

**USE OF COMMUNICATION MEDIA BY THE FARMERS
IN RECEIVING INFORMATION ON WINTER
VEGETABLE CULTIVATION**

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**USE OF COMMUNICATION MEDIA BY THE FARMERS
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VEGETABLE CULTIVATION**

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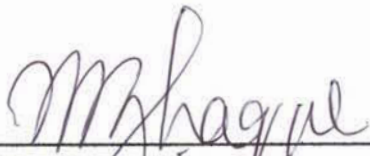
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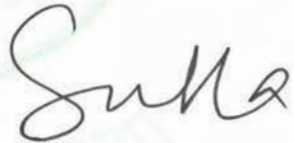
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CERTIFICATE

This is to certify that the thesis entitled, *"USE OF COMMUNICATION MEDIA BY THE FARMERS IN RECEIVING INFORMATION ON WINTER VEGETABLE CULTIVATION"* submitted to the Faculty of Agriculture, Sher-e-Bangla Agricultural University, Dhaka, in partial fulfillment of the requirements for the degree of *MASTER OF SCIENCE IN AGRICULTURAL EXTENSION*, embodies the result of a piece of bona fide research work carried out by *MD. ARAFATHOSSAIN*, Registration No. *00747* under my supervision and guidance. No part of this thesis has been submitted for any other degree or diploma.

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

Dated:
Place: Dhaka, Bangladesh


(Prof. Md. Shadat Ulla)
Supervisor

Dedicated to
My Beloved Parents

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USE OF COMMUNICATION MEDIA BY THE FARMERS IN RECEIVING INFORMATION ON WINTER VEGETABLE CULTIVATION

ABSTRACT

The main purpose of the study was to determine the extent of use of communication media by the farmers in receiving information on winter vegetable cultivation in Chirirbandar upazila under Dinajpur district and to explore the relationships between the selected characteristics of the respondents and their use of communication media in receiving information on winter vegetable cultivation. The study was conducted in two villages namely Shamnagar of Amarpur union and Raghunathpur of Bhail union in Chirirbandar upazila of Dinajpur district. Data were collected from 100 farmers by using a pre-tested interview schedule during the period from October 15 to November 15, 2007. Appropriate scales were developed to measure the variables of the study. Correlation(s) test was used to ascertain the relationships between the concerned independent and dependent variables of the study. Findings of the study revealed that age and family size had no significant relationship with their use of communication media in receiving information on winter vegetable cultivation while education, farm size, annual income, organizational participation, cosmopolitanism, innovativeness and knowledge on agriculture had significant positive relationship with their use of communication media in receiving information on winter vegetable cultivation. The study revealed that (i) highest proportion (56 percent) of the respondents had medium use of communication media in receiving information on winter vegetable cultivation compared to 23 and 21 percent having low use and high use of communication media respectively; (ii) highest proportion (57 percent) of the respondents had moderate effectiveness of communication media in receiving information on winter vegetable cultivation compared to 21 and 22 percent having less effectiveness and high effectiveness of communication media respectively; (iii) highest proportion (66 percent) of the respondents had moderate credibility of communication media in receiving information on winter vegetable cultivation compared to 16 and 18 percent having less credibility and high credibility of communication media respectively.



Chapter 1

Introduction

CHAPTER 1

INTRODUCTION

1.1. General Background

Bangladesh is mainly an agricultural country. It is the main occupation of the people employing 51.7 percent of the labor force. This sector directly contributes 21.91 percent of the Gross Domestic product (BBS, 2006). Agriculture supplies raw materials for industrial production and food stuff for human and animal consumption. Improvement of agriculture has crucial importance for economic development of the country. Crop production of Bangladesh needs to be maximized in order to meet the increasing food demand and other basic requirements.

