

**USE OF MASS MEDIA BY THE FARMERS IN RECEIVING
AGRICULTURAL INFORMATION**

KHANDKER FARID UDDIN



**DEPARTMENT OF
AGRICULTURAL EXTENSION & INFORMATION SYSTEM
SHER-E-BANGLA AGRICULTURAL UNIVERSITY
DHAKA-1207**

JUNE, 2007

**USE OF MASS MEDIA BY THE FARMERS IN RECEIVING
AGRICUTURAL INFORAMTION**

BY

KHANDKER FARID UDDIN

REGISTRATION NO : 27496/00685

A Thesis

Submitted to the Faculty of Agriculture
Sher-e-Bangla Agricultural University, Dhaka,
in partial fulfilment of the requirements
for the degree of

MASTER OF SCIENCE (M.S.)

IN

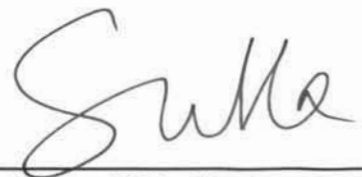
AGRICULTURAL EXTENSION

SEMESTER : JANUARY-JUNE, 2007

Approved by



Professor Md. Rafiquel Islam
Supervisor



Professor Md. Shadat Ulla
Co-supervisor



Professor Md. Shadat Ulla
Chairman
Examination Committee

CERTIFICATE

This is to certify that the thesis entitled, "**USE OF MASS MEDIA BY THE FARMERS IN RECEIVING AGRICULTURAL INFORMATION**" submitted to the Faculty of Agriculture, Sher-e-Bangla Agricultural University, Dhaka, in partial fulfillment of the requirements for the degree of **MASTER OF SCIENCE** in **AGRICULTURAL EXTENSION**, embodies the result of a piece of bona fide research work carried out by **Khandker Farid Uddin**, Registration No. 27496/00685 under my supervision and guidance. No part of the thesis has been submitted for any other degree or diploma.

I further certify that such help or source of information, as has been availed of during the course of this investigation has been duly acknowledged.

Dated
Dhaka, Bangladesh



Professor Md. Rafiqueel Islam
Supervisor

ACKNOWLEDGEMENT

All praises are to the 'Almighty Allah' the Omnipotent, Omnipresent and Omniscient, who enabled to accomplish of this research work.

The author reckons at first a great pleasure and honor to express his heartfelt gratitude, deepest sense of appreciation, best regards and profound indebtedness to his reverend research supervisor, Professor Md Rafiqueel Islam, Department of Agricultural Extension & Information System, Sher-e-Bangla Agricultural University, Dhaka under whose scholastic guidance, continuous supervision, valuable suggestions and instructions, constructive criticisms, constant encouragement and inspiration throughout the research work as well as in preparing this manuscript.

The author highly indebted and grateful to his respective teacher and co-supervisor, Professor Md Shadat Ulla, Chairman, Department of Agricultural Extension & Information System, Sher-e-Bangla Agricultural University, Dhaka for his helpful comments and suggestions, sincere encouragement, heartfelt and generous cooperation and in improving the manuscript.

The author feels proud to express his sincere gratitude, grateful acknowledgement and profound thanks to Professor Mohammad Hossain Bhuiyan, Professor Md Zahidul Haque, Associate Professor Md. Sekender Ali, Lecturer Md. Abul Basar, Md. Zamshed Alam, Md. Shofi Ullah Mazumder, and Md. Mahbubul Alam, Ronjon Roy and Md. Humayan Kabir, Sher-e- Bangla Agricultural University, Dhaka. Also he thanks to his classmates for their continual encouragement, help and valuable suggestions during period of study.

The researcher reckons special thanks to Md. Sekender Mia, the SAO of Ghatail upzaila for his cordial support and also deems his heartfelt gratitude to the Md Shamsul Islam, UAO of Ghatail Upzaila. The researcher is grateful to Md. Shamsul Alam, Chand Mohon Shaha, Amir Ali, Chan Mahmud, Mohir Uddin and Aminul Islam opinion leaders of the three villages of study area for their cordial help during the data collection of the study.

The author likes to extend cordial thanks to his friends specially Arif, Zahid, Rafik, Appal, Ferdous and Shahed for their kind co-operation, valuable advice during his study. Diction is not enough to express his profound gratitude and deepest appreciation to his father and mother who sacrificed their happiness during the entire period of study and brother, sister for their never ending prayer, encouragement, sacrifice and dedicated efforts to educate him to this level.

Finally, the researcher expresses his thanks gratefulness to all of his well wishers and parents.

The Author

*DEDICATED
TO MY
BELOVED PARENTS*

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USE OF MASS MEDIA BY THE FARMERS IN RECEIVING AGRICULTURAL INFORMATION

ABSTRACT

The main objectives of this study were to determine and describe the use of mass media by the farmers in receiving agricultural information and the individual characteristics of the farmers and also to explore the relationship between the use of mass media and selected characteristics. Data were collected from 100 farmers of three villages of Ghatail upazila under Tangail district, by using a structured personal interview schedule. Appropriate scales were developed in order to measure the concerned variables. A statistical software package named SPSS was used to analyze the data and Karl Pearson Product Moment Correlation Coefficient was used to test the relationship between the independent and dependent variables. The findings revealed that 50 percent of the respondents had medium use, 32 percent had low use, 4 percent had no use and only 14 percent had high use of mass media. Television was found to have more uses followed by agricultural fair, newspaper, radio and poster respectively by the farmers. The findings also revealed that education, farm size, annual family income, agricultural knowledge, organizational participation, cosmopolitaness and innovativeness had significant positive relationship with the use of mass media by the farmers. However, farming experience of the respondents had significant negative relationship while age and farming facilities of the farmers had no relationship with their use of mass media in receiving agricultural information.

CHAPTER 1

INTRODUCTION

1.1 General Background

Bangladesh is mainly a rural based agricultural country with an area of 1,47,570 square kilometer. The development of Agriculture is mostly dependent on the use of modern technologies by the farmers. About 23.08 percent of the country's Gross Domestic Product (GDP) and 62 percent of the employment opportunity comes from agriculture (BBS, 2005). The total population of the country is 14.37 crore with annual growth rate of 1.54 and 76.52 percent of the population live in rural area (BBS, 2005). Population density is 974 persons per square kilometer (BBS, 2005). It is Asia's 6th, worlds 9th mostly populous country. The per capita income is about \$ 470 and its people have a life expectancy of 64.9 years (BBS, 2005). The country is supplying to meet the basic needs of her population from its net cultivable land which is estimated around 8.29 million hectare but still perhaps agricultural productivity of Bangladesh is one of the lowest in the world.

Agricultural production can be increased if appropriate technologies are used by the farmers who are the primary unit of adoption of improved practices. Diffusion of proper knowledge on modern agriculture among the rural people demands effective communication system. In addition immediate and effectiveness are also valuable dimensions for communication of technological messages. This suggest that the flow of information should be fast as fast possible and should also be understandable, well interpreted

accepted and liked by the users. But most of the farmers have not yet adopted improved agricultural technologies even technologies are available. One may logically assume that message of improved technologies has not yet been properly conveyed to the farmers. It may also happen that the technologies which are being developed do not reach to the bonafide users effectively for their application (Halim and Miah, 1996).

The Department of Agricultural Extension (DAE) and some other government and non government organizations are working in the field in transferring information from a research system (source of technology) through an extension system (interpreter and dissemination of technology) to the client system (users of technology) (Kashem and Halim, 1991)

In most of the cases, the effectiveness of extension educational programmes depends to a large extent on the proper selection and use of the communication media. Mass media show better result to create awareness and increase knowledge, attitude and practices level. (Adhikarya, 1994).

Advancement of technology and communication process belong to the same phenomenon and go hand in hand. Again technology must reach to the people through right media with in quickest possible time. All communication media may not be appropriate to serve the people. The mass media channels can be used for accelerating dissemination of information and regarding various aspects of agricultural and rural development. Mass media channels are those means of transmitting message involves television, radio, newspaper, leaflet, booklet, poster, agricultural fair etc.

Many national programs and projects were undertaken for agricultural development from 1950s, which had very limited success in the transfer of technology. In order to expedite the process of technology transfer the donor agencies now give more emphasis on mass contact media (Amuer 1994, Adhikarya, 1994) which can develop a considerable acquaintance with ultimate users very rapidly.

So it is clear from the above that farmers are the key elements in the process of transfer of technology and their opinion for media or message selection need to be known. It is quiet logical to say that message can exist in different channels, however the choice of channels often is an important factor for a client. Considering the above facts the researcher felt a thrust to conduct a study with the hope to identify the use of mass media by the farmers in receiving agricultural information.

1.2 Statement of the Problem

“Mass media show better result to create awareness and increase adoption with the audience of low knowledge, attitude and practice level” (Adhikarya, 1994). In view of the preceding discussion, the researcher undertook this problem entitled “use of mass media by the farmers in receiving agricultural information.” In this study radio, television, newspaper, poster and agricultural fair were considered as the mass media. This study also tried to explain the relationship of some selected characteristics of the farmers such as age, education, farming experience, farm size, annual income, agricultural knowledge, organizational participation, farming facilities, cosmopolitaness, innovativeness and use of mass media with the farmers. The purpose of the study was to have answer to the following research questions.

- 1) What media are being used and preferred by the farmers in receiving agricultural information?
- 2) Which characteristics of the farmers are related to their use of mass media in receiving agricultural information?

1.3 Specific Objectives of the study

The following specific objectives of the study were be formulated in order to give proper direction of the study.

- (1) To determine and describe the use of mass media by the farmers in receiving agricultural information.
- (2) To determine and describe some selected characteristics of the farmers. The characteristics are :
 - i. Age
 - ii. Education
 - iii. Farming Experience
 - iv. Farm size
 - v. Annual family income
 - vi. Agricultural knowledge
 - vii. Organizational participation
 - viii. Farming facilities
 - ix. Cosmopolitaness
 - x. Innovativeness
- (3) To explore the relationship between selected characteristics of the farmers and their use of mass media.
- (4) To identify the preferences of mass media by the farmers in receiving agricultural information.

1.4 Significance of the study

Many national programs and projects were undertaken for agricultural development from 1950s, which resulted very limited success in the transfer of agricultural technology. These were Village agricultural and Industrial Development (VAID) program. Intensive Rice Cultivation (IRCP), Training and Visit (T & V) system, Intensive Jute Cultivation Scheme (IJCS), etc.

In order to expedite the process of technology transfer, the donor agencies now give more emphasis on mass contact media. (Amuer, 1994, Adhikarya, 1994) which can develop a considerable acquaintance with the ultimate users very rapidly. National Agricultural Research System (NARS) have generated a lot of technologies, but due to lack of proper extension service the technologies did not reach to its clients, the present mechanism for the transfer of technology should be reviewed for better methods of linkage and cross fertilization of ideas among farmers, extension workers and scientists.

So, it is clear from the above that farmers are the key elements in the process of transfer of technology and their opinion for media or message selection made to be known. These facts indicate the significance of the present study.

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 made in conducting the study:

- i. The respondents included in the sample of the study were able to provide their opinions and were competent enough to satisfy the queries.

- ii. The information furnished by the respondents were reliable.
- iii. The mass media included in the study were known to the people of the area concerned.
- iv. The collected data were reliable because the researcher who acted as interviewer was well adjusted to the social environment of the study area.

1.6 Statements of the hypothesis

“A hypothesis is a proposition or a set of proposition forth as an explanation for the concurrence of some specific group of phenomena either asserted merely as a provisional conjecture to guide some investigation or accepted as highly probably in the light of established fact.” (Kothari, 1994)

The research hypotheses were put forward to test the relationship between each of the 10 characteristics of the farmers and their use of mass media in receiving agricultural information.

