

Farmers' Use of Communication Media in Receiving Agricultural Information

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Farmers' Use of Communication Media in Receiving Agricultural Information

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CERTIFICATE

This is to certify that the thesis entitled, **FARMERS' USE OF COMMUNICATION MEDIA 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 AND INFORMATION SYSTEM**, embodies the result of a piece of bona fide research work carried out **by Md. Muztahidul Mannan, Registration No. 13-5800** under my supervision and guidance. No part of this thesis has been submitted for any other degree or diploma.

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

Dated:

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Dedicated to
My
Beloved Parents and Son

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FARMERS' USE OF COMMUNICATION MEDIA IN RECEIVING AGRICULTURAL INFORMATION

Md. Muztahidul Mannan

ABSTRACT

The principle motivation behind the study was to determine the extent of use of various communication media by the farmers in receiving agricultural information and their effectiveness and to investigate the relationship between each of the selected characteristics of the farmers and their use of communication media in receiving agricultural information. The study was conducted in two villages of Tekani Chukainagar and Madhupur union in particular Tekani Munshu Bari and Chaknandan of Sonatola Upazila under Bogra district. Information was gathered from randomly selected 100 farmers by utilizing a pre-tested interview schedule during the period from September 10 to October 10, 2015. Fitted scales were developed to measure the variables of the study. Correlation(s) test was applied to discover the relationship between each of the selected characteristics of the farmers with their use of communication media in receiving agricultural information. The study revealed that highest proportion (63 percent) of the farmers had medium use of communication media in receiving agricultural information contrasted with 23 and 14 percent having low use and high use of communication media. Highest proportion (71 percent) of the farmers perceived moderate effectiveness of use of communication media in receiving agricultural information contrasted with 13 and 16 percent having less effectiveness and high effectiveness of communication media respectively. Findings of the study revealed that age, education, annual income, organizational participation, and knowledge on agriculture of the farmers had significant positive relationship with their use of communication media in receiving agricultural information.

CHAPTER 1
INTRODUCTION

CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Bangladesh is one of the biggest deltas of the world and prevalently an agricultural country situated in southern Asia, in the northeast of the Indian subcontinent, and spreads an total region of 1,47,570 square kilometer. The improvement of Agriculture is for the most part reliant on the use of modern innovations and technologies by the farmers. Its economy is likewise in view of agricultural practices. Agricultural economy contributes straightforwardly about 20.24 percent of the nation's Gross Domestic Product (GDP) and accommodates 47.51 percent of the labor force (BBS, 2012). The total population of the nation is 142.3 million with the yearly growth rate of 1.3 and 66.5 percent of the population live in rural areas. Population density is 964 persons for every square kilometer (BBS, 2012). It is world's seventh most crowded nation. The per capita income is about 2553 Taka per month and its people have life expectancy of 69 years (BBS, 2012). The country is supplying to meet the essential need of her population from its net cultivable land which is evaluated around 7.19 million hectares yet at the same time maybe agricultural profitability of Bangladesh is one of the most minimal on the planet. Agricultural production can be expanded if appropriate technologies are used by the farmers. Dissemination of appropriate learning on modern agriculture among the farmers requests successful communication framework which is to a great extent guaranteed by the extension agents of DAE. Furthermore, quickness and adequacy is additionally significant dimension for communication of technical information dissemination. This recommends the stream of information ought to be as quick as could reasonably be expected furthermore ought to be acceptable, all around deciphered, acknowledged and connected by the farming society.

The Department of Agricultural Extension (DAE) is the biggest extension organization in Bangladesh which is straightforwardly required in spurring farmers for using modern agricultural technologies as a part of request to enhance efficiency and to increase productivity.

Sub Assistant Agriculture Officers (SAAOs) are the field level extension agent of DAE and assume an essential part in dispersing diverse development or practices among the farmers. As SAAOs are attempting to realize change in conduct of farmers through inspiration and communication, their own particular state of mind towards a practice is an indispensable

determinant for its diffusion. As various media are not yet prevalent among the farmers as a method for getting agricultural information, it is of verging on imperative to examine the issues in regards to their state of mind towards giving agricultural information to the farmers by using distinctive media. Diverse media including individual contact, group contact and mass contact and so forth have a crucial part to convey the back rub of enhanced agricultural practices from sources to the farmers. For dispersing agricultural learning to countless immediately printed materials additionally give precise, motivating, trustworthy and bending free information.

Considering the above actualities the researcher felt a push to lead a study with a wish to quantify the Farmers' Use of Communication Media in Receiving Agricultural Information.

1.2 Statement of the Problem

Diverse media are the vital wellsprings of extension education and communication. They contribute essential parts in introducing technical ideas, thoughts and information to the farmers. In perspective of the former talk, the researcher attempted this issue entitled "Farmers' Use of Communication Media in Receiving Agricultural Information".

The agricultural technology in national development generally relies on upon the nature and extent of use of communication media of individuals for their improvement. The experts from various levels of third world countries identified that the agricultural development could be rushed with the viable use of communication media. Farmers ordinarily use different communication media for acquiring agricultural information. Different examinations and researches reported that the utilization of communication media is varied on the context of social, financial and psychological situation of the farmers.

In this research study some critical things of individual contact, group contact and mass contact were considered as various communication media. This study likewise attempted to investigate the relationship between some selected characteristics of the farmers, for example, age, education, farming experience, farm size, annual income, organizational participation, farming facility, knowledge on agriculture and use of communication media by the farmers in receiving agricultural information and effectiveness of different communication media in receiving agricultural information. The motivation behind the study was to answer the accompanying research questions:

1. At what extent the farmers use communication media in receiving agricultural information?
2. Which of the communication media are effective for receiving agricultural information by the farmers?

The different qualities and situational elements of the farmers may have some sort of associations with the use of communication media which were likewise considered during the study. On the concentration of the above description, the researcher embraced a bit of study, entitled “Farmers’ Use of Communication Media in Receiving Agricultural Information”.

1.3 Specific Objective

Climate, atmosphere and soil of Bangladesh are extremely reasonable for agricultural development however because of absence of use of suitable practices; farmers are not able to increase their highly productive farming capacity. Quick population development took after by shrinkage of cultivable area requires high yield of crops to keep pace with ever increasing demands. Keeping in mind the end goal to diffuse suitable communication behavior among the farmers, it is inescapable to know the communication practices of the farmers in a farming community.

The present study was undertaken with the following objectives:

1. To determine and describe following selected characteristics of the farmers:
 - a. Age
 - b. Education
 - c. Farming experience
 - d. Farm size
 - e. Annual income
 - f. Organizational participation
 - g. Farming facilities
 - h. Knowledge on agriculture
2. To determine and describe the extent of use of communication media by the farmers in receiving agricultural information
3. To determine and describe the extent of effectiveness of communication media in receiving

agricultural information as perceived by the farmers

4. To explore the relationship between each of the selected characteristics of the farmers and their use of communication media in receiving agricultural information

1.4 Scopes and Limitations of the Study

The identification of the study will be appropriate to Sonatola upazila of Bogra district specifically. Nonetheless, the findings may likewise be appropriate to different regions of Bangladesh where the physical, financial and social conditions don't vary much with those of the study area. The motivation behind the study was to have a comprehension about the Farmers' Use of Communication Media in Receiving Agricultural Information. Considering the time and financial constraints the study was conducted with the listed limitations:

1. The study was limited to Tekani Chukainagar and Modhupur union of Sonatola upazila of Bogra district.
2. The farmers had various characteristics but varied at a great extent. Among those only 8 (eight) characteristics were chosen for this research study.
3. Population of the study was limited. Stand out hundred farmers were selected randomly as a research sample of the study.
4. The researcher relied on upon the information outfitted by the selected farmers during their interview.
5. Different communication media used by the farmers had different purposes, for example, cultivating, business, legislative issues, religion and so forth. This study examined the use of various media by the farmers in receiving agricultural information.
6. The statistical data gathered by the researcher connected to the circumstance prevailing during September to October, 2015.

1.5 Assumptions

An assumption is the supposition that an apparent fact or principle is true in the light of available evidence (Goode, 1945). Throughout study, the researcher had the accompanying presumptions at the top of the priority list:

1. The farmers incorporated into the sample of the study could give their opinions and were sufficiently capable to fulfill the questions.

2. The reactions outfitted by the farmers were reliable and substantial.
3. The distinct media incorporated into the study were known to the farmers of the area concerned.
4. The natural states of farmers were pretty much comparative all through the study area.
5. Views and feelings outfitted by the farmers incorporated into the sample were the delegate of the entire population of the study.

1.6 Definition of Terms

For clarity of comprehension certain the accompanying terms used frequently all through the study are characterized and defined in alphabetical order:

Age

Age of the respondent was characterized as the timeframe from his birth to the time of interview.

Agricultural Fair

Fair is for the most part composed by the Department of Agricultural Extension and other agricultural government body to make mindfulness about enhanced innovation among a substantial number of individuals inside a brief span and to animate general inspiration for agricultural and rural improvement in the area.

Annual Income

It characterized as the total profit in a year of an individual and the individuals from his family both from farming and different sources (business, administration and different sources).

Communication

Communication is a process in which participants create and share information with one another in order to reach a mutual understanding. This definition implies that communication is a process of convergence (or divergence) as two or more individuals exchange information in order to move toward each other (or apart) in the meanings that they ascribe to certain events (Rogers, 1995).

Education

Education alluded to the count of years of schooling finished by a respondent.

Farm Size

It alluded to the farming area on which a farmer used to do his farming either controlled by him or taken up by borga and lease from others amid the year under investigation.

Farming Facility

Farming facility refers to an opportunity to hold a location or area devoted to the growing and harvesting of crops and/or raising animals.

Group Media

Group media defines to the recurrence of exposure of the respondents to various group of information, for example, group discussion meeting, agricultural demonstration meeting, method demonstration meeting and result demonstration meeting.

Individual Media

Individual media defines to the recurrence of presentation of respondents to various individual information sources, for example, neighbors, companions, relatives, extension workers, local leader and so on.

Information Sources

The term data sources defines to the media or channels through which different data are diffused among the farmers on various aspects including crops, livestock, fisheries, social forestry, education and other similar matters.