Vegetables are rich source of minerals, vitamins and essential amino acids. Vegetables are considered as one of the most important groups of food crops due to their high nutritive value, labor-intensive production, relatively higher yield and higher return. These are considered as a cheaper source of natural supplementary food and can be grown within short duration. Being labor intensive, vegetable production creates opportunities for employment. In Bangladesh, half of the population are under the poverty line and suffer from various health problems. Severity of malnutrition and iron deficiency (anemia) is the highest among females of all age groups and children. Approximately one million Bangladeshi children have clinical signs of vitamin A deficiency and more than 900,000 children under 6 years suffer some degree of Exophthalmia and over 30,000 children go blind each year due to severe vitamin A deficiency. Almost 80% of blind children come from landless households. Recent studies have shown that vitamin A is not only important to prevent blindness but also has effect on digestion of food, child morbidity and

mortality. It is estimated that about 80% of the population suffers from vitamin C deficiency (HRDP, 2002). Winter vegetables were grown during dry season from October to March in about 3.52 lakh acres 1999-2000 of land. The total production of vegetable during winter and summer was 9.78 lakh tons in 1999-2000 (BBS, 2001). Winter vegetables accounted for 80.52 percent of the total vegetable in 1999-2000. The normal diet of the people of Bangladesh is cereal based, particularly rice based. The intake ratio of cereals and vegetable is about 5:1, whereas in many other developing countries it is about 1:2. The traditional food and culture of Bangladeshi people is one of the reasons for such imbalance in the consumption of cereals and vegetable. Hence, vitamin and mineral deficiency diseases are very common in Bangladesh (HRDP, 2002).

Communication media has a vital role to carry the messages of improved agricultural practices through media to the intended audience. It is expected that the winter vegetable production can be increased significantly by improving farmers existing knowledge, skills and availability of the production inputs. A sound system of communication for the effective flow of scientific information through media to the ultimate users has become a burning question of the day. Rogers (1962) after reviewing many studies on media information by stages, made a generalization that impersonal communication media were most important at awareness stage and personal media were most important at the evaluation stage in the adoption process. The communication media suitable in receiving agricultural information to the farmers are not studied with greater emphasis as it should be. Considering the above facts, the researcher felt a thrust to conduct a study with the hope to identify the communication media used by the farmers in receiving agricultural information on winter vegetable cultivation.

1.2 Statement of the Problem

Agricultural information has been considered as an important input for increased farm productivity. Farmers usually use various media for obtaining farm information. Various research studies reported that the use of communication media is varied on the basis of social, economic and psychological setting of the farmers. For identifying the communication media used by the farmers in receiving farm information, it is necessary to know the answers of the following questions. Moreover, the questions also guide the study towards an appropriate direction.

1. To what extent the farmers receive information on winter vegetable cultivation from various media?
2. To what extent the farmers utilize the existing communication media for receiving information on winter vegetable cultivation?
3. Which of the communication media are preferred by the farmers in receiving agricultural information?
4. What characteristics of the vegetable growers influence them to use communication media?
5. How much the communication media are credible to vegetable growers?
6. To what extent the information is accurately conveyed by mass media?

The various characteristics and situational factors of the farmers might have some kind of relationships with the use of communication media which were also taken into consideration during the study. On the basis of the above discussion, the researcher undertook a piece of study, entitled "Use of communication media by the farmers in receiving information on winter vegetable cultivation".

1.3 Specific Objectives

The following specific objectives were formulated to give proper direction to the study.

1. To determine and describe some selected characteristics of the farmers. The selected characteristics are:
 - i) Age
 - ii) Education
 - iii) Family size
 - iv) Farm size
 - v) Annual income
 - vi) Organizational participation
 - vii) Cosmopolitaness
 - viii) Innovativeness
 - ix) Knowledge on agriculture
2. To determine and describe the extent of use of communication media in receiving information on winter vegetable cultivation.
3. To determine and describe the extent of effectiveness of communication media in receiving information on winter vegetable cultivation.
4. To determine and describe the extent of credibility of communication media in receiving information on winter vegetable cultivation.
5. To explore relationship between selected characteristics of the farmers and their use of communication media in receiving information on winter vegetable cultivation.

1.4 Scope and Limitations of the Study

The findings of the study will be particularly applicable to the Chirirbandar upazilla of Dinajpur district. However, the findings may also be applicable in other areas of Bangladesh where the physical, socio-economic and cultural conditions do not differ much with those of the study area. Thus, the findings of the study may be profitably utilized by the planners, policy makers,

extension personnel and field workers for successful planning and execution of programmes aimed at effective communication of agricultural information to the farmers in general and vegetable farmers in particular.

The purpose of the study was to have an understanding about the use of communication media by the farmers. However, in order to conduct the research in a meaningful and manageable way it became necessary to impose certain limitations in regard to certain aspects of the study. Considering the time, money and necessary resources available to the researcher the following limitations have been observed through out the study.