1.6.1 Research hypothesis

The use of mass media by the farmers in receiving agricultural information is related to each of their age, education, farming experience, farm size, annual income, agricultural knowledge, organizational participation, farming facilities, cosmopolitaness, innovativeness and use of mass media.

1.6.2 Null hypothesis

For statistical testing of the research hypothesis they were converted into null from. The null hypothesis were as follows:

“There are no relationships between the use of mass media by the farmers in receiving agricultural information and each of their age, education, farming experience, farm size, annual income, agricultural knowledge, organizational participation, farming facilities, cosmopolitaness, and innovativeness.”

1.7 Scope and Limitations of the study

The study was undertaken with a view to have an understanding about the use of mass media by the farmers in receiving agricultural information. But considering the time and money the study was conducted with the following limitations:

- 1) The study was conducted to Ghatail union of Ghatail upazila of Tangail district. Ghatail union considered of 20 villages. Among 20 villages only 3 (three) was selected randomly for this study.
- 2) The characteristics of the farmers are many and varied. Only 10 (ten) characteristics were selected for investigation in the study.
- 3) Population of study was limited, 100 farm families were selected of three villages.
- 4) Landless families were excluded from the study, because they were not directly concerned with the use of agricultural information.
- 5) There are many mass media from where farmers can receive agricultural information for their farming business. But only five mass media were considered for this study.
- 6) The facts and figures collected by the investigator applied to the situation prevailing during May to July 2007.

The findings of the study will be applicable to the Ghatail union of Ghatail upazila of Tangail district in particular. However, the findings may also be applicable to other areas of Bangladesh where the physical, socio-economic and cultural conditions do not differ much with those of the study area.

1.8 Definition of Terms

Different terms used through the study are defined and interpreted for clarity of understanding.

Mass media

The mass media are the mean of communication or instrument or apparatus through which messages are transmitted towards relatively large, heterogeneous and anonymous audience within a relatively shorter timed form the source to the audience. Mass media included in the study were radio, television, newspaper, poster and agricultural fair.

Radio

Radio is a powerful and popular audio media which falls in mass media. It conveys message from one station to all who listen radio programme. It makes things excitingly alive and believable. Furthermore, it can motivate, stimulate, induce belief, create and change basic and attitudes and it reaches to a large number of people inexpensively.

Television

Television is an audio visual media for diffusing information and fall under mass media along with news, various educational programmes, and Mati-O-Manus-one important agricultural programme, are displayed through TV. It is a media that can support the effects of extension staff in spreading awareness, giving warnings, facilitating farmers to farmer's communication etc.

Newspaper

It referred to a bunch of loss printed papers, properly folded. These contain news, views, advertisements, educational messages and agricultural messages, published on daily or weekly basis, generally from the capital city.

Poster

Poster is a placard displayed in a public place with the purpose of creating awareness amongst the people.

Agricultural fair

Fair is generally organized by the Department of Agricultural Extension and other agricultural government organization to create awareness about improved technology among a large number of people within a short time and to stimulate general motivation for agricultural and rural development in the area.

CHAPTER 2

REVIEW OF LITERATURE

Mass media generally convey messages to a large group of audience irrespective of distance and acts as distance learning mode to the farming community in its simple form. The purpose of this chapter is to present a brief review of literature having relevance to the present investigation.

In order to focus the pertinent reviews, this chapter has been divided into major three sections. First section deals with the findings on the use and preference of mass media by the farmers, second is devoted to a discussion on the findings of studies exploring relationships between the selected characteristics of the farmers and their use of mass media and third section is conceptual framework of the study.

2.1 Use of Mass media

Nataraju and Channegowda (1985) found in a study that respondents used radio (54%), newspaper (46%), neighbors (23.3%), demonstrations (10.6%) and group meetings (6%) in receiving information on improved dairy management practices.

Mekabutra (1985) conducted a study in Thailand and reported that among the mass media that offered more knowledge in agriculture was radio, followed by television and newspaper respectively. Considering knowledge gained from mass media that were applicable to their work, farmers opined that television provided about 83.5 percent, radio 78 percent and newspaper 77 percent.

Sinha(1985) in a study in Bihar on mass media and rural development found that television has a very positive role to play in village development, but that it is essential to support it with appropriate development infrastructure and on site advisory officer.

Chidanandappa and Veerabhadraiah(1988) examined different mass media sources used by extension personnel and reported that extension personnel made use of the package of practices like booklets, extension folders, radio, newspaper and farm magazine to a large extent as media of information.

Talbbada (1988) in his study in Philippines found that radio vision was superior over radio, and the dialogue type broadcast was more effective than lecture type.

Van den Ban Hawkins (1988) reported that in industrialization countries people spend more time with television and radio than printed word. Radio is most important mass medium for farmers of less industrialization countries. The urban middle class in less industrialization countries now also spend considerable time watching television but it is not yet a very important medium in rural areas of this countries.

Dinampo (1989) conducted a study in philippines to determine communication need and preferences. He observed that farmers were found to prefer an interpersonal media (extension agent) rather than mass media. Among mass media, first preference was radio followed by printed materials and audio visual sources.

Reisner and Hays (1989) reported that the agricultural press is a vital link in transplanting information to US farmers.

De la Vega (1990) conducted a study in philippiens and found that in terms of availability of mass communication media channels, radio and TV were the most available. A great majority of the respondents listen the radio everyday and consider it is their main source of news. The communication channels they preferred as credible were radio, interpersonal source and TV.

Hoque (1990) in his paper concluded that mass media can perform a better role in technology diffusion than what those do today. Therefore, planned efforts to introduce more of mass media strategies that proven effective by experiments are highly recommended.

Sauquet (1990) based on the experience of Brazilian extension service reported that television plays an important role, where in every Sunday morning, an agricultural programme is watched by millions of farmers.

Kashem and Halim (1991) in a study found that the highest proportion of the farmers (34.89) used interpersonal contact media in the adoption of modern rice technologies. Almost equal proportion (32.52) of farmers had individual contacts. This was followed by mass contacts method. Farmers very often discuss or seek advice from their friends, relatives, neighbours and different input dealers regarding the use of modern practices in rice cultivation.

Malik (1991) in a study in Pakistan reported that radio was the only medium which broadcasted regular agricultural programmes for the farming community of Pakistan. The largest segment of population listened to radio programme. Radio solves the problems of inaccessibility of media and that of illiteracy of farmers.

Sianturi (1992) conducted a study in a rubber development project and observed that radio was the highest rated sources of agricultural information followed by television.

Gunzales (1993) reported that among the mass media, radio was the most available and preferred source of development information.

Galindo (1994) in his study in Mexico on communication media used by farmers revealed that television and radio were the most widely used communication media and talks, demonstration and training courses were the preferred media for receiving information.

Khan and Paracha (1994) conducted a study in two villages in Pakistan, one innovative and other non-innovative, among the farmers of a cotton producing district and reported that the main channel of communication. The mass media were centrally organized and included radio, television and newspapers.

Ahmed *et al.* (1994) conducted that farmers received more amount of information from radio than TV. It may be due to the reason that farmers have more access exposure to radio because numbers of farm broadcasting programmes were more in radio than of TV.

Kabir and Bhattachargee (1994) conducted a study on the impact and television on rural people and found that the responses regarding the usefulness of TV programme were similar to responses regarding usefulness of radio broadcast. All of the telecasts were of average benefit to most of the male and female audiences. Among the need based telecast "Apnar Shastha" seems to be most effective programme for the male viewers. About 53% of

the male respondent watched this programme. The next important one was “Mati-O-Manus” having 35.25% viewers.

Molinar *et al.* (1994) in their paper conducted that radio would remain the most significant medium in the Pacific for some time because of the geographical nature of the islands. Continued training radio, video and print are vital if they are to meet the spatial dimension of the communication process.

DAE (1995) in order to achieve the objectives of the extension programmers consider the following extension programmes consider the following extension methods and strategies:

- Media campaign including printed media, radio and television
- Thana and district fair
- Traditional and folk media
- Group meeting

Farmers training; motivational tour, farm walk, method demonstrations, field days, result demonstration, individual farm visit, etc. Printed media commonly used are bulletins, posters, leaflet, circular letters, newspaper and magazines.

Rahman (1995) in his paper reported that the rural press can serve the farmers and families in the villages by providing timely information regarding farming and harvest. The rural press by providing up-to-date market prices of agricultural products can help the local farmers.

Westoff and Rodriguer(1995) reported that in Kenya, about 15% women neither saw nor heard radio message. The population rose to 25% among those who have heard radio message, to 40% among those who were exposed to both radio and print message and to 50% among those to radio, print and television message of family planning actively. It was opined thas mass media can have an important effect on reproductive behaviour.

Khan (1996) conducted a study on the use of information sources by the poor farmers and conducted that 75% of the respondents had medium use of various information sources for receiving agricultural information.

Halim and Miah (1996) conducted a study and found that the women of modern villages with higher socio-economic status used more cosmopolite media. Cosmopolite media included radio, television extension agents etc. Among the mass media, they used radio and television as a vital source of information. Radio was very frequently (69.7%) used by all category of farm women, while TV was used by less number of women (26.9%).

Islam (1996) in study found that the highest proportion of the respondents (44.55) belonged to medium media exposure category and 38.18% belonged to low exposure and 17.27% belonged to high exposure group. He also found that among 15 media, radio ranked in 6, television 7, fair 8, agricultural publication 15, and the rank 1-5 was for individual media.

Wabhitkar at al. (1998) reported that contact with extension agencies and mass media exposure were found to be significantly related to adoption. Age and scientific orientation were significantly related to adoption.

Egbule and Njoku (2001) in their study on mass media for adult education in Nigeria found that mass media have performed poorly in disseminating requisite agricultural information to farmers, although there is a positive correlation between mass media usage and farm yield. Farmers' preference for television over other mass media channels.

Perianayagam and Arokiasamy (2002) conducted a study in the northern states in India and reported that womens education and exposure to the mass media are two important developmental indicators that bear a highly significant positive correlation with contraception and a negative relationship with fertility through all regions.

2.2 Relationship between Selected Characteristics of the Farmers and their use of Mass Media

2.2.1 Age

Chakraborty (1992) found that there was no significant relation with age of the farmer and radio listening habit.

Galindo (1994) found that the exposure to the communication media was closely related with the age of the farmers.

Sarker (1995) in his study concluded that age of the farmers had negative and insignificant effect on the use of communication media.

Islam (1995) found that the age of the farmers had negative and significant relation with the use of communication media.

Khan (1996) concluded that age of the farmers had a negative and insignificant effect on the use of information sources.

Islam (2005) in his study concluded that age of the respondents had no significant relationship with their use of printed materials.

2.2.2 Education

Chakraborty (1992) showed that the education of the farmer had significant relationship with their time spend in listening to radio. However he found that there was no statistically significant relationship between their education and listening habit.

Islam (1995) found that the education of the farmers had positive and highly significant relationship with their use of communication media.

Sarker (1995) in his study conducted that education of the farmers had positive and significant relationship with their use of communication media.

Nuruzzaman (2003) in his study observed that education of the farmers had significant positive relationship with their use of mass media.

Islam (2005) in his study concluded that the education of the respondents had significant positive relationship with their use of printed materials.

Mollah (2006) observed in his study that the education of the farmers had significant positive relationship with the rice production technologies.

Roy (2006) in his study observed that education of the farmers had a highly significant and positive relationship.

2.2.3. Farming experience

Islam (1998) observed that the farming experience of the farmers had no significant relationship with their opinion on the effectiveness of “Mati-o-Manush” TV program in disseminating agricultural information.

Rahman (2003) observed that the farming experience of the farmers had no significant relationship between farming experience of the farmers and their adoption of selected technologies by using TV.