Mass Media

The mass media are the mean of communication or instrument or device through which messages are transmitted towards generally extensive, heterogeneous and mysterious crowd inside a moderately shorter coordinated structure the source to the gathering of people. Mass media incorporated into the study were radio, TV, newspaper, internet, leaflet, poster etc.

Newspaper

It refers to a bundle of information accumulated in printed papers and appropriately folded. These contain news, views, opinions, advertisement, educational information and farming messages, published on every day or weekly basis, for the most part from the capital or large City.

Organizational Participation

Is characterizes as a relationship of two or more persons which have no less than one face to face meeting per year. Cooperation in an association defines to his participating in the association as general member, executive member or executive officer.

Poster

Poster is a placard showed in an open spot with the reason for initiating awareness amongst the general population.

Radio

Radio is a capable and prevalent sound media which falls in mass media. It passes on message from one station to all who listen radio programs. It makes things excitingly alive and convincing. Moreover, it can persuade, stimulate, instigate conviction, make and change fundamental and dispositions and it reaches to a substantial number of individuals easily.

Television

Television is a varying media for diffusing information and fall under mass media alongside news, different educational programs. One of the popular television program Mati-o-Manush, are shown through Television. It is a media that can bolster the impacts of extension staff in spreading mindfulness, giving awareness, encouraging farmers to farmers and so on.

CHAPTER 2
RIVIEW OF LITERATURE

CHAPTER 2

REVIEW OF LITERATURE

The motivation behind this part is to review literature having similarity to the present study. The reason for this study was to discover the use and effectiveness of various communication media by the farmers in receiving agricultural information and their relationship with the selected characteristics of the farmers. Few endeavors had been given in Bangladesh on these subjects. The researcher, subsequently, tried to look into the existing researches specifically or indirectly connected with the present study. Four sections of this chapters deal with the followings:

Section 1: Use of Communication Media in General

Section 2: Effectiveness of Communication Media

Section 3: Relationship between Selected Characteristics of the Farmers and their Use of Communication Media

Section 4: Conceptual Framework of the Study

2.1 Use of Communication Media in General

Mekabutra (1985) directed a study in Thailand and reported that among the mass communication media that offered more information in farming was radio, trailed by television and newspaper separately. Considering information received from mass communications media that were appropriate to their work, farmers opined that TV gave around 83.5 percent, radio 78 percent and newspaper 77 percent.

Nataraju and Channegowda (1985) found in a study that respondents utilized radio (54 percent) newspaper (46 percent) neighbors (23.3 percent) demonstration (10.6 percent) and group meeting (6 percent) in receiving information on enhanced dairy management activities.

Samanta (1986) reported that mass communication channels included mass media, for example, radio, television, magazine, newspaper, and so forth which empower a wellspring of one or a group of people to contact a large audience quickly. These media are successful in the national development, while in the developing countries their adequacy is constrained because of numerous factors. The modern media of communication like radio, television, magazines, newspapers, and so forth are accessible fundamentally to urban individuals and elite's, and the scope of rural program through mass media is not sufficient.

Chidanandappa and Veerabhadraiah (1988) inspected distinctive mass communications sources utilized by extension agent and reported that extension workers made utilization of the bundle of practices like booklets, extension folders, radio, newspapers, and farm newsletter to a substantial extent as information media.

Van den Ban and Hawkins (1988) reported that in industrialized countries personnel pay more time with television and radio than printed materials. Radio is most vital mass media for farmers of less industrialized countries. The middle class of urban area in less industrialized countries additionally pay extensive time sitting in front of the television however it is not yet an imperative media in rural areas of these countries.

Dinampo (1989) directed a study in Philippines to identify communication need and preference. He watched that farmers were found to incline toward an interpersonal media (extension agents) as opposed to mass media. Among mass media, first preference was radio trailed by printed materials and audio-visual media.

Hoque (1990) in his paper inferred that mass communications media can perform a superior part in technology diffusion than what those do today. Accordingly, planned endeavors to introduce a greater volume of mass media that are examined successful are exclusively suggested.

Batte et.al. (1990) led a study on cash grain farmers of Ohio. They found that radio broadcast and general farm magazine were the two marketing information sources and were most habitually referred to as useful. Profoundly formalized and marketing related sources, for example, marketing professionals, pamphlets and electronic information sources were referred to relatively infrequent. Radio and television broadcast were every frequently referred to as most wellspring of marketing information by more established farmers and operator of small farmers.

Chough (1991) in a study found that printed media, radio and television were viewed as remarkable vehicles of information which could guarantee the supply of inputs to those truly who need them.

Wate and Rivera (1991) in their study inspected the utilization of new technologies in farming information transfer and investigated future points of view of new technologies as a power of

progress in developing countries. They found that print media, electronic media, radio, television broadcasts are the vital wellsprings of disseminating information.

Khan and Paracha (1994) directed a study in two villages in Pakistan, one innovative and another non-innovative, among the farmers of a cotton growing town, and reported that the major channel of communication were mass communications and interpersonal communication. The mass communications commonly sorted out and included radio, television and newspaper.

Molinar et al. (1994) in their paper identified that radio would remain the most important medium in the Pacific for quite a while in view of the geographical nature of the islands. Rigorous training, radio, video and print media are major in spatial dimension of the communication process.

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

- Media crusade including printed media, radio and TV
- Thana and district fair
- Traditional and folk media
- Group meeting
- Farmers training; motivational visit, farm walk, method demonstration, field days, results demonstration, individual home visit, and so forth. Printed media normally utilized are bulletin, posters, flyer, circular letters, newspapers and magazines.

Rahman (1995) in his paper reported that the rural press can serve the farmers and families in the villages by giving auspicious information with respect to farming and harvest. The rural press by giving breakthrough market prices of agricultural products can help the local farmers.

Westoff and Rodriguer (1995) reported that in Kenya, around 15% woman neither saw nor heard radio messages. The extent rose to 25% among the individuals who have heard radio message, to 40% among the individuals who were presented to both radio and printed media and to half among those to radio, printed media and television messages of family planning activity. It was opined that mass communications can importantly affect productive behavior.

Khan (1996) led a study on the utilization of information sources by the poor farmers and led that 75% of the respondents had medium use of different information sources for getting agricultural information.

Islam (1996) in his study found that the most astounding extent of the respondents (44.55) had a place with medium media exposure category and 38.18% had a place with low exposure and 17.27% had a place with high exposure category. He additionally found that among 15 media, radio positioned in 6, television 7, fair 8, agricultural production 1-5 was for individual media.

Egbule and Njoku (2001) in their study on mass communications for adult education in Nigeria found that mass communications have performed ineffectively in disseminating agricultural information to farmers, despite the fact that there is a positive correlation between mass communications use and farm production.

Mazher (2003) in a study in Pakistan reported that pamphlets, magazines and newspapers were appropriate for dispersal of sugarcane production technologies.

2.2 Effectiveness of Communication Media

Sandeep et. al., (2005) conducted a study to ascertain the effectiveness of different communication media for the transfer of cotton production technology. The cotton growers (n = 120 from four villages of Hisar district, Haryana, India, during 1999. The farmers given training on cotton production technology through four selected communication media namely, lecture plus discussion, printed material plus discussion, audio plus discussion visual plus discussion. The study revealed that farmers gained maximum knowledge (18.67%) when the improved cotton production technology was communicated through visual discussion was found most effective, followed by printed material plus discussion, audio plus discussion and lecture plus discussion teaching methods.

Haque (2000) opined that mass media support is an important component of the special production programme. In his study he showed that majority of the respondents opined that talks on different aspects of rice cultivation should broadcast more than once in time by the specialist in regional dialect in the form of group discussion and question-answer. The progressive and educated farmer also should be invited for giving talks by the radio station. The radio listening farmers may be used in technology assimilation, dissemination and diffusion process.

Haque (2003) conducted a study on 'Mass media utilization for the farmers in receiving agricultural information in Bangladesh' to unfold the relationship between the socio-economic status of the farmers and the use of sources of agricultural information. It indicates that education, annual income, farm size, communication exposure and agricultural knowledge of the 'farmer were strongly related to their exposure to the mass media. All the respondents (100%) mentioned about the illiteracy problems of the farmers as one of the main constraints for making the information sources more effective. Hence, newspaper and any others printed material are not found to be effective for them. From his study, it was revealed that farmers of Bangladesh get most of their agricultural information through personal and group contact. The farmers are well exposed the mass media like radio, television, film or other electronic mass media. He ended on the basis of his study that most farmers now have excess to radio in Bangladesh, either owning a radio themselves or they are able to listen to one owned by neighbors. He highlighted that Television is also important mass media tools in Bangladesh. However, Agricultural TV programme are organized at national level, rather than Regional, district/thana level. Field staff may not have much influence over the content of radio or television, but they can do much to stimulate learning about agricultural development on the radio and television. This can be done by a number of ways- obtaining copies of radio and TV programme schedules and providing those to the farmers for listening and watching radio and TV and explaining /sharing new information with the farmers who did not listen radio or watched TV, or do not have excess two those media. Formation of rural radio forums and television viewers" forums can be highly effective

2.6 Communication and technology transfer

2.3 Relationship between Selected Characteristics of the Farmers and their Use of Communication Media

2.3.1 Age and Use of Communication Media

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

Sarker (1995) in his study presumed that age of the farmers had negative and insignificant impact on the utilization of communication media.

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

Khan (1996) presumed that age of the farmers had a negative and insignificant impact on the utilization of information sources.

Anisuzzaman (2003) in his study led that age of the farmers had negative and significant relations with the utilization of communication media.

Nuruzzaman (2003) led that age of the farmers had significant negative relations with the utilization of communication media.

Islam (2005) in his study reasoned that age of the farmers had a no significant relations with their utilization of printed materials.

Roy (2006) in his study identified that age of the farmers had a negative and non-significant impact on the effectiveness of mass media.

2.3.2 Education and Use of Communication Media

Kashem and Jones (1988) found in their study that education of the small farmers had significant positive correlation with their information sources.

Kumari (1988) from the study on communication effectiveness of six media showed that there was significant positive relation between education of women and attitude towards the message.

