

**COMMUNICATION BEHAVIOR OF WHEAT GROWERS OF  
AMBIKAPUR UNION UNDER FARIDPUR DISTRICT**

**BY**

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*A thesis*

*Submitted to the Department of Agricultural Extension and Information System  
Sher-e-Bangla Agricultural University, Dhaka  
In partial fulfillment of the requirements  
for the degree of*

**MASTER OF SCIENCE (MS)**


**IN**

**AGRICULTURAL EXTENSION AND INFORMATION SYSTEM**

**SEMESTER: JULY-DECEMBER, 2009**

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**DEDICATED  
TO  
MY BELOVED PARENTS**

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**CERTIFICATE**

This is to certify that the thesis entitled “**Communication Behavior of Wheat Growers of Ambikapur Union under Faridpur District**” 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. Khokon Uzzaman**, Registration No. **04-01439** under my supervision and guidance. No part of the thesis has been submitted for any other degree or diploma.

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

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## ACKNOWLEDGEMENTS

*All praises to Almighty Allah, the Great, Gracious, Mercifull, Whose blessings enabled the author to complete this research work successfully.*

*In particular, the author deems it a great pleasure to express his profound thankfulness to his respected parents, who entiled much hardship inspiring for prosecuting his studies, receiving proper education.*

*The author deems it a proud privilege to express his deep sence of gratitude, sincere appreciation and immense thanks to his supervisor Md. Zahidul Haque, Professor, Department of Agricultural Extension and Information System, Sher-e-Bangla Agricultural University, Dhaka, for his continuous guidance, cooperation, constructive criticism and helpful suggestions in carrying out the research work and preparation of this thesis, without his intense co-operation this work would not have been possible.*

*The author feels proud to express his deepest respect, sincere appreciation and immense indebtedness to his co-supervisor Mohammad Hossain Bhuiyan, Professor Department of Agricultural Extension and Information System, Sher-e-Bangla Agricultural University, Dhaka, for his scholastic and continuous guidance, constructive criticism and valuable suggestions during the entire period of course and research work and preparation of this thesis.*

*The author expresses his sincere respect to Professor Dr. Md. Rafiqueel Islam, Chairman, Department of Agricultural Extension and Information System, Sher-e-Bangla Agricultural University, Dhaka for valuable suggestions and cooperation during the study period. The author also expresses his heartfelt thanks to all the teachers of the Department of Agricultural Extension and Information System, SAU, for their valuable teaching, suggestions and encouragement during the period of the study.*

*Special and thankful appreciation is also due to Mahmud, Rubel, Shohel, Rana, Sifat, Shahriar, Poly, Bappi for their fellow feeling and encouragement during the study period.*

*Last but not the least, the author express his immense indebtness, deppest sense of gratitude and profound respect to his brothers and sisters who had been a constant source of blesings, inspiration and encouragement for his higher study.*

*The Author*



# COMMUNICATION BEHAVIOR OF WHEAT GROWERS OF AMBIKAPUR UNION UNDER FARIDPUR DISTRICT

## ABSTRACT

The study was conducted to study Communication behavior of wheat growers of Ambikapur union under Faridpur District. This union is situated 6 km north of Faridpur District head quarter. Duldi Goubindhapur, Shovarampur, Vashanchar and Komorpur village under Ambikapur union of Faridpur Sadr Upazilla selected purposively as the locale of the study. Wheat growers of Duldi Goubindhapur, Shovarampur, Vashanchar and Komorpur village under Ambikapur union constituted the population of the study. An update list of 1069 wheat growers from the selected village was prepared with the help of Sub-Assistant Agricultural Officer (SAAO) of these areas. Ten (10) percent of the populations were randomly selected as the sample of the study by using random sampling method. Thus, 107 wheat growers constituted the sample of the study. A well structured interview schedule was developed based on objectives of the study for collecting information. The researcher himself collected data through personal contact during the period from 23 Nov, 2010 to 22 Dec, 2010. The independent variables were: age, level of education, family size, farm size, annual income, organizational participation, cosmopolitaness, attitude towards wheat cultivation, innovativeness and knowledge of wheat cultivation. Among the respondents the highest 51.40 percent wheat growers belongs to the group of medium level communication behavior followed by 32.71 percent in low level communication behavior group and 15.89 percent in high communication behavior group. Among the characteristics of the respondent Level of education, annual income, organizational participation, attitude towards wheat cultivation, innovativeness and knowledge on wheat cultivation had significant positive relationships with communication behavior of wheat growers.



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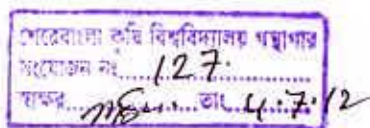
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## CHAPTER 1

### INTRODUCTION



#### 1.1 General Background

Wheat (*Triticum aestivum*) is one of the most important cereal crops of the world. It ranks first both in the context of per hectare cultivation and production. It is cultivated in most part of the world and about one third of the total population of the world live on it (Hunshell and Malik, 1983). It is a staple diet to most populations in the developed countries of Europe and America. It is equally consumed as the main food in developing countries. Wheat grain is rich in nutrient value containing carbohydrate 78.1%, protein 14.7%, minerals 2.1%, fat 2.1% and considerable proportion of vitamins (Peterson, 1965). The crop is grown under different environmental condition ranging from humid to arid, subtropical to temperate zone (Sann, 1998). In Bangladesh, wheat is the second most important staple crop after rice. About 388 hectare of land in Bangladesh is covered by wheat cultivation with an annual production of 844 thousand metric tons (BBS, 2008).

Bangladesh is an agricultural country and population is 137 million with high density of 928 per square kilometer (Bangladesh Economic Survey, 2005). Wheat can be a good supplement of rice and can play the most vital role to feed the teeming millions. There is ample scope for wheat cultivation in Bangladesh as it is cultivated in Rabi season having minimum competition with rice for land. Wheat can be grown in winter season along with other crops like pulses, oil seeds, vegetable etc. Five wheat production zones have been identified in Bangladesh viz. the North-West (N-W), North-East (N-E), North Central (N-C), South Central (S-C) and South West (S-W) zones include most of the major wheat growing areas in the country. Different natural calamities or disasters such as flood, drought, cyclone, tidal bore etc. affect the rice production. As a result rice production becomes uncertain. In this situation the cultivation of wheat can be given priority as a solution to food crisis.



Dubin and Grinkel (1991) reported that in the recent years the largest area of wheat cultivation in the warmer climates exists in the South-East Asia including Bangladesh, India and Nepal. In 2004-2005, the wheat production, seeds required 79000 metric tones, current supply rate 17.98% and present production 14208 metric tones (Fakir, 2000). In spite of its importance, the yield of the crop in our country is low in comparison to the other countries of the world, where average yield estimated 2.69 t/ha (FAO, 1997). Though the area, production and yield rate of wheat have been increasing dramatically during the last decade, the wheat yield in Bangladesh is too low (2.2 t/ha) in comparison to the development countries of the world like Japan, France, Germany and UK producing 3.76, 7.12, 7.28, and 8.00 t/ha, respectively (FAO, 2000).

The production cost of wheat is low compared to rice and is preferable to rice for its higher grain protein content (Maltern *et. al.*, 1970). Cost benefit ratio between wheat and boro rice are as follows 1.44 and 1.39. The total production of rice in Bangladesh is not often sufficient to feed her people. In this case, wheat can be a good supplement of rice and can play the most vital role of feed the teeming millions of the people. There is ample scope of wheat cultivation in Bangladesh as it is cultivated in rabi season having minimum competition with rice for land. The trend of wheat area in Bangladesh is decreasing or static mainly due to increase in boro rice area. The causes of lower yield of wheat in Bangladesh were attributed to many factors like lack of innovation or good variety, quality seeds, untimely seeding and poor knowledge management package (FAO, 2000).

During wheat production some guidelines must be followed such as irrigation, intercultural operation like weed management, plant protection etc. Irrigation is one of the main technological supports that effect the cultivation of wheat. Wheat needs 30-40cm water during its whole growing period. Adequate soil moisture is required for normal development of the wheat plant at all stages of growth. The crown root initiation stage and heading stage are critical stage when plant suffers most weeds emerge with the crop and if not controlled in the early stage of growth there may cause reduction in yield varying from 10-40% depending upon the

intensity and stage of weed infestation, plant protection through diseases and insects. Some common diseases attack wheat such as stem rust, leaf rust, loose smut, seedling blight and powdery mildew. These diseases are carried by insects such as stem borer, termite, aphid, cut worm etc.

In Bangladesh, wheat is grown during the dry winter months from November to March (Rabi season). The yield of wheat in the farmer's field is much lower than that of the research farm. The farmers usually are exposed to various forms of communication media to collect necessary information. Different research studies revealed that farmers prefer interpersonal information sources, group approach and mass media to receive information. Miah and Halim (1992) found that the small farmers preferred interpersonal communication sources to get their necessary information, the medium farmers preferred individual and group media while the rich farmers preferred individual, group and mass media sources of information. In Bangladesh, weather, climate and soil are very suitable for wheat cultivation but due to lack of use of appropriate practices, farmers are not able to raise potential high yields. Important information at the right time related to wheat production is the key factor for the farmers in adopting improved technologies.

Knowledge of communication behavior of wheat farmers is essential for transferring improved technologies for increasing the yield of wheat. But the communication behavior of the wheat growers is not clearly defined as per the context of average yield of wheat. Most of the wheat growers are not knowledgeable to adopt improved technologies for increasing wheat production. In order to expand wheat growers' knowledge and skill it is necessary to increase communication behavior regarding wheat cultivation of the growers. The progressive wheat growers with maximum communication behavior are the most active actors who generally play a crucial role in the transformation of information. Very few researches have been conducted on the farmers' communication behaviors of wheat growers.



## **1.2 Statement of the Problem**

Wheat is one of the most important cereal crops in Bangladesh next to rice. The importance of the cultivation of this crop is increasingly recognized by the implement as of agricultural extension programs as well as policy makers. The government of Bangladesh is promoting the extent of cultivation and production of this crop through various projects. As a high value crop, wheat has much potentiality for widespread cultivation. But before undertaking any massive program for its increased cultivation in Bangladesh, it is first necessary to know the existing situation of the communication behaviors of the growers of wheat in the most potential areas of Bangladesh. The Faridpur region is mostly well known for cultivation of wheat in this country. This is undoubtedly an educative process and it possible through improving the communication behavior of the wheat growers of that region concerned mainly with increasing agricultural production and improving living standards of the farmers. Exposure to information pertaining to different aspects of wheat production is very essential for the wheat growers as Kashem and Halim (1991) found, "Contact with information is a pre-condition to receive information and the use of technology in real situation". Technology, generation and its adoption are very much of paramount importance for successful wheat cultivation. To expand the cultivation of this crop in other parts of the country, the communication behavior regarding wheat cultivation of the present wheat growers in this region would significantly contributory to design appropriate programs for its widespread cultivation. In this regard, the answers to the following questions will be very much pertinent:

1. What is the extent of use of communication media by the wheat growers?
2. What are the selected characteristics of the wheat growers?
3. What relationships exist between the farmers selected characteristics and their communication behavior for cultivation of wheat?

These questions obviously inspired the researcher for conducting a research study entitled "Communication behavior of wheat growers of Ambikapur Union under Faridpur District."



### **1.3 Specific objectives of the study**

1. To determine the extent use of communication media by the wheat growers of selected area.
2. To determine and describe the selected characteristics of the wheat growers. The characteristics are
  - Age
  - Education
  - Family size
  - Farm size
  - Annual income
  - Organizational participation
  - Cosmopolitaness
  - Attitude towards wheat cultivation
  - Innovativeness
  - Knowledge on wheat cultivation
3. To explore the relationship between selected characteristics of wheat growers and their communication behavior.