2.2.4 Farm size

Bhuiyan (1988) found that the farm size of the farmers had positive and significant effect on the use of communication media.

Islam (1995) found that farm size of the farmers had a positive and significant relationship with their use of communication media.

Anisuzzaman (2003) found that the farm size of the respondents had no significant relationship with their use of communication media.

Nuruzzaman (2003) in his study conducted that farm size of the farmers had no significant relationship with the use of mass media.

Islam (2005) in his study concluded that the farm size of the respondents had no significant relationship with their use of printed materials.

2.2.5 Annual family income

Bhuiyan (1988) in his study observed that income of the farmers had no significant relationship on the use of communication media.

Hossain (1996) found that income of the farmers had positive and significant relationship with their use of television as agricultural information medium.

Anisizzaman (2003) related that the annual income of the respondents had no significant relationship with their use of communication media.

Nuruzzaman (2003) in his study conducted that the annual income of the farmers had no significant relationship with their use of mass media.

Rahman (2003) in his study conducted the annual income of the farmers had significant and positive relationship with the use of television.

Islam (2005) in his study concluded that the annual income the respondents had no significant relationship with their use of printed materials.

2.2.6 Agricultural knowledge

Kashem and Halim (1991) showed that the use of communication media in the adoption of modern rice technologies had significant positive correlation with agricultural knowledge.

Parveen (1995) found that the mass media exposure of the respondents had a positive significant relation with their agricultural knowledge.

Islam (1995) in his study observed that agricultural knowledge of the farmers had positive and highly significant relationship with their use of communication media.

Sarker (1995) found a highly significant and positive relationship between positive relationship agricultural knowledge of the farmers and their use of communication media.

Anisuzzaman (2003) found that the agricultural knowledge of the respondent that had positive significant relationship with their use of communication media.

Nuruzzaman (2003) in his study observed that the agricultural knowledge of the farmers had positive and significant relationship with their use of mass media.

Islam (2005) in his study concluded that the agricultural knowledge of the respondents had positive significant relationship with their use of printed materials.

2.2.7 Organizational participation

Bhuiyan (1988) in the study found that organizational participation of the farmers had no significant effect on the use of communication media.

Islam (1995) in his study on wheat growers found that organizational participation of the farmers had positive significant relationship with their use of communication media.

Nuruzzaman (2003) found that organizational participation of the farmers had positive and significant relationship with their use of mass media.

Islam (2005) in his study concluded that the organizational participation of the respondents had positive significant relationship with their use of printed materials.

2.2.8 Farming facilities

Islam (1998) found that farming facilities of the farmers had no significant relationship with their use of communication media.

2.2.9 Cosmopolitaness

Latif (1974) found that the relationship between cosmopolitaness and communication exposure was positively significant.

Kadam and Sabale (1983) observed in a study that cosmopolitaness of the farmers was significantly associated with the extent of use of communication media.

Bhuiyan (1988) in a study observed that the relationship between cosmopolitaness and the use of communication media was not significant.

Islam (2005) in his study concluded that the cosmopolitaness of the respondents had positive significant relationship with their use of printed materials.

2.2.10 Innovativeness

Islam (1995) found that innovativeness of the farmers had positive and highly significant relationship with their use of communication media.

Hossain (1996) found that innovativeness of the farmers had positive and significant relationship with their use of television as an agricultural information medium.

Nuruzzaman (2003) found that innovativeness of the farmers had positive and significant relationship with their use of mass media.

Islam (2005) in his study concluded that the innovativeness the respondents had positive significant relationship with their use of printed materials.

2.3 The Conceptual Framework of the study

In scientific research, selection and measurement of variables constitute an important task. The hypothesis of a research while constructed properly contains at least two important elements i.e “a dependent variable” and “an independent variable.” A dependent variable is that factor which appears, disappears or varies as the researcher introduces, removes or varies the independent variables (Townsend, 1953). An independent variable is that factor which is manipulated by the researcher in his attempt to ascertain its relationships to an observed phenomenon. A simple conceptual framework for the study is made on the basis of review of literature which is shown below:

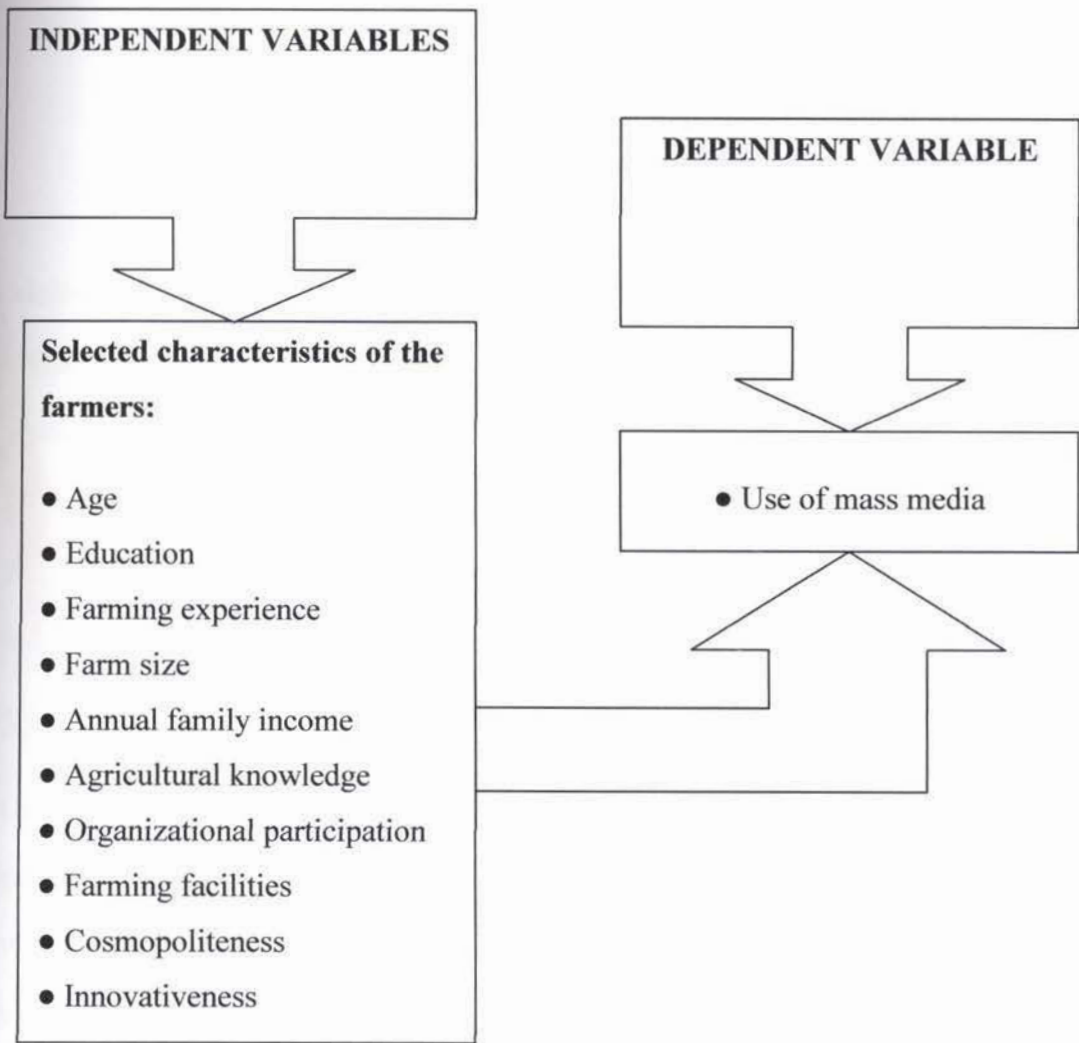


Fig 2.3. The conceptual framework of the study

CHAPTER 3

METHODOLOGY

Methodology plays an important role in a scientific research. A researcher should be careful in formulating methods and procedures in conducting research. Methodology should be such as would enable the researcher to collect valid data and reliable information and to analyze that information to arrive at correct decision. The methods and procedures followed in this study are described in this chapter.

3.1 Locale of the Study

Ghatail union of Ghatail upazila under Tangail district was selected as the study area. The study area consists of 20 villages. But only three villages were selected by following simple random sampling technique. These villages constituted the locale of the study. The names of the villages are Kamlapara, Andipur and Jamalpur. The physical, social and cultural and heritage of this area were similar in many cases with other eastern areas of the country. Communication of the study village with Tangail town is mostly facilitated by Kutcha, semi pucca and pucca roads. Villages are easily accessible by van, tempo, bicycle, motor cycle etc. A map of Tangail district showing the Ghatail upazila and another showing the locale of the study area have been presented in figure 3.1 and 3.2 respectively.

3.2 Population and sample size of the Study

An upto date list of all the farm families of the selected villages were prepared with the help of Agricultural Extension Officer (AEO),

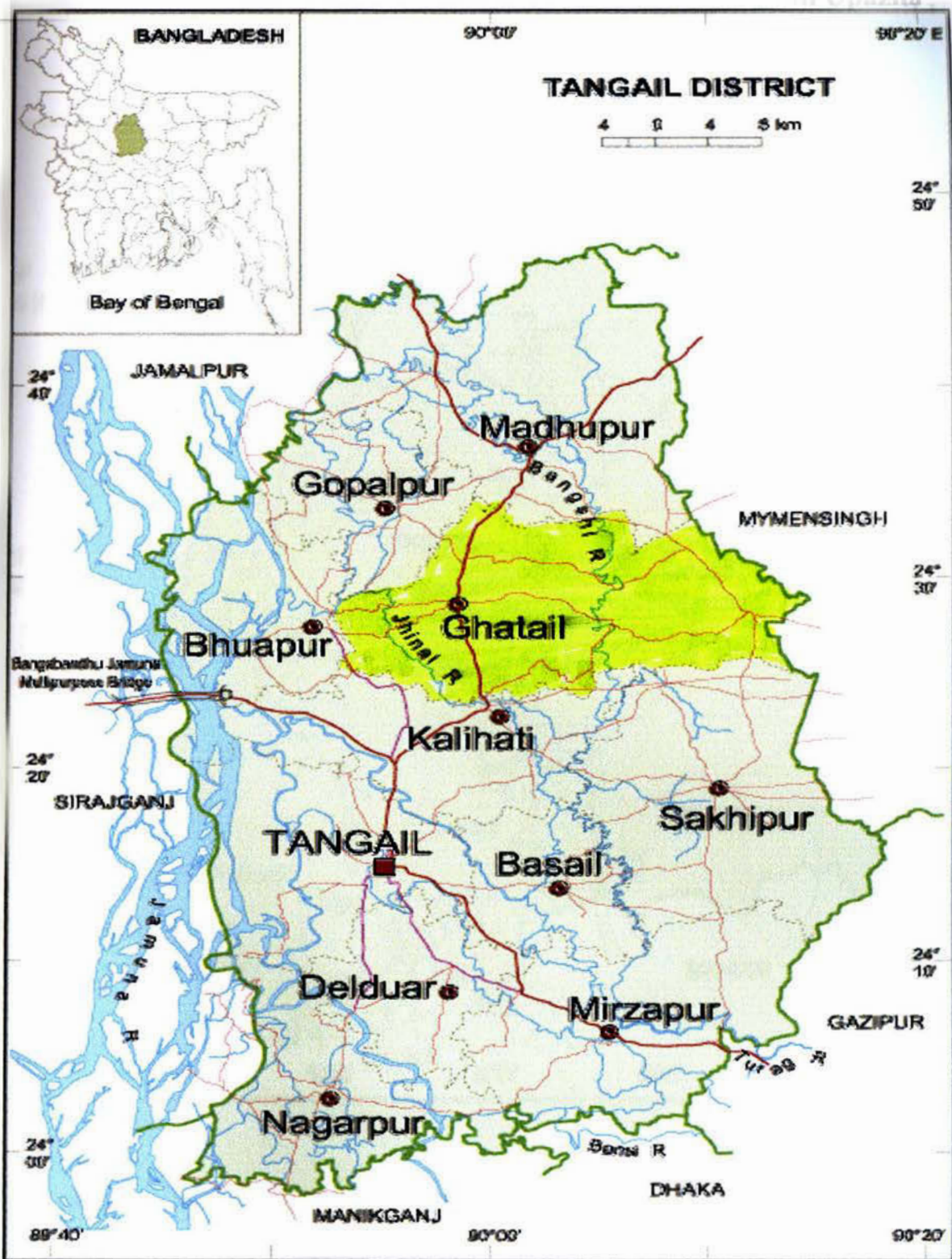


Figure 3.1.1 A Map of Tangail District Showing Ghatail Upazila



Figure 3.1.2. A map of Ghatail Upazila showing Ghatail Union

Additional Agricultural Officer (AAO) of Ghatail upazila and Sub Assistant Agricultural Officer (SAAO) of Ghatail union. The total numbers of farm families in of these villages were 384. Heads of the 384 Farm families constituted the population for his study. Twenty six points zero four percent (26.04%) of the farmers were selected from this village by using a table of random numbers.