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

Sarker (1995) in his study concluded 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 education of the respondents had significant positive relationship with their use of printed materials.

Mollah (2006) observed in his study that 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 with the effectiveness of mass media.

2.3.3. Farming Experience and Use of Communication Media

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.

Nlerum (2006) found in his study conducted on socio-economic characteristics as correlates of adoption among yam farmers that income had a positive, moderate and significant relationship with adoption.

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.

2.3.4 Farm Size and Use of Communication Media

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

Sarker (1995) in his study concluded that farm size of the respondents 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 farm size of the respondents had no significant relationship with their use of printed materials.

Khatun (2006) in her study concluded that farm size of the respondents had significant positive relationship with their homestead gardening.

Roy (2006) in his study concluded that farm size of the farmers had no significant relationship with the effectiveness of mass media.

2.3.5 Annual Income and Use of Communication Media

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

Uddin (1993) reported that there was strong and highly significant relation between income of the sugarcane growers and their reception of information.

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

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

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

2.3.6 Organizational Participation and Use of Communication Media

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

Rahman (1991) found that organizational participation and credibility of Block of Block Supervisors showed insignificant relationship.

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 organizational participation of the respondents had positive significant relationship with their use of printed materials.

Roy (2006) in his study concluded that organizational participation of the farmers had a positive and significant relationship with the effectiveness of mass media.

2.3.7 Farming Facilities and Use of Communication Media

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

2.3.8 Knowledge on Agriculture and Use of Communication Media

Kashem and Jones (1988) found in their study that agricultural knowledge of the small farmers rendered significant positive correlation with their contact with information sources.

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

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

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

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

Khan (1996) found that there was a highly significant and strongly positive relationship between agricultural knowledge of the farmers and their use of information sources.

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

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

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

Hossain (2006) in his study observed that knowledge on agriculture of the farmers had positive significant relationship with their improved rice production technologies.

Roy (2006) in his study observed that knowledge on agriculture of the farmers had a positive and significant relationship with the effectiveness of mass media.

2.4 The Conceptual Framework of the Study

Use of communication media by the farmers in receiving agricultural information was the main focus of the study. Many factors of the farmers may have relationship with their use of communication media. In the review process, it was found that some researches found positive, some found negative significant and some found non-significant relationship between selected characteristics of the farmers with their extent of use of communication media in receiving agricultural information. Again, different communication media might have different extent of effectiveness in receiving agricultural information. Based on the above considerations, a simple conceptual framework of the study was drawn as shown in figure 2.1.

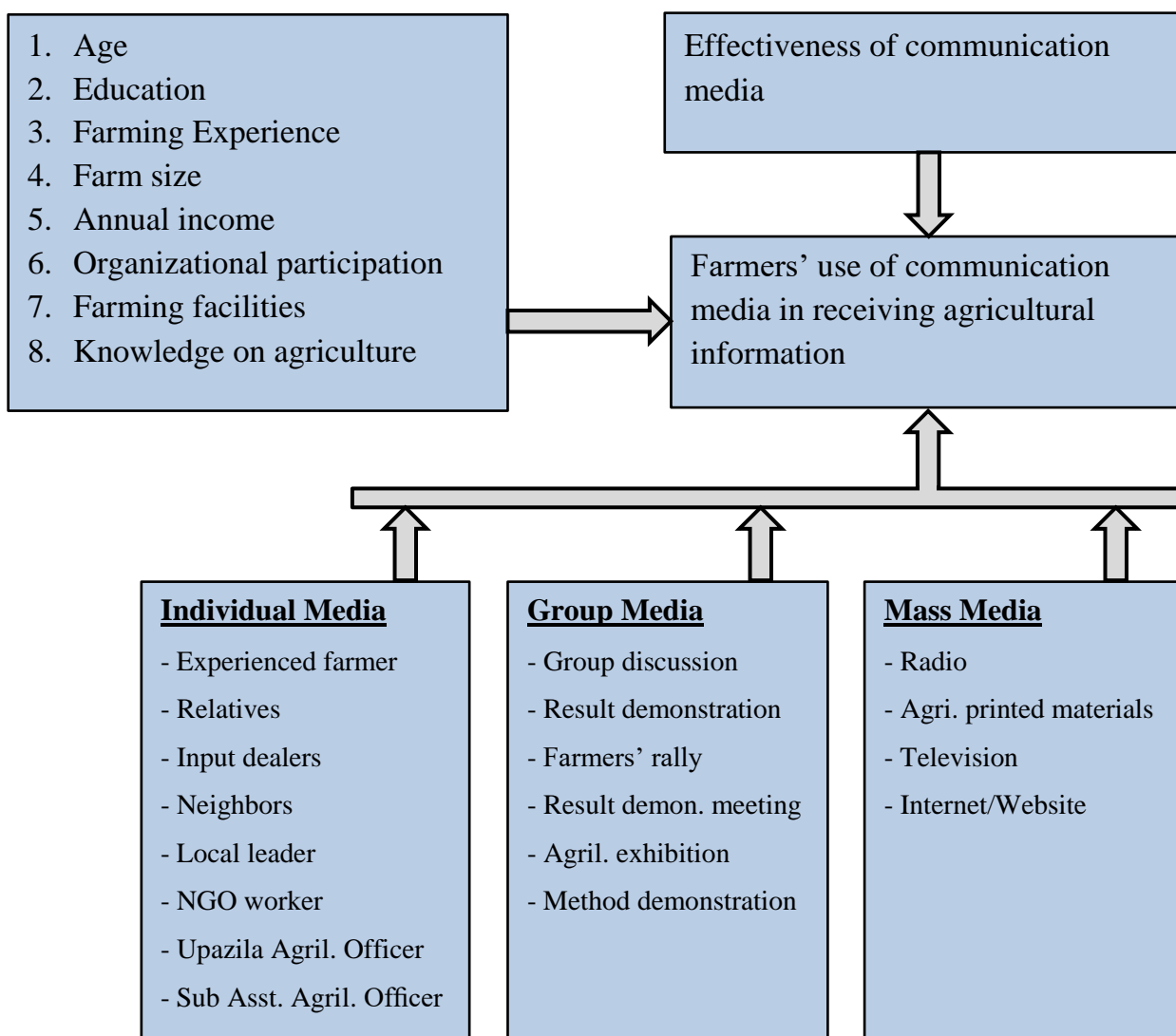


Figure 2.1 The conceptual framework of the study

CHAPTER 3
METHODOLOGY

CHAPTER 3

METHODOLOGY

Strategy delegates an imperative role in a scientific research. A scientist ought to be careful in detailing techniques and systems in conducting research. System ought to be, for example, would empower the scientist to gather legitimate information and dependable information and to examine that information to achieve the research objectives. The techniques and methodology followed in this study are depicted in this chapter.

3.1 Locale of the Study

Sonatola upazila under Bogra district was selected as the study area. The study area consisted of 2 unions. Madhupur and Tekani Chukainagar unions were selected covering 2 villages namely Chaknandan and Tekani Munshi Bari by following simple random sampling technique. These 2 villages constituted the locale of the study. A map of Bogra district showing Sonatola Upazila and a map of Sonatola Upazila showing the study area are shown in Figure 3.1 and 3.2 respectively.

3.2 Population and Sample Size

An up to date list was prepared of all the farm families of the selected village with the help of Agricultural Extension Officer (AEO) of Sonatola Upazila and Sub Assistant Agriculture Officer (SAAO) of Madhupur and Tekani Chukainagar unions. The total number of farm families in these villages was 498. Heads of the 498 farm families constituted the population for this study. Data were collected from the sample rather than whole population due to time and fund constraints. About 20 percent of the farmers were selected randomly and proportionately from the villages as the sample by using a random number table. Thus, 100 farmers were selected as the sample for this study. However, a reserve list of 10 farmers was also prepared. Farmers in the reserve list were used only when a respondent in the original list was not available. Distribution of population, sample size and reverse list are shown in table 3.1.