### **1.4 Justification of the Study**

Production of wheat may be increased with the care of wheat cultivation by the farmers. The concept and benefits of the wheat cultivation should be disseminated to the farmers in a convincing and attractive manner, so that the farmers response quickly to adopt wheat cultivation. On an average about 2.4 to 2.8 million hectares of land remain uncultivated during winter season (BBS, 2008). A substantial portion of that, wheat cultivation need less water, faces less problem due to weed and insect.

There is an assurance of next crop after harvesting of wheat for its short duration and obtain self sufficiency in food, it can play a significant role along with rice. To increase wheat production to get necessary information related to wheat production would be the key factor for the farmers in adoption of wheat cultivation (Islam, 1996). Now considerable effort is being made through research and extension delivery system to increase wheat production in our country. But the actual increase in production will depend on the communication behavior of

the wheat growers. The behavior of a farmer is influenced by his personal, economic, social and physiological characteristics (Hossain, 1991).

Exposure to information pertaining to different aspects of wheat production is very essential for the wheat growers as Kashem and Halim (1991) found, "Contact with information is a pre-condition to receive information and the use of technology in real situation". Technology, generation and its adoption are very much of paramount importance for successful wheat cultivation. At this end, the wheat growers need to come in contact with various communication media for collecting necessary information-only a few researchers in home and in abroad has conducted research on communication behavior.

Particular crop does not yield well everywhere in the country. Each crop requires suitable topography to grow well and produce higher yield. Faridpur is one of those districts where wheat grows well because of its congenial topography. Farmers of this area obtain more yields from wheat cultivation than any other crops' cultivation. The Ambikapur union is included of this high cultivable wheat growing area. Most farmers of this union are growing wheat since year to year. So it will be a convenient topic to study about the communication behavior of the wheat growers of this union. Considering the above facts in view and the practical usefulness of it, a research for improving wheat cultivation strategies of the wheat growers the researcher has decided to undertake the present research entitled- **"Communication Behavior of Wheat Growers of Ambikapur Union under Faridpur District"**.

### **1.5 Scope of the Study**

The main focus of the study was to determine the communication behavior of the wheat growers. The findings of the study would be specifically applicable to Faridpur district. However, the findings would also have implications for other areas of the country having relevance to the socio-cultural context of the study area. The investigator believes that the findings of the study would reveal the phenomenon related to diffusion of innovation. These would be of special interest



to the policy makers and planners in formulating and redesigning the extension programs especially for wheat cultivation. The findings are expected to be helpful to the field workers of different nation building departments and organizations to develop appropriate extension strategies for effective communication behavior for collecting information of modern agricultural technology.

### **1.6 Assumptions of the Study**

An assumption is the supposition that an apparent fact or principle is true in the light of available evidence (Goode and Hatt, 1952). The researcher had the following assumptions in mind while undertaking this study:

- 1) The respondent included in the sample was capable of providing proper answer to the question in the interview schedule.
- 2) The researcher who acted as interviewer was adjusted to social and environmental condition of the study area. Hence, the data collected by him and the respondents were free from bias.
- 3) The responses furnished by the respondents were reliable. They expressed the truth about their conviction and opinions.
- 4) Views and opinions furnished by farmers included in the sample were representative views and opinions of the whole population of the study.
- 5) The finding of the study will have general application to other parts of the country with similar, socio-economic, cultural and agro-ecological conditions of the study area.
- 6) The respondents were more or less conscious about the use of wheat cultivation.

### **1.7 Limitations of the Study**

Considering the time, money and other necessary resources available to make the study manageable and meaningful, it was necessary to consider the following limitations:

1. The study was confined mainly to communication behavior of the wheat growers.



2. The study was confined in four villages of Ambikapur union under Faridpur sadar upazila of Faridpur district.
3. The characteristics of wheat growers are many and varied but only eleven characteristics were selected for investigation in this study.
4. Population of the study includes only the wheat growers of the farm families.
5. Facts and figures were collected by the investigator applied to the present situation in the selected area.
6. For information about the study, the researcher was dependent on the data furnished by the selected respondent during data collection.

### **1.8 Statement of Hypothesis**

As defined by Goode and Hatt (1952) "A hypothesis is a proposition which can be put to a test to determine its validity. It may seem 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".

The following hypothesis is formulated to explore the relationship between the dependent and independent variables. The major research hypothesis for the study is: "there is relationship between communication behavior of the wheat growers and their selected characteristics including age, level of education, family size, farm size, annual income, organizational participation, cosmopolitaness, attitude towards wheat cultivation, innovativeness and knowledge of wheat cultivation.

The research hypothesis was converted into null form for the purpose of statistical testing. The major null hypothesis states that "There is no relationship between communication behavior of the wheat growers and their selected characteristics". Eleven null hypotheses were formulated dealing with each of the selected characteristics.

## **1.9 Definition of Key Terms**

Certain terms have been used in this research which are defined and interpreted as follows for clarity of understanding.

### **Respondents**

People who have answered the questions by an interviewer for a social survey are known as respondents. They are the people from whom a social research worker usually gets most data required for his research. In this study the respondents are the wheat growers of Ambikapur Union.

### **Farmers/Growers**

The persons who were involved in farming activities are called farmers. They participated in different farm and community level activities like crops, livestock, fisheries, other farming activities etc.

### **Variable**

A general indication in statistical research of characteristic that occurs in a number of individuals, objects, groups etc. and that can take on various values, for example the age of an individual.

### **Assumption**

An assumption is "The supposition that an apparent fact or principle is true in the light of the available evidence" (Goode and Hatt, 1952).

### **Hypothesis**

Defined by Goode and Hatt (1952), a proposition this can be put to "a test to determine its validity". It may be true or false, it may seem contrary to or in accord with common sense. However, it leads to an empirical test.

### **Null hypothesis**

The hypothesis which we pick for statistical test is null hypothesis (Ho). In this study the null hypothesis is stated that there is no relationship between the concerned variables.



**Innovation**

An innovation is an idea or practice perceived as new by the individual. It is the newness of the idea to the individual that determines his reaction to it.

**Communication**

Van den Ban and Hawkins (1988) defined communication as the process of sending and receiving message through channels which establishes common meaning between a source and a receiver.

**Interpersonal channels**

Interpersonal channels are those that include peer farmers/neighbors, extension agents, commercial agents, group meeting etc. through which messages are exchanged in a face-to-face situation between communicator and receiver.

**Mass media**

The extension agent communicates with a mass of people, without taking into consideration their individual or group identity. Example: mass meeting.

**Mass media channels**

Mass media channels are those that include printing and electronic media such as newspapers, farm magazines, radio, television etc. through which messages are transmitted to the audience.

**Group media**

The extension agent communicates with the people in groups and not as individual persons. Example: group meeting.

**Individual media**

The extension agent communicates with the people individually, maintaining separate identity of each person. Example: farm and home visit.

**Age**

Age of a respondent is defined as the span of life and is operationally measured by the number of years from his/her birth to the time of interviewing.



**Level of Education**

Empirically it was defined to the development of desirable changes in knowledge, skill and attitudes in an individual through reading, writing, walking, observation and other selected activities. It was measured on the basis of classes a wheat grower has passed from a formal educational institution.

**Family size**

Family size refers to the number of member including the respondent himself/herself, his/her wife/husband children and other permanent dependents, who live and live together in a family unit.

**Farm size**

The term related to the hectare of land owned by a farmers on which he carried his farming and family business, the area being estimated in terms of full benefit to the farmers. A farmer was considered to have full benefit from cultivated area either owned by himself or obtained or, lease from others and half benefit from the area which was either cultivated by borga or given to others for cultivation on borga basis.

**Annual income**

Annual family income of a respondent referred to the total earning by him and other members of his family from agricultural (field crop, fish, livestock, poultry, fruits and vegetables and timbers, etc.) and other sources (service, business, etc.) during a year. Annual family income of the respondent also included the cost of maintaining his family. It was expressed in Taka.

**Organizational participation**

Organizational participation of the respondent is measured in two dimension status of his participation and duration of participation in different organizations during the time of interviewing.

### **Cosmopolitaness**

Cosmopolitaness of a respondent is measured by computing a Cosmopolitaness score. The Cosmopolitaness score is assigned on the basis of different places and frequency of his visit external to and outside his own social system.

### **Attitude towards wheat cultivation**

The term attitude towards wheat cultivation of an individual was used to refer to his feelings, belief and action tendencies towards the various aspects of wheat cultivation i.e. Knowledge + beliefs + action = attitude

### **Innovativeness**

Innovativeness is the degree to which an individual is relatively earlier in adopting innovations, new ideas, practices and things than the other members of a social system (Rogers, 1995). This was comprehended by the quickness of accepting innovations by an individual in relation to others and was measured on the basis of time dimension.

### **Knowledge on wheat cultivation**

It is the extent of basic understanding of the farmers in different aspects of wheat cultivation like soil, seed, fertilizer, insects and diseases, high yielding variety etc. It includes the basic understanding of the use of different inputs and practices for wheat cultivation.





## CHAPTER 2

### REVIEW OF LITERATURE

This chapter deals with the review of past research works that relates to this investigation directly or indirectly. Despite frantic search, the researcher found only a few literature related to this study. The researcher came across with some expert opinions and has tried his best to collect needful information through searching relevant studies, journals, periodicals, bulletins, leaflets, internet etc. These enhanced the researcher's knowledge for better and clear understanding of the present study. This chapter has been presented in three sections as follows:

Section 1: Concept of Communication

Section 2: Relationship between Selected Characteristics of Farmers and Communication behavior

Section 3: The development of conceptual framework of the study

#### **2.1 Concept of communication in receiving agricultural information**

Ahmed (1977) in his study on the use of communication media in jute cultivation found that the role of group contact (38.72 percent) was much greater than those of mass contact (21.23 percent), informal contact (20.44 percent) and individual contact (19.61 percent). However, when the single communication was considered irrespective of categories, it was found that the highest proportion of citations was for the neighbors, friends and relatives (94 percent). The place of progressive farmer was second in order of individual citations (89 per cent). Islam and Halim (1975) determined that use of media by the farmers in adopting IRRI paddy at different stages of adoption. They found that media vary in relation to their standing on the stages in the adoption process. At awareness stage about 89 per cent of the farmers used personal of information while only 11 per cent used impersonal media. The percentage of citation of the informal media was much higher (58 percent) than that of the formal interpersonal media (31 percent).



In interest stage about 97 percent of the farmers cited interpersonal communication of information compared to only about 3 percent who cited use of impersonal media. At this stage also the informal personal media were cited to a greater extent (68 percent) than the formal personal media (29 percent). At evaluation stage the personal media of information were cited 90 times while the impersonal media were cited only 2 times. However, the formal personal media of information had a higher percentage of citations (63 percent) than the informal personal media (35 percent).

At trial and adoption stage it was observed that the citations of media were more or less like for all five practices. In each case the use of personal media fairly dominated over the use of impersonal media. Formal personal media always had a fairly higher percentage of citations compared to the informal personal media.

Rahman (1974) conducted a study on the use of communication by the registered jute seed growers of Meherpur Thana and he observed that the extension agent was used to the highest extent (99 percent) which was followed in descending order by friends and neighbors (96.8 percent), model farmer and manager (52 percent) office call (52 percent), training at Thana Training and Development Centre (35 percent), farm and home visit (43 percent) publication (35 percent), radio (21 percent), newspaper (13 percent) and demonstration (8 percent).