Thus one hundred farmers were selected which constituted the sample for the study. However a reserve list of 20 farmers was also prepared. Farmers in the reserve list were used only when a respondent in the original list was not available. The distribution of the sample farmers and those in the reserved list from the selected villages are shown in table 3.1

Table 3.1 Distribution of population and sample of farmers in three villages

Name of villages	Population of the farmers	Number of farmers included in the sample	Number of farmers included in the reserve list
Andipur	104	30	5
Jamalpur	117	30	5
Kamlapara	163	40	10
Total	384	100	20

3.3 Research Design

It was a fact finding inquiry of a social problem in communication system. The research design followed in this study was Ex-post-facto-design because the researcher had no control over the variables; he could only report what

had happened or what is happening regarding the farmers use of mass media in receiving agricultural information.

3.4 The Research Instrument

A previously structured interview schedule was used as data gathering instruments in keeping the objectives of the study in mind. The schedule was prepared in English. Uses of mass media based question have been included in the schedule along with the selected characteristics of the respondents.

It may be recalled that the schedules were pre-tested in actual field situations before using the same for final data collection among 20 respondents of the study. Necessary correction, additions and alternations were made in the interview schedule on the basis of results of pre-test. The interview schedule was then cyclostyled in its final form. An English version of the interview schedule has been shown in Appendix-A.

3.5 Data collection

Data for the study were collected by interview procedure. The researcher himself collected data from the farmers by using the interview schedule. All possible efforts were made to explain the purpose procedure of the study to the respondent in order to get valid and relevant information from them.

A house to house survey was conducted by the researcher to collect data. Advance information was given to the respondents, so that they could be available at their respective houses in the scheduled time. While starting interview with any respondent, the researcher established appropriate rapport with him so that he did not feel hesitant to furnish proper responses to the questions and statements in the schedule. During interview, the respondents

were separated from fellow farmers as far as possible to furnish proper respondent to prevent others' influence.

The farmer of the original list were not available for interview inspite of repeated attempts. Therefore, they were replaced by those from the reserve list. Excellent cooperation was obtained from all respondents during data collection. Data were collected by the researcher himself during the period from 1 June to 30 July, 2007.

3.6 Variables of the Study

The hypothesis of a research contains generally two variables, an independent variable and a dependent variable. An independent variable is that factor which is manipulated by the experiment in his attempt to determine its relationship to an observed phenomenon. A dependent variable is that factor which disappears or varies as the experimenter introduces, remove or varies the independent variables.

Independent variables

In this study 10 selected characteristics of the farmers constituted the independent variables. These were: age, education, farming experience, farm size, annual income, agricultural knowledge, organizational participation, farming facilities, cosmopolitaness, and innovativeness.

Dependent variable

Use of mass media by the farmers in receiving agricultural information was the dependent variable. The mass media included radio, television, newspaper, poster and agricultural fair.

3.7 Measurement of Independent Variables

3.7.1 Age

The term used to refer to the period from one's birth to the time of interview. Age of a farmer in this study was measured in terms of actual years given by a respondent from his birth to time of interview. A score of one was assigned for each year of age.

3.7.2 Education

Education was measured in terms of years of schooling completed by an individual in educational institutions. The education score was computed for each respondent by giving one score for each year of successful schooling completed. The person who could sign only was given a score of 0.5 and who did not read and write was a given score of 0.

3.7.3 Farming experience

Farming experience means the experience which was gained by an individual from farming. The farming experience of a farmer means the experience he gained directly by performing various farming activities and it was expressed in year.

3.7.4 Farm size

Farm size was estimated in terms of full benefit to the respondent. It was measured by using the following formula:

$$\text{Farm size} = A_1 + A_2 + A_3 + 1/2 (A_4 + A_5)$$

A_1 = Homestead area with pond, garden etc

A_2 = Own land under own cultivation

A_3 = Land taken from others on lease

A_4 = Own land given to others on borga

A_5 = Land taken from others on borga

3.7.5 Annual family income

Annual income of the respondent was measured on the basis of his total yearly income from agricultural and non agricultural sources in Taka. The income sources from agriculture included crops, vegetables, fruits, livestock, fishes, poultry and others. Non agricultural sources of income included service, business, and day labour and other sources of the respondents or other members of his family. A score of 1 was assigned for each one thousand Taka of income of a respondent.

3.7.6 Agricultural knowledge

Agricultural knowledge is the extent of basic understanding of a farmer in different agricultural aspects relating to crop production, agro-forestry and communication. Agricultural knowledge of a respondent in the study was measured by asking him twenty different questions related to crop varieties, crop production technologies, forestry and communication media etc. The total assigned score of all the questions was 40. The score were given according to their response at the time of interview. Answering a question correctly an individual could obtain full score as 2 while for wrong answer he obtain zero (0) score. Thus the agricultural knowledge scores of the respondents could range from 0 to 40; where 0 indicated no knowledge and 40 indicated very high knowledge.

3.7.7 Organizational participation

Organizational participation of a respondent was measured by computing an organizational participation score according to his nature and duration of participation in ten (10) selected organization upto the time of interview. The

organizational participation score of a respondent was measured by using the following formula:

$$\text{Organizational participation score} = \sum N \times D$$

Where,

N = Nature of participation score

D = Duration score

Participation score was computed in the following manner:

Nature of participation	Score assigned
No participation	0
Participation as general member	1
Participation as executive member	2
Participation as president/ secretary	3

The duration was scored by assigning 1 for each year of participation subject to a maximum of 10 for participation for 10 years or more in an organization. The organizational participation score of a respondent was obtained by multiplying his participation score and his duration of participation score and then adding his score for all the organizations he participated. This score could range from 0 to 300; where, 0 indicates no organizational participation and 300 indicate the highest level of participation.

3.7.8 Farming facilities

It refers to the possession of the farming implements, inputs and other necessary accessories required for performing various farming operation by the respondents. To measure the extent of farming facilities, a four point scale

such as “abundant”, “adequate”, “somewhat” and “not at all” was used. Weights were assigned to each of the scale responses as 0 for “not at all,” 1 for “somewhat,” 2 for “adequate” and 3 for “abundant” for quantifying the extent of farming facilities.

A fourteen items of farming facilities (input and implements) were considered for the study and the highest weight were assigned to facilities as 3 for abundant for quantifying the extent of farming facilities. Thus the farming facilities score of a respondent could range from 0 to 42; where 0 indicates no farming facilities and 42 indicates very high farming facilities.

3.7.9 Cosmopolitaness

Cosmopolitaness of a respondent was measured by computing a cosmopolitaness score based on his frequency of visit to selected 7 (seven) places outside his own social environment. Each respondent was asked to indicate the number of times he visited to each of the seven selected places. Scores were assigned to his or her responses in the following ways:

The weights for visits to all the places were added together to obtain the cosmopolitaness score or a respondent. This score could range from 0 to 21; where 0 indicates no cosmopolitaness and 21 indicate very high level of cosmopolitaness of a respondent.

Sl. No.	Place of visit	Nature of visit	Weight
1	Own Union	Not even once per month	0
		1-2 times per month	1
		3-4 times per month	2
		5 or more times per month	3
2	Other Union	Not even once per month	0
		1-2 times per month	1
		3-4 times per month	2
		5 or more times per month	3
3	Own Upazila Sadar	Not even once per month	0
		1-2 times per month	1
		3-4 times per month	2
		5 or more times per month	3
4	Other Upazila Sadar	Not even once per 3 months	0
		1-2 times per 3 months	1
		3-4 times per 3 months	2
		5 or more times per 3 months	3
5	Own district Sadar	Not even once per 6 months	0
		Once per 6 months	1
		2-3 times per 6 months	2
		4 or more times per 6 months	3
6	Others District Sadar	Not even once per 6 months	0
		Once per 6 months	1
		Twice times per 6 months	2
		3 or more times per 6 months	3
7	Capital City	Not even once per year	0
		Once per year	1
		Twice per year	2
		3 or more times per year	3

3.7.10 Innovativeness

The term innovativeness referred to the degree to which an individual is relatively earlier in adopting in new ideas than other members of his social system. Innovativeness of a respondent was measured on the basis of his adoption of 10 selected new technologies related to farming. Score was assigned on the basis of earliness in use of a practice by a respondent. Five point scales was used for computing the innovativeness score as follows:

Score 4	For adoption of a technology within one year after hearing.
Score 3	For adoption of technologies within two years after hearing.
Score 2	For adoption of technologies within three years after hearing.
Score 1	For adoption of technologies within four years after hearing.
Score 0	For non adoption of technologies

Thus the innovativeness score of a respondent was obtained by adding the score for all the ten (10) items. The range of innovativeness score could vary from 0 to 40, where, 0 indicated no innovativeness and 40, indicates very high innovativeness.

3.8 Measurement of Dependent Variable

3.8.1 Use of mass media

Use of mass media by the farmers in receiving agricultural information was measured a through five point rating scale. The farmers were asked to indicate their extent of use of five selected media by indicating whether their use of a particular medium was “regularly,” “often,” “moderately,” “rarely” or “never use.” A weight of 4, 3, 2,1 and 0 was given for regularly, often, moderately, rarely and never use respectively. Thus, mass media use score of a farmer could vary for 0 to 20, where 0 indicated no use and 20 indicated very high use.

For making a comparative use of different media frequency distribution of farmers were calculated. In order to make a better comparison a Mass Media Use Index (MMUI) was computed by the using the following formula:

$$\text{MMUI} = \text{Nr}_e \times 4 + \text{No} \times 3 + \text{Nm} \times 2 + \text{Nr}_a \times 1 + \text{Nn} \times 0.$$

Where,

Nr_e = Number of farmers using the media regularly

No = Number of farmers using the media often

Nm = Number of farmers using the media moderately

Nr_a = Number of farmers using the media rarely

Nn = Number of farmers using the media never

Thus MMUI of a mass media could vary from 0 to 400 (respondents no x highest scale; $100 \times 4 = 400$) where, 0 indicated no use and 400 indicated regular use of the medium by each respondents.

3.9 Categorization of Data

The respondents were classified into several categories in respect of each variable. These categories were developed by considering the nature of distribution of the data and general understanding prevailing in the social system. The procedures for categorization of data in respect of different variables will be elaborately discussed while describing those variables in chapter 4.

3.10 Analysis of Data

Data were compiled, tabulated and analyzed based on the objectives of the study. Qualitative data were converted into quantitative data by means of suitable scoring wherever necessary. Range, number and percentage distribution, mean and standard deviation were used to describe variables of the study.