1. The study was confined to 2 villages of Chirirbandar upazila of Dinajpur district.
2. Population for the present study was kept confined within the heads of the farm families of the farmers, because they were the major decision makers in their families.
3. The investigator depends on the data furnished by the selected farmers during their interview.
4. Communication media are used by the farmers for various purposes such as farming, business, politics, religion etc. This study investigated the use of communication media by the farmers in receiving information on winter vegetable cultivation only.

1.5 Assumptions

The following assumptions were made in connection with the study:

1. The respondents included in the sample were the actual representatives of the farmers in the study area in respect of the use of communication media.
2. The information provided by the respondents was reliable.
3. The views and opinion furnished by the farmers included in the sample were considered the views of people of the study area.

4. The communication media included in the study were known to the respondents.
5. The findings of the study will have general application to other parts of the country with similar physical, socio-economic and cultural conditions of the study area.
6. The communication media used by the farmers are linearly related with their selected characteristics.

1.6 Statement of Hypothesis

Goode and Hatt (1952) defined hypothesis as "a proposition which can be put to a test to determine its validity. It may seem contrary to or in accord with common sense". A null hypothesis states that there is no relationship between the concerned variables. For testing the hypothesis statistically, the following null hypotheses were formulated to test the relationship between the selected characteristics of the farmers and their use of communication media in receiving information on winter vegetable cultivation:

1. There is no relationship between age of the farmers and their use of communication media in receiving information on winter vegetable cultivation.
2. There is no relationship between education of the farmers and their use of communication media in receiving information on winter vegetable cultivation.
3. There is no relationship between family size of the farmers and their use of communication media in receiving information on winter vegetable cultivation.
4. There is no relationship between farm size of the farmers and their use of communication media in receiving information on winter vegetable cultivation.

5. There is no relationship between annual income of the farmers and their use of communication media in receiving information on winter vegetable cultivation.
6. There is no relationship between organizational participation of the farmers and their use of communication media in receiving information on winter vegetable cultivation.
7. There is no relationship between cosmopolitanism of the farmers and their use of communication media in receiving information on winter vegetable cultivation.
8. There is no relationship between innovativeness of the farmers and their use of communication media in receiving information on winter vegetable cultivation.
9. There is no relationship between knowledge on agriculture of the farmers and their use of communication media in receiving information on winter vegetable cultivation.

1.7 Definition of Terms

For clarity of understanding, certain terms used throughout the study are defined as follows:

Age: Age of a respondent was defined as the period of time from his birth to the time of interview.

Annual income: The term referred to total earning of a respondent himself and other members of his family from agricultural sector and non agricultural sector during one year previous to data collection. It was expressed in Taka.

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.

Credibility of communication media: The term “credibility of communication media” can be defined as to achieve faith in providing information on a specific matter/innovation to the receiver. In this study credibility of communication media is used to measure how successfully different media are providing information on winter vegetable cultivation.

Education: Referred to the number of years of schooling completed by a respondent.

Effectiveness of communication media: Effectiveness is the degree to perform a specific task very efficiently. In this study the term “effectiveness of communication media” is used to measure the performance of various communication media in receiving information on winter vegetable cultivation only.

Family size: Family size of a farmer was defined as the number of individuals in his family living together including himself, his wife children and other dependent member.

Farm size: It referred to the farm area on which a farmer used to do his farming either possessed by him or taken up by barga and lease from others during the year under investigation.

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.

Innovativeness: Innovativeness is the degree to which an individual adopts an innovation relatively earlier than other members in a social system (Rogers, 1983).

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.


Knowledge on agriculture: It referred to the knowledge gained by the farmers from different, formal, non-formal as well as informal sources and also through their experience of farming.

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.

Organizational participation: Organizational participation of a farmer referred to his taking part in different social organizations either as an ordinary member, executive committee member or an officer (President/secretary) along with duration.

Winter vegetable cultivation: It refers to the cultivation techniques which a farmer use to cultivate winter vegetables and took the benefits as the same as other crops during the year under investigation.



Chapter 2
Review of literature

CHAPTER 2

REVIEW OF LITERATURE

The reviews are conveniently presented based on the major objectives of the study. This Chapter divided into two sections. First section deals with the findings on the use of communication media in receiving selected winter vegetable information and the second section is devoted to a discussion on the findings of studies exploring relationships between the selected characteristics of the clients and their use of communication media.

2.1 Concept of Communication Media Use 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 media 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 media 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 media 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 per cent) 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.