While conducting a study on the farmers' preference for mass media, Karim (1974) found that the farmers learned the selected farm practices from more than one mass media. Most of them became aware of the 'use of fertilizers' from the radio farm forum (71 percent). The other media such as poster (26 percent), agricultural exhibition (22 percent) and film show (20 percent) were partially successful in the awareness and interest stages. A small number of them consulted Krishikatha (18 percent), agricultural bulletin (11 percent) and circular letter (7 percent) for technical information.

Quite a large number of growers heard about the importance of plant protection measure from radio (81 percent). The film show (25 percent), poster (19 percent) and agricultural exhibition (9 percent) worked as the auxiliary media. The cultivators also read Krishikatha (20 percent) circular letter (8 percent) and agricultural bulletin (7 percent) to meet their technical information about plant protection measure. On farmers preference, the mass media used expressed in descending order radio, film show, poster, agricultural exhibition, agricultural bulletin, Krishikatha and circular letter respectively.

Field studies conducted by Wilson and Gallup (1955) on Extension Teaching Methods indicated wide differences in the influence of the various extension teaching methods upon the adoption of farm and home practices. The study showed that 81 practices out of 100 were adopted as the result of the various teaching methods, 25 were credited to individual contacts, 33 to group contacts, and 23 to mass media methods. The indirect influence resulting from the direct teaching effort accounted for 19 percent of the new practices.

Jain and Caldwell (1970) studied the use of communication media in different stages of adoption which may be summarized as follows:

**Awareness stage-** mass media were the most important information media at this stage, followed by commercial and informal media. **Interest stage-** informal media occupied the first position, followed by commercial and mass media. **Evaluation stage-** Commercial media ranked first, followed by informal and mass media. **Trial stage-** informal media ranked first, followed by commercial and mass media. **Adoption stage-** Commercial media occupied the first position, followed by mass media.

Karim (1969) found that respondents mentioned more than one communication media for learning about improved rice farming. He found that 97 percent of the entire study group mentioned friends and neighbors as communication media, while 26 percent named result demonstration, field tour, method demonstration,



meeting, and short course training as the sources of farm information. About one-fourth (23 percent) of the farmers cited farm visit and office call as sources of farm information and about one-fifth (19 percent) mentioned radio, motion picture, poster, agricultural magazine, newspaper and pamphlets as information source for improved rice farming.

The situation was totally reversed at the information stage. Informal personal media were most frequently cited followed by formal personal media. Impersonal media received minimum citations. At the trial stage, however, formal personal media became the most frequently cited sources followed by informal media. There was no citation for impersonal media at this stage. Interestingly, some of the respondents consistently reported the use of same media from awareness to trial stages.

Impersonal media played a significant role in making people aware. Personal media remained a major media of communication for almost all the people at each stage of the adoption process. Among the personal media, the informal personal media (e.g. family, friends, neighbors and other persons within the community who have tried or adopted the practices) were the most important at the information stage. At the trial stage, the formal personal media were the most important ones.

In the acceptance stage, personal influence in face- to - face situations was the most commonly cited media. Therefore, oral extension and peer group influence were the most effective media at this stage.

Sarker (1995) in his study found that 99 per cent of the small farmer had low to medium use of communication media in receiving agricultural information for performing various farming operations. He also indicated that the small farmers mostly preferred localite and non-professional media for getting agricultural information.



## **2.2 Relationship between Selected Characteristics of Farmers and Communication behavior**

### **2.2.1 Age and communication behavior**

Sawhney (1969) observed that the farmers of different age groups differed in their use of information media. He observed that with the increase of age there was increasing use of localite media and diminishing use of personal cosmopolite and mass media.

Karim (1969) reported that though three age levels had certain degree of influence upon the rice growers in using the communication media the relationship was found to be statistically insignificant.

Huque (1972) found no relationship between age of IRRI rice growers and use of communication media. Accordingly, the investigator concluded that age had no significant influence on the use of communication media.

Rahman (1974) observed no relationship between age of registered jute seed growers and use of communication media.

Ahmed (1977) in his study found that age of the farmers had no significant influenced on the use of communication media in the adoption of improved farm practices.

Roy (1981) reported that the age of the small income farmers had no significant effect in using communication media on use of balance dose of fertilizers.

Bhuiyan (1988) found in his study that age of the farmers had significant negative correlation with the use of communication media in the adoption of selected improved farm practices in rice cultivation.

Sarker (1995) observed a negatively insignificant relationship between age of the small farmers and their use of communication media in receiving agricultural information.

Most of the research findings on age and adoption of improved farming practices showed that either the variables are of independent or they have negative relationships. This means that age of the farmers do not possess any significant influence upon their use of communication media in receiving agricultural information as well as the farming practices.

### **2.2.2 Level of education and communication behavior**

Rahman (1974) found that the level of education of the respondents had significant influence on the use of communication media.

Ahmed (1977) found that education had no effect on the use of communication media in the adoption of recommended variety of jute, recommended dose of fertilizer but showed an effect of education on the use of communication media and the relationship was positive.

Roy (1981), in his study found that education contributed positive relationship in receiving information on the use of balanced fertilizer dose by the small farmers.

Hossain (1981) in his study found that there was no relationship of education of the farmers with their adoption of improved practices.

Halim (1982) in his study on schooling, extension and agricultural production found that increase of educational level of the farm operators resulted increased per acre production of rice, jute and net farm income of the farm, but this positive trend between level of education and increased production tended to fall in those farms where the operator received more the secondary level of education. He found significant regression between level of formal schooling of the farm operator and per acre production of jute and rice which also resulted significant increase in net farm income.

Bhuiyan (1988) showed that education had positive and significant contribution on the comprehensive use of communication media.



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

The above research findings suggested that in most of the cases level of literacy of the farmers encourages them to maintain better contact with various communication media resulting receiving of adequate agricultural information.

### **2.2.3 Family size and communication behavior**

The family is the basic social institution with socially recognized rights and obligations. Research study relating to the effect of family size in receiving agricultural information is presented below:

Bose (1961) in his study on peasant values and innovations in India did not find any relationship between family size and adoption of improved agricultural practices.

Wilson (1963) opined that farmers with smaller families spent more time with mass media than those with larger families. Further, he added that those who read and listened to the radio had smaller families and were older than the non readers and non listeners.

Hossain's (1971) study in Gouripur union of Mymensingh district revealed a significant positive relationship between family size and adoption of each of the four recommended practices, namely, recommended variety of transplanted aman paddy, line transplanting methods, recommended doses of fertilizers and plant protection measures.

Ahmed's (1977) study showed that family size had significant influence on the use of communication media in the adoption of plant protection measures.

Sarker (1995) reported a negatively insignificant relationship between family size of the small farmers and their communication media use.



Findings of the studies presented above indicate that members of smaller families are likely to have more exposure to mass media and less pressure of work. As a result families may collect more information than larger families.

#### **2.2.4 Farm size and communication behavior**

Karim (1969) divided the rice growers into three categories according to the size of holding namely small, medium and large. He then compared the three groups in respect of their use of the different information media such as individual contact method, group contact methods, mass contact methods and indirect contact methods. It was found that the use of all the four types of information media was increased as the size of holding increased. Wilson also found a positive relationship between the size of crop land of the farmers and their time use for information media.

Hossain's (1971) study in Gouripur union of Mymensingh district revealed a significant positive relationship between farm size and adoption of each of the four recommended practices, namely, recommended variety of transplanted aman paddy, line transplanting methods, recommended doses of fertilizers and plant protection measures.

Rahman (1974) found that there was a positive relationship between farm size and use of communication media.

Bhuiyan (1988) found in his study that farm size had significant positive correlation with the use of communication media in the adoption of selected improved farm practices in rice cultivation.

Sarker's (1995) study showed that farm size of the small farmers possesses a significant amount of influence upon their decision on using communication media of information.

Majority of the researchers opined that the farm size has relationship with the use of various communication media adoption of improved farming practices.

### **2.2.5 Annual income and communication behavior**

Sawhney (1969) showed that income was positively related to use of different communication media.

Latif (1974) observed a significant positive relationship between income of the farmers and their communication exposure.

Ahmed (1977) found that income of the farmers had significant effect on the use of communication media in the adoption of plant protection measures.

Roy (1981) showed that farmers annual gross income to certain extent increase the receiving of information through different communication media for the use of balanced fertilizer dose. He also found that the more the income of farmers, the greater was their tendency to use all possible communication media for getting modern farm technology like use of balanced fertilizer dose.

Bhuiyan (1988) reported that the regression co-efficient of income towards use of communication media were statistically not significant and was concluded that income was not related to the comprehensive use of the communication media by the farmers.

Majority of the research findings indicated that the annual income of the farmers had possessed significant amount on influence on their use of communication of receive farm information for getting higher farm output.

### **2.2.6 Organizational participation and communication behavior**

Sawhney (1969) found that the farmers who were more actively participating in formal organizations used for more cosmopolite media and less localite media than those who were participating less actively or not at all.

Haque (1972) found a high positive relationship between socioeconomic status of the farmers and use of communication media. The socio-economic status scale consisted of farm size, annual income, educational level and social participation of the farmers in addition to other items included in the scale.



Roy (1981) in his study indicated that organizational participation of small income farmers had significant positive effect on their communication behaviour receiving information on the use of balanced doses of fertilizer.

Bhuiyan (1988) observed that the regression coefficient of organizational participation towards use of communication media was statistically not significant and was concluded that organizational participation was not related to comprehensive use of communication media by the farmers.

Sarker (1995) in his study revealed that the use of communication media by the small farmers had significant positive correlation with their organizational participation.

On the basis of research findings mentioned above it may be concluded that the organizational participation enable the farmers in maintaining better exposure with various communication media and different personalities resulting adoption of improved farming practices.

### **2.2.7 Cosmopolitaness and communication behavior**

Kadam and Sabale (1983) observed in a study that cosmopolitaness of the farmers had significant positive relationship with the extent of use of communication media.

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

Nuruzzaman (2003) in his study found that cosmopolitaness of the farmers had positive and highly significant relationship with their use of mass media in receiving agricultural information.

Annisuzzaman (2003) concluded that the cosmopolitaness of the respondents had significant positive relationship with their use of communication media.

### **2.2.8 Attitude towards wheat cultivation**

Ahmed (1977) found that attitude of the farmers had significant effect on the use of communication media in the adoption of plant protection measures.

Roy (1981) showed that farmers attitude to certain extent increase the receiving of information through different communication sources for the use of balanced fertilizer dose. He also found that the more the positive attitude of farmers, the greater was their tendency to use all possible communication media for getting modern farm technology like use of balanced fertilizer dose.

Bhuiyan (1988) observed that the regression coefficient of attitude of farmers towards communication behavior was statistically not significant and was concluded that attitude was not related to comprehensive use of communication media by the farmers.

Sarker (1995) in his study revealed that the use of communication behavior by the small farmers had significant positive correlation with their attitude.

### **2.2.9 Innovativeness and communication behavior**

Beal and Sibley (1967) found that there was a positive relationship between communication behavior of the Indian Guatemala and their adoption of agricultural technology.

Kashem and Halim (1991) found in their study that innovativeness of the farmers had significant positive correlation with their (farmers) self confidence, use of communication media in adoption of modern rice technology, use of communication media in livestock production, use of communication media in adoption of total agricultural technology.