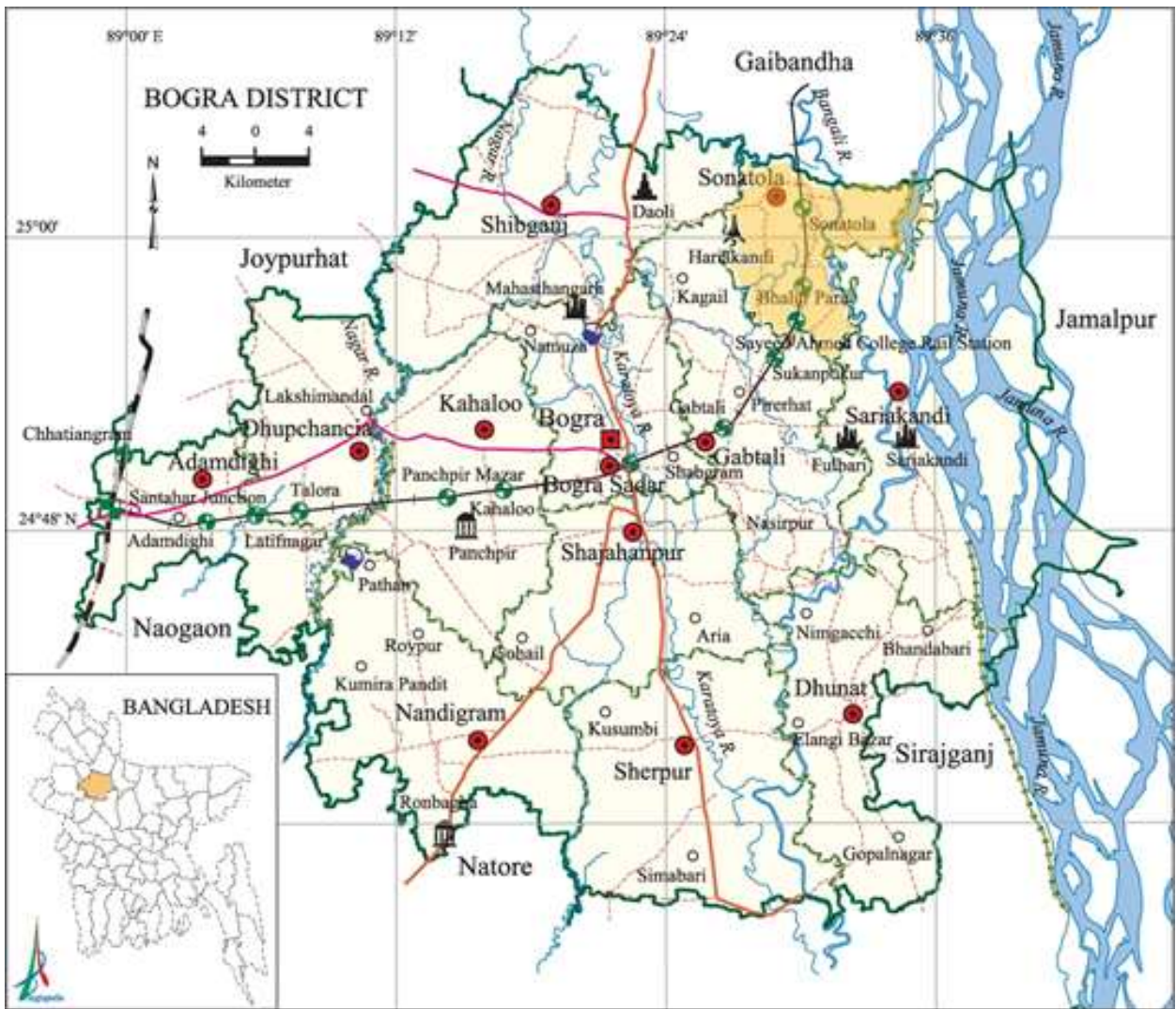


Figure 3.2 A map of Bogra district showing Sonatola upazila

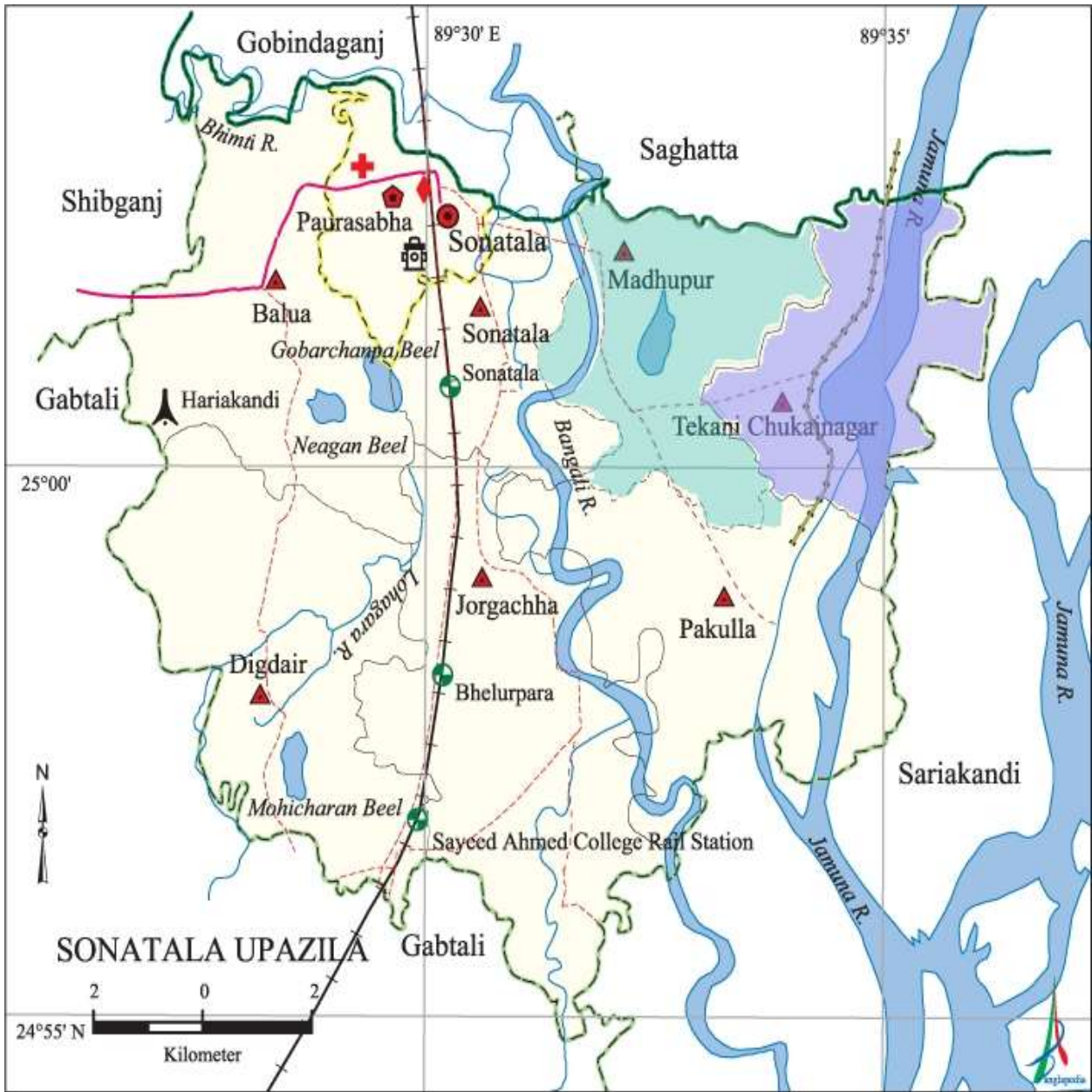


Figure 3.3: A map of Sonatola upazila showing the study area.

Table 3.1 Distribution of Population and Samples with Reserve List

Name of Villages	Name of Union	Total Population	Sample Size	Reverse List
Chaknandan	Modhupur	223	45	4
Tekani Munshi Bari	Tekani Chukainagar	275	55	6
Total		498	100	10

3.3 Selection of Variables

Use of communication media was the main focus of the study. Effectiveness of the communication media in receiving agricultural information was also considered for the study. Several factors of the farmers might have relationship with their use of communication media in receiving agricultural information. Following eight factors of the farmers were selected for the study which might have relationship with their use of communication media in receiving agricultural information:

- a) Age
- b) Education
- c) Farming Experience
- d) Farm Size
- e) Annual Income
- f) Organizational Participation
- g) Farming Facilities
- h) Knowledge on Agriculture

3.4 Measurement of Variables

3.4.1 Age

Age of the farmers refers to the period of time from his/her birth to the time of interview. It was measured in terms of actual years on the basis of his/her response to item No. 1 of the interview schedule (Appendix A).

3.4.2 Education

The education of a respondent was measured by the number of years of successful schooling. A score of one (1) was assigned for each year of schooling completed. For example, if a respondent completed study up to class five, his education score was assigned as 5.

The knowledge status of a respondent who could sign only was assigned a score of 0.5 while illiterate farmers were assigned a score of 0. Besides, if a respondent did not go to school but studied at home and if his knowledge status was equivalent to the student of class five, then he was assigned a score of 5.

3.4.3 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. One (1) score was assigned for one year of farming experience. In example, if a respondent started farming activities 5 years past from the date of interview the score was noted 5 while if there is no farming experience at all the score was given 0.

3.4.4 Farm Size

Farm size of a respondent was measured by the land area possessed by him. Data obtained in response to questions under item No. 4 of the interview schedule formed the basis for determining the farm size of the respondent. Here, farm size was computed by using the following formula:

$$\text{Farm size} = a + b + \frac{1}{2} (c + d) + e$$

Where,

a = Homestead area (including ponds)

b = Own land under cultivation

c = Own land given to others as borga

d = Land taken from others as borga

e = Land taken from others as lease

The respondent has given information for their farm size in local measurement.

Finally, it was converted into hectare and was considered as the farm size score of a respondent.

3.4.5 Annual Income

The method of determining annual income (considered last year) of a respondent involved two aspects. The first aspect is agriculture and the second aspect is non-agriculture. In calculating the annual income of a respondent, income from different sources were added together to obtain total annual income of a respondent. A score of 1 was assigned for Tk.1000 income.

For an amount less than Tk.1000, a fraction score was computed and added with the main score. Data obtained in response to item No. 5 of the interview schedule were used to calculate the income score of a respondent.

3.4.6 Organizational Participation

The organizational participation score was computed for each respondent on the basis of his/her membership with different types of organizations as shown in the item number 6 of the interview schedule.

The following scale was used for computing the organizational participation score.

<u>Categories of Participation</u>	<u>Score</u>
a. Participation as executive officer	3
b. Participation as executive member	2
c. Participation as ordinary member	1
d. No participation	0

Organizational participation score of a respondent was obtained by multiplying the score of his participation status with the corresponding duration (in year) in all the organizations and then added together. 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.

3.4.7 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 follows:

- 0 = Not at all
- 1 = Somewhat
- 2 = Adequate
- 3 = Abundant

for quantifying the extent of farming facilities. Thirteen 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 39; where 0 indicates no farming facilities and 39 indicates very high farming facilities.

3.4.8 Knowledge on Agriculture

Knowledge on agriculture of the farmers was measured in score by asking 20 selected questions related to various aspects of agriculture. A full score of 2 (two) was assigned for each correct answer and 0 (zero) score was assigned for the wrong or no answer. Therefore, for correct responses to all the questions a respondent could get a total score of '40', while for wrong or no responses to all the questions a respondent could get '0'. However, the knowledge scores of the respondents were computed by adding his scores for all the 20 items. Thus, the knowledge score could range from '0' to '40', where '0' (zero) indicated 'very low knowledge on agriculture' and '40' indicated 'very high knowledge on agriculture'.