Copp and others (1958) in a combined study on the function of communication media in farm practice adoption process found the following of commonly used communication media as the farmers moved from one stage to another in the adoption process. In the awareness stage, magazines and printed extension

materials were the commonly used media by the farmers. In the interest stage, printed and oral extension were the most cited media of farm information.

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 Review of Studies on the Selected Characteristics of Farmers and Use of Communication Media

2.2.1 Age and use of communication media

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 influence 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 Education and use of communication media

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 use of communication media

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 use of communication media

Karim (1965) concluded in his study that the influence of farm size on the use of information media by the cotton growers was found to be statistically significant.

Sawhney (1969) showed that with increasing farm size there was increasing use of cosmopolite source and diminishing use of personal localite media.

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.

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

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 use of communication media

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

Rahman (1974) showed that annual income of the farmers and their use of communication media are significantly related.

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 use of communication media

Rahim (1963) showed a significant and positive relationship between contact scores and membership in organizations participation.

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.

Beal and Sibley (1967) concluded that there was a positive relationship between organizational participation by the farmers and their use of agricultural technology.

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 Cosmopolitanism and use of communication media

Kadam and Sabale (1983) observed in a study that cosmopolitanism 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 cosmopolitanism and the use of communication media was not significant.

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

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

2.2.8 Innovativeness and use of communication media

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.

2.2.9 Knowledge on agriculture and use of communication media

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 cosmopolitaness, 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 agricultural knowledge of the farmers is highly correlated with their communication media use.

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

2.3 The conceptual framework of the study

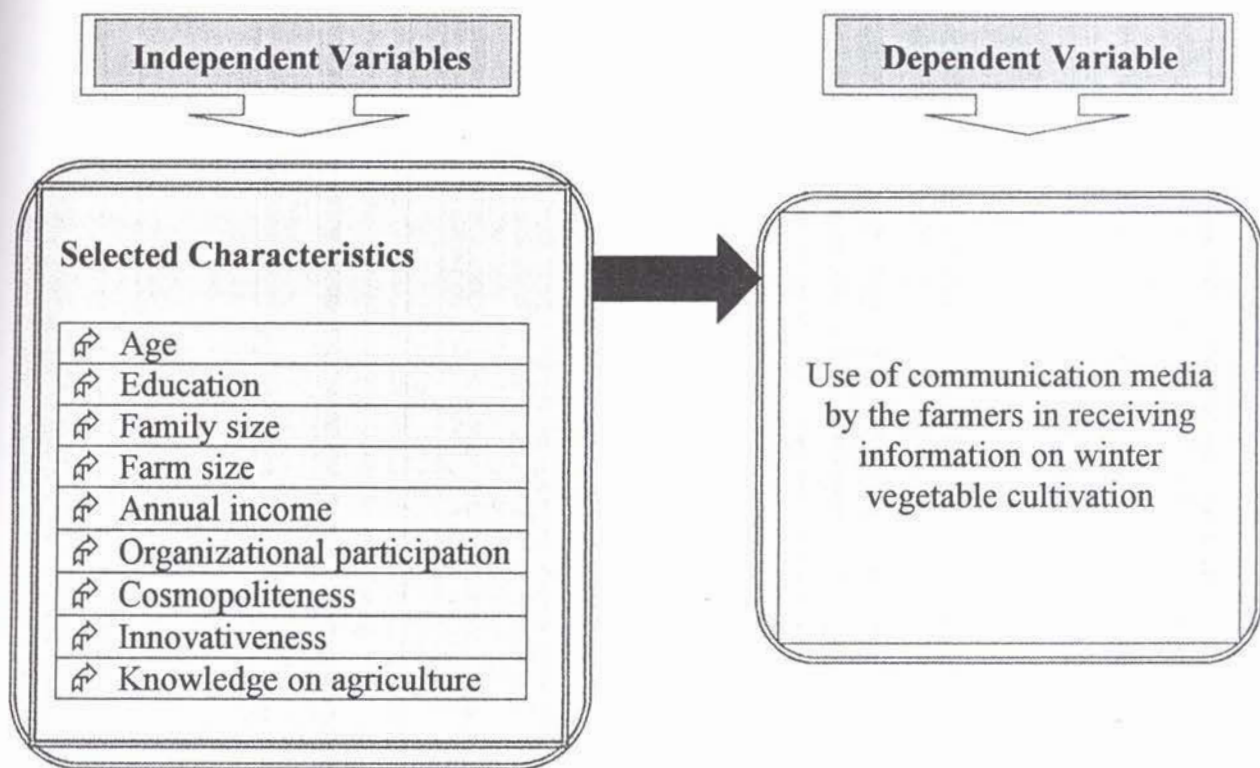
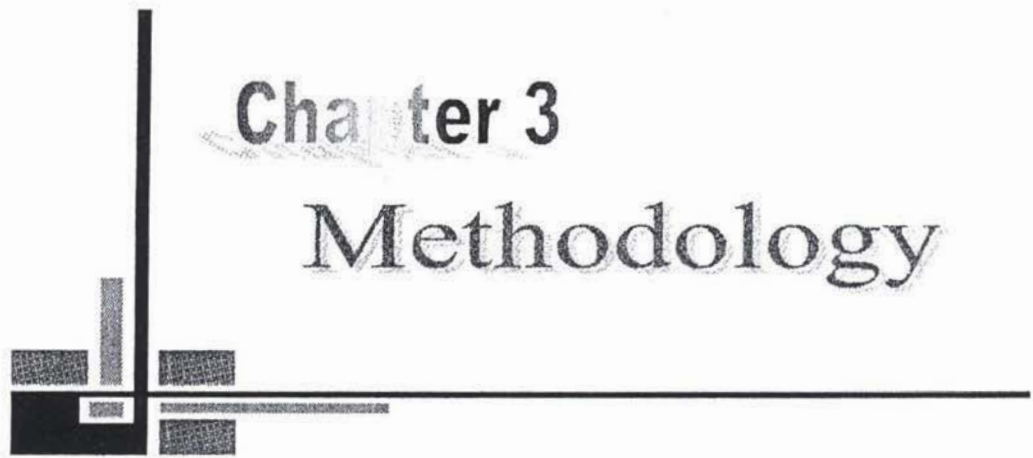