### **2.2.10 Knowledge and communication behavior**

Kashem and Halim (1991) found in their study that agricultural knowledge had significant positive correlation with competence as farmers, belief and attitudes towards agricultural technologies, behaviour intent, innovativeness, self-



confidences cosmopolitanness, use of communication media in the transfer of modern rice technologies, use of communication media in livestock production, use of communication media in fish culture and use communication media in adoption of total agricultural technologies.

Sarker (1995) in his study on communication media used by the small farmers in receiving agricultural information found that the knowledge of the farmers is highly correlated with their communication behavior.

This means that knowledge of the farmers played an important role in the communication behavior of the farmers in farming practices. Therefore, it may be concluded that knowledge of the farmers influence them to maintain contact with various information sources and adoption of improved farming practices as well.

From the above presented review it was found that age, level of education, family size, farm size, annual income, organizational participation, cosmopolitanness, attitude towards wheat cultivation, innovativeness and knowledge of wheat cultivation had correlated with communication behavior.

### 2.3 Conceptual Framework

In scientific research, selection and measurement of variables constitute an important task. The hypothesis of a research while constructed properly consist at least two important elements i.e.: a dependent variable and an independent variable. A dependent variable is that factor which appears, disappears or varies as the researcher introduces, removes or varies the independent variables (Townsend, 1953). An independent variable is that factor which is manipulated by the researcher in his attempt to ascertain its relationship to an observed phenomenon. Variables together are the causes and the phenomenon is effect and thus, there is cause effect relationship everywhere in the universe.

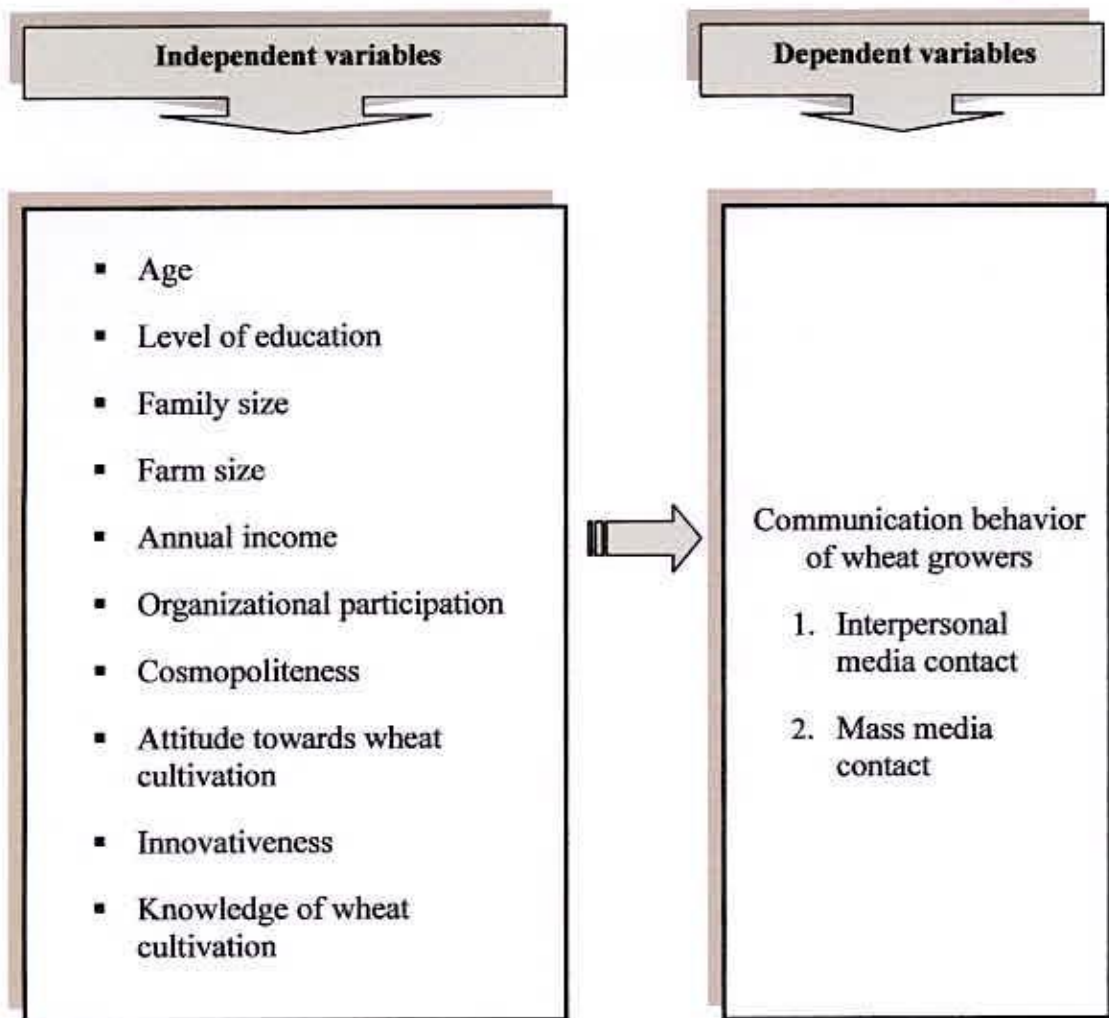
127

The conceptual framework of Rosenberg and Hovland (1960) was kept in mind while making structural arrangements for the dependent and independent variables. This study is concerned with the communication behavior of wheat growers. Thus, the communication behavior of the wheat growers was the dependent variable and 10 selected characteristics of the wheat growers were considered as the independent variables. Communication behavior of an individual may be affected through interacting forces of many independent variables. It is not possible to deal with all independent variables in a single study. It was therefore, necessary to limit the independent variables, which include age, level of education, family size, farm size, annual income, organizational participation, cosmopolitaness, attitude towards wheat cultivation, innovativeness, and knowledge of wheat cultivation for this study.

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Considering the above mentioned discussion, a conceptual framework has been developed for this study, which is diagrammatically presented in the following Figure 2.1.





**Figure 2.1 The conceptual framework of the study**



## CHAPTER 3

### METHODOLOGY

Methodology would be enabling the researcher to collect valid information. It is impossible to conduct research work smoothly without proper methodology and it is very difficult to address the objectives with a scientific manner. It requires a very careful consideration on the part of the researcher to collect valid and reliable data and to analyze the same for meaningful conclusion. A sequential description of the methodologies followed in conducting this research work has been presented in this chapter.

#### **3.1 Locale of the study**

The study was conducted in the Ambikapur Union of Faridpur Sadar Upazilla under Faridpur District. This union is situated 6 km north from Faridpur District head quarter. Duldi Goubindhapur, Shovarampur, Vashanchar and Komorpur village under Ambikapur union of Faridpur Sadr Upazilla were selected purposively as the locale of the study. Maps of Faridpur Sadr Upazilla showing the study area are presented in Figures 3.1. Average literacy rate of Faridpur Sadar Upazilla is 34.2%; male 40.7%, female 27.1%.

#### **3.2 Sample size**

Wheat growers of Duldi Goubindhapur, Shovarampur, Vashanchar and Komorpur village under Ambikapur union constituted the population of the study. An update list of 1069 wheat growers from the selected village was prepared with the help of Sub-Assistant Agricultural Officer of these villages. Ten (10) percent of the populations were randomly selected as the sample of the study by using random sampling method. Thus, 107 wheat growers constituted the sample of the study. A reserve list of 15 wheat growers was also prepared by the same method so that the respondents of this list could be used for interview if the respondents included in the original sample were not available at the time of data collection. The distribution of the population sample and number of wheat growers in the reserve list are given in Table 3.1.



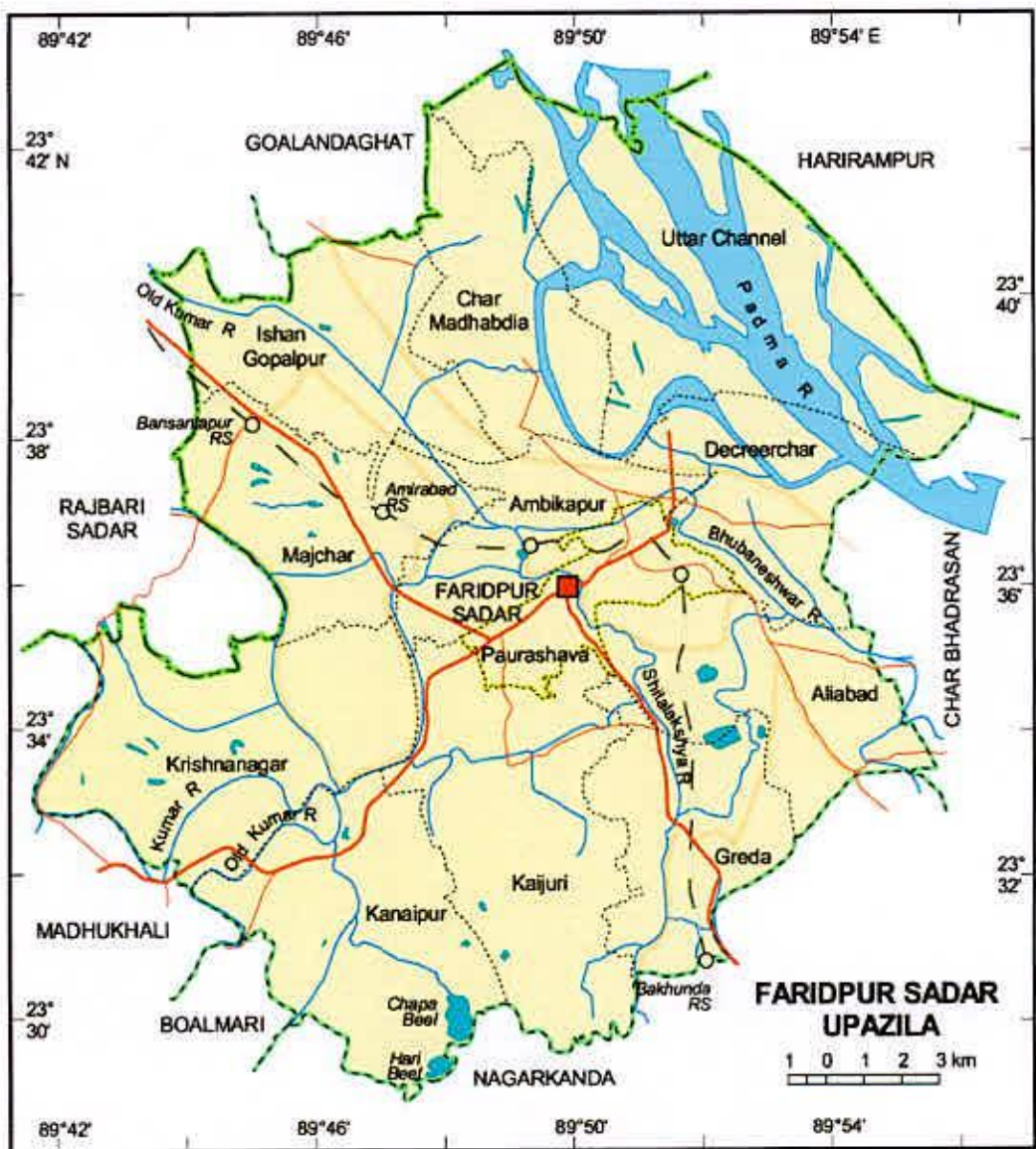


Figure 3.1 A Map of Faridpur Sadar Upazilla Showing the Study Area Ambikapur Union



**Table 3.1 Distribution of the population sample and number of wheat growers in the reserve list**

Name of the of village	No. of wheat growers	No. of wheat growers included in the sample	No. of wheat growers in the reserve list
Duldi Goubindhapur	231	23	3
Shovarampur	268	27	4
Vashan Char	313	31	4
Komorpur	257	26	4
Total	1069	107	15

### **3.3 The Research Instrument**

A well structured interview schedule was developed based on objectives of the study for collecting information. An interview schedule was constructed containing direct and simple questions in open form and close form keeping in view the dependent and independent variables. Appropriate scales were developed to measure both independent and dependent variables.