For determining the relationship between dependent and independent variables, correlation analysis was used. Five percent (0.05) level of significance was used as the basis of rejection of any null hypothesis. Where the computed r -value was equal to or greater than the Table value of ' r ' at designated level of significance for the relevant degree of freedom, the null hypothesis was rejected, and it was concluded that there were significant relationship between the variables concerned.

CHAPTER 4

RESULTS AND DISCUSSION

This Chapter deals with the findings of the research according to the objectives of the study. For convenience, the chapter is divided into three sections. The first section deals with the selected individual characteristics of the farmers. The second section deals with the use of mass media by the farmers in receiving agricultural information. The third and last section deals with the relationships between dependent variable and independent variables.

4.1 Selected Individual Characteristics of the Farmers

The individual characteristics of the farmers may greatly vary and the various factors might have great impact on their use of various mass media in receiving agricultural information. The ten selected characteristics such as age, education, farming experience, farm size, annual family income, agricultural knowledge, organizational participation, farming facilities, cosmopolitaness and innovativeness were studied.

4.1.1 Age

The age of the sample farmers ranged from 23 to 80 years with an average of 46.09 and a standard deviation of 11.86. The respondents were classified into three categories on the basis of their age. Distribution of the farmers according to their age has been shown in the Table 4.1.1.

Table 4.1.1 Distribution of the respondents according to their age

Characteristics	Possible range	Observe range	Categories	Farmers		Mean	SD
				Number	Percent		
Age (year)	Unknown	23-80	Young (upto 40)	43	43.0	46.09	11.86
			Middle (41-52)	30	30.0		
			Old above 52	27	27.0		

The data presented in Table 4.1.1 indicate that the highest proportion (43.0 percent) of the respondents were young aged compared to 30.0 percent being middle and 27.0 percent old aged. It appears that 73 percent of the farmers in the study area were either young or middle aged as compared to 27.0 percent constituting the old aged category. Young and middle aged persons are generally more receptive to new ideas and practices. In a rural setting like Bangladesh, they are usually the decision maker in farming affairs.

4.1.2 Education

Education of the respondents was measured by following the procedure as discussed earlier in chapter 3. The education score ranged from 0 to 14 with an average of 4.23 and standard deviation of 4.16. Based on their education scores, the farmers were classified into five categories as shown in Table 4.1.2.

Table 4.1.2 Distribution of the respondents according to their level of education

Characteristics	Possible range	Observed range	Categories	Farmers		Mean	SD
				Number	Percent		
Education (year of schooling)	Unknown	0-14	No education (0)	22	22.0	4.23	4.16
			Can sign only (0.5)	23	23.0		
			Primary education (1-5)	21	21.0		
			Secondary education (6-10)	28	28.0		
			Above secondary (>10)	6	6.0		

Data presented in Table 4.1.2 indicated that the highest proportion (28.0 percent) of the farmers had secondary education compared to 21.0 percent having primary education, 23.0 percent could sign only, 6.0 percent having above secondary education and 22.0 percent had no education.

4.1.3 Farming experience

The farming experience scores of the respondents ranged from 0 to 65 years with an average of 19.15 years and standard deviation of 13.61. The respondents were classified into three categories on the basis of their farming experience as shown in Table 4.1.3

Table 4.1.3 Distribution of the respondents according to their farming experience

Characteristics	Possible range	Observe range	Categories	Farmers		Mean	SD
				Number	Percent		
Farming experience (year)	Unknown	0-65	No experience (0)	2	2.0	19.15	13.61
			Low (1-12)	39	39.0		
			Medium (13-25)	33	33.0		
			High (above 25)	26	26.0		

Data are presented in Table 4.1.3 show that the highest proportion (39.0 percent) of the respondents were low experienced compared to 33.0 percent being medium experienced 26.0 percent, high experienced and only 2.0 percent were no experienced in farming activities. The farming experience is a factor which enhances demand of knowledge and improves skill on various aspects of crop production. The demand of information of the farmers motivates them to use mass media in receiving agricultural information.

4.1.4 Farm size

The farm size of the respondents ranged from 0.008 to 1.838 hectares with an average of 0.392 hectares and the standard deviation of 0.432. Based on their farm size, the farmers were classified into three categories that have been shown in Table 4.1.4.

Table 4.1.4 Distribution of the respondents according to their farm size

Characteristics	Possible range	Observe range	Categories	Farmers		Mean	SD
				Number	Percent		
Farm size (ha)	Unknown	0.008-1.838	Marginal (0.02-0.4 ha)	69	69.0	0.39	0.43
			Small (0.41-1.0 ha)	21	21.0		
			Medium (1.01-3.0 ha)	10	10.0		

Data presented in Table 4.1.4 indicated that the highest proportion (69.0 percent) of the farmers belonged to marginal farm size category compared to 21.0 percent being small and 10.0 percent medium. Farm size could play a vital role on the use of mass media.

4.1.5 Annual family income

The annual family income of the respondents ranged from 21.0 to 263.0 thousand taka with an average of 62.42 and the standard deviation of 52.93. Annual family incomes of the farmers were classified into three categories. The categories and distribution of the farmers are shown in Table 4.1.5.

Table 4.1.5 Distribution of the respondents according to their annual income

Characteristics	Possible range	Observe range	Categories	Farmers		Mean	SD
				Number	Percent		
Annual family income	Unknown	21-263	Low (upto 35)	50	50.0	62.42	52.93
			Medium (36-88)	35	35.0		
			High (above 88)	15	15.0		

Data computed in the Table 4.1.5 showed that the highest proportion (50.0 percent) of the farmers belonged to low annual family income compared to 35.0 percent medium annual family income and 15.0 percent had high annual income category.

4.1.6 Agricultural knowledge

Agricultural knowledge scores of the respondents ranged from 9 to 30 with an average of 17.49 and a standard deviation of 4.66. The respondents were classified into three categories on the basis of their agricultural knowledge scores. The categories and distribution of the farmers were shown in Table 4.1.6.

Table 4.1.6 Distribution of the respondents according to their agricultural knowledge

Characteristics	Possible range	Observe range	Categories	Farmers		Mean	SD
				Number	Percent		
Agricultural knowledge	0-40	9-30	Low (upto 15)	39	39.0	17.49	4.66
			Medium (16-19)	30	30.0		
			High (above 19)	31	31.0		

Data presented in Table 4.1.6 indicated that majority (39.0 percent) of the respondents had low agricultural knowledge, 30.0 percent of the farmers had medium agricultural knowledge and 31.0 percent had high agricultural knowledge. In general the level of agricultural knowledge of the respondents as good.

4.1.7 Organizational participation

The organizational participation scores of the respondents ranged from 0 to 63 with an average of 6.65 and a standard deviation of 8.80. Based on the organizational participation score the respondents were classified into three categories and distribution of the farmers were shown in Table 4.1.7.

Table 4.1.7 Distribution of the respondents according to their organizational participation

Characteristics	Possible range	Observe range	Categories	Farmers		Mean	SD
				Number	Percent		
Organizational participation	0-300	0-63	Low (upto 3)	37	37.0	6.65	8.80
			Medium (4-11)	50	50.0		
			High (above 11)	13	13.0		

Data presented in Table 4.1.7 indicated that half (50.0 percent) of the farmers had medium organizational participation where as 37.0 percent of the farmers had low and 13.0 percent of the respondents had high organizational participation in different organization. More participation in organizational activities could create coordinate capability and capacity to adopt improved production technology. The farmers with more organizational participation scores are expected to use more mass media in receiving agricultural information.

4.1.8 Farming facilities

The farming facilities scores of the respondents ranged from 0 to 23 with an average of 6.56 and a standard deviation of 5.13. Based on the farming facilities scores, the respondents were classified into three categories as shown in Table 4.1.8.

Table 4.1.8 Distribution of the respondents according to their farming facilities

Characteristics	Possible range	Observe range	Categories	Farmers		Mean	SD
				Number	Percent		
Farming facilities	0-42	0-23	Low (upto 3)	36	36.0	6.56	5.13
			Medium (4-9)	40	40.0		
			High (above 9)	24	24.0		

Data presented in Table 4.1.8 indicate that the highest proportion (40.0 percent) of the farmers had medium farming facilities where, 36.0 percent of the farmers had low farming facilities and 24.0 percent had high farming facilities.

4.1.9 Cosmopolitaness

The cosmopolitaness score of the respondents ranged from 0 to 18 with an average of 3.73 and the standard deviation of 3.13. Based on the cosmopolitaness score, the respondents were classified into three categories which is showing table 4.1.9.

Table 4.1.9 Distribution of the respondents according to their cosmopolitaness

Characteristics	Possible range	Observe range	Categories	Farmers		Mean	SD
				Number	Percent		
Cosmopolitaness	0-21	0-18	Low (upto 2)	46	46.0	3.73	3.13
			Medium (3-6)	37	37.0		
			High (above 6)	17	17.0		

Data presented in Table 4.1.9 indicated that the highest proportion (46.0 percent) of the farmers had low cosmopolitaness, 37.0 percent of the farmers were medium cosmopolite and 17.0 percent of the respondents had high cosmopolitaness.

4.1.10 Innovativeness

The innovativeness score of the respondents ranged from 1 to 24 against the possible range of 0-40 with an average of 7.83 and the standard deviation of 5.09. The respondents were classified into three categories on the basis of their innovativeness score. The categories and distribution of the respondents were shown in Table 4.1.10.

Table 4.1.10 Distribution of the respondents according to their innovativeness

Characteristics	Possible range	Observe range	Categories	Farmers		Mean	SD
				Number	Percent		
Innovativeness	0-40	1-24	Low (upto 10)	45	45.0	7.83	5.09
			Medium (11-20)	29	29.0		
			High (above 20)	26	26.0		

Analysis of data revealed that majority (45.0 percent) of the respondents had low innovativeness, 29.0 percent had the medium innovativeness and 26.0 percent had high innovativeness. This indicates that there was appreciable innovativeness among the farmers.

4.2 Use of Mass Media by the Farmers in Receiving Agricultural Information

The use of mass media score of the respondent ranged from 0-12 against the possible range of 0-20. The average use of mass media score was 4.25 and the standard deviation was 3.06. The use of mass media was classified into four categories. The categories and distribution of the respondents shown in Table 4.2.1.

Table 4.2.1 Distribution of the respondents according to their opinion on the use of mass media

Use of Mass Media	Possible range	Observe range	Category	Farmers		Mean	SD
				Number	Percent		
Use of Mass Media	0-20	0-12	No use (0)	4	4.0	4.25	3.06
			Low use (1-2)	32	32.0		
			Medium use (3-7)	50	50.0		
			High use (above 7)	14	14.0		

Data contained in Table 4.2.1 showed that half (50%) of the respondents had medium use of mass media, 32% had low use, 14% percent had high use and 4% had no use of mass media in receiving agricultural information.

The Mass Media Use Index (MMUI) regarding the use of mass media by the farmers in receiving agricultural information on different items shown in Table 4.2.2.

Table 4.2.2 Farmers preferences of mass media according to Mass Media Use Index (MMUI)

Sl. No.	Mass Media	MMUI	Rank order
1	Television	178	1
2	Agricultural fair	88	2
3	Newspaper	66	3
4	Radio	46	4
5	Poster	45	5

There were variations in the extent of use of different mass media. The highest score was 178 and the lowest score was 45, against the possible score 400 for each mass media. The media use score for television was the highest score (178) followed by agricultural fair (88), newspaper (66), radio (46) and poster (45). The graphical representation of Mass Media Use Index (MMUI) of different media are shown (Figure 4. 2.3)

In this study the researcher found that Television had the highest score followed by agricultural fair, newspaper, radio and poster. Most of the family of the study area has Television. But most of them have not radio and they have no opportunity to read newspaper or observe poster. Television is not only use in receiving agricultural information but also a source of entertainment rather than radio. Most of the farmers of these area are illiterate and not highly educated. Some of them can sign only. So they can not read newspaper and poster. But agricultural fair which are held each year by the

Department of Agricultural Extension of Ghatail Upazila and majority of the farmers participate in the agricultural fair. So the agricultural fair is the second position of this study.

