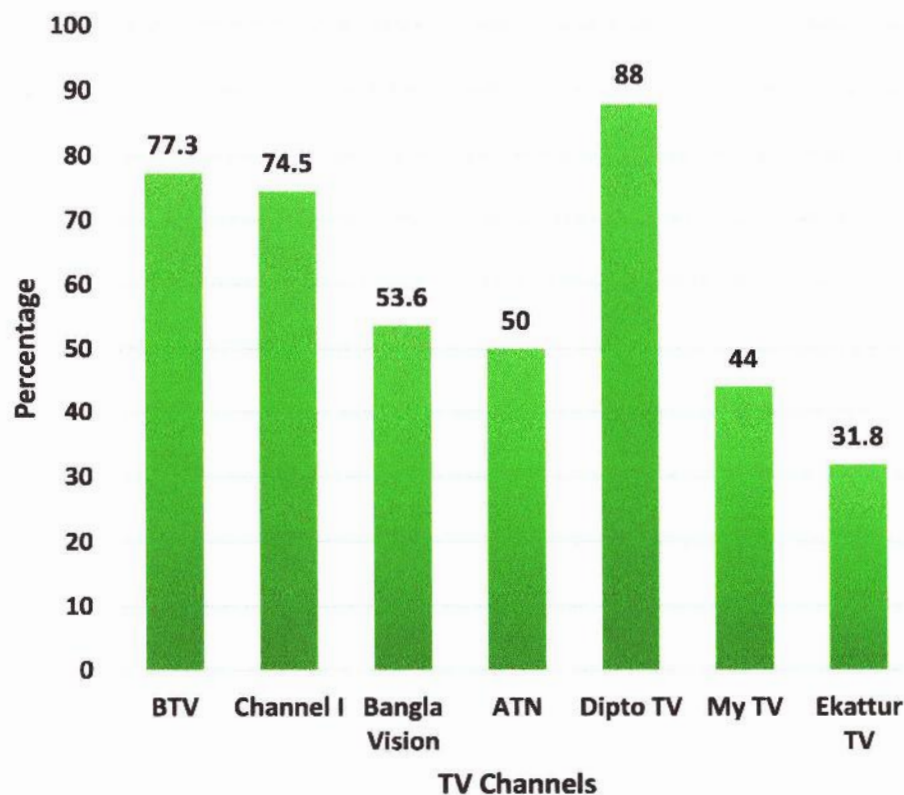


Figure 4.4: Most preferred channel on TV for agricultural programs

Preferred TV channels differs in a country location-wise because of server and technical satellite issues (Jana, 2014). As a result, the respondents of this study area had a different test for TV channels. BTV is the oldest TV channel of Bangladesh (Alam and Haque, 2014). But the respondents in this area are most familiar with “Dipto TV” followed by BTV and Channel I in respect of agricultural programs. In the study of Alam and Haque, (2014), BTV and Channel I was found to be the most viewed TV channel in Bangladesh.

4.4.1.5 Most preferred agricultural programs on TV by the respondents

Figure no 4.5 discloses information on the preferred agricultural program on several TV channels. The results show that Dipto Krishi, a Dipto TV broadcast, is preferred by 79.10% respondents, while Krishi Dibanishi and Mati o Manush, a BTV program, is picked by 78.20% and 68.2% of respondents, respectively. The least number of respondents (9.10%) said they like to watch Banglar Krishi on BTV.

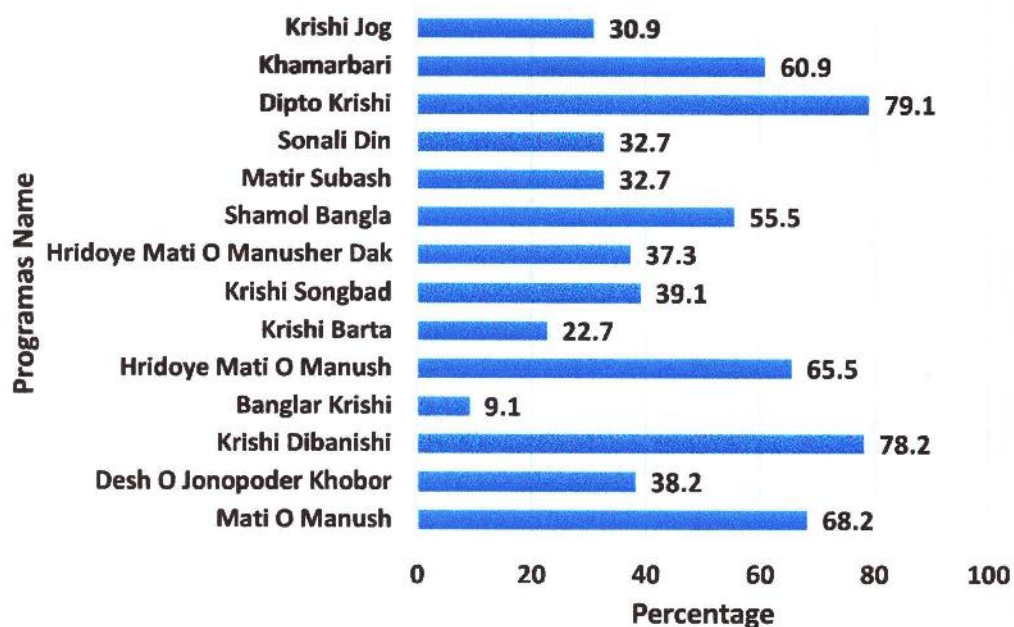


Figure 4.5: Most preferred agricultural programs on TV

In this study, Mostly preferred agricultural programs in television by the respondents of the study area was found to be “Dipto Krishi” from Dipto TV followed by “Krishi Dibanishi” from BTV and Channel I, “Mati o Manush” form BTV. “Krishi Songbad” from Channel I was found to be the most watched agricultural news program in Television. All of the findings found in this study is more or less similar to the study of Alam and Haque, (2014) despite of regional differences.