Figure 2.1 The conceptual framework of the study.

Chapter 3

Methodology



CHAPTER 3

METHODOLOGY

Importance of methods and procedures in conducting any research can hardly be over emphasized. Methodology should be such as it would enable the researcher to collect valid information and to analyze that properly to arrive at correct decisions. Keeping this in mind the researcher took almost care for using proper methods in all aspects of this investigation.

3.1 The Locale and Population of the Study

Amarpur and Bhiail union covering two villages namely Shamnagar and Raghunathpur taking one from each union of Chirirbandar upazilla under Dinajpur district was selected purposively for this study. The area was selected because the farmers of this area grow vegetables (winter and summer vegetable) in large scale. Among the winter vegetables, potato, tomato and radish were cultivated by the majority of the farmers of this area. Only the vegetable (potato, tomato and radish) growers were considered as the population of this study. The sample respondents of this study were selected by random sampling method.

3.2 Sampling Design

All the farmers of Shamnagar and Raghunathpur who cultivated potato, tomato and radish constituted the population for the study. An up-dated list of farmers was prepared with the help of union parishad members, local educated persons, NGO workers and Sub Assistant Agricultural Officers (SAAOs) of these villages. The total number of vegetable grower families in the two villages were 436. About twenty three percent of the farmers were selected at random by using Random Numbers which constituted the sample population of 100 for the present study.