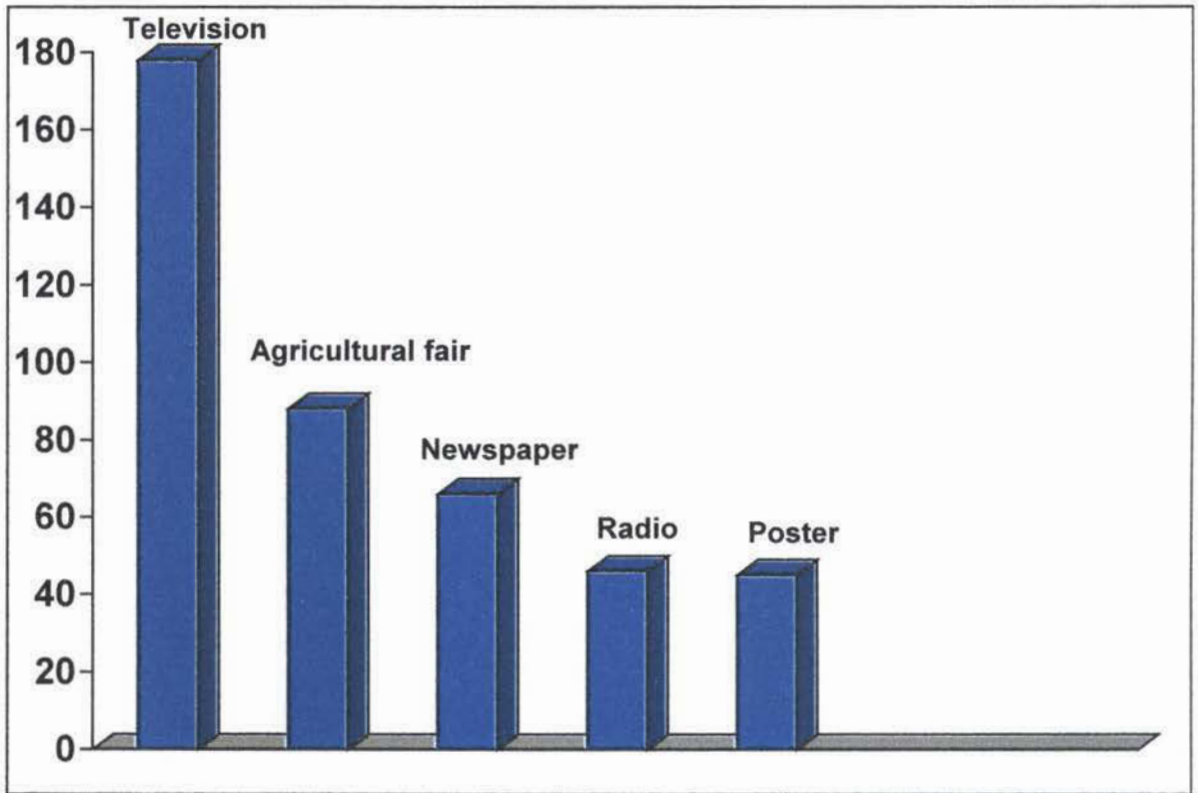


Figure 4.2.3 Graphical representation of Rank order of Mass Media Use Index (MMUI)

4.3 Relationship between Independent and Dependent Variable

As mentioned earlier, the ten selected characteristics of the farmers were the independent variables of the study. The variables were age, education, farming facilities, farm size, annual family income, agricultural knowledge, organizational participation, farming experience, cosmopolitaness and innovativeness. Each of the characteristics of the farmers constituted independent variables while use of mass media by the farmers in receiving agricultural information was the dependent variable in this study.

The purpose of the section is to examine the relationship of each of the independent variables with the dependent variables. Pearson Product Moment Co-efficient of Correlation (r) was computed to determine the relationship between any two variables concerned (Table 4.3).

Table 4.3 Computed coefficient of correlation (r) between farmers selected characteristics and their use of mass media (N= 100)

Dependent variable	Independent variables	Values of 'r' with 98 d.f	Table value of 'r'	
			0.05 level	0.01 level
Use of mass media	Age	- 0.063 ^{NS}	0.196	0.256
	Education	0.761 ^{**}		
	Farming experience	-0.212 [*]		
	Farm size	0.310 ^{**}		
	Annual family income	0.546 ^{**}		
	Agricultural knowledge	0.459 ^{**}		
	Organizational participation	0.416 ^{**}		
	Farming facilities	0.096 ^{NS}		
	Cosmopolitaness	0.658 ^{**}		
	Innovativeness	0.487 ^{**}		

* Correlation is significant at 0.05 level of probability

** Correlation is significant at 0.01 level of probability

^{NS} Not significant

4.3.1 Age and use of Mass Media

The computed value of correlation was found to be - 0.063 as shown in Table 4.3. Following observations were made regarding the relationship between these two variables under consideration:

- a) The relation showed a negative trend.
- b) The computed value of r (- 0.063) was found to be smaller than tabulated value ($r = 0.196$) with 98 degrees of freedom at 0.05 level of probability.

Based on the above findings, the null hypothesis could not be rejected and hence, the researcher concluded that the age of the respondents had no significant relationship with their use of mass media.

Similar findings were revealed by Chakraborty (1992), Sarker (1995), and Khan (1996). This all of the studies bear a consistency in the findings with that of present one.

4.3.2 Education and use of Mass Media

The computed value of correlation was found to be 0.761 as shown in Table 4.3. Following observations were made regarding the relationship between these two variables under consideration:

- a) The relationship showed a positive trend.
- b) The computed value of r (0.761) was found to be greater than tabulated value ($r = 0.256$) with 98 degrees of freedom at 0.01 level of probability.

Based on the above findings, the null hypothesis was rejected and hence, it is concluded that the education of the respondents had significant positive relationship with their use of mass media. This indicates that the higher is the level of the education of a person the more would be the extent of use of mass media. Education enables individuals to gain knowledge and thus increase their power of understanding, consequently their outlook is broadened and horizon of knowledge is expanded. The educated person used to have frequent contact with mass media which increase their power of understanding compared to the individuals with less educational background. Similar findings were also found by Bhuiyan (1988), Kashem and Jones (1988), Islam (1995), Sarker (1995), Nahar (1996) and Hossain (1996), Nuruzzaman (2003), and Islam (2005) in their studies. This all of the studies bear a consistency in the findings with that of present one.

4.3.3 Farming experience and use of mass media

The computed value of correlation was found to be - 0.212 as shown in Table 4.3. Following observations were made regarding the relationship between these two variables under consideration:

- a) The relationship showed a negative trend.
- b) The computed value of r (- 0.212) was found to be greater than the tabulated value ($r= 0.196$) with 98 degrees of freedom at 0.05 level of probability.

Based on the above findings, the null hypothesis was rejected and hence, the researcher concluded that the farming experience of the respondents had significant negative relationship with their use of mass media.

Similar findings were also found by Mollah (2006) in his study. This study bears a consistency in the findings with that of present one.

4.3.4 Farm size and use of mass media

The computed value of correlation was found to be 0.310 as shown in Table 4.3. Following observations were made regarding the relationship between these two variables under consideration:

- a) The relationship showed a positive trend.
- b) The computed value of r (0.310) was found to be greater than the tabulated value ($r= 0.256$) with 98 degrees of freedom at 0.01 level of probability.

Based on the above findings, the null hypothesis was rejected and hence, it is concluded that the farm size of the respondents had significant positive relationship with their use of mass media. This indicates that farm size of the farmers and their use of mass media in receiving agricultural information are dependent to each other.

Similar findings were also found by Bhuiyan (1998), Islam (2003) and in their studies. This all of the studies bear a consistency in the findings with that of present one.

4.3.5 Annual family income and use of mass media

The computed value of correlation was found to be 0.546 as shown in Table 4.3. Following observations were made regarding the relationship between these two variables under consideration:

- a) The relationship showed a positive trend.
- b) The computed value of r (0.546) was found to be greater than the tabulated value ($r= 0.256$) with 98 degrees of freedom at 0.01 level of probability.

Based on the above findings, the null hypothesis was rejected and hence, it is concluded that the annual income of the respondents had significant positive relationship with their use of mass media. This indicates that annual income of the farmers and their use of mass media in receiving agricultural information are dependent to each other.

Similar findings were also found by Uddin (1993), Rahman (2003) and in their studies. This all of the studies bear a consistency in the findings with that of present one.

4.3.6 Agricultural knowledge and use of mass media

The computed value of correlation was found to be 0.459 as shown in Table 4.3. Following observations were made regarding the relationship between these two variables under consideration:

- a) The relationship showed a positive trend.
- b) The computed value of r (0.459) was found to be greater than the tabulated value ($r= 0.256$) with 98 degrees of freedom at 0.01 level of probability.

Based on the above findings, the null hypothesis was rejected and hence, it is concluded that the agricultural knowledge of the respondents had significant positive relationship with their use of mass media. This indicates that the increase of the level of agricultural knowledge of the farmers and their use of mass media in receiving agricultural information is also increased.

Similar findings were also found by Kashem and Halim (1991), Parveen (1995), Islam (1995), Sarker (1995), Anisuzzaman (2003) in their studies. This all of the studies bear a consistency in the findings with that of present one.

4.3.7 Organizational participation and use of mass media

The computed value of correlation was found to be 0.416 as shown in Table 4.3. Following observations were made regarding the relationship between these two variables under consideration:

- a) The relationship showed a positive trend.
- b) The computed value of r (0.416) was found to be greater than the tabulated value ($r= 0.256$) with 98 degrees of freedom at 0.01 level of probability.

Based on the above findings, the null hypothesis was rejected and hence, it is concluded that the organizational participation of the respondents had significant positive relationship with their use of mass media. This indicates that with the increase of organizational participation, there was a corresponding increase in the use of mass media in receiving agricultural information.

Similar findings were also found by Islam (1995) and Nuruzzaman (2003) in their studies. This all of the studies bear a consistency in the findings with that of present one.

4.3.8 Farming facilities and use of mass media

The computed value of correlation was found to be .096 as shown in Table 4.3. Following observations were made regarding the relationship between these two variables under consideration:

- a) The relationship showed a positive trend.
- b) The computed value of r (0.096) was found to be smaller than the tabulated value ($r= 0.196$) with 98 degrees of freedom at 0.05 level of probability.

Based on the above findings, the null hypothesis could not be rejected and hence, the researcher concluded that the farming facilities of the respondents had no significant relationship with their use of mass media.

Similar findings were also found by Islam (1998) in his study.

4.3.9 Cosmopolitanism and use of mass media.

The computed value of correlation was found to be 0.658 as shown in Table 4.3. Following observations were made regarding the relationship between these two variables under consideration:

- a) The relationship showed a positive trend.
- b) The computed value of r (0.658) was found to be greater than the tabulated value ($r = 0.256$) with 98 degrees of freedom at 0.01 level of probability.

Based on the above findings, the null hypothesis was rejected and hence, the researcher concluded that the cosmopolitanism of the respondents had significant positive relationship with their use of mass media. A cosmopolite person communicates with different external sources. He/She used to visit his/her own union, own upazila, other upzaila and important place. This helps to be exposed to different media. In fact, use of mass media, organizational participation and cosmopolitanism are closely related with one another. In other words a farmer who has more organizational participation, likely to be more cosmopolite.