4.4.1.6 Preferred radio medium of the respondents for agricultural programs

According to Figure 4.6, there were 110 farmers who listened to radio and FM. And out of them, about 10% tune in to Bangladesh Betar and 90% don't, while 35.50% listen to FM and 64.50% don't.

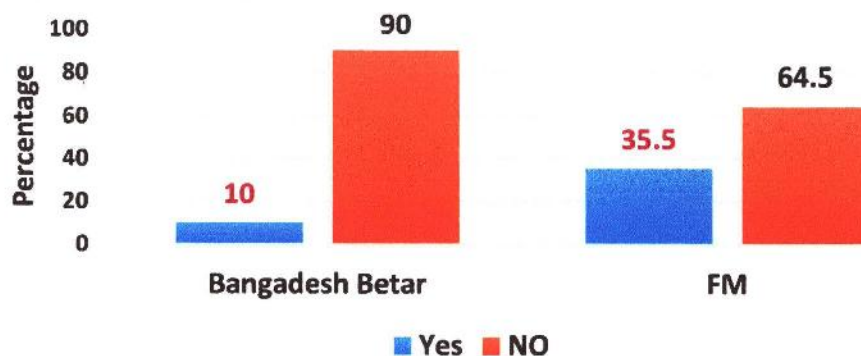


Figure 4.6: Preferred radio medium of the respondents

The study of Das et al., (2022) revealed that most of the young respondents listens to FM rather than Bangladesh Betar. In this study, same findings are found where almost 3.5 times of the respondents listens to FM rather than listening to Bangladesh. Most of the respondents listening to FM was found to be young in age whereas older people in case of Bangladesh Betar.

4.4.1.7 Preferred newspaper of the respondents as a medium of journalism

Figure no 4.7 shows information on the most preferred newspaper the respondents read. The results revealed that Bangladesh Protidin is preferred by 79.10% respondents, the least number of respondents (12.70%) said they like to read Jonokantho. Prothom Alo (32.70%) was found to be the second choice of the interviewed respondents followed by Ittefak (20.90%) and Jugantor (20.00%), respectively.

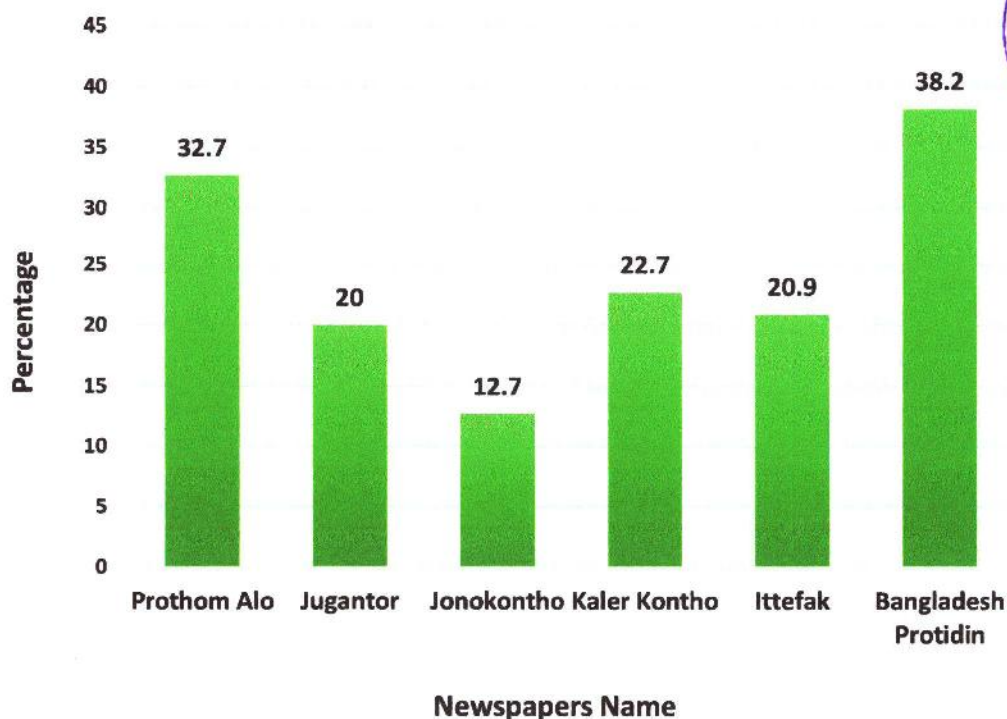


Figure 4.7: Preferred newspaper of the respondents

Less than one-third of respondents in this study were found to be fond of newspapers who are literate. Among them, a newspaper named “Bangladesh Protidin” was most popular to the respondents followed by “Prothom Alo” and “Kaler Kontho”. The least priced newspaper was found to be most demanding to the respondents who actively choose newspapers as a medium of journalism.