3.4.9 Measurement of Use of Communication Media

Use of communication media in receiving agricultural information was the main focus of the study. The researcher selected three broad types of communication media namely, individual, group and mass media comprising of eighteen media in total. The researcher selected the following media of information for studying their extent of use by the farmers:

- Individual media: Experienced farmer, Relatives, Input dealers, Neighbors, Local leader, NGO worker, Upazila Agricultural Officer, Sub Asst. Agriculture Officer
- Group Media: Group discussion, Result demonstration, Farmers' rally, Result demonstration meeting, Agril. Exhibition, Method demonstration
- Mass Media: Radio, Agricultural printed materials, Television, Internet/Website

The communication media used by the farmers were measured on the basis of their opinions regarding the extent of use of the above mentioned media in receiving agricultural information during the immediate past year. Hence, the use of each of the eighteen communication media was first ascertained by computing their using score. A four point scale was used to compute the extent of use of communication media. Then the extent of use of communication media score of

a respondent for the eighteen media were added together to ascertain his/her total score in receiving agricultural information. Logical frequencies were considered for each of the four alternative responses for each of 18 selected media as shown in the interview schedule in Appendix A. In this regard weight was assigned to each of the four types of responses provided by the farmers in the following manner:

<u>Responses</u>	<u>Weight</u>
a. Regularly	3
b. Often	2
c. Seldom	1
d. Never	0

Thus, the use of communication media score of a respondent could range from 0 to 54 where, 0 indicate no use and 54 indicate highest use of communication media in receiving agricultural information.

3.4.10 Effectiveness of Communication Media

The effectiveness of the communication media was measured on the basis of opinion provided by the farmers regarding the extent of effectiveness of communication media. Four point scales namely "Highly Effective", "Moderately Effective", "Less Effective" and "Not Effective" were used to measure the extent of effectiveness of selected 18 communication media.

In this regard weights were assigned to each of the four types of responses provided by the farmers in the following manner:

<u>Responses</u>	<u>Weight</u>
a. Highly Effective	3
b. Moderately Effective	2
c. Less Effective	1
d. Not Effective	0

Thus, the effectiveness score of a respondent was obtained by adding the scores of all the eighteen items and it could range from 0 to 54, where, 0 indicates no effectiveness of communication media and 54 indicate highest effectiveness of communication media.

3.5 Statement of Hypothesis

As defined by Goode and Hatt (1952), “A hypothesis, which can be put to a test to determine its validity. It may see contrary to, or in accord with common sense. It may prove to be correct or incorrect. In any event, however, it leads to an empirical test”. In studying the relationship between variables, research hypothesis are formulated which state the anticipated relationship between the variables. However, for statistical test it becomes necessary to formulate null hypothesis. A null hypothesis states that there is no relationship between the concerned variables. If a null hypothesis is rejected on the basis of a statistical test, it is assumed that there is a relationship between the concerned variables. The null hypothesis can be assumed for this study as - “there was no relationship between each of the farmers’ selected characteristics and their use of communication media in receiving agricultural information”. The characteristics were: age, education, farming experience, farm size, annual income, organizational participation, farming facilities and knowledge on agriculture.

3.6 Instrument for Data Collection

In order to collect relevant information from the respondents, an interview schedule was used. The schedule was carefully designed keeping the objectives of the study in view. The schedule contained both open and closed questions. Most easy, simple direct questions and different scales were used to obtain the information. The questions were arranged systematically and presented clearly so that the respondents could understand to furnish information in a consistent and systematic manner. The schedule was prepared in Bengali and was pre-tested. The pre-test facilitated the researcher to examine the suitability of different questions and statements of the schedule in general. After that, the schedule was finally prepared with necessary correlations, modifications and alterations as per experience of the pre-test. The English version of the interview schedule is enclosed at Appendix-A.

3.7 Collection of Data

Data for this study were collected through personal interview by the researcher himself during September 10 to October 10, 2015. The interview schedule prepared earlier by the researcher

was used to gather information. All possible efforts were made to explain the purpose of the study to the respondents in order to get valid and pertinent information from them. Interviews were conducted with the respondents at their homes. While starting interview with any respondent, the researcher took all possible care to establish rapport with them so that they did not feel uneasy or hesitation to furnish proper responses to the questions and statements in the schedule. The questions were explained and clarified whenever any respondent felt difficulty in understanding properly. None of the farmers was interviewed from the reserve list during final collection of data.

3.8 Compilation of Data

After completion of field survey all the data of the interview schedule were compiled. Local units were converted into standard unit. Appropriate scoring technique was followed to convert the qualitative data into quantitative forms. The responses of the individual respondent contained in the interview schedules were transferred to a master sheet for entering the data in the computer. As soon as the data entered into the computer, it was then analyzed in accordance with the objectives of the study.

3.9 Methods of Analysis

Data collected from the respondents were compiled, tabulated and analyzed in accordance with the objectives of the study. Various statistical measures such as number, percentage distribution, average, and standard deviation were used in describing data. The categories and tables were used in describing data. The categories and tables were also used in presenting data for better understanding.

For determining the relationship of the selected characteristics of the farmers with their use of communication media in receiving agricultural information, Pearson's Product Moment Coefficient of Correlation was (r) used.

Five percent (0.05) level of probability was used as the basis for rejecting any null hypothesis. Data were analyzed by the software SPSS.

CHAPTER 4
RESULT AND DISCUSSION

CHAPTER 4

RESULTS AND DISCUSSION

A sequential and detailed discussion on the findings of the study has been presented in this chapter. The chapter is divided into three sections. In the first section, selected characteristics of the farmers have been discussed. The second section dealt with the extent of use of communication media by the farmers in receiving agricultural information and effectiveness of communication media and finally, the relationship between the selected characteristics of the farmers and their use of communication media in receiving agricultural information have been discussed in the third section.

4.1 Selected Characteristics of the Farmers

A summary of the analyzed results of the selected personal, economic, social and psychological characteristics of the farmers for this study was shown in Table 4.1.

Table 4.1 Farmers' Characteristics Profile

SL No.	Characteristics	Measuring Unit	Possible Range	Observed Range	Mean	Standard Deviation
1	Age	Actual year	Unknown	20 - 60	35.23	8.694
2	Education	Year of schooling	Unknown	0 - 17	7.315	3.535
3	Farming Experience	Year of farming	Unknown	1 - 33	9.59	6.278
4	Farm Size	Hectare	Unknown	0.32 - 6.44	1.55	1.030
5	Annual Income	In Taka 1000	Unknown	50 - 320	103.80	59.284
6	Organizational Participation	Score	Unknown	0 - 34	12.51	6.182
7	Farming Facility	Score	0 - 39	1 - 32	9.53	7.828
8	Knowledge in Agriculture	Score	0 - 40	4 - 38	24.05	8.111

4.1.1 Age

The observed age of the farmers ranged from 20 to 60 having an average of 35.23 with a standard deviation of 8.694. On the basis of the age of the farmers, they were classified into three categories: “young” (up to 35 years), “middle aged” (36-50 years) and “old” (above 50 years). The distribution of the farmers according to their age is shown in Table 4.2.

Table 4.2: Distribution of farmers according to their age

Categories	Farmers
	Number/ Percent
Young (up to 35 years)	44
Middle aged (36 - 50 years)	49
Old (above 50 years)	7
Total	100

Findings indicate that a large proportion (49 percent) of the farmers were middle aged compared to 44 and 7 percent being young aged and old respectively. It is expected that Young and middle aged farmers are generally more receptive to receive agricultural information through various communication media. They maintain better communication with various communication media available in rural areas. They are usually and influential partner in making decision regarding farming affairs.

4.1.2 Education

The observed education scores of the farmers ranged from 0 to 17 having an average of 7.31 and the standard deviation was 3.535. On the basis of their education scores, the farmers were classified into five categories, namely “illiterate” (0), “can sign only” (0.5), “primary education” (1-5), “secondary education” (6-10) and “above secondary education” (above 10). The distribution of the farmers according to their education is shown in Table 4.3.

Table 4.3: Distribution of farmers according to their education

Categories	Farmers
	Number/ Percent
Illiterate (0)	5
Can sign only (0.5)	5
Primary education (1-5)	16
Secondary education (6-10)	60
Above secondary education (above 10)	14
Total	100

It was found that the majority (60 percent) of the farmers had secondary education compared to 16 and 14 percent having primary and above secondary education respectively. Besides, 5 percent of the respondents were illiterate and 5 percent of them could sign of their name only.

The finding of the study reveals that 95 percent of the respondents were literate which is higher than the national average literacy rate of 63.0 percent (BBS, 2007). As the major part of the farmers under the study area are literate. It can be said that in this study area, education of the farmers was relatively higher compared to typical rural area in Bangladesh. So they could understand and utilize successfully new technologies through communication media.

4.1.3 Farming Experience

The farming experience scores of the respondents ranged from 1 to 33 years with an average of 9.59 years and standard deviation of 6.278. The respondents were classified into three categories on the basis of their farming experience as shown in Table 4.4.

Table 4.4: Distribution of farmers according to their farming experience

Categories	Farmers
	Number/ Percent
Low experience ($< \text{Mean} - 0.5\text{SD}$, i.e. <6.4)	38
Medium experience ($\text{Mean} \pm 0.5\text{SD}$, i.e. 6.4 to 12.7)	40
High experience ($> \text{Mean} + 0.5\text{SD}$, i.e. >12.7)	22
Total	100

Data are presented in Table 4.4 shows that the highest proportion (40.0 percent) of the respondents were medium experienced compared to 38.0 percent being low experienced and 22.0 percent high experienced in farming activities.

4.1.4 Farm Size

The observed farm size scores of the farmers ranged from 0.32 hectare to 6.44 hectares. The average farm size was 1.55 hectares and the standard deviation was 1.030. The farmers were classified into the following three categories based on their farm size: “small farmer” (up to 1.00 ha), and “medium farmer” (1.01 ha - 3.00 ha) and “large farmer” (above 3.00 ha). The distribution of the farmers according to their farm size is shown in Table 4.5.

Table 4.5: Distribution of farmers according to their farm size

Categories	Farmers
	Number/ Percent
Small farmer (up to 1.00 ha)	31
Medium farmer (1.01 - 3.00 ha)	61
Large farmer (above 3.00 ha)	8
Total	100

It was found that 61 percent of the farmers possessed medium farm size compared to 31 and only 8 percent small and large farmer respectively. The average farm size of the farmers was 1.55 hectares which is higher than the national average farm size of 0.8 hectare (BBS, 2005). Therefore, it can be assumed that small and medium farmers cultivate their land by themselves and also take other's land on lease or share cropping.