Similar findings were found by Latif (1974), and Islam (2005) in their studies. This all of the studies bear a consistency in the findings with that of present one.

4.3.10 Innovativeness and use of mass media

The computed value of correlation was found to be 0.487 as shown in Table 4.3. Following observations were made regarding the relationship between these two variables under consideration:

- a) The relationship showed a positive trend.
- b) The computed value of r (0.487) was found to be greater than the tabulated value ($r= 0.256$) with 98 degrees of freedom at 0.01 level of probability.

Based on the above findings, the null hypothesis was rejected and hence, the researcher concluded that the innovativeness of the respondents had significant positive relationship with their use of mass media. This indicated that with the increase of innovativeness, there was an increase in the use of mass media.

Similar results were found by Hossain (1996), Islam (1993) and uddin (1993).

CHAPTER 5

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

5.1 Summary of the findings

Data were collected from 100 randomly selected respondents of three villages of Ghatail union under Ghatail sadar upazila under Tangail district. Data were collected by using interview schedule from the farmers during 1 June to 30 July, 2007. Co-efficient of correlation test was used to explore relationship between the concerned variables. The major findings of the study are summarized below.

5.1.1 Selected characteristics of the farmers

Age

Age of the farmers ranged from 23-80 years, with an average of 46.09. Among 100 respondents 43% were young aged, 30% were middle aged and 27% were old aged.

Education

Education scores of the farmers ranged from 0-14 with an average of 4.23. The highest proportion had secondary is 28.0% and primary had 21.0% while 23.0% had can sign only, 22.0% had no education and 6.0% had above secondary education.

Farming experience

Farming experience score of the farmers ranged from 0-65, with an average 19.15. The highest proportion had Low farming experience is 39.0%, while 33.0% had medium farming experience, 26% had high farming experience and 2% had no farming experience.

Farm size

The farm size score of the respondents ranged from 0.008-1.83 hectares with an average of 0.392 hectares. Among the respondents 69% had marginal farm size, 21% had small farm size, 10% had medium farm size and 0% had large farm size.

Annual family income

The annual income of the farmers ranged from 21-263 thousand taka, the average being 62.42 thousand taka. Among the farmers 50% had low, 35% had medium and 15% had high annual income.

Agricultural knowledge

The agricultural knowledge of the farmers ranged from 9-30, the average being 17.49. Among the farmers the highest proportion of 39% had low, 30% had medium and 31% had high agricultural knowledge.

Organizational participation

Organizational participation scores of the respondents ranged from 0-63, the average being 6.65. Among the farmers the highest proportion of 50% had medium, 37% had low, and 13% had high Organizational participation.

Farming facilities

Farming facilities scores of the respondents ranged from 0-23, the average being 6.56. Among the farmers the highest proportion of 40% had medium, 36% had low, and 24% had high farming facilities.

Cosmopolitanness

The cosmopolitanness scores of the respondents ranged from 0-18, the average being 3.73. Among the farmers the highest proportion of 46% had low, 37% had medium, and 17% had high cosmopolitanness.

Innovativeness

Innovativeness scores of the respondents ranged from 1-24 against the possible ranged of 0-40 with an average of 7.83. Among the farmers the highest proportion of 45% had low, 29% had medium and 26% had high Innovativeness.

5.1.2 Relationship between the selected characteristics and use of mass media by the farmers in receiving agricultural information.

The use of mass media of the farmers had significant positive relationship with each of their education, farm size, annual family income, agricultural knowledge, organizational participation, cosmopolitanness and innovativeness.

The farming experience of the farmers was negatively correlated with their use of mass media.

There was no relationship between each of age and farming facilities of the farmers and their use of mass media.

5.2 Conclusion

“A conclusion present the statements based on major findings of the study and these statements mostly confirm to the objectives of the research in the shortest form. It presents the direct answers of the research objectives, or it relates to the hypothesis” (Labon and Schefter, 1990)

Considering the objectives of the study and the above guidelines for writing a conclusion of a research report, the specific conclusion of the present study may be drawn as follows:

1. The study indicates that age of the majority mass media user farmers were young aged and its relationship was non significant. It may therefore, be concluded that proper emphasis should be given on the mass media user farmers of all categories by the extension workers in order to encourage receiving agricultural information.
2. Education is a desirable quality to acquire knowledge and skills of a person which in turn contributes to change individual behavior, attitude and practices in a desirable way. The statistical analysis showed a significant positive relationship of education of the farmers with their use of mass media. Therefore, it may be concluded that education plays an important role for using of mass media in receiving agricultural information.
3. The farmers having more agricultural knowledge received more agricultural information. Knowledge is power. It helps an individual to his understanding and awareness on different aspects of agricultural information. A positive relationship between agricultural knowledge of

the farmers and their use of mass media leads to the conclusion that increasing agricultural knowledge and vice-versa.

4. Organizational participation of the farmers had a positive and significant relationship with their use of mass media in receiving agricultural information. This indicates that with the increase of organizational participation of the farmers the use of mass media is also increased.
5. There was a non significant relationship between farming facilities and the farmer's use of mass media. It leads to conclusion that the concerned variables are not dependent to each other.
6. Cosmopolite people come in contact with new people and new ideas through traveling outside their own social system. Cosmopolitaness, therefore, helps an individual to collect new ideas and information. In this study cosmopolitaness of the farmers had a positive significant relationship with their use of mass media. This implies that with the increase of cosmopolitaness, their use of mass media is also increase.
7. Innovativeness of the farmers is of course a desirable quality. An innovative farmer is also progressive in mind and can take risk in adopting an innovation. The innovativeness of the farmers was found to correlate with the use of mass media. This means that more the use of mass media by the farmers the more is their innovativeness. Therefore, it may be concluded that the use of mass media is a vital factor in increasing the innovativeness of the farmers.

8. Use of mass media is very important in receiving agricultural information. About one-third (32 percent) of the respondents had low use of mass media (radio, television, newspaper, poster and agricultural fair) due to unavailability of mass media and their illiteracy. The farmers most of time watches television. But most of them did not enjoyed agricultural programme on TV like; Mato-o-Manus, Shamol Bangla etc. Majority of them (66%) participated in the agricultural fair every year. Literate farmers read newspaper and receive agricultural information from radio and poster.

5.1 Recommendation

Recommendations have been divided into two sub sections, viz. recommendation for policy implication and recommendation for the further study.

Based on the findings and conclusion of the study the following recommendation for policy implications are presented below:

5.3.1 Recommendations for policy implication

1. For encouraging adoption of improved farm practices by the farmers in receiving agricultural information there is an urgent need for a sound system of mass media such as television, agricultural fair, newspaper, radio, and poster for providing adequate innovative information to the farmers
2. The Department of Agricultural Extension (DAE) need to pay more attention to ensure the use of mass media by the farmers. For some mass media especially radio, television and agricultural fair seemed to have great impact in the diffusion of agricultural innovation.

3. While taking programmes, television viewer's age should be taken into consideration. Comparatively young and middle aged farmers would be given more consideration while selecting programmes for agricultural information.
4. As a large number of farmers are illiterate, arrangement should be made to provide non formal education to the farmers. This will help to change attitude, behaviour and outlook of the future farmers.

5.3.2 Recommendation for future study

A small piece of study as has been conducted cannot provide all information for the proper understanding of the use of mass media in receiving agricultural information by the farmers. Therefore, the following recommendations are presented below for future study.

1. Research was limited in only three villages of Ghatail upazila under Tangail district in Bangladesh. So similar research may be conducted in other places considering socio-cultural aspects, geographical and agro-ecological variables etc. to get representative picture of the country.
2. Research was limited with ten characteristics of the farmers, but there are so many characteristics which can influence the use of mass media in receiving agricultural information by the farmers. So considering other characteristics, similar research may be conducted.
3. Research was limited on only five (5) mass media, but mass media are more and varied which can influence the use of mass media by the farmers in receiving agricultural information. So considering other characteristics similar research may be conducted.

REFERENCES

- Adikarya, R. 1994. *Strategic Extension Campaign: A Case Study of FAO's Experience*. FAO, Rome, Italy.
- Ahmed, M. B. A. Ahmed and M. A. M. Miah. 1994. Effectiveness of Radio and TV in Disseminating Agricultural Information Among Farmers. *Bangladesh Journal of Training and Development*, 7:33-40.
- Amur, C. 1994. *Agricultural Extension: A step beyond the next step*. World Bank technical paper number 247. The World Bank, Washington, D.C.
- Anisuzzaman, A. S. M. 1995. Usefulness of Group Approach in Disseminating Farm Information to the Farmer. *M.S. (Ag. Ex. Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Bashar, M. K. 1993. Adoption of Intercropping in Sugarcane Cultivation. *M.Sc. (Ag. Ex. Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- BBS, 2005. *Statistical Year Book of Bangladesh*. Bangladesh Bureau of Statistics. Ministry of Planning, Government of the People's Republic of Bangladesh.
- Bhuiyan, M. S. I. 1988. Use of Communication Media by the farmers in the adoption of Selected Improved Farm Practices in Rice Cultivation. *M.Sc. (Ag.Ex.Ed) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Chakraborty, D. 1992. A study on the Importance of Radio as an Extension Medium among the Farmers. *M Sc. (Ag.Ext.Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Chidanandappa, G. And V. Veerabhadraiah. 1988. Mass Media utilization by Extension Personnel. Department of Agricultural Extension, University of Agricultural Science, Bangalore, Karantaka, India.

- DAE. 1995. Agricultural Extension Manual. (June, 1995 revision), Department of Agricultural Extension, Ministry of Agricultural, Government of the People's Republic of Bangladesh.
- De-La-Vega, M. B. 1990. Communication Profile and A Prototype Communication Strategy to Promote Cooperatives among Comprehensive Agrarian Reform Programme (CARP) Beneficiaries. College, Laguna, Philippines.
- Dinampo, E. C. 1989. Communication Study of Corn Farmers in Bukidon Philippines. Central Mindanao University, Musuam, Bukinon, Department of Development Communication CMU. *Journal of Science*, 2(1): 27-62.
- Egbule, P. E. and E. M. C. Njoku. 2001. Mass Media Support for Adult Education in Agricultural in Southern Nigera. *Adult Education and Development*, 56 :179-186.
- Galindo, G. 1994. Communication Media used by Farmers in the Central Region of Zacateca. Mexico Turriable, 44 : 3.
- Goode, C. V. 1945. *Dictionary of Education*. New York: Mc Graw Hill Book Company, Inc.
- Gunzales, C. S. 1993. Interpersonal Communication Patterns and Knowledge Levels of Upland Farmers in Pakil and Cavinti, Laguna, Philippines, College, Laguna, Philippines.
- Halim, A and M. A. M. Miah, 1996. Appropriate Information Media for Communicating to Rural Farm Women. Proceeding of Workshop, Achievements of the Gender Research and Training Project. BARC. Farmgate, Dhaka, Bangladesh.
- Hossain, M. M. 1993. Usefulness of Television as Agricultural Information Medium among the Farmers. *M.Sc. (Ag.Ext.Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Huque, M. M. 1990. The Role of Development Communication in Agriculture: Status and Trends with Special Reference to Language. An Article, Presented in Development Communication for Agriculture. B.R. Publishing Crop. New Delhi.