The interview schedule was pre-tested with ten wheat growers in actual situation before finalized it for collection of data. Necessary corrections, additions, alternations, rearrangements and adjustments were made in the interview schedule based on pretest experience. The interview schedule was then multiplied by printing in its final form. A copy of the interview schedule is presented into Appendix I.

### **3.4 Data Collection Procedure**

The researcher himself collected the data by interview schedule from the sample respondents through personal contact. Whenever any respondent faced difficulty in understanding questions, more attention was taken to explain the same with a view to enabling the wheat growers to answer properly. No serious problem was faced by the investigator during data collection but obtained cooperation from the respondents. Data collection was started in 23 November, 2010 and completed in 22 December, 2010.



### **3.5 Measurement of variables**

The variable is a characteristic, which can assume varying, or different values in successive individual cases. A research work usually contains at least two important variables viz. independent and dependent variables. An independent variable is that factor which is manipulated by the researcher in his attempt to ascertain its relationship to an observed phenomenon. A dependent variable is that factor which appears, disappears or varies as the researcher introduces, removes or varies the independent variable (Townsend, 1953). In the scientific research, the selection and measurement of variable constitute a significant task. Following this conception, the researcher reviewed literature to widen this understanding about the natures and scopes of the variables relevant to this research. At last he had selected 10 independent variables and one dependent variable. The independent variables were: age, level of education, family size, farm size, annual income, organizational participation, cosmopolitaness, attitude towards wheat cultivation, innovativeness and knowledge of wheat cultivation. The dependent variable of this study was the Communication Behavior of Wheat Growers of Ambikapur Union under Faridpur District. The methods and procedures in measuring these variables are presented below:

### **3.6 Measurement of independent variables**

The 10 characteristics of the respondents wheat growers mentioned above constitute the independent variables of this study. The following procedures were followed for measuring the independent variables.

#### **3.6.1 Age**

Age of a respondent wheat grower was measured by the period of time from their birth to the time of interview and it was measured in terms of complete years on the basis of their response. A score of one (1) was assigned for each year age.

#### **3.6.2 Level of education**

Level of education was measured in terms of grades (class) passed by respondent wheat growers. If a respondent received education outside the school, their

education was assessed in terms of year of schooling, i.e. one (1) score was given for one year of schooling. For example, if the respondent passed the final examination of class V, their education score was taken as 5. If the respondent had education outside school and the level of education was equivalent to that of class V of the school then his education score was taken as 5. Each illiterate person was given a score of zero. The respondent who did not know how to read or write but able to sign only was given a score of "0.5".

### **3.6.3 Family size**

The family size of a respondent was measured in terms of actual number of members in his/her family including himself/herself, spouse, children, brothers, sisters, parents and other person who jointly live and ate together during interviewing.

### **3.6.4 Farm size**

Farm size of respondent referred to the total area of land on which his/her family carried out farming operation, the area being in terms of full benefit his family. It was measured in hectares for each respondent using the following formula;

$$FS = F_1 + F_2 + \frac{1}{2} (F_3 + F_4) + F_5 + F_6$$

Where,

FS = Farm size

F<sub>1</sub> = Homestead area with pond

F<sub>2</sub> = Own land under own cultivation

F<sub>3</sub> = Land given to others on share cropping in

F<sub>4</sub> = Land taken from others on share cropping out

F<sub>5</sub> = Land taken from others on mortgage

F<sub>6</sub> = Others



### 3.6.5 Annual income

The term annual income refers to the annual gross income of a respondent himself and the members of his/her family from different sources. It was expressed in taka. In measuring this variable, total earning in taka of an individual respondent was converted into score. A score of one was given for every one thousand taka.

The method of ascertaining income form involved two phases. Firstly, the yield of all crops in the preceding year was noted and converted into taka and income attained from livestock and fisheries sector. Secondly, non-agricultural sources of income included earning form business, service labor and other sources.

### 3.6.6 Organizational participation

The score of organizational participation of the respondent was measured by adding all type of nature of organizational participation with duration and it depends on the nature of their participation in different organizations.

Following scores were assigned for nature of participation:

Nature of participation	Scores assigned
No participation	0
Participation as ordinary member	1
Participation as executive member	2
Participation as president of secretary	3



The organizational participation seems ranged from 0-27 where 0 indicated no participation and 27 indicated very high organizational participation.

### 3.6.7 Cosmopolitaness

Cosmopolitaness score was computed for each respondent to determine his degree of cosmopolitaness on the basis of his visits to eight different types of places external to his own social system. The scale used for computing the cosmopolitaness scores is presented below:

<b>Extent of visit</b>	<b>Scores</b>
Not at all	0
Rarely	1
Occasionally	2
Frequently	3
Regularly	4

Scores obtained for visits to each of the above eight categories of places were added together to get the cosmopolitanism score of a respondent. Cosmopolitanism score of an individual could range from 0 to 32 where 0 indicated no cosmopolitanism and 32 indicated very high cosmopolitanism.

### **3.6.8 Attitude towards wheat cultivation**

Attitude of wheat growers was measured through a Likert (1932) scale. Twelve statements on various aspects of wheat cultivation were asked to the growers. The number of positive items was equal to the number of negative items. The positive and negative items were arranged randomly in the schedule in order to achieve the real picture of attitude of the wheat growers. They were asked to indicate for each of the statements, whether they “strongly agree”, “agree”, “no opinion”, “disagree” and “strongly disagree” with a corresponding score 2, 1, 0, -1 and -2, respectively. The attitude score of a wheat grower was compared by summing the scores for his responses to all the items. Hence, scores of the wheat growers could range from -24 to + 24; -24 indicating highly negative attitude and +24 indicate highly favorable attitudes towards wheat cultivation.

### **3.6.9 Innovativeness**

Innovativeness is the degree to which an individual adopts an innovation relatively earlier than other members in a social system (Rogers, 1983). Here, innovativeness of a respondent was measured on the basis of the adoption of 12 agricultural technologies by the respondents. The score was assigned on the basis of time dimension which means actual number of years through which a



respondent used the technology continuously. The scoring was done in the following manner:

<b>Adoption period</b>	<b>Assigned score</b>
Do not use	0
After 5 years	1
After 3 years	2
After 2 years	3
After 1 year	4

Thus, the innovativeness score of a respondent was obtained by adding his scores for all the twelve items and it could range from 0 to 48 where 0 indicating no innovativeness and 48 indicating high innovativeness.

#### **3.6.10 Knowledge on wheat cultivation**

Knowledge on wheat cultivation referred to the knowledge gained by the wheat growers in wheat cultivation. Twenty questions on different aspect of wheat cultivation related to varieties, soil, fertilizer, insect, pest, disease and cultural practices were asked to the wheat growers to ascertain their knowledge score. The score was assigned as 2 for full correct answer and zero (0) for incorrect or no answer for each question. Partial score 1 was assigned for partial answers. Thus agricultural knowledge scores of the respondents could range from 0 to 40 where zero (0) indicated very low and 40 indicated very high knowledge on wheat cultivation.

#### **3.7 Measurement of dependent variable**

Communication behavior of wheat growers of Ambikapur Union under Faridpur District was the dependent variable of this study. The procedure for measuring the dependent variable was as follows:

The researcher selected two broad communication media namely, interpersonal media contact and mass media contact comprising of eighteen media in total. The

researcher selected the following media of information for studying communication behavior of the wheat growers:

**Interpersonal media contact:** Local leaders, neighbors, field day, Sub Assistant Agricultural Officer (SAAO), Upazilla Agriculture Officer, Agricultural Extension Officer, NGO workers, Group discussion, result demonstration, seed/fertilizer dealer and participation in agricultural training course.

**Mass media:** Poster, leaflet, radio, television, newspaper, agricultural related books, magazines and agricultural fair.

So, communication behavior score was measured by adding interpersonal media contact score + mass contact score.

**Use of communication media:** The communication behavior of the wheat growers were measured on the basis of their opinions regarding the extent of use of interpersonal media contact and mass media contact in receiving information on wheat cultivation during the immediate passed 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 communication behavior. Then the communication behavior score of a respondent for the eighteen media were added together to ascertain his total score in communicating in wheat cultivation. In this regard weight was assigned to each of the four types of responses provided by the wheat growers in the following manner:

<u>Responses</u>	<u>Weight</u>
Regularly	4
Frequently	3
Occasionally	2
Rarely	1
Not at all	0



Thus, the communication behavior score of a respondent could range from 0 to 72 where 0 indicate no communication and 72 indicate very high communication behavior in receiving information regarding wheat cultivation.

### **3.8 Hypothesis of the study**

In the present study the following null hypotheses were formulated:

“There are no relationships between 10 selected characteristics and communication behavior of wheat growers of Ambikapur Union under Faridpur District”.

### **3.9 Collection of data**

The investigator himself collected data on the basis of objectives to test the hypothesis.

### **3.10 Data processing**

For data processing and analysis the following steps followed:

#### **3.10.1 Compilation of data**

After completion of field survey all the interview schedule were compiled, tabulated and analyzed according to the objectives of the study. In this process all the responses in the interview schedule were given numerical coded values. The responses to the question in the interview schedule were transferred to a master sheet to facilitate tabulation. Tabulation was done on the basis of categories developed by the investigator himself.

#### **3.10.2 Categorization of respondents**

For describing the various independent and dependent variables the respondents were classified into various categories. In developing categories the researcher was guided by the nature of data and general consideration prevailing on the social system. The procedures have been discussed while describing the variable in the sub-sequent sections of next chapter.

### 3.11 Data analysis

Data collected from the respondents were compiled, coded, tabulated and analyzed in accordance with the objectives of the study. Various statistical measures such as frequency counts, percentage distribution, average, and standard deviation were used in describing data. SPSS (version 11.5) computer program were used for analyzing the 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 association of the selected characteristics of the wheat growers with the communication behavior Pearson Product Moment Correlation was used. Five percent (0.05) level of probability was used as the basis for rejecting any null hypothesis. In order to find out the relationship between the selected dependent and independent variables correlation co-efficient was done.





## CHAPTER 4

### RESULTS AND DISCUSSION

This chapter deals with the findings that were recorded in accordance with the objective of the study with the help of an interview schedule with interpretation. The chapter content in three (3) sections. The first section deals with the characteristics of the wheat growers. The second section deals with the communication behavior of the wheat growers. The third section deals with the relationship between individual characteristics of the wheat growers with their communication behavior regarding wheat cultivation.

#### **4.1 Characteristics of the wheat growers**

An individual possesses various interrelated characteristics of the wheat growers were collected under the present study. It was therefore, hypothesized that the characteristics of the wheat growers would have an effect on communication behavior in wheat cultivation. However, the 10 selected salient features of the wheat growers such as age, level of education, family size, farm size, annual income, organizational participation, cosmopolitaness, attitude towards wheat cultivation, innovativeness and knowledge of wheat cultivation that greatly influences on communication behavior of the wheat growers that are presented below-

##### **4.1.1 Age**

The age of the wheat growers ranged from 24 to 80 with a mean and standard deviation of 52.85 and 14.60 respectively. Considering the observed age of the wheat growers were classified into three categories namely 'young', 'middle' and 'old' aged. The distribution on accordance of their age the respondents' wheat growers are presented in Table 4.1.