4.1.5 Annual Income

The observed annual income of the farmers ranged from 50.00-320.00 having an average of 103.80 with a standard deviation of 59.284. Based on their annual income scores, the farmers were classified into three categories: “low annual income” (up to 100 thousand Taka), “medium annual income” (above 100 to 250 thousand Taka) and “high annual income” (above 250 thousand Taka). The distribution of the farmers according to their annual income is shown in Table 4.6.

Table 4.6: Distribution of farmers according to annual income

Categories	Farmers
	Number/ Percent
Low annual income (up to 100 thousand taka)	65
Medium annual income (above 100 - 250 thousand taka)	30
High annual income (above 250 thousand taka, i.e. taxable income)	5
Total	100

Findings reveal that the highest portion (65 percent) of the farmers had low annual income while 30 and 5 percent had medium and high annual income respectively. That means 95 percent of the farmers had low to medium annual income. From the above finding this might be due to the fact

that the farmers of the study area were not engaged in only agricultural activities. They earned from other sources such as services, business etc.

4.1.6 Organizational Participation

The observed organizational participation scores of the farmers ranged from 0-34 having an average of 12.51 with a standard deviation of 6.182. Based on the organizational participation scores, the farmers were classified into three categories “low organizational participation” (up to 9) and “medium organizational participation” (above 9 to 15) and “high organizational participation” (above 15). The distribution of the farmers according to their organizational participation scores is shown in Table 4.7.

Table 4.7: Distribution of farmers according to their organizational participation

Categories	Farmers
	Number/ Percent
Low organizational participation ($< \text{Mean} - 0.5\text{SD}$, i.e <9.4)	29
Medium organizational participation ($\text{Mean} \pm 0.5\text{SD}$, i.e. 9.4 to 15.6)	48
High organizational participation ($> \text{Mean} + 0.5\text{SD}$, i.e >15.6)	23
Total	100

The finding indicates that majority (48 percent) of the farmers had medium organizational participation compared to 29 and 23 percent having low organizational participation and high organizational participation respectively. Thus, it can be concluded that most of the farmers (77 percent) had low to medium organizational participation. This means that the farmers of the study area are mostly engaged in their farm works and do not participate in other social activities. Social participation was very much important for adopting new technologies through communication media.

4.1.7. Farming Facilities

The farming facilities scores of the respondents ranged from 1 to 32 against the possible range of 0 to 39 with an average of 9.53 and a standard deviation of 7.828. Based on the farming facilities scores, the respondents were classified into three categories as “low” (up to 5), “medium” (above 5 to 13) and “high” (above 13) as shown in Table 4.8.

Table 4.8 Distribution of the respondents according to farming facilities

Categories	Farmers
	Number/ Percent
Low ($< \text{Mean} - 0.5\text{SD}$, i.e <5.6)	40
Medium ($\text{Mean} \pm 0.5\text{SD}$, i.e. 5.6 to 13.4)	37
High ($> \text{Mean} - 0.5\text{SD}$, i.e >13.4)	23
Total	100

Data presented in Table 4.8 indicate that the highest proportion (40.0 percent) of the farmers had low farming facilities where, 37.0 percent of the farmers had medium farming facilities and 23.0 percent had high farming facilities.

4.1.8 Knowledge on Agriculture

The observed knowledge on agriculture scores of the farmers ranged from 4 to 38 against the possible range of 0 to 40 having an average of 24.05 and a standard deviation of 8.111 against the possible range of 0-40. Based on the knowledge on agriculture scores, the farmers were classified into the three categories: “poor knowledge” (up to 16), “medium knowledge” (above 16 to 32) and “high knowledge” (above 32). The distribution of the farmers according to their knowledge on agriculture is shown in Table 4.9.

Table 4.9: Distribution of farmers according to Knowledge on agriculture

Categories	Farmers
	Number/ Percent
Poor knowledge ($< \text{Mean} - 1\text{SD}$, i.e <15.9)	26
Medium knowledge ($\text{Mean} \pm 1\text{SD}$, i.e. 15.9 to 32.2)	63
High knowledge ($> \text{Mean} + 1\text{SD}$, i.e >32.2)	11
Total	100

Findings indicate that the highest proportion (63 percent) of the farmers had medium knowledge on agriculture compared to 26 and 11 percent having poor knowledge and high knowledge on

agriculture respectively. It can be clear seen from the table 4.9 that over majority of the farmers (89 percent) had low to medium agricultural knowledge.

4.2 Farmers’ Use of Communication Media in Receiving Agricultural Information

The observed score of use of communication media of the farmers in receiving agricultural information ranged from 31 to 42 having an average of 35.50 with a standard deviation 2.513 against the possible range of 0 to 54. On the basis of their score of use of communication media, the farmers were classified into three categories: “low use” (up to 33), “medium use” (34-37) and “high use” (above 37).

The distribution of the farmers according to their extent of use of communication media in receiving agricultural information is shown in table 4.10.

Table 4.10: Extent of use of communication media

Categories	Farmers
	Number/ Percent
Low use (up to 33)	23
Medium use (above 33 to 37)	63
High use (above 37)	14
Total	100

The finding indicates that majority (63 percent) of the farmers had medium use of communication media in receiving agricultural information compared to 23 and 14 percent having low use of communication media and high use of communication media respectively. This scenario is not satisfactory and should increase by taking necessary steps by concerned authority. For transferring knowledge to the root level farmers, different communication media play the vital role. The present finding indicates that farmers’ use of communication media of the study area is not up to the mark. So, for the continuous improvement in the earning and living status of the country people it is the high time to increase the use of communication media of the rural farmers to a great extent in receiving agricultural information to improve farm productivity.

4.3 Effectiveness of Communication Media in Receiving Agricultural Information

The observed effectiveness of communication media score of the farmers in receiving agricultural information ranged from 16 to 41 having an average of 29.65 with a standard

deviation 5.883 against the possible range of 0 to 54. On the basis of their effectiveness of communication media score, the farmers were classified into three categories as follows:

<u>Categories</u>	<u>Basis of Categorization</u>
Less effective	<Mean – 1SD, i.e. <23.7
Moderately effective	Mean ± 1SD, i.e. 23.7 – 35.5
Highly effective	>Mean + 1SD, i.e. >35.5

The comparison between the findings of effectiveness of communication media (less effective, moderately effective and highly effective) is shown in the figure 4.1:

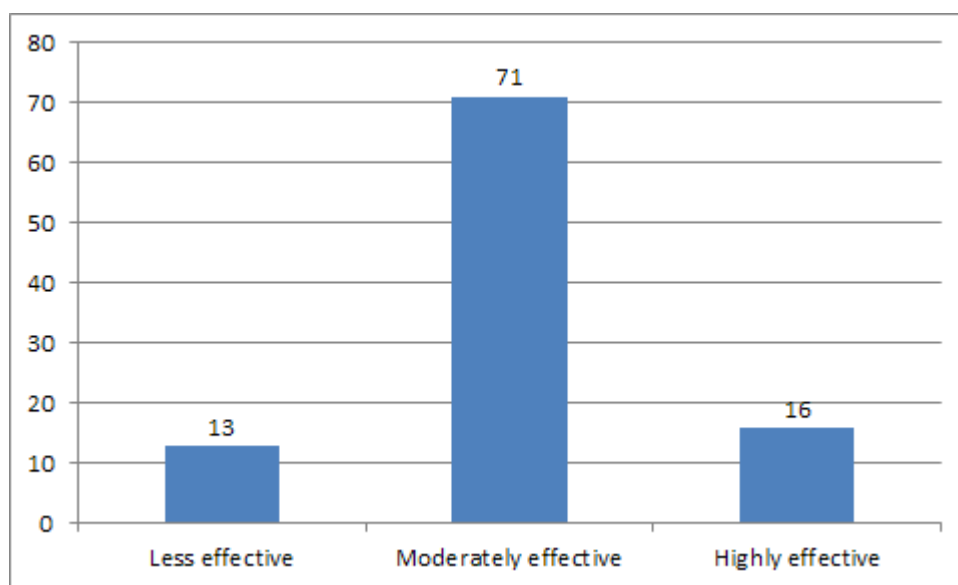


Figure 4.1: Bar graph showing effectiveness of communication media

The finding indicates that majority (71 percent) of the farmers had moderate effectiveness of communication media in receiving agricultural information compared to 13 and 16 percent having less effectiveness of communication media and high effectiveness of communication media respectively. This scenario is not satisfactory and should increase by taking necessary steps by concerned authority.

4.4 Relationship between Each Selected Characteristics of the Farmers and their Use of Communication Media in Receiving Agricultural Information

Coefficient of correlation was computed in order to explore the relationship between each of the selected characteristics of the farmers and their use of communication media in receiving agricultural information.

Person's Product Moment Coefficient of Correlation (r) was used to test the null hypothesis concerning the relationship between the variables. Five percent and one percent level of probability were used as the basis for rejection of a hypothesis. The tabulated value of 'r' was calculated at 98 degrees of freedom. The summary of the results of correlation coefficient indicating the relationships between each of the selected characteristics of the respondents and their use of communication media in receiving agricultural information is shown in Table 4.11.

In this section relationship between each of the eight selected characteristics of the farmers viz. age, education, farming experience, farm size, annual income, organizational participation, farming facilities, knowledge on agriculture and the use of communication media by the farmers in receiving agricultural information have been described.

Table 4.11: Correlation coefficient among the variable of the study

	Selected characteristics of the farmers	Computed value of 'r'	Tabulated value of 'r' at 98 degree of freedom	
			5%	1%
Farmers' use of communication media in receiving agricultural information	Age	0.241*	0.196	0.256
	Education	0.326**		
	Farming experience	0.150 ^{NS}		
	Farm size	0.015 ^{NS}		
	Annual income	0.216*		
	Organizational participation	0.359**		
	Farming facility	-0.077 ^{NS}		
	Knowledge on agriculture	0.277**		

NS = Not significant

* = Significant at 0.05 level of probability

** = Significant at 0.01 level of probability

4.4.1 Relationship between Age of the Farmers and their Use of Communication Media

The relationship between age of the farmers and their use of communication media in receiving agricultural information was examined by testing the following null hypothesis:

“There is no relationship between age of the farmers and their use of different media in receiving agricultural information”

Computed value of the coefficient of correlation between age of the farmers and their use of communication media in receiving agricultural information was found to be 0.241* as shown in Table 4.11. The following observations were recorded regarding the relationship between the two variables on the basis of the co-efficient of correlation:

- The relationship showed a positive trend
- The computed value of ‘r’ (0.241) was greater than the tabulated value (0.196) with 98 degrees of freedom at 0.05 level of probability.
- The concerned null hypothesis was rejected.
- The coefficient of correlation between the concerned variables was significant at 0.05 level of probability.