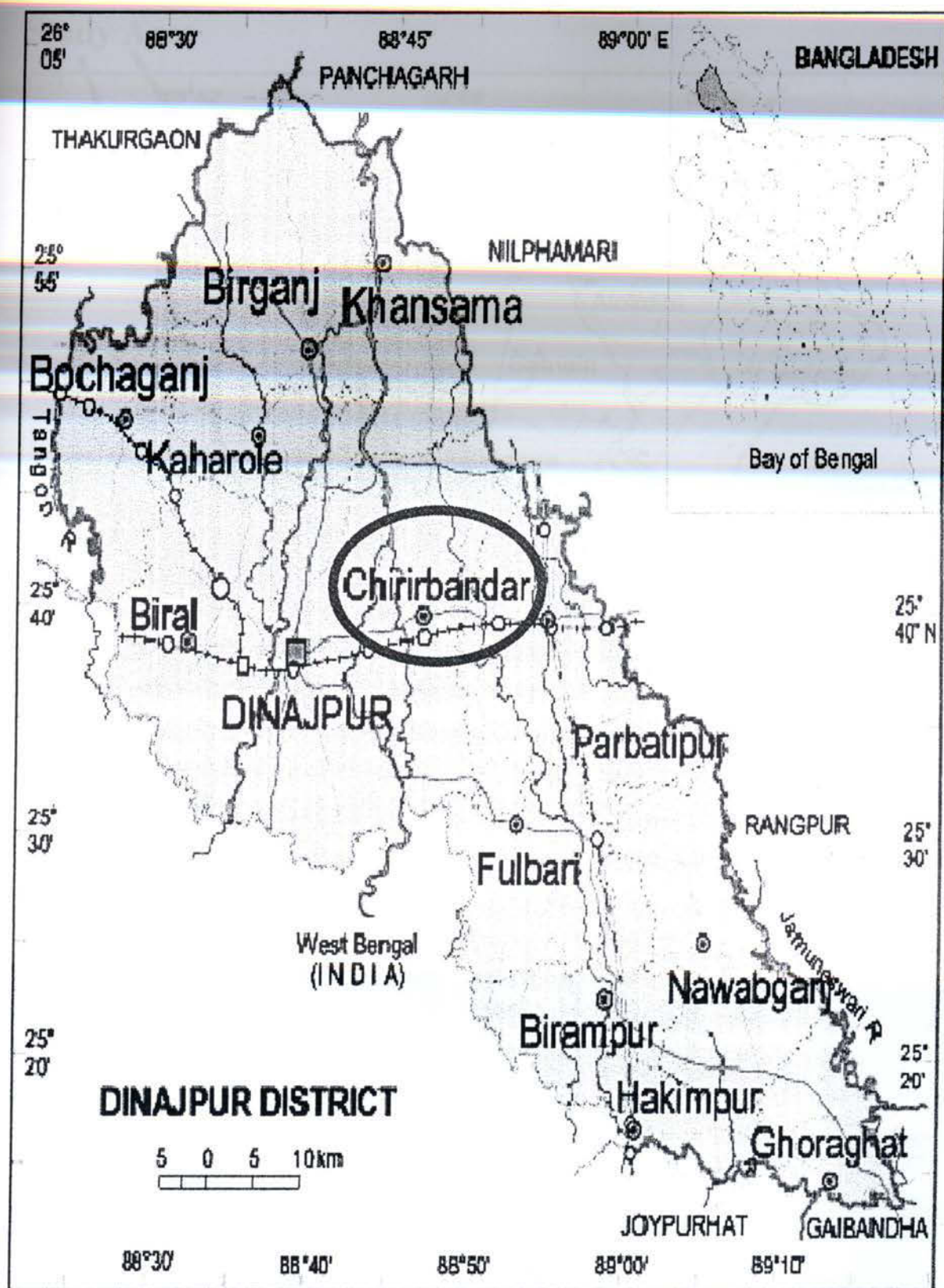


Figure 3.1 A map of Dinajpur district showing the study area.