**Table 4.1 Distribution of the wheat growers according to their age**

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Young aged (below 35 years)	13	12.15	52.85	14.60
Middle aged (35-50 years)	28	26.17		
Old aged (above 50 years)	66	61.68		
Total	107	100		

Table 4.1 indicates that the old aged wheat growers comprise the highest proportion (61.68 percent) followed by middle aged category (26.17 percent) and the lowest proportion were made by the young aged category (12.15 percent). Data also indicates that the middle and old aged wheat growers constitute about 87.85 of the respondents. The older and middle aged farmers were generally tended to involve in wheat cultivation than the younger. Probably middle and old aged person were involved with wheat cultivation because the production method of wheat is easier with minimum risk.

#### 4.1.2 Level of education

The level of educational scores of the respondent's wheat growers ranged from 0 to 16 with a mean and standard deviation of 6.36 and 3.99, respectively. Based on their educational scores, the wheat growers were classified into four categories such as 'illiterate' (0), 'primary education' (1 to 5), 'secondary education' (6 to 10), higher secondary and above (above 10). The distribution of the wheat growers according to their level of education has been presented in Table 4.2.

**Table 4.2 Distribution of the wheat growers according to their level education**

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Illiterate (0)	17	15.89	6.36	3.99
Primary education (1-5)	28	26.17		
Secondary education (6-10)	47	43.93		
Above secondary (above 10)	15	14.02		
Total	107	100		



Table 4.2 shows that wheat growers under 'secondary education category constitute the highest proportion (43.93 percent) compared to 26.17 percent 'primary level category and 15.89 percent illiterate level category. On the other hand the lowest 14.02 percent were above secondary level. Education broadens the horizon of outlook of wheat growers and expands their capability to analyze any situation related to production. It was found that appreciable proportions (57.95 percent) of the wheat growers were secondary to higher secondary level educated. Because this area is developed both in education and cultural activities and the situation might appear to be appreciable in a usual background of Bangladesh. Educational institutions of Faridpur Sadar Upazilla are government college 4, non-government college 9, government high school 2, non-government high school 38, government primary school 102, non-government primary school 39, madrasa 39, medical college 1, homeopathy medical college 1, river research institute 1, technical and vocational 2, PTI 1.

An educated farmer is likely to be more responsive to the modern facts, ideas, technology and information of wheat cultivation. To adjust with the same, they would be vulnerable to adopt as well as involve with modern cultural, processing and storage facilities. About 84 percent respondents were educated in Faridpur Sadar upazilla. This is the exceptional situation in Bangladesh. This is why the agricultural production especially wheat rate is higher in Faridpur Sadar Upazilla than the other Upazillas of Bangladesh.

#### **4.1.3 Family Size**

Family size of the respondents ranged from 2 to 8 with the mean and standard deviation of 4.09 and 1.69, respectively. According to family size the respondents were classified into three categories viz. 'small family', 'medium family' and 'large family'. The distribution of the respondents according to their family size is presented in Table 4.3.

**Table 4.3 Distribution of the respondents according to their family size**

Categories	Respondents'		Mean	Standard deviation
	Number	Percent		
Small family (upto 4)	66	61.68	4.09	1.69
Medium family (5-7)	39	36.45		
Large family (above 7)	2	1.87		
Total	107	100		

Data in Table 4.3 indicate that the small family constitute the highest proportion (61.68 percent) followed by the medium family (36.45 percent). Only 1.87 percent respondents had large family size. Such finding is quite normal as per the situation of Bangladesh. Table 4.3 also showed that average family size of the respondents was lower than that of national average of 5.4 (BBS, 2008). Probable reason of small family is to maintaining small family due to higher education.

#### 4.1.4 Farm size

The farm size of the respondent's farmer family ranged from 0.18 hectare to 3.80 hectare with a mean and standard deviation of 1.39 and 1.15, respectively. Based on their farm size, the respondents were classified into four categories following the categorization followed by DAE (1999). These categories were marginal farm holder (below 0.2 ha), small farm holder (0.201 to 1.0 ha), medium farm holder (1.01 to 2.0 ha) and large farm holder (above 2.0 ha). The distribution of the wheat growers according to their farm size categories has been presented in Table 4.4.

**Table 4.4 Distribution of the wheat growers according to their farm size**

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Marginal (0.02-0.2 ha)	16	14.95	1.39	1.15
Small (0.21-1.0 ha)	39	36.45		
Medium (1.01-2 ha)	18	16.82		
Large (above 2.0 ha)	34	31.78		
Total	107	100		



Table 4.4 indicates that the small farm holder constitute the highest proportion 36.45 percent followed by 31.78 percent with large farm holder and the lowest 14.95 percent marginal farm holder and followed by 16.82 percent medium farm wheat growers. The findings of the study reveal that majority of the wheat growers were medium to large sized farm holder because medium sized farmers involved with other crop cultivation. The average farm size of the rural farmer family of 1.39 hectares was higher than that of national average of 0.78 hectares in Bangladesh (BBS, 2008).

#### 4.1.5 Annual income

Annual income of the respondents ranged from 42 to 363 thousand taka with a mean and standard deviation of 86710 and 44203, respectively. On the basis of their annual income, the wheat growers were classified into three categories, viz. low, medium and high family income. The distribution of the wheat growers according to the annual income categories has been presented in Table 4.5.

**Table 4.5 Distribution of the wheat growers according to their annual family income**

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Low income (below 60,000)	17	15.89	86710	44203
Medium income (80,000-120,000)	78	72.90		
High income (above 120,000)	12	11.21		
Total	107	100		

Data in table 4.5 revealed that the wheat growers having medium income constitute the highest proportion (72.90 percent) followed by low annual income (15.89 percent) and high annual income (11.21 percent). Medium income level constitutes the highest percentage because their annual income level within 80,000 to 120,000. Income of an individual allows him to invest more in agricultural production as well as taking risks involved in adoption of new technologies.

#### 4.1.6 Organizational participation

Organizational participation score of the respondent wheat growers ranged from 8 to 25 with a mean and standard deviation of 16.91 and 4.25, respectively. According to organizational participation the respondents were classified into three categories viz. 'Low level participation, 'medium level participation and 'high level participation' on the basis of their observed scores. The distribution of the wheat growers according to organizational participation has been presented in Table 4.6.

**Table 4.6 Distribution of the wheat growers according to their organizational participation**

Categories	Respondents'		Mean	Standard deviation
	Number	Percent		
Low organizational participation (below 12)	12	11.21	16.91	4.25
Medium organizational participation (12-18)	50	46.73		
High organizational participation (above 18)	45	42.06		
Total	107	100		

Data in Table 4.6 indicates that the medium levels organizational participation constitutes the highest proportion (46.73 percent) followed by high level participation (42.06 percent) and low level participation (11.21 percent). Table 4.6 showed that the maximum percentage of respondents is the category of the group of high to medium level organizational participation (88.79 percent). High organizational participation reveals that the wheat rowers of this area have more participation in the different place within their locality. More organizational participation could create opportunity for changing attitude towards use of improved technology for wheat production.

#### 4.1.7 Cosmopolitaness

The cosmopolitaness of the respondent's wheat growers ranged from 0 to 29 with a mean and standard deviation of 11.07 and 6.48, respectively. Based on their cosmopolitaness score, the respondents were classified into three categories.



These categories were low, medium and high. The distribution of the cosmopolitaness presented in Table 4.7.

**Table 4.7 Distribution of the wheat growers according to their cosmopolitaness**

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Low cosmopolitaness (below 10)	50	46.73	11.07	6.48
Medium cosmopolitaness (10-20)	47	43.93		
High cosmopolitaness (Above 20)	10	9.35		
Total	107	100		

Table 4.7 indicates that the wheat growers have low cosmopolitaness category constitute the highest proportion (46.73 percent) followed by medium cosmopolitaness (43.93 percent) and high cosmopolitaness category (9.35 percent). Lowest cosmopolitaness of the locality indicates that the respondents visit different area with minimum frequency although they have high organizational participation. Table 4.7 showed that the maximum percentage is the category of the group of low to medium cosmopolitaness group.

#### **4.1.8 Attitude towards wheat cultivation**

The scores of attitude towards wheat cultivation of the respondents ranged from 2 to 15 with an average of 7.39 and standard deviation of 3.07. Based on the observed individual scores, the respondents were classified into the three categories i.e. low attitude, medium attitude and high attitude. The distribution has been shown in the Table 4.8.

**Table 4.8 Distribution of the wheat growers according to attitude towards wheat cultivation**

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Low attitude (below 5)	20	18.69	7.39	3.07
Medium attitude (5-10)	71	66.36		
High attitude (above 10)	16	14.95		
Total	107	100		

About (66.36 percent) of the respondents had medium attitude towards wheat cultivation, while 18.69 percent had low attitude and 14.95 percent had high attitude. The attitude towards wheat cultivation of wheat growers indicates that the respondents of the study area had positive attitude towards wheat cultivation.

#### **4.1.9 Innovativeness**

The maximum innovativeness score of the respondents was 448 and the minimum was 8. However, the average was 18.72 and the standard deviation was 7.75. Based on their innovativeness scores, the respondents were classified into three categories: “low innovativeness”, “medium innovativeness” and “high innovativeness”. The distribution of the respondents according to their innovativeness is shown in Table 4.9.

**Table 4.9 Distribution of the wheat growers according to their innovativeness**

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Low innovativeness (below 15)	35	32.71	18.72	7.75
Medium innovativeness (15-30)	63	58.88		
High innovativeness (above 30)	9	8.41		
Total	107	100		

Data contained in table. 4.9 indicate that the highest proportion (58.88 percent) of the wheat growers had medium innovativeness as compared to 32.71 percent low innovativeness and only 8.41 percent in high innovativeness. Data also revealed



that majority (91.59 percent) of the respondent growers of the study area had low to medium level of innovativeness. It may also be concluded that all the respondent growers of the study area had the innovativeness. These two results would help the extension planners to chalk out future extension program for transfer of technologies to the potential wheat growers.

#### 4.1.10 Knowledge on wheat cultivation

Knowledge of wheat cultivation score of respondent wheat growers could range from 11 to 38. The mean and standard deviation of agricultural knowledge was 18.93 and 6.78, respectively. On the basis of knowledge scores, the respondents were classified into three categories namely, 'poor knowledge', 'moderate knowledge' and 'sound knowledge'. The distribution of the respondents according to their agricultural knowledge is given in Table 4.10.

**Table 4.10 Distribution of the wheat growers according to their knowledge on wheat cultivation**

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Poor knowledge (below 15)	30	28.04	18.93	6.78
Moderate knowledge (15-30)	65	60.75		
Sound knowledge (Above 30)	12	11.21		
Total	107	100.0		

Data of Table 4.10 reveals that majority (60.75 percent) of the respondents felt in moderate knowledge category followed by 28.04 percent in poor knowledge category and only 11.21 percent in sound knowledge category. Knowledge is to be considered as vision of an explanation in any aspect of the situation regarding wheat cultivation. It is act or state of understanding; clear perception of fact or truth, that helps an individual to foresee the consequence he may have to face in future. It makes individuals to become rational and conscious about related field. To perform optimum production, wheat growers should have adequate knowledge on different aspects of it. The findings of the present study reveal that 60.75

percent of the wheat growers in the study area had moderate knowledge on wheat cultivation.