The findings demonstrate that age of the farmers had significant relationship with their use of communication media in receiving agricultural information.

4.4.2 Relationship between Education of the Farmers and their Use of Communication Media

The relationship between education of the farmers and their use of communication media in receiving agricultural information was examined by testing the following null hypothesis:

“There is no relationship between education of the farmers and their use of different media in receiving agricultural information”

The coefficient of correlation between education of the farmers and their use of communication media in receiving agricultural information was found to be 0.326** as shown in Table 4.11. The following observations were recorded regarding the relationship between the two variables on the basis of the co-efficient of correlation:

- The relationship showed a positive trend.
- The computed value of ‘r’ (0.326) was greater than the tabulated value (0.256) with 98 degrees of freedom at 0.01 level of probability.
- The concerned null hypothesis was rejected.
- The coefficient of correlation between the concerned variables was significant at 0.01 level of probability.

The findings demonstrate that education of the farmers had significant relationship with their use of communication media in receiving agricultural information.

4.4.3 Relationship between Farming Experience of the Farmers and their Use of Communication Media

The relationship between farming experience of the farmers and their use of communication media in receiving agricultural information was examined by testing the following null hypothesis:

“There is no relationship between farming experience of the farmers and their use of different media in receiving agricultural information”

Computed value of the coefficient of correlation between farming experience of the farmers and their use of communication media in receiving agricultural information was found to be 0.150^{NS} as shown in Table 4.11.

The following observations were recorded regarding the relationship between the two variables on the basis of the co-efficient of correlation:

- The relationship showed a negative trend.
- The computed value of ‘r’ (0.150) was smaller than the tabulated value (0.196) with 98 degrees of freedom at 0.05 level of probability.
- The concerned null hypothesis was accepted.
- The coefficient of correlation between the concerned variables was not significant at 0.05 level of probability.

The findings demonstrate that farming experience of the farmers had no significant relationship with their use of communication media in receiving agricultural information.

4.4.4 Relationship between Farm Size of the Farmers and their Use of Communication Media

The relationship between farm size of the farmers and their use of communication media in receiving agricultural information was examined by testing the following null hypothesis:

“There is no relationship between farm size of the farmers and their use of different media in receiving agricultural information”

Computed value of the coefficient of correlation between farm size of the farmers and their use of communication media in receiving agricultural information was found to be 0.015 as shown in Table 4.11.

The following observations were recorded regarding the relationship between the two variables on the basis of the co-efficient of correlation:

- The relationship showed a negative trend.
- The computed value of ‘r’ (0.015) was smaller than the tabulated value (0.196) with 98 degrees of freedom at 0.05 level of probability.
- The concerned null hypothesis was accepted.
- The coefficient of correlation between the concerned variables was not significant at 0.05 level of probability.

The findings demonstrate that farm size of the farmers had no significant relationship with their use of communication media in receiving agricultural information.

4.4.5 Relationship between Annual Income of the Farmers and their Use of Communication Media

The relationship between annual income of the farmers and their use of communication media in receiving agricultural information was examined by testing the following null hypothesis:

“There is no relationship between annual income of the farmers and their use of different media in receiving agricultural information”

The coefficient of correlation between annual income of the farmers and their use of communication media in receiving agricultural information was found to be 0.216 as shown in

Table 4.11. The following observations were recorded regarding the relationship between the two variables on the basis of the co-efficient of correlation:

- The relationship showed a positive trend.
- The computed value of ‘r’ (0.216) was greater than the tabulated value (0.196) with 98 degrees of freedom at 0.01 level of probability.
- The concerned null hypothesis was rejected.
- The coefficient of correlation between the concerned variables was significant at 0.05 level of probability.

The findings demonstrate that annual income of the farmers had significant relationship with their use of communication media in receiving agricultural information.

4.4.6 Relationship between Organizational Participation of the Farmers and their Use of Communication Media

The relationship between organizational participation of the farmers and their use of communication media in receiving agricultural information was examined by testing the following null hypothesis:

“There is no relationship between organizational participation of the farmers and their use of different media in receiving agricultural information”

The coefficient of correlation between organizational participation of the farmers and their use of communication media in receiving agricultural information was found to be 0.359 as shown in Table 4.11. The following observations were recorded regarding the relationship between the two variables on the basis of the co-efficient of correlation:

- The relationship showed a positive trend.
- The computed value of ‘r’ (0.359) was greater than the tabulated value (0.256) with 98 degrees of freedom at 0.01 level of probability.
- The concerned null hypothesis was rejected.
- The coefficient of correlation between the concerned variables was significant at 0.01 level of probability.

The findings demonstrate that organizational participation of the farmers had significant relationship with their use of communication media in receiving agricultural information.

4.4.7 Relationship between Farming Facility of the Farmers and their Use of Communication Media

The relationship between farming facility of the farmers and their use of communication media in receiving agricultural information was examined by testing the following null hypothesis:

“There is no relationship between farming facility of the farmers and their use of different media in receiving agricultural information”

Computed value of the coefficient of correlation between farming facility of the farmers and their use of communication media in receiving agricultural information was found to be 0.077 as shown in Table 4.11.

The following observations were recorded regarding the relationship between the two variables on the basis of the co-efficient of correlation:

- The relationship showed a negative trend.
- The computed value of ‘r’ (0.077) was smaller than the tabulated value (0.196) with 98 degrees of freedom at 0.05 level of probability.
- The concerned null hypothesis was accepted.
- The coefficient of correlation between the concerned variables was not significant at 0.05 level of probability.

The findings demonstrate that farming facility of the farmers had no significant relationship with their use of communication media in receiving agricultural information.

4.4.8 Relationship between Knowledge on Agriculture of the Farmers and their Use of Communication Media

The relationship between knowledge on agriculture of the farmers and their use of communication media in receiving agricultural information was examined by testing the following null hypothesis:

“There is no relationship between knowledge on agriculture of the farmers and their use of different media in receiving agricultural information”

The coefficient of correlation between knowledge on agriculture of the farmers and their use of communication media in receiving agricultural information was found to be 0.277 as shown in Table 4.11. The following observations were recorded regarding the relationship between the two variables on the basis of the co-efficient of correlation:

- The relationship showed a positive trend.
- The computed value of 'r' (0.277) was greater than the tabulated value (0.256) with 98 degrees of freedom at 0.01 level of probability.
- The concerned null hypothesis was rejected.
- The coefficient of correlation between the concerned variables was significant at 0.01 level of probability.

The findings demonstrate that knowledge on agriculture of the farmers had significant relationship with their use of communication media in receiving agricultural information.

CHAPTER 5
**SUMMARY OF FINDINGS,
CONNCLUSIONS AND
RECOMMENDATIONS**

CHAPTER 5

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents the summary of findings, conclusions and recommendations of the study.

5.1 Summary of the Findings

The summary of the major findings are presented in the following subsections:

5.1.1 Selected Characteristics of the Farmers

Age: A large proportion (49 percent) of the farmers was middle compared to 44 and 7 percent being young aged and old respectively.

Education: The majority (60 percent) of the farmers had secondary education compared to 16 and 14 percent having primary and above secondary education respectively. Besides, 5 percent of the respondents were illiterate and 5 percent of them can sign only.

Farming Experience: Finding reveals that 40 percent of the farmers had medium experience compared to 38 and 22 percent having low and high experience respectively.

Farm Size: A majority 61 percent of the farmers possessed medium farm size compared to 31 and 8 percent of them having small farm size, large farm size respective.

Annual Income: Finding reveals that the highest portion (65 percent) of the farmers had low annual income while 30 and 5 percent of them had medium annual income and high annual income respectively.

Organizational Participation: The finding indicates that majority (48 percent) of the farmers had medium organizational participation compared to 29 and 23 percent having low organizational participation and high organizational participation respectively.

Farming Facilities: Finding indicates that the highest proportion (40 percent) of the farmers had high farming facility compared to 37 and 23 percent having medium farming facilities and low farming facilities respectively.

Knowledge on Agriculture: Finding indicates that the highest proportion (63 percent) of the farmers had medium knowledge on agriculture compared to 26 and 11 percent having poor knowledge and high knowledge on agriculture respectively.

5.1.2 Use of Communication Media in Receiving Agricultural Information

The finding indicates that majority (63 percent) of the farmers had medium use of communication media in receiving agricultural information compared to 23 and 14 percent having low use of communication media and high use of communication media respectively.

5.1.3 Effectiveness of Communication Media

The finding indicates that majority (71 percent) of the farmers had moderate effectiveness of communication media in receiving agricultural information compared to 13 and 16 percent having less effectiveness of communication media and high effectiveness of communication media respectively.

5.1.4 Relationship between Each of the Selected Characteristics of the Farmers and their Use of Communication Media in Receiving Agricultural Information

Correlation analysis indicates that age, education, annual income, organizational participation, knowledge on agriculture of the farmers had significant relationship with their use of communication media in receiving agricultural information. Other three variables were found to be non-significant with the use of communication media in receiving agricultural information.

5.2 Conclusions

Based on the findings of this study the following conclusions were drawn:

1. The study indicated that 63 percent of the respondents maintained medium use of communication media in receiving agricultural information. This is not enough for maintaining adequate flow of farm information among the farmers. The finding leads to the conclusion that the farmers should increase contact with the communication media available to them in receiving agricultural information for performing various farming operations.
2. Seventy one percent of the respondents perceived moderate effectiveness of communication media in receiving agricultural information. For agricultural development of the country, effectiveness of communication media must be increased. It may be concluded that the effectiveness of communication media is moderate and needs further improvement.

3. The study indicated that age of the farmers had significant relationship with their use of communication media. This means that age of the farmers had influence on their use of communication media in receiving agricultural information.