4.4.1.8 Types of agricultural information the farmers get by agricultural journalism

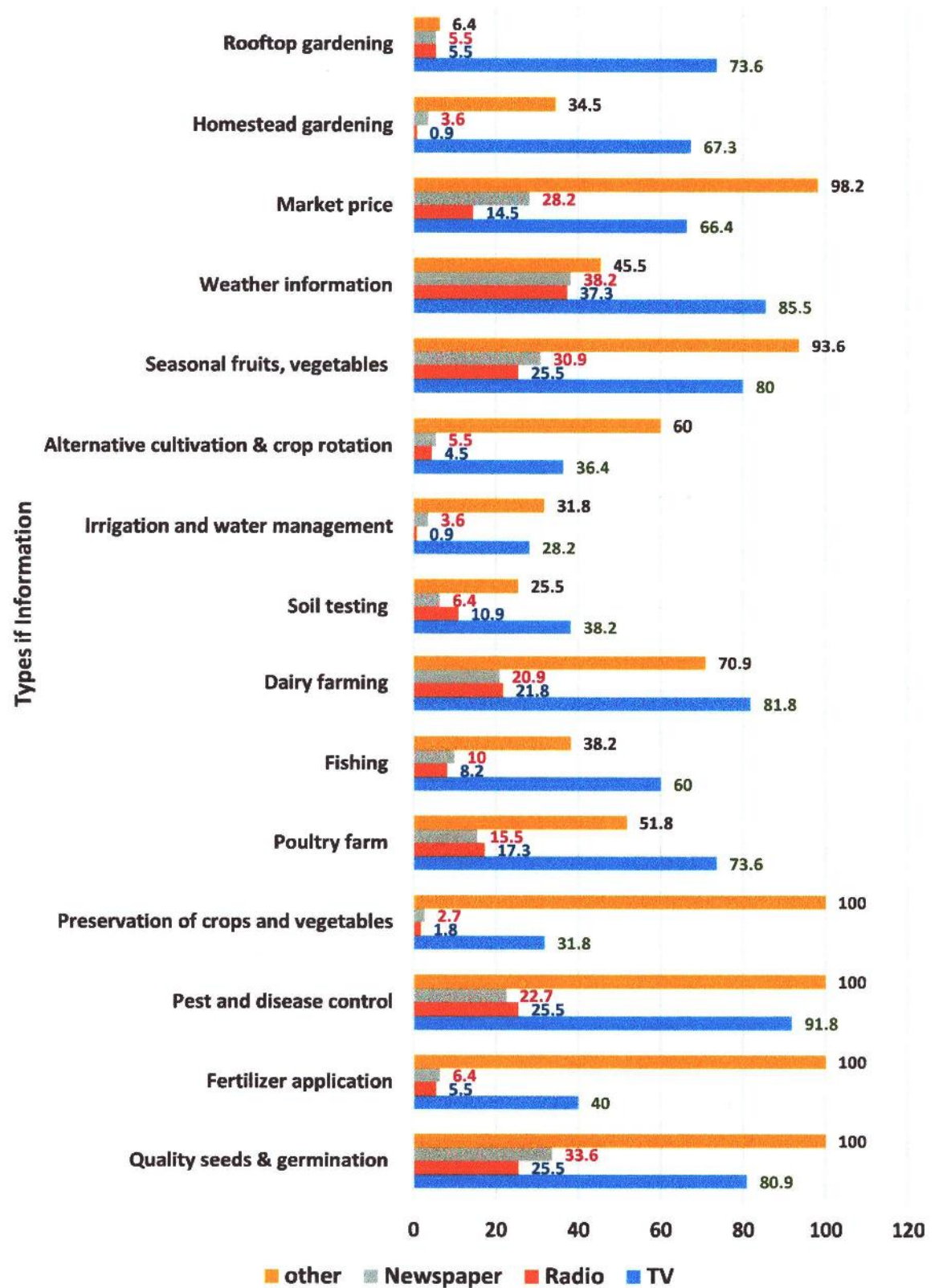


Figure 4.8: agricultural information the respondents get through medium of journalism

According to Figure 4.8, highest percentage of respondents receive accurate information about high-quality seeds and germination from TV (80.9%) and other sources (Extension officers, peer groups, NGOs and Personal experience) (100%). The respondents receive the highest percentage of information about fertilizer applications from other sources (Extension officers, peer groups, NGOs and Personal experience), followed by TV (40%), newspaper (6.4%) and radio or FM (5.5%). 100% information about pests and diseases of crops the respondents get from other sources (Extension officers, peer groups, NGOs and Personal experience), followed by TV (91.8%), radio or FM (25.5%) and newspapers (22.7%). From the TV, respondents get the most significant amount of information about poultry farming, fish farming and dairy farming is about 73.6%, 60.0% and 81.8% respectively, followed by other sources (51.8%, 38.2% and 70.8% respectively), radio or FM (17.3%, 8.2% and 21.8% respectively) and the least is newspaper (15.5%, 10% and 20.9% respectively). The respondent receives the highest amount of information about seasonal fruit and vegetables cultivation from other sources (93.6), followed by TV (80%), Newspapers (30.9%) and radio or FM (25.5%). The respondents get most of the information about homestead gardening and rooftop gardening from TV (67.3% and 73.6% respectively), followed by other sources (Extension officers, peer groups, NGOs and Personal experience). The respondents get most of the weather-related information from TV (85.5%), followed by other sources (45.5%), newspaper (38.2%) and least of the information from radio (37.3%); while gets majority of the market price related information from other sources (98.2%), followed by TV (66.4%), newspapers (28.2%) and radio or FM (14.5%), respectively.

The respondents in this study mostly get information about pest and diseases of the crops, quality seeds, weather conditions and current market price of the crops from television followed by other sources (Extension officers, peer groups, NGOs and Personal experience), newspapers and radio. Types of information farmers get from various sources of journalism actually depend on several factors as regional, population, economical and educational factor of a country (Aggarwal and Gupta, 2001; Jana, 2014). In the developed countries, most of the farmers are highly educated and preferred medium of them are radio, social media and internet. But countries like Bangladesh where most of the farmers are uneducated and financially poor, need to adapt more visual input in dissemination of agricultural information to educate and train farmers properly. In this study, most of the respondents were illiterate or financially poor. As a result, the respondents get the least

amount of information through newspapers as medium of journalism and highest quantities of information through TV and radio or FM as medium of journalism in all aspects of agricultural information. In this study, the respondents get most of the information about weather and market price from television and other sources (Extension officers, peer groups, NGOs and Personal experience) whereas the least amount of information from radio or FM and newspapers which supports the finding of (Alam and Haque, 2014; Kumar et al., 2020; Rahman et al., 2020).