#### 4.2 Dependent Variable

Communication behavior of wheat growers was measured using two broad communication media namely, interpersonal media contact and mass media contact comprising of 18 statements for each area. Communication behavior score of a respondent was determined by adding all the statements. Thus communication behavior score below 25 indicate low communication behavior; 25-50 indicate medium communication behavior and above 50 indicate high communication behavior. The findings are presented in Table 4.11.

**Table 4.11 Distribution of the wheat growers according to the communication behavior in wheat cultivation**

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Low communication (below 25)	35	32.71	33.21	13.27
Medium communication (25-50)	55	51.40		
High communication (above 50)	17	15.89		
Total	107	100		

The average wheat grower communication behavior score was 33.21 with standard deviation 13.27. Among the respondents the highest 51.40 percent wheat growers belongs to the group of medium level communication behavior group followed by 32.71 percent in low level communication behavior group and 15.89 percent in high communication behavior group. Among the respondent wheat growers total 67.29 percent respondents' wheat growers have medium to high level communication behavior group in wheat cultivation.



### 4.3 Relationship of the selected characteristics of wheat growers with the innovativeness in adoption of technology

Pearson Product Moment Correlation Co-efficient was computed in order to find out the extent of relationship between the dependent variable and independent variables. To reject or accept the null hypothesis at 0.05 and 0.01 level of probability was used. A statistically significant and non-significant relationship was observed when the computed value or “r” was greater or smaller than the tabulated value, respectively.

#### 4.3.1 Age VS communication behavior of the wheat growers

*Age of the wheat growers had no relationship with their communication behavior. The computed ‘r’ value is much lower than of the table value (Table 4.12). Hence, null hypothesis in this respect was not rejected.*

Large majority of the respondents were old (62 percent). It reveals clearly that their age did not influence the communication behavior of the respondents.

**Table 4.12 Pearson’s product moment co-efficient of correlation showing relationship between dependent and independent variables**

Dependent variable	Independent variables	Tabulated value		Value of co-efficient of correlation
		0.05 level	0.01 level	
Communication behavior of wheat growers	Age	0.195	0.252	0.016
	Level of education			0.291**
	Family size			0.078
	Farm size			-0.107
	Annual income			0.276**
	Organizational participation			0.377**
	Cosmopolitaness			0.062
	Attitude towards wheat cultivation			0.238*
	Innovativeness			0.223*
	Knowledge on wheat cultivation			0.337**

\*\* : Correlation is significant at the 0.01 level;

\* : Correlation is significant at the 0.05 level

#### **4.3.2 Level of education VS communication behavior of the wheat growers**

*Level of education of the wheat growers had relationship with their communication behavior. The computed 'r' value is higher than of the table value (Table 4.12). Hence, null hypothesis in this respect was rejected.*

Large majority of the respondents were secondary level educated (44 percent). It reveals clearly that their education level influence the communication behavior of the respondents.

#### **4.3.3 Family size VS communication behavior of the wheat growers**

*Family size of the wheat growers had no relationship with their communication behavior. The computed 'r' value is much lower than of the table value (Table 4.12). Hence, null hypothesis in this respect was not rejected.*

Large majority of the respondents were small family (62 percent). It reveals clearly that their family size did not influence the communication behavior of the respondents.

#### **4.3.4 Farm size VS communication behavior of the wheat growers**

*Farm size of the wheat growers had no relationship with their communication behavior. The computed 'r' value is much lower than of the table value (Table 4.12). Hence, null hypothesis in this respect was not rejected.*

Large majority of the respondents were small category (36 percent). It reveals clearly that their farm size did not influence the communication behavior of the respondents.

#### **4.3.5 Annual income VS communication behavior of the wheat growers**

*Annual income of the wheat growers had relationship with their communication behavior. The computed 'r' value is higher than of the table value (Table 4.12). Hence, null hypothesis in this respect was rejected.*



Large majority of the respondents were medium level annual income group (73 percent). It reveals clearly that their annual income influence the communication behavior of the respondents.

#### **4.3.6 Organizational participation VS communication behavior of the wheat growers**

*Organizational participation of the wheat growers had relationship with their communication behavior. The computed 'r' value is higher than of the table value (Table 4.12). Hence, null hypothesis is this respect was rejected.*

Large majority of the respondents were medium organization participation (47 percent). It reveals clearly that their organizational participation influence the communication behavior of the respondents.

#### **4.3.7 Cosmopolitaness VS communication behavior of the wheat growers**

*Cosmopolitaness of the wheat growers had no relationship with their communication behavior. The computed 'r' value is much lower than of the table value (Table 4.12). Hence, null hypothesis is this respect was not rejected.*

Large majority of the respondents were low cosmopolitaness group (47 percent). It reveals clearly that their cosmopolitaness did not influence the communication behavior of the respondents.

#### **4.3.8 Attitude towards wheat cultivation VS communication behavior of the wheat growers**

*Attitude towards wheat cultivation of the wheat growers had relationship with their communication behavior. The computed 'r' value is higher than of the table value (Table 4.12). Hence, null hypothesis is this respect was rejected.*

Large majority of the respondents were medium attitude level (66 percent). It reveals clearly that their Attitude towards wheat cultivation influence the communication behavior of the respondents.

#### **4.3.9 Innovativeness VS communication behavior of the wheat growers**

*Innovativeness of the wheat growers had relationship with their communication behavior. The computed 'r' value is higher than of the table value (Table 4.12). Hence, null hypothesis in this respect was rejected.*

Large majority of the respondents were medium innovativeness (59 percent). It reveals clearly that their innovativeness influence the communication behavior of the respondents.

#### **4.3.10 Knowledge on wheat cultivation VS communication behavior of the wheat growers**

*Knowledge on wheat cultivation of the wheat growers had relationship with their communication behavior. The computed 'r' value is higher than of the table value (Table 4.12). Hence, null hypothesis in this respect was rejected.*

Large majority of the respondents were poor knowledge level (61 percent). It reveals clearly that their knowledge on wheat cultivation influence the communication behavior of the respondents.

Level of education, annual income, organizational participation, attitude towards wheat cultivation, innovativeness and knowledge on wheat cultivation had significant positive relationships with communication behavior of wheat growers. Age, family size and cosmopolitanism had non significant positive relationships and farm size with communication behavior of wheat growers.





## CHAPTER 5

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The study was conducted in the Ambikapur union of Faridpur Sadar Upazilla under Faridpur District. This union is situated 6 km north from Faridpur District head quarter. Duldi Goubindhapur, Shovarampur, Vashanchar and Komorpur village under Ambikapur union of Faridpur Sadr Upazilla selected purposively as the locale of the study. Wheat growers of Duldi Goubindhapur, Shovarampur, Vashanchar and Komorpur village under Ambikapur union constituted the population of the study. An update list of 1069 wheat growers from the selected village was prepared with the help of Sub-Assistant Agricultural Officer of these localities. Ten (10) percent of the populations were randomly selected as the sample of the study by using random sampling method. Thus, 107 wheat growers constituted the sample of the study. A well structured interview schedule was developed based on objectives of the study for collecting information. The researcher himself collected data through personal contact. The independent variables were: age, level of education, family size, farm size, annual income, organizational participation, cosmopolitaness, attitude towards wheat cultivation, innovativeness and knowledge of wheat cultivation. Data collection was started in 08 December, 2010 and completed in 20 December, 2010. Various statistical measures such as frequency counts, percentage distribution, average, and standard deviation were used in describing data. Co-efficient of correlation test was used to explore relationship between the concerned variables. The major findings of the study are summarized below:

#### **5.1.1 Major Findings**

##### **Age**

The old aged wheat growers comprise the highest proportion (61.68 percent) followed by middle aged category (26.17 percent) and the lowest proportion were made by the young aged category (12.15 percent).

**Level of education**

The highest proportion (43.93 percent) compared to 26.17 percent 'primary level category and 15.89 percent illiterate level category. On the other hand the lowest 14.02 percent were above secondary level.

**Family Size**

The highest proportion (61.68 percent) followed by the medium family (36.45 percent) and only 1.87 percent respondents had large family size.

**Farm Size**

The highest proportion 36.45 percent followed by 31.78 percent with large farm holder and the lowest 14.95 percent marginal farm holder and followed by 16.82 percent medium farm wheat growers.

**Annual Income**

The wheat growers having medium income constitute the highest proportion (72.90 percent) followed by low annual income (15.89 percent) and high annual income (11.21 percent).

**Organizational participation**

The medium levels organizational participation constitutes the highest proportion (46.73 percent) followed by high level participation (42.06 percent) and low level participation (11.21 percent).

**Cosmopolitaness**

The wheat growers have low cosmopolitaness category constitute the highest proportion (46.73 percent) followed by medium cosmopolitaness (43.93 percent) and high cosmopolitaness category (9.35 percent).



### **Attitude towards wheat cultivation**

About (66.36 percent) of the respondents had medium attitude towards wheat cultivation, while 18.69 percent had low attitude and 14.95 percent had high attitude.

### **Innovativeness**

The highest proportion (58.88 percent) had medium innovativeness as compared to 32.71 percent low innovativeness and only 8.41 percent in high innovativeness.

### **Knowledge on wheat cultivation**

The majority (60.75 percent) of the respondents felt in moderate knowledge category followed by 28.04 percent in weak knowledge category and only 11.21 percent in sound knowledge category.

### **Communication behavior**

The highest 51.40 percent wheat growers belongs to the group of medium level communication behavior followed by 32.71 percent in low level communication behavior group and 15.89 percent in high communication behavior group.

### **Hypothesis testing**

Level of education, annual income, organizational participation, attitude towards wheat cultivation, innovativeness and knowledge on wheat cultivation had significant positive relationships with communication behavior of wheat growers. Age, family size and cosmopolitaness had non significant positive relationships and farm size with communication behavior of wheat growers.

## 5.2 Conclusions

1. The findings indicate that among the respondents around 67 percent respondent wheat growers have medium to high level communication behavior group in wheat cultivation. This fact leads to the conclusion that it is necessary to increase the communication behavior of wheat growers for increasing average yield of wheat.
2. Level of education had significant positive relationships with the communication behavior of wheat growers. Among the respondents, about 58 percent stays the group of secondary to higher secondary level education. Education has an effect of widening the horizon of knowledge. All these facts lead to the conclusion that higher the level of education of the respondents higher their communication behavior.
3. Annual income had significant positive relationships with the communication behavior of wheat growers. About 73 percent farmers had medium level annual income. Highest annual income allows him to invest more in agricultural production as well as taking risks.
4. Organizational participation had significant positive relationships with the communication behavior of wheat growers. About 89 percent farmers had medium to high level organizational participation. Highest participation leads to achieving better performance in wheat cultivation.
5. Attitude towards wheat cultivation contact had positive significant relationship with the communication behavior of wheat growers. Again, an overwhelming majority (66 percent) of the respondents had medium attitude in wheat cultivation. These facts lead to the conclusion that higher attitude of the wheat growers could increased their communication behavior.



6. Innovativeness had significant positive relationships with the communication behavior of wheat growers. About 59 percent farmers had medium level innovativeness. Highest innovativeness leads to achieving better performance in wheat cultivation.
  
7. Knowledge on wheat cultivation had positive significant relationship with the communication behavior of wheat growers. Among the respondents about 61 percent have medium level knowledge on wheat cultivation. With increase in the level of knowledge leads to the increase in communication behavior of wheat growers.