Study Area

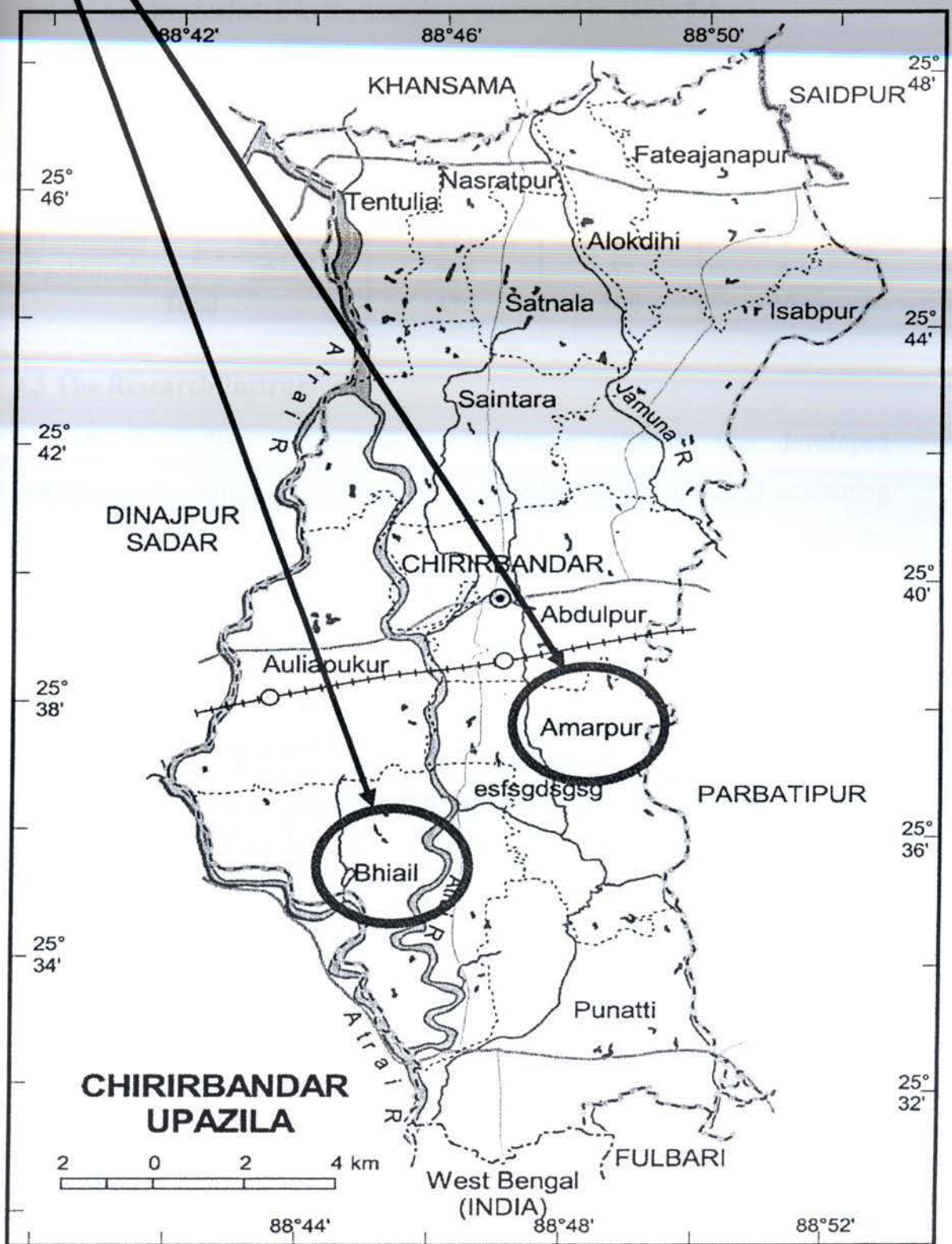


Figure 3.2 A map of Chiribandar upazila showing locale of the study.

Distribution of farmers in accordance with the total population of the villages and the number included in the sample is presented in Table 3.1.

Table 3.1 Distribution of population and samples with reserve list

Name of villages	Name of union	Total population	Sample size	Reserve list
Shamnagar	Amarpur	211	48	4
Raghunathpur	Bhiail	225	52	6
Total		436	100	10

3.3 The Research Instrument

In order to collect information, an interview schedule was developed considering the objectives of study. The schedule was constructed containing direct and simple questions in open form and close form keeping view the dependent independent variables. Bengali version schedule was used for clear understanding both interviewer and interviewee during data collection. Appropriate scales were developed to measure both independent and dependent variables.

The interview schedule was pre-tested with ten farmers in actual field situation before finalizing it for collection of data. Necessary corrections, additions, alternations, rearrangements and adjustments were made in the schedule based on pretest experience. The schedule was then cyclostyled in its final form. A copy of the English version interview schedule is presented into Appendix-A.

3.4 Data Collection Procedure

Data were collected through face to face survey by the investigator himself. All possible efforts were made to explain the purpose of the study to the respondents. Before going to the respondents for interview, appointments were made earlier so that they could be available at their respective homes on the schedule date and time. While interviewing a farmer, the researcher took all the possible care to establish rapport with the farmers so that they did not hesitate

to furnish proper responses to the questions and stated in the schedule. Whenever any respondent faced difficulty in understanding questions, more attention was taken to explain the same with a view to enabling him to answer properly.

No serious problem was faced by the investigator during data collection. He obtained co-operation from the respondents, sub-Assistant Agricultural officer, NGO workers and others. Data collection was started on October 15, 2007 and completed on November 15, 2007.

3.5 Variables of the Study

Two types of variables such as dependent and independent variables were measured. The procedure followed in measuring dependent and independent variables are discussed below:

3.5.1 Measurement of independent variables

Age: Age of a farmer was measured in terms of years from his birth to the time of interview. The age of a respondent was measured