4. The statistical analysis showed a significant positive relationship of education of the farmers with their use of communication media in receiving agricultural information. Therefore, it may be concluded that education plays an important role for using of communication media in receiving agricultural information.

5. Annual income of the farmers had positive significant relationship with the use of communication media in receiving agricultural information. It leads to the conclusion that income of the farmers had helped them to increase their use of communication media in receiving agricultural information.

6. Organizational participation of the respondents had a positive significant relationship with their use of communication media in receiving agricultural information. The finding leads to the conclusion that the farmers with more organizational exposure are expected to have more interest in using different communication media in receiving agricultural information.

7. A significant positive relationship was found between knowledge on agriculture of the farmers and their use of communication media in receiving agricultural information which implied that the more the knowledge of the farmers on agriculture the more the use of communication media in receiving agricultural information.

5.2.1 Recommendations for Policy Implications

On the basis of the findings and conclusions of the study, the following recommendations for policy implication are made:

1. Most (63%) of the farmers were the medium user of communication media for receiving agricultural information. Majority (71%) of them perceived medium effectiveness of communication media. Therefore, it may be recommended that attempts should be taken by the concerned authorities to increase the use of effective communication media by the farmers for receiving agricultural information.

2. Age, education and annual income of the farmers had significant relationship with their use of communication media. Therefore, it may be recommended that attempts should be taken by the concerned authority to increase the use of communication media for specially the young and middle aged farmers having lower education and lower income for receiving agricultural information.

3. The study reveals that the farmers with better organizational participation having opportunity to expose themselves with various communication media. Therefore, group approach of extension could effectively be used by different extension agencies in disseminating information.

4. The knowledge of the farmers on agriculture showed a positive significant relationship with their use of communication media. Therefore, it may be recommended that extension agents should take necessary steps to increase the knowledge of the farmers by providing necessary training.

5.2.2 Recommendations for Future Studies

1. It is strongly felt that study of this nature be replicated in other parts of Bangladesh. This recommendation is made because the study area at Sonatola Upazila of Bogra district is not typical of the situation in the entire country.

2. This study was investigated the relationship of eight characteristics of the farmers with their use of communications media in receiving agricultural information. Therefore, it is recommended that further study should be conducted involving other characteristics of the farmers.

3. Similar study may also be replicated in future for studying any change of pattern regarding effectiveness of communication media used among the same population of the present study area.

4. On the basis of the characteristics pattern of farming population, more researches should be conducted to investigate the comparative effectiveness of communication media with other extension method and also identify the factors influencing the use of communication media, its utilization as well as effectiveness in receiving information by the farmers.

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APPENDIX-A

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English version of the interview schedule

on

“Farmers’ Use of Communication Media in Receiving Agricultural Information”

Serial No. : Date :

Name of respondent :

Father's Name :

Village : Union :

Upazila : District :

(Please answer the following questions)

1. Age

How old are you?

..... Years

2. Education

What is your level of education?

a) Cannot 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 indicate the area of land in your possession.

SL#	Type of land	Land Area	
		Local Unit	Hectare
a	Homestead area (including ponds)		
b	Own land under own cultivation		
c	Own land given to others as borga		
d	Land taken from other as borga		
e	Land taken from other as lease		
Total: a + b + ½ (c + d) + e =			

5. Annual Income (last year)

Please indicate your income from the following sources in the last year:

SL#	Source of Income	Annual Income (TK)
a) Income from agricultural sector		
i	From crop production	
ii	From vegetable production	
iii	From livestock rearing	
iv	From poultry rising	
v	From fish cultivation	
b) Income from Non-agricultural sector		
i	From business	
ii	From service	
ii	From daily labour	
Total Income: (a+b) =		

6. Organizational Participation

Please mention the extent of participation in the following organizations:

SL#	Name of Organization	No Participation	Extent of Participation (Year)		
			Ordinary Member	Executive Members	Executive Officer
1	Samabay Samity				
2	Mosque/Mondir Committee				
3	Union Parishad Committee				
4	School/College Committee				
5	Madrasha Committee				
6	Youth Club				
7	Bazar Committee				

8	NGO Samity				
9	Mass Literacy Committee				
10	Sports Club				
11	Others				

7. Farming facilities

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

Input Materials	Abundant	Adequate	Somewhat	Not at All
a) Seeder				
b) Plough				
c) Yoke				
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				

8. Knowledge on Agriculture

Please answer the following questions:

SL#	Question	Full Mark	Marks Obtained
1	Name two medicinal plants.	2	
2	Mention the time for preparing land for winter vegetable.	2	
3	Indicate two symptoms of mosaic disease of papaya.	2	
4	Name two variety of chili.	2	
5	Name two important disease of potato.	2	
6	What do you mean by balanced fertilizer?	2	
7	What do you mean by Integrated Pest Management?	2	
8	Name two methods of Integrated Pest Management.	2	
9	Mention two advantages of applying organic manure to land.	2	
10	Name two chemical fertilizers.	2	
11	Name two green manuring plants.	2	
12	Indicate two major elements for compost preparation.	2	
13	Name two symptoms of mosaic disease of lady's finger.	2	
14	Name two year round vegetable.	2	
15	Name two diseases of cabbage.	2	
16	What is the time for preparing land for lady's finger?	2	
17	What do you mean by soil salinity?	2	
18	Mention two methods to reduce soil salinity.	2	
19	Name two HYV Aman rice varieties.	2	

20	What is the advantage of Gooti Urea?	2	
Total Score =		40	

9. Use of Communication Media

Please indicate your extent of use of the following communication media in receiving agricultural information (put tick mark):

Communication Media	Name of the Source of Information	Extent of Use of the Communication Media			
		Regularly (3)	Often (2)	Seldom (1)	Never (0)
Individual	Experienced farmer	Above 4 times/ week []	3-4 times/ week []	1-2 times/ week []	Never []
	Relatives	Above 5 times/ week []	4-5 times/ week []	1-3 times/ week []	Never []
	Input dealers	Above 4 times/ week []	3-4 times/ week []	1-2 times/ week []	Never []
	Neighbors	Above 4 times/ week []	3-4 times/ week []	1-2 times/ week []	Never []
	Local leader	Above 4 times/ month []	3-4 times/ month []	1-2 times/ month []	Never []
	NGO worker	Above 4 times/ month []	3-4 times/ month []	1-2 times/ month []	Never []
	Upazila Agril. Officer	Above 4 times/ month []	3-4 times/ month []	1-2 times/ month []	Never []
	Sub Asst. Agril. Officer	Above 6 times/ month []	4-6 times/ month []	1-3 times/ month []	Never []
Group	Group discussion	Above 4 times/ month []	3-4 times/ month []	1-2 times/ month []	Never []
	Result demonstration	Above 4 times/ 6 month []	3-4 times/ 6 month []	1-2 times/ 6 month []	Never []
	Farmers' rally	Above 4 times/ 6 month []	3-4 times/ 6 month []	1-2 times/ 6 month []	Never []
	Result demons. Meeting	Above 4 times/ 6 month []	3-4 times/ 6 month []	1-2 times/ 6 month []	Never []
	Agril. Exhibition	Above 4 times/ 6 month []	3-4 times/ 6 month []	1-2 times/ 6 month []	Never []
	Method demonstration	Above 4 times/ 6 month []	3-4 times/ 6 month []	1-2 times/ 6 month []	Never []
Mass	Radio	Above 4 times/day []	3-4 times/ day []	1-2 times/ day []	Never []
	Agril. printed	Above 4	3-4 times/	1-2 times/	Never

	materials	times/month []	month []	month []	[]
	Television	Above 4 times/day []	3-4 times/day []	1-2 times/day []	Never []
	Internet/Website	Above 4 times/day []	3-4 times/day []	1-2 times/day []	Never []

10. Effectiveness of Communication Media

Please assess the effectiveness of the following communication media in respect of disseminating agricultural information (put tick mark):

Communication Media	Name of the Source of Information	Extent of Effectiveness of the Communication Media			
		Highly Effective (3)	Moderately Effective (2)	Less Effective (1)	Not Effective (0)
Individual	Experienced farmer				
	Relatives				
	Input dealers				
	Neighbors				
	Local leader				
	NGO worker				
	Upazila Agricultural Officer				
Group	Sub Asst. Agriculture Officer				
	Group discussion				
	Result demonstration				
	Farmers' rally				
	Result demonstration meeting				
	Agril. Exhibition				
Mass	Method demonstration				
	Radio				
	Agril. printed materials				
	Television				
	Internet/Website				

Thank you for your cordial cooperation.

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Signature of investigator

APPENDIX-B

Farmers' Use of Communication Media in Receiving Agricultural Information

CORRELATION MATRIX AMONG THE VARIABLE OF THE STUDY

Variable	X1	X2	X3	X4	X5	X6	X7	X8	X9
X1	1								
X2	-0.179 ^{NS}	1							
X3	0.713 ^{**}	-0.091 ^{NS}	1						
X4	0.162 ^{NS}	0.044 ^{NS}	0.134 ^{NS}	1					
X5	0.230 [*]	0.149 ^{NS}	0.100 ^{NS}	0.692 ^{**}	1				
X6	0.372 ^{**}	0.204 [*]	0.259 ^{**}	0.086 ^{NS}	0.188 ^{NS}	1			
X7	-0.006 ^{NS}	0.158 ^{NS}	-0.004 ^{NS}	-0.125 ^{NS}	-0.120 ^{NS}	-0.003 ^{NS}	1		
X8	0.025 ^{NS}	0.097 ^{NS}	0.033 ^{NS}	0.070 ^{NS}	0.094 ^{NS}	0.301 ^{**}	-0.041 ^{NS}	1	
X9	0.241 [*]	0.326 ^{**}	0.150 ^{NS}	0.015 ^{NS}	0.216 [*]	0.359 ^{**}	-0.077 ^{NS}	0.277 ^{**}	1

NS = Non Significant

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

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

Legend:

- X1 =** Age
- X2 =** Education
- X3 =** Farming experience
- X4 =** Farm size
- X5 =** Annual income
- X6 =** Organizational Participation
- X7 =** Farming facility
- X8 =** Knowledge on Agriculture
- X9 =** Use of communication media