## **5.3 Recommendations**

### **5.3.1 Recommendations for policy implications**

On the basis of experience, observation and conclusions drawn from the findings of the study following recommendations are made:

1. Among the respondents, about 67 percent have medium to high level communication behavior in wheat cultivation. In order to increase their level of communication behavior in wheat cultivation the DAE may arrange training for the wheat growers.
2. Among the respondent wheat growers about 42 percent falls in the group of below secondary level education. So it is necessary to increase their education level through ensuring access to educational facilities.
3. About 73 percent wheat growers had medium level annual income. Highest annual income allows him to invest more in agricultural production as well as taking risks so it is necessary to take appropriate program to increase their annual income.
4. About 89 percent farmers had medium level organizational participation, which is not bad but to hold the current level of organizational participation. Nevertheless, motivational program is needed which may be chalked out by DAE.
5. An overwhelming majority (66 percent) of the respondents had medium level attitude. In order to change their attitude towards wheat cultivation, training and motivational programs have to be undertaken by DAE and other related organizations.



### **5.3.2 Recommendations for further study**

On the basis of scope and limitations of the present study and observation made by the researcher, the following recommendations are made for future study.

1. Other factors might have influence over the communication behavior of the wheat growers, which need to be identified through further study.
2. This study was conducted in Faridpur Sadar Upazilla under Faridpur District. Similar studies are required to be conducted in other areas of Bangladesh where similar environmental, socio-economic and physical conditions exist to compare the findings.
3. The study investigated the direct and indirect effects of certain variables. Future studies should be conducted to explore the direct and indirect effects of all the variables under investigation.



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APPENDIX A. ENGLISH VERSION OF THE INTERVIEW SCHEDULE  
DEPARTMENT OF AGRICULTURAL EXTENSION AND INFORMATION  
SYSTEM

SHER-E-BANGLA AGRICULTURAL UNIVERSITY

DHAKA-1207

AN INTERVIEW SCHEDULE FOR COLLECTION OF DATA

ON

COMMUNICATION BEHAVIOR OF WHEAT GROWERS OF AMBIKAPUR  
UNION UNDER FARIDPUR DISTRICT

SL. NO.....

Name of the respondent : .....

Father's name : .....

Village : .....

Union : .....

Upazilla : .....

District : .....

Please answer the following questions:

**1. Age**

How old are you? .....years

**2. Education**

Please mention your educational level

- a) Cannot read and write (.....)
- b) Can sign only (.....)
- c) Have passed class (.....)

**3. Family size**

Please mention the total number of members of your family

How many members are there in your family? .....persons



#### 4. Farm size

Please mention your farm size

Sl. No.	Types of land	Land area	
		Local unit	Hectare(ha)
01	Homestead area (including pond & garden) (F <sub>1</sub> )		
02	Land under own cultivation (F <sub>2</sub> )		
03	Land given to others on barga (F <sub>3</sub> )		
04	Land taken from others on barga (F <sub>4</sub> )		
05	Land taken from others on lease (F <sub>5</sub> )		
06	Others (please specify) (F <sub>6</sub> )		

#### 5. Annual income

Please mention your family income from the following sources:

Source of income		Amount of taka
Agricultural sources	1. Vegetable production Potato Brinjal Tomato Pumpkin 2. Crop production Rice Wheat Pulse Oil 3. Livestock production 4. Poultry production 5. Fisheries production	
Non-agricultural sectors	6. Business 7. Service 8. Labor 9. Others (please specify)	
Total (Tk.)		

## 6. Organizational participation

Please give a detailed information about your organizational participation according to the following table.

Sl. No.	Name of the organization	Nature of participation				
		No participation	Ordinary member	Executive member	President/ Secretary	Duration
01	NGO co-operative					
02	Mosque/Mondir committee					
03	School committee					
04	Union parishad					
05	Farmers co-operative association					
06	Bazaar committee					
07	Youth club					
08	Village development committee					
09	Village policing committee					





### 7. Cosmopolitaness

Please mention the frequency of visits to the following places

(Please tick mark in right space)

Sl. No.	Places of visit	Frequency of visit				
		Regularly	Frequently	Occasionally	Rarely	Not at all
01	Visit SAAO's office	≥7 times/month( )	5-6 times/month( )	3-4 times/month( )	1-2 times/month( )	0( )
02	Visit Upazila Agricultural office	≥5 times/month( )	4 times/month( )	3 times/month( )	1-2 times/month( )	0( )
03	Visit DAE's district headquarters	≥4 times/year( )	3 times/year( )	2 times/year( )	1 time/year( )	0( )
04	Visit District town	≥7 times/month( )	5-6 times/month( )	3-4 times/month( )	1-2 times/month( )	0( )
05	Visit neighboring & district town	≥7 times/month( )	5-6 times/month( )	3-4 times/month( )	1-2 times/month( )	0( )
06	Visit Local & regional agricultural research institute	≥4 times/year( )	3 times/year( )	2 times/year( )	1 time/year( )	0( )
07	Visit Capital city-Dhaka	≥4 times/year( )	3 times/year( )	2 times/year( )	1 time/year( )	0( )
08	Visit Agricultural fair held in Upazila, District & Capital city	≥4 times/life( )	3 times/life( )	2 times/life( )	1 time/life( )	0( )

### 8. Attitude towards wheat cultivation

Indicate the degree of agreement against the following statements

Sl. No.	Statement	Degree of agreement				
		Strongly agree	Agree	No opinion	Disagree	Strongly disagree
1.(+)	Wheat can be grown under zero tillage					
2.(-)	Bread making is hard work and time consuming					

3.(+)	Less diseases and insect infestation compared to rice cultivation					
4.(-)	Wheat cultivation costs high					
5.(+)	Wheat contains more protein than rice					
6.(-)	Intensive intercultural operation is needed in wheat cultivation					
7.(+)	Wheat is cultivated to mitigate the food crisis					
8.(-)	Quality wheat seed is not available					
9.(+)	Less irrigation required for wheat cultivation					
10.(-)	Wheat seed preservation is difficult					
11.(+)	Return from wheat cultivation is more than rice					
12.(-)	Help from extension worker is almost nil in case of wheat cultivation					



### 9. Innovativeness

If you use the following technologies, please give your information about the use of following wheat production technologies.

Sl. No.	Name of the technologies	Don't use	Extent of use			
			Used after 1 year of hearing	Used after 2 years of hearing	Used after 3 years of hearing	Used after 5 years or more of hearing
1	Modern variety like Akbar, Barkat, Kanchan, Sourov					
2	Time of seed sowing (November)					
3	Seed rate (16kg/Bigha)					
4	Mode of irrigation i. Sprinkler irrigation ii. Flood irrigation					
5	Power tiller or power tractor					
6	Biofertilizer					
7	Green manure					
8	IPM to control pests and diseases					
9	Destroy the crop residues					
10	Wheat can be grown under zero tillage					
11	Electrical or foot driven thresher					
12	Indigenous technology to preserve wheat seed (air tight earthen pot, gunny bags, polythene or others)					

### 10. Knowledge on Wheat Cultivation

Please answer the following question

Sl. No.	Questions	Assign score (2)	Obtained marks
1	Name four high yielding varieties of wheat		
2	Mention two major insects of wheat		
3	What are the qualities of good wheat seed		
4	Mention the benefits of plant nutrition		
5	What type of soil is suitable for wheat cultivation		
6	Why crop rotation is essential		
7	Name two diseases of wheat		
8	What do you mean by IPM		
9	Mention the name of two high yielding varieties of boro rice		
10	How much cow dung is required for wheat cultivation per bigha		
11	Name two beneficial insects		
12	What precautions should need to follow at the time of pesticide application		
13	Mention the major problem of cereal crops		
14	Mention two harmful weeds of wheat field		
15	Mention the benefits of biofertilizer		
16	What types of irrigation are needed in wheat cultivation		
17	Mention the benefits of green manure		
18	Mention two major problems of wheat cultivation		
19	Mention the benefits of top dressing		
20	Mention the fertilizer doses in wheat cultivation (Urea, TSP, MP)		



## 11 Communication behavior

Please indicate the extent of use of the following communication media in receiving information about wheat cultivation

### 11. A. For interpersonal media contact

Sl. No.	Communication media	Frequency of communication				
		Regularly	Frequently	Occasionally	Rarely	Not at all
01	Local leaders	≥5 times/month()	4-5 times/month()	2-3 times/month()	1 time/month()	0()
02	Neighbors	≥7 times/month()	5-6 times/month()	3-4 times/month()	1-2 times/month()	0()
03	Field day	≥4times/in life()	3 times/ in life()	2 times/ in life()	1 time/ in life()	0()
04	Sub-Assistant Agriculture Officer	≥7 times/year()	5-6 times/year()	3-4 times/year()	1-2 times/year()	0()
05	Upazila Agriculture Officer	≥5 times/year()	4-5 times/year()	2-3 times/year()	1 time/year()	0()
06	Agricultural Extension Officer	≥6 times/year()	5-6 times/year()	3-4 times/year()	1-2 times/year()	0()
07	NGO workers	≥4 times/month()	3 times/month()	2 times/month()	1 times/month()	0()
08	Group discussion	≥7 times/year()	5-6 times/year()	3-4 times/year()	1-2 times/year()	0()
09	Result demonstration	≥4 times/in life()	3 times/ in life()	2 times/ in life()	1 time/ in life()	0()
10	Seed/ Fertilizer dealer	≥4 times/month()	3 times/month()	2 times/month()	1 time/month()	0()
11	Participation in agricultural training course	≥4 times/life()	3 times/life()	2 times/ life()	1 time/life()	0()



### 11. B. Mass media contact

Sl. No.	Communication media	Frequency of communication				
		Regularly	Frequently	Occasionally	Rarely	Not at all
01	Poster	≥7 times/year()	5-6 times/year()	3-4 times/year()	1-2 times/year()	0()
02	Leaflet	≥7 times/year()	5-6 times/year()	3-4 times/year()	1-2 times/year()	0()
03	Radio	>5 times/week()	4-5 times/week()	2-3 times/week()	1 time/week()	0()
04	Television	≥5 times/week()	4-5 times/week()	2-3 times/week()	1 time/week()	0()
05	Newspaper	≥5 times/year()	4-5 times/week()	3-4 times/week()	1-2 times/week()	0()
06	Agricultural Related Books/Magazine	≥7 times/year()	5-6 times/year()	3-4 times/year()	1-2 times/year()	0()
07	Agricultural Fair	≥5 times/year()	4-5 times/year()	2-3 times/year()	1 time/year()	0()

Thank you for your participation

Date:

\_\_\_\_\_  
Signature of the interviewer



## Appendix B. Correlation matrix

Characters	A	B	C	D	E	F	G	H	I	J	K
A	1.00										
B	-0.077	1.00									
C	-0.086	0.247*	1.00								
D	-0.253**	-0.207*	-0.054	1.00							
E	-0.005	-0.070	0.070	0.358**	1.00						
F	0.032	0.087	-0.032	-0.046	0.187	1.001					
G	-0.130	0.088	-0.100	-0.077	-0.137	0.053	1.00				
H	-0.079	0.354**	0.194*	-0.199*	-0.053	0.123	0.026	1.00			
I	-0.088	-0.014	0.042	0.216*	0.486**	0.175	-0.062	0.036	1.00		
J	-0.118	0.063	0.312**	0.135	0.310**	0.090	-0.007	0.340**	0.114	1.00	
K	0.016	0.291**	0.078	-0.107	0.276**	0.377**	0.062	0.238*	0.223*	0.337**	1.00

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

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

A: Age

B: Level of education

C: Family size

D: farm size

E: Annual income

F: Organizational participation

G: Cosmopolitanness

H: Attitude towards wheat cultivation

I: Innovativeness

J: Knowledge of wheat cultivation K: Communication behavior

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