4.4.1.9 Most effective mass media source used by the respondents

Data shown in figure no 4.9 depicts the most effective mass media sources used by the respondents for disseminating newly agricultural technologies where 74.14% picked television to learn about current news, entertainment, sports, agricultural news, agricultural programs, weather information and market price followed by radio or FM (28.77%) and newspaper (22.74%), respectively. But the most and first collective choice of the respondents (farmers) was found to be TV for learning about new agricultural technologies. TV was found to be liked 2.57 times more than radio and 3.26 times more than newspapers.

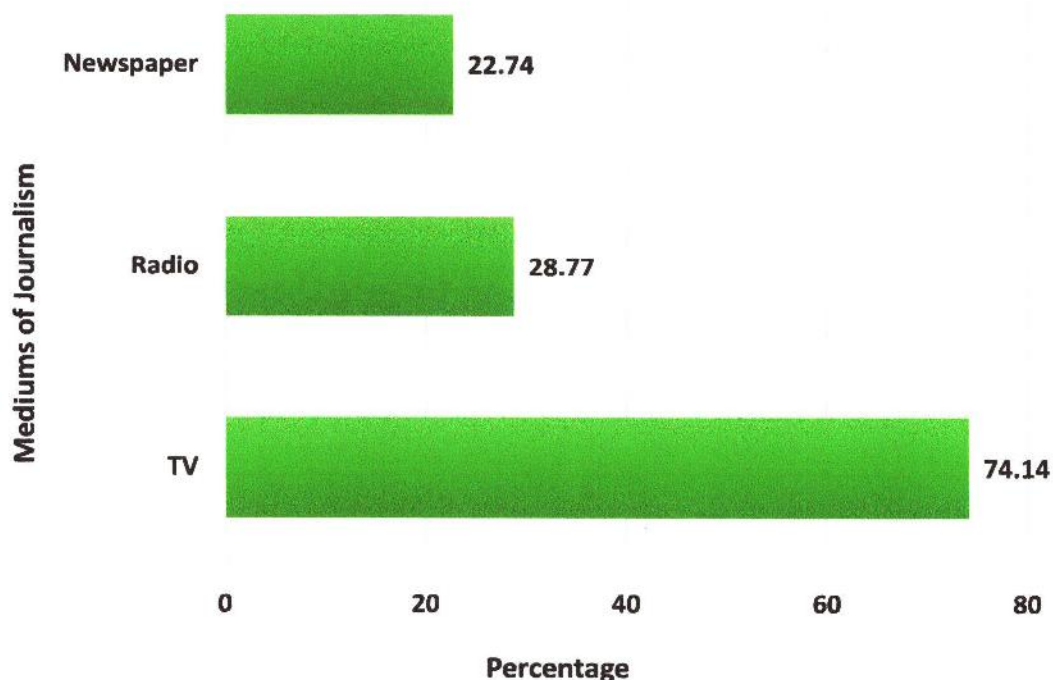


Figure 4.9: Effectiveness mass media source used for spreading agricultural technologies

From this study, Television was found to be the most effective mass media source as a medium of agricultural journalism, while radio and newspapers were second and third choice of the respondents (farmers), respectively. Television has a visual input which affects the neurons of the respondent more than radio and newspapers. Moreover, television eliminates the weakness of radio and newspapers as a whole, which attracts the respondents significantly over radio and television. The illiterate respondents get relief from reading newspapers by preferring TV which is another cause to prefer television as a medium of journalism. And with technological developments, radio or FM is now-a-days integrated with smartphones which is more expensive than owning a TV. So, for all of this reason, the respondents of this study choose TV as the best medium of agricultural journalism to learn about new agricultural advancement. In the study of Memon et al., (2014); Rahman et al., (2020); Irfan et al., (2006), they found the similar types of result from their surveyed respondents which confirms the claims of this study.

4.5 Distribution of respondents on the basis of their personal characteristics

The chosen parameters comprise age, educational qualification, family size, cultivation experience, farm size, monthly family income (BDT), training received, cosmopolitanism status and extension media contact of an individual. The basis of chosen parameters distribution of the respondents is presented in table no 4.7.

Table 4.7 depicts that the highest proportion (51.8%) of the respondents were middle aged. About 31.8% and 16.4% of the respondents were old and young. The age of the respondents ranged from 24 to 73 years with a mean of 48.32 years and standard deviation 12.26. Respondents in their middle years were more engaged in farming. People of old and young ages were less engaged in agriculture. The uncertainty of not making the projected amount of money may be the reason why young people are less interested in farming. According to Das et al. (2019), young (20.0%) and elderly farmers were not as active in farming as middle-aged farmers (60.0%). Also in the study of Yaseen et al., (2019) and Osondu and Ibezim, (2015) it was found that middle aged farmers are more active and engaged in farming than young and old age individual for their livelihood.

The majority of responders (34.5%) are from the secondary level of education, while only 15.5%, 19.1%, 8.2%, 2.7%, and 0% are from the primary, can sign only, higher secondary, undergraduate, and postgraduate levels, respectively. The score had a mean of 5.00 and a standard deviation of 4.50, ranging from 0 to more than 16. The very low educational

attainment of the respondents is indicated by the mean educational attainment of 5.00. 19.1% of them are illiterate since they can only sign. Higher education level respondents also scored very poorly. Due to their low institutional literacy, there is a higher chance that they have lack of awareness about the significance and reliability of different mediums of agricultural journalism and would accept new technologies more slowly. According to Das et al. (2019), the majority of respondents (34.5%) had a secondary education, compared to respondents' (15.5%) primary education levels and respondents' (8.2%) higher secondary education levels. According to Yaseen et al., (2019) and Osondu and Ibezim, (2015), majority of the farmer drops out of the educational institution after receiving primary education. Educational qualifications differ from region to region of a country.

Most farmers had small-sized families (50%). Only 9.1 percent of farmers had large families, while about 40.9 percent had medium families. There were between 2 and 18 family members, with a mean of 5.117 and a standard deviation of 2.18. The average number of members per household of farmers is 5.17. Family size is found to be relatively low. This indicates that there are fewer nuclear families in rural areas. According to Das et al. (2019), the majority (50%) of families in the chosen locations were small in size, followed by medium (40.9%) and big (9.1%) households.

Table 4.7's data reveals that the majority of farmers have high farming experience (67.3%). Only 10.9% and 21.8% of the farmers had low or no previous and medium agricultural experience. The farmers' combined years of farming experience varied from 5 to 55, with a mean of 28.12 and a standard deviation of 12.43. High farm experience shows that respondents were knowledgeable about traditional farming methods and had been engaged in agricultural sector for a considerable amount of time. The farmer might better comprehend the causes and effects of various techniques with a high level of agricultural experience. The majority of responders (67.3%), according to Das et al. (2019), had high farming experience. In the study of Memon et al., (2014) and Osondu and Ibezim, (2015), they found that majority of the farmers had medium farming experience (about 11-20 years).

The majority of farmers had small-sized farms (71.8%). With a mean farm size of 0.60 ha and a standard deviation of 0.49, the respondents' farms varied in size from 0.06 ha to 3.74 ha. Farmers cannot make the expected amount of money if their farms are small despite their best efforts. Growing the size of the farm is also crucial for improving the status of

the farmers. The respondents of the small farms were found to be less careful about agricultural journalism. According to Das et al. (2019), just a small percentage of respondents (2.5%) had big farms, whereas more than half (54.2%) of respondents had small farms. According to Memon et al., (2014) and Osondu and Ibezim, (2015), majority of the farmers hold small farm (about 0.21-1.00 ha).

Data presented in table 4.7 showed that highest portion of the respondents (39.1%) had small income, 40.9% had medium income and 20% had high income with a mean and standard deviation of 211609.10 and 140195.02, respectively. The minimum and maximum incomes were 6000 B.D.T and 800000 B.D.T. The respondents' minimum income was determined to be average (6000 BDT). These days, it is really challenging to provide for a family on that wage. As a result, many are becoming disinterested in farming and searching for alternative sources of income.

Only 54.5% of the respondents received training. On the other hand, 45.5% of the respondents had no organizational training whatsoever. Farmers' perspectives and ability to complete a task more effectively are significantly improved through training. The majority of those who got training had just minimal training. This won't be enough to advance agricultural methods to aid the result of agricultural journalism.

Most of the respondents (51.8%) have a low level of cosmopolitanism. 40% and 8.2% of them had medium and high level of cosmopolitanism, respectively. The score ranged from 2 to 13 with a mean of 5.72 and standard deviation 2.68. Higher levels of cosmopolitanism assist to extend farmers' perspectives, whilst lower levels of cosmopolitanism tend to narrow them. Low levels of awareness might also be a hindrance to the adoption of new agricultural practices and interest in agricultural journalism.

Table 4.7 data pointed that highest number of respondents (70.9%) had occasional level of extension media contact followed by 25.5% had often and 3.6% had rare level of extension media contact. The score ranged from 16 to 47 with a mean of 30.00 and standard deviation 6.67.

Table 4.7: Distribution of respondents on the basis of their personal characteristics

Characteristics	Categories	Score	N=110		$(\bar{x} \pm \sigma)$	Range	
			F.	%		Min.	Max.
Age (years)	Young	≤ 35	18	16.4	48.32 $\pm$ 12.26	24	73
	Middle-aged	36-55	57	51.8			
	Old	> 55	35	31.8			
Educational status (schooling years)	Illiterate	0	22	20	5.00 $\pm$ 4.50	0	16
	Can sign only	0.5	21	19.1			
	Primary	1-5	17	15.5			
	Secondary	6-10	38	34.5			
	Higher Secondary	11-12	9	8.2			
	Undergrad	13-16	3	2.7			
	Postgraduate	> 16	0	0			
Family size (number of family members)	Small	≤ 4	55	50	5.17 $\pm$ 2.18	2	18
	Medium	5-6	45	40.9			
	Large	> 6	10	9.1			
Farming experience (years)	Low	≤ 10	12	10.9	28.12 $\pm$ 12.43	5	55
	Medium	11-20	24	21.8			
	High	> 20	74	67.3			
Farm size (ha)	Landless	≤ 0.02	0	0	0.60 $\pm$ 0.49	0.06	3.74
	Marginal	0.02-0.2	17	15.5			
	Small	0.21-1.0	79	71.8			
	Medium	1-3	13	11.8			
	Large	> 3	1	0.9			
Income (BDT year ⁻¹) ('000' BDT)	Low	< 180	45	40.9	211609.10 $\pm$ 140195.02	6000	800000
	Medium	180-300	43	39.1			
	High	> 300	22	20			
Training received	Yes	-	60	54.5	-	-	-
	No	-	50	45.5			
Intensity of receiving training (Number)	No	0	50	46.1	4.05 $\pm$ 17.78	0	4
	Low	≤ 2	46	41.2			
	High	> 2	14	12.9			
Cosmopolitanism (Score)	Low	≤ 5	57	51.8	5.72 $\pm$ 2.68	2	13
	Medium	6-10	44	40			
	High	> 10	9	8.2			
Extension media contact (score)	No	0	0	0	30.00 $\pm$ 6.67	16	47
	Rare	1-17	4	3.6			
	Occasional	18-34	78	70.9			
	Often	35-51	28	25.5			
	Regular	52-68	0	0			

4.6 Measuring the relationship between the selected characteristics of the respondent and their awareness about the reliability and significance of different media source of journalism

Table 4.8 depicts that Educational status, cosmopolitanism status and extension media contact had the most significant positive correlation with awareness about TV, radio or FM and newspaper at 1% level of significance. Training received no had positive correlation at 1% and 5% level of significance with both awareness about TV and newspapers. These means with the increase of educational status, cosmopolitanism status and extension media contact, the awareness of the respondents about TV, newspaper and radio or FM also increases significantly.

Table 4.8 also revealed that age and cultivation experience had the most negative correlation with awareness about TV, radio or FM and newspaper, followed by cultivation experience at 1% level of significance. Family member had negative correlation with awareness about radio or FM. These means awareness of the respondents about TV, radio or FM and newspapers decreases significantly with the decrease of these parameters.

Table 4.8: Relationships between the selected characteristics of the respondent and their awareness about different media sources of journalism

Characteristics	Awareness (TV)	Awareness (Radio or FM)	Awareness (Newspaper)
Age	-.523**	-.525**	-.558**
Family Member	-0.095	-.188*	-0.159
Educational Status	.596**	.505**	.764**
Cultivation Experience	-.475**	-.470**	-.513**
Farm Size	-0.057	-0.012	-0.112
Annual Income	0.142	0.156	0.053
Training Received	.258**	0.082	.200*
Cosmopolitanism	.571**	.555**	.503**
Extension Media Contact	.493**	.520**	.669**

** . Correlation is significant at the 0.01 level (2-tailed); * . Correlation is significant at the 0.05 level (2-tailed).

CHAPTER V

SUMMARY AND CONCLUSION

5.1 Summary

Most of the respondents (58.2%) had “high” level of awareness about the reliability and significance of TV. Whereas, in the case of radio and newspaper, 54.5% and 45.5% respondents had “average” and “high” level of awareness, respectively. Index percentage of awareness revealed that respondents have highest level of awareness in case of TV (74.55%) followed by newspaper (46.67%) and the lowest level of awareness in case of radio (41.81).

In the case of TV, 46.4% of the respondents ($n = 51$) had “high” adoption rate of the new agricultural technology. Regarding radio, 64.5% of the respondents had “zero” adoption rate, whereas most of the respondents (64.5%) had “zero” adoption rate in the matter of newspapers. Index percentage of adoption rate of new agricultural technologies established that about 70.30% respondents adopt new agricultural technologies through television followed by newspaper reading (18.48%) and listening to radio (14.85%), respectively.

“Economic condition to afford TV (74.91%)” was found to be the most significant hindering factor regarding TV. In the case of radio or FM, “bad signal and internet problem” ranked first with 60.73% respondents as the most significant hindering factor, whereas “Illiteracy of the respondent (96.73%)” was found to be the most substantial cause to hinder the role of journalism in the matter of newspaper.

Among 110 respondents, 90%, 64.5% and 10% had respondents had possession of television set, radio set and newspaper, respectively, whereas 83.64% respondents watch TV for the news, agricultural programs and entertainment purposes followed by reading newspaper by 27.27% and listening to radio by 21.21% of the respondents.

In case of accessing different programs on various mediums of journalism, regarding TV, 80.61% of respondents watch “news” most of the time, whereas about 72% of respondents watch “entertainment” followed by agri-news (57.88%), agricultural programs (54.85%) and sports (54.55%). In the case of radio, the respondents listen to news (24.85%) most of the time and agricultural programs (7.88%) least of the time. In the matter of newspaper,

32.12% respondents read “news” most of the time and entertainment (10.61%) least of the time.

Most preferred television channel of respondents for agricultural programming are found to be Dipto TV (88%), followed by BTV (77.3%), Channel I (74.5%). While most preferred agricultural program by the respondents on TV is found to be Dipto Krishi (79.10%), while Krishi Dibanishi and Mati o Manush is picked by 78.20% and 68.2% of respondents, respectively. Most of the respondents listens to FM (64.5%) while 10% respondents tune to Bangladesh Betar. “Bangladesh Protidin (38.2%)” and “Prothom Alo 32.7%” are found to be the most preferred newspapers among the literate respondents.

Highest percentage of respondents receive accurate information about high-quality seeds and germination from TV (80.9%) and other sources (Extension officers, peer groups, NGOs and Personal experience) (100%). The respondents receive the highest percentage of information about fertilizer applications from other sources (Extension officers, peer groups, NGOs and Personal experience), followed by TV (40%). 100% information about pests and diseases of crops the respondents get from other sources (Extension officers, peer groups, NGOs and Personal experience), followed by TV (91.8%). From the TV, respondents get the most significant amount of information about poultry farming, fish farming and dairy farming is about 73.6%, 60.0% and 81.8% respectively. The respondent receives the highest amount of information about seasonal fruit and vegetables cultivation from other sources (93.6), followed by TV (80%). The respondents get most of the information about homestead gardening and rooftop gardening from TV (67.3% and 73.6%, respectively. The respondents get most of the weather-related information from TV (85.5%), while gets majority of the market price-related information from other sources (98.2%), followed by TV (66.4%).

Television is found to be the most effective mass media source used by 74.14% of the respondents for disseminating newly agricultural technologies, followed by radio or FM (28.77%) and newspaper (22.74%), respectively.

Highest proportion (51.8%) of the respondents were middle aged. Young farmers were 16.4% and old farmers were 31.8%. Most of the respondents (34.5%) belong to secondary level of education and the mean of educational qualification was 5.00. About 50% of the farmers had small-sized families, 67.3% of the farmers had high farming experience, 71.8% had small farm size, 39.1% of the farmers had low family income followed by

40.9% medium, 20% high income. 54.5% farmers received various training. Most of the respondents (51.8%) have a low level of cosmopolitanism whereas 40% and 8.2% of them had medium and high level of cosmopolitanism respectively. Highest number of respondents (70.9%) had occasional level of extension media contact followed by 25.5% had often and 3.6% had rare level of extension media contact.

Educational status, cosmopolitanism status and extension media contact had the most significant positive correlation with awareness about TV, radio or FM and newspaper at 1% level of significance. Training received no had positive correlation at 1% and 5% level of significance with both awareness about TV and newspapers. age and cultivation experience had the most negative correlation with awareness about TV, radio or FM and newspaper, followed by cultivation experience at 1% level of significance. Family member had negative correlation with awareness about radio or FM.

5.2 Conclusion

The majority of the surveyed respondents in this study were highly aware about television, which means TV is the most widespread medium working for the dissemination of the newly agricultural technology among the farmers. Newspaper and radio were found to be the second and third that the respondents were aware of as a medium of journalism.

The highest possible adoption rate of newly agricultural technology among the respondents is found through TV as a medium of journalism whereas newspaper and radio or FM are found to be second and third.

Television was the most preferred medium of the farmers but economic condition to afford TV was found to be the significant cause to block the role as a medium of journalism. The main cause was found to be the illiteracy of the farmers in the studied area which hinders the efforts of journalism followed by limited newspaper reading culture. Bad signal for the radio was the most significant hindering factors which are blocking the role of agricultural journalism.

Television was found to be the most effective mass media source as a medium of agricultural journalism, while radio and newspapers were second and third choice of the respondents (farmers).



5.3 Recommendations

5.3.1 Recommendations for policy implication

- i. Dedicated agriculture related TV channel needs to be launched by the partnership of government and private sector to speed up the agricultural journalism process.
- ii. Social media and AI driven high quality mobile applications could be a solution for dissemination of agricultural information to the farmers.
- iii. Training of the farmers, especially old farmers, for starting to use ICTs to keep themselves up to date with the newly developed agricultural technologies.
- iv. Community radio stations and regional radio station dedicated to agriculture related programs should be aired with more frequency as well as advertised about the program via social media.
- v. Dedicated agricultural newspaper (daily) needs to launch where the inspiring stories of the successful farmers will be printed to inspire the farmers.

5.3.2 Recommendations for further study

- i. This study was conducted in one Upazilla in Khulna District. So, it will not be able to show the overall situation across the country. Further research is recommended in other area of the country.
- ii. This study is done only based on traditional media of journalism. Research should be carried out on the modern side of journalism. Internet websites, social media, Mobile phone services should be included as modern extension of journalism and research should be done on it.
- iii. Focus issues like conventionality of sources of mass media, accessibility of mass media, preferred time of listening or watching agricultural programs, relevance of information, effectiveness of agricultural information in solving agricultural problems etc. should be studied further for the more detailed picture about the present status of agricultural journalism.

CHAPTER VI

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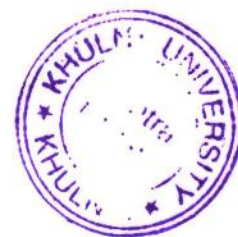
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Appendix A
Interview Schedule of this Thesis
Agrotechnology Discipline

Life Science School
 Khulna University, Khulna-9208



Title: Present Status and Prospect of Agricultural Journalism in Technology Diffusion
(Interview Schedule)

(Confidentiality will be maintained and all information will be used only for study purposes)

Date:

1. Personal information of the respondent:

Name:
Address:
Contract No: +880
Age (year):

2. Family size of the respondent (number of FM): ☐ Nuclear () ☐ Joint ()

3. Educational status: a) Illiterate, b) Can sign only, c) Actual schooling years

4. Cultivation Experience (Year):

5. Farm size (ha):

Please Furnish information about your lands according to use.

S/N	Use of land	Area of land	
		Local unit	Hectare
A1	Homestead area		
A2	Own land under cultivation		
A3	Land given to others on barga		
A4	Land taken from others on barga		
A5	Land taken from others on lease		
A6	Others		

$$FS = A1 + A2 + 1/2(A3 + A4) + A5 \pm A6$$

6. Family income (BDT):

Please mention information's about your family income (annual) from different sources:

S/N	Sources of income	Income/Month (Taka)	Income/Year (Taka)
1.	Crop		
2.	Livestock		

3.	Fish		
4.	Business		
5.	Service		
6	Other		
Total			

7. Training Received: Do you receive any agricultural training? A. Yes () B. No ()

Name of the Training	Duration (No of Days)	Organized By

8. Cosmopolitanism:

Please indicate the number of times you have visited the following places within the specified period:

S/N	Place of visit	Nature of visit			
		Frequently (3)	Occasionally (2)	Rarely (1)	Not at all (0)
1.	Relative or other known persons located outside of your own village.	5-6 times/month	3-4 times/month	1-2 times/month	0 times/month
2.	Union parishad office.	8-10 times/month	5-6 times/month	2-3 times/month	0 times/month
3.	Own Upazilla.	5-6 times/month	3-4 times/month	1-2 times/month	0 times/month
4.	Other district Upazilla/ Sadar.	4 times/year	3 times/year	1-2 times/year	0 times/year
5.	Capital and other cities.	3 times/year	2 times/year	1 times/year	0 times/year

9. Extension media contact:

Categories		Regularly (4)	Often (3)	Occasionally (2)	Rarely (1)	Not at all (0)
A. Mass media	1. Radio					
	2. Television					
	3. Newspaper					
	4. Poster					
	1. FFS					

B. Group Contact	2. Upazilla Fairs					
	3. Demonstration					
	4. Field Days					
C. Personal Cosmopolite	1. Office call (SAAO)					
	2. Office call (AEO/UAO)					
	3. Farm & home visit (SAAO)					
	4. Email					
	5. Mobile					
D. Personal Localite	1. Friends					
	2. Neighbor					
	3. Dealer (pesticide)					
	4. Model farmer					

10. Awareness about the significance and reliability of various mediums of agricultural journalism.

S/N	Medium	Question	Very High (3)	High (2)	Average (1)	Not at all (0)
1.	TV	1. Is TV the most widespread medium?				
		2. Does any TV channel broadcast agriculture related programs?				
		3. Does TV channels broadcast any agricultural news?				
		4. Is the information helpful ?				
		5. Does the programs need any upgradation ?				
2.	Radio and FM	1. Is radio more reachable in case of information ?				
		2. Do you understand what is FM ?				
		3. Does any radio and FM channels broadcast agriculture related programs and news?				
		4. Is the information helpful ?				
		5. Does the programs need any upgradation ?				
3.	Newspaper	1. Is newspaper more reachable than radio or TV ?				
		2. Do you read agricultural news on newspaper ?				

		3. Do the newspaper have limited information ?				
		4. Is the information helpful ?				
		5. Do you learn anything from it ?				

11. Status of owning journalism instruments

S/N	Statement	Yes (1)	No (0)
1.	Do you own TV set?		
2.	Do you have radio or mobile radio?		
3.	Do you acquire any newspaper regularly?		

13. Situation of using instruments of journalism

S/N	Statement	Regularly (3)	Occasionally (2)	Rarely (1)	Not at all (0)
1.	How often do you watch TV ?				
2.	How often do you listen to radio or mobile radio?				
3.	How often do you read newspaper ?				

13. Status of watching/ accessing programs on different mediums of journalism.

S/N	Platform		Regularly (3)	Occasionally (2)	Rarely (1)	Not at all (0)
1.	TV	News				
		Agri-news				
		Sports				
		Entertainment				
		Agricultural Programs				
2.	Radio or FM	News				
		Agri-news				
		Sports				
		Entertainment				
		Agricultural Programs				
3.	Newspapers	News				
		Agri-news				
		Sports				
		Entertainment				
		Agricultural Programs				

14. Preferred medium and agricultural programs of agricultural journalism

S/N	Platform					
	Medium		Channels/Region	Programs	Yes (1)	No (0)
1.	TV	Govt.	BTV ☐	Mati O Manush		
				Desh O Jonopoder Khobor		
				Krishi Dibanishi		
				Banglar Krishi		
				Bangladesh Krishi		
				SAARC Krishi		
		Non-Govt.	Channel I ☐	Hridoye Mati o Manush		
				Krishi Budget		
				Krishi Barta		
				Krishi Shongbad		
				Hridoye Mati O Manusher Dak		
			Bangla Vision ☐	Shamol Bangla		
			ATN ☐	Matir Subash		
				Sonali Din		
			Dipto TV ☐	Dipto Krishi		
			My TV ☐	Khamarbari		
			Ekattur TV ☐	Krishi Jog		
			2.	Radio and FM	Bangladesh Betar ☐	Krishi Samachar
Desh Amar Mati Amar						
Amar Desh						
Chashabad						
Khet Khamar						
Sonali Prantar						
Shabuj Bangla						
Krishi Khamar						
Community Radio ☐	Krishi Radio ()					
FM ☐	Krishi Radio (FM 98.8)					
3.	Newspaper	Prothom Alo ☐	Khet Khamar			
		Jugantar ☐	Krishi Katha			
		Naya Diganta ☐	Chashabad			
		Kaler Kantha ☐	Chashbash			
		Ittefak ☐	Hridaye Mati O Manush			
		Jay Jay Din ☐	Krishi O Shamvabana			

15. Adoption rate of technology through medium of agricultural journalism

S/N	Medium	Very High (3)	High (2)	Moderately High (1)	As of Before (0)
1.	Television				
2.	Radio and FM				
3.	Newspaper				

16. Types of agricultural information the respondents get through agricultural journalism

S/N	Types of Agricultural Information	TV		Radio & FM		Newspaper		Other	
		Yes	No	Yes	No	Yes	No	Yes	No
1.	Quality seeds & germination								
2.	Fertilizer application								
3.	Pest and disease control								
4.	Preservation of crops and vegetables								
5.	Poultry farm								
6.	Fishing								
7.	Dairy farming								
8.	Soil testing								
9.	Irrigation and water management								
10.	Alternative cultivation & crop rotation								
11.	Seasonal fruits, vegetables								
12.	Weather information								
13.	Market price								
14.	Homestead gardening								
15.	Rooftop gardening								

17. Hindering factors which are blocking the role of journalism

S/N	Medium	Statement	Strongly Agree (5)	Agree (4)	Undecided (3)	Disagree (2)	Strongly Disagree (1)
1.	TV	Economic condition to afford TV					
		Lack of operational knowledge					
		Electricity Problem					
		Bad signal and Internet Problem					
		Social and religious restriction					

2.	Radio and FM	Economic condition to afford TV					
		Lack of operational knowledge					
		Electricity Problem					
		Bad signal and Internet Problem					
		Social and religious restriction					
3.	Newspaper	Illiteracy of the respondent					
		Limited reading culture					
		Limited information on agriculture					
		Limited access at village level					
		Economic condition to afford newspaper					