- Islam, M. A. 1998. Farmers Use of Communication Media in the Adoption Stages of Binasail and their Perception of its Characteristics. *M.S. (Ag.Ext.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Islam, M. M. 1999. Farmers Use of Indigenous Technical Knowledge (ITK) in the Content of Sustainable Agricultural Development. *M.Sc. (Ag.Ext.Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Islam, M. R. 1999. Use of Communication Media by the farmers in Receiving Information of Wheat Technologies. *M.Sc. (Ag.Ext.Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Islam, M. A. 2005. Use of Printed Materials by the Farmers in Receiving Agricultural Information. *M.Sc. (Ag.Ext.Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Kabir, M. K. and M. K. Bhattachargee. 1994. Impact of Radio and Television on Rural People. Bangladesh Academy for Rural Development (BARD), Comilla.
- Kadem, R. K. and V. B. Sabale. 1983. Communication Media Utilization by Sugarcane Growers. *Journal of Maharashtra Agricultural University*, **10** (3) : 331-333.
- Kashem, M. A. and Halim. 1999. Use of Communication Media in the Transfer of Technologies to Farmers: A Farm Level Study. Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh and Bangladesh Agricultural Research Council, Dhaka.
- Khan, M. A. and S. A. Paracha. 1994. Interpersonal Communication Network in Diffusion of Innovations at Innovative and Non innovative Villages. *Journal of Rural Development and Administration, Pakistan*. **26** (2): 79-88.

- Khan, M. M. R. 1996. Use of Information Sources by the Resource poor Farmers in Receiving Information Related to Cultivated Winter Vegetables. *M.Sc. (Ag.Ext.Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Kothari, C. R. 1994. *Research Methodology: Methods and Techniques*, 2nd New Delhi: Wishwa Prakashan.
- Labon, C. S. and Schefter, M. 1990. *Successful Lab Reports: A Manual for Science Students*. Cambridge University Press. P.23
- Latif, M. A. 1974. How Farmers Receive Agricultural Information. *M.Sc. (Ag.Ext.Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Malik, W. K. 1999. The Role of Mass Media in diffusion of Agricultural Technology in Pakistan. *Journal of Rural Development and Administration*. **23** (3): 62-69.
- Mekabutra, P. 1985. Farmers' Opinion Towards Receiving Knowledge in Agriculture from Mass Media in Chiyo Distict. Anghong Province, Bangkok, Tahiland.
- Molinar, H.; T. Marjoram and T.Marjoram. 1994. Communication Technology: in whose Interests? *Island-technology: Technology for Development in the south pacific*.pp.104-117.
- Nataraju, M. S. and N. B. Channegowda. 1985. Source of Information Utilization for Adoption of Improved Dairy Management Practices by Small, Marginal Farmers and Agricultural Labourers, *India Journal of Extension*, xxxi, **(3&4)** : 99-100.
- Nuruzzaman, M. 2003. Use and preference of Mass Media in Receiving Agricultural Information by the farmers. . *M.Sc. (Ag.Ext.Ed.)Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Parveen, S. 1995. Awareness of Farm Women on Environmental Degradation due to use of some Selected Modern Technologies. *M.Sc. (Ag.Ext.Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.

- Perianayagam, A. and P. Arokiasamy. 2002. Gender Preference contraceptive use and fertility in India: regional and development influences. *International Journal of Population Geography*, 8(1) : 49-67.
- Rahman M. M. 2003. Use of Television by the farmers in Adopting Selected Technologies. *M.Sc. (Ag.Ext.Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Rahman, G. M. 1995. Agricultural Information in Bangladesh: Half-way between the Media and Mass. *Journal of Development Communication*, 6 (2) : 25-33.
- Resiner, A. E. and R. G. Hays. 1989. Media Ethics and Agriculture: Advertiser Demands Challenge Farm Press's Ethical Practices. *Agriculture and Human Values*, 6 (4): 40-46.
- Sarker, S, 1995. Communication Media Used by the Small Farmers in Receiving Agricultural Information. *M.Sc.(Ag.Ext.Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Sauquet, M. 1990. New Tools for Participatory Communication in Agricultural Extension: Example from Brazil. Training for Agricultural and Rural Development. FAO Economic and Social Development Series, No. 48.
- Sianturi, M. 1992. Communication Support, Resources of Structures of Small Holders Rubber Development Project and Adoption of Rubber Technology in Taluk Kuantan Unit Riaw Proviencie. Indonesia, College, Laguna, Philippines.
- Singh, R. 1990. To study the communication Behavior of Contact Farmers under T and V System in Dryland, Hayana, M.Sc. (Ag.Ext.Ed.) Thesis, Haryana Agricultural University, Hisar, Thesis Abstracts Vol. (xviii), No. 2. June 1992. Directorate of publications, Haryana Agricultural University, India.
- Sinha, A. K. 1995. Mass Media and Rural Development: A study of village Communication in Bihar. Concept Publishing Company, New Delhi, India.

- Tabbada, D. Q. 1988. Use of Radio vision in Farm Forums. College, Laguna, Philippones.
- Townseed, J. C. 1953. Intoduction of Experiment Methods. International Student Edition. New York: Mc Graw Hill Book Company, Inc.
- Uddin, M. A. 1993. Information Received by the Sugarcane Growers in Kotchandpur Thana. M.S. (*Ag.Ext.Ed.*) *Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Van den Ban, A. W. and H.S. Hawins. 1988. Agricultural Extension. 2nd ed. New York: Longman Scientific and Technical.
- Westoff, C. F. and G. Rodriguer. 1995. The Mass Media and Family Planning in Kenia International Family Planning Perspectives.

APPENDIX-A

ENGLISH VERSION OF THE INTERVIEW SCHEDULE
DEPARTMENT OF
AGRICULTURAL EXTENSION & INFORMATION SYSTEM
SHER-E-BANGLA AGRICULTURAL UNIVERSITY
DHAKA- 1207

USE OF MASS MEDIA BY THE FARMERS IN RECEIVING
AGRICULTURAL INFORMATION

Name of the respondent : Serial No

Fathers Name : Date

Village :

Union :

Upazila :

District :

(Please answer the following question)

1. Age

What is your present age? years

2. Education

Please mention your educational status

a) Can't read and write:

b) Can sign only :

c) Have passed class :

3. Farming experience

How long are you engaged in agricultural farming?

..... Years

4. Farm size

Please mention your farm size according to use

Sl. No.	Types of land	Area	
		Local unit	Hectare
1	Homestead area with pond, garden etc		
2	Own land under own cultivation		
3	Land taken from others on lease		
4	Own land given to others on barga		
5	Land taken from others on barga		
Total			

5. Annual income

Plaeese mention your annual income from the following different sources (last year)

A. Agriculture

Sl. No.	Sources of income	Amount (Tk)
1	Crops	
	a) Rice	
	b) Mustard	
	c) Jute	
	d) Wheat	
2	Vegetables	
	a) Okra	
	b) Bringal	
	c) Potato	
	d) Tomato	
	e) Lalshak/ Spinach	
	f) Cucurbits	
	g) Amaranth	
3	Fruits	
	a) Banana	
	b) Mango	
	c) Jackfruit	
	d) Papaya	
4	Livestock	
5	Fishes	
6	Poultry	
7	Others	
Total		

(B) Non agriculture

Sl. No.	Sources of income	Amount (Tk)
1	Service	
	a) Own	
	b) Other members	
2	Business	
3	Day labour	
4	Others	
Total		

Grand Total = A+B = Tk

6. Agricultural Knowledge

Sl. No.	Questions	Total Marks	Marks Obtained
1	Mention two high yielding varieties of rice	2	
2	Mention two harmful insects of rice	2	
3	Mention two harmful weeds in rice field	2	
4	Mention two stored grain pests	2	
5	Name two modern varieties of wheat	2	
6	Name two modern varieties of potato	2	
7	Name two improved varieties of tomato	2	
8	Name two winter vegetables	2	
9	Name two summer vegetables	2	
10	Name two vegetables which can grow round the year	2	
11	Mention two major problems for vegetables cultivation	2	
12	What are the qualities of good seeds	2	
13	Name two fruits of vit- C	2	
14	Name two medicinal plants	2	
15	Name two timber trees	2	
16	Mention the names of two fertilizers in your local bazar	2	
17	Mention the names of two insecticides in your local bazar	2	
18	Mention two agricultural TV programmes with channel	2	
19	Mention two agricultural radio programmes with channel	2	
20	Name two agricultural magazines	2	

7. Organizational participation

Please indicate the nature of your participation in the following organizations

Sl. No.	Name of the organization	No participation	Nature and duration of the participation (Year)		
			General member	Executive member	President/ Secretary
1	Farmers co operation samity				
2	Union parisad				
3	Youth club				
4	School committee				
5	Madrasa committee				
6	Mosque committee				
7	Bazar committee				
8	Seed fertilizers pesticides dealers association				
9	NGO organization committee				
10	Others				

8. Farming facilities

Please mention the farming facilities (input and implements) you have been used in your field according to the table

Input	Abundant	Adequate	Somewhat	Not at all
a) Seed				
b) Plough				
c) Yuke				
d) Ladder				
e) Bullock				
f) Scythe				
g) Spade				
h) Cowdung				
i) Compost				
j) Chemical fertilizers				
k) Insecticide sprayer				
l) Power tiller				
m) Shallow/ deep tube well				
n) Others				

9. Cosmopolitaness

Please mention your frequency of visit of the following places

Sl. No.	Place of visit	Not at all	Frequency of visit			
			Times/ 1 month	Times/ 3 months	Times/ 6 months	Times/ 1 year
1	Own union					
2	Others union					
3	Own upazila					
4	Others upazila					
5	Own district					
6	Others district					
7	Capital city					

10. Innovativeness

If you use the following technologies, please indicate duration after hearing of its use

SI No	Name of the technology	Never used	Nature of the innovativeness			
			Within 1 Year after hearing	Within 2 Years after hearing	Within 3 Years after hearing	Within 4 Years after hearing
1	BRRRI dhan 29					
2	Use of green manure crops					
3	Tree plantation in recommendation way					
4	Use of granule urea					
5	Use of power tiller					
6	Use of weedicide					
7	Use of insecticide					
8	Use of compost					
9	Artificial breeding of cattle					
10	Poultry vaccination					

11. Use of mass media

Please mention the use of mass media in receiving agricultural information

Sl. No.	Mass media	Extent of use				
		Regularly	Often	Moderately	Rarely	Never
1	Radio					
2	Television					
3	Newspaper					
4	Poster					
5	Agricultural fair					

Thank you for your cooperation

Signature of the interviewer with date

APPENDIX-B

Correlation Matrix of the Independent and Dependent Variables (N=100)

Variables	X ₁	X ₂	X ₃	X ₄	X ₅	X ₆	X ₇	X ₈	X ₉	X ₁₀	X ₁₁
X ₁	1										
X ₂	0.093	1									
X ₃	0.820**	-0.090	1								
X ₄	0.505**	0.320**	0.371**	1							
X ₅	0.352**	0.543**	0.182	0.770**	1						
X ₆	0.210*	0.581**	0.104	0.503**	0.481**	1					
X ₇	0.065	0.335**	0.147	0.267**	0.369**	0.225*	1				
X ₈	0.396**	0.150	0.419**	0.623**	0.487**	0.304**	0.330**	1			
X ₉	-0.092	0.532**	-0.215*	0.217*	0.555**	0.309**	0.432**	0.138	1		
X ₁₀	0.403**	0.418**	0.331**	0.718**	0.657**	0.565**	0.428**	0.605**	0.365**	1	
X ₁₁	-0.063	0.761**	-0.212*	0.310**	0.546**	0.459**	0.416**	0.096	0.658**	0.487**	1

Note: * Correlation is significant at the 0.05 level of probability
 ** Correlation is significant at the 0.01 level of probability
 NS= Non significant

Legend

- X₁ = Age
- X₂ = Education
- X₃ = Farming experience
- X₄ = Farm size
- X₅ = Annual income
- X₆ = Agricultural knowledge
- X₇ = Organizational participation
- X₈ = Farming facilities
- X₉ = Cosmopolitaness
- X₁₀ = Innovativeness
- X₁₁ = Use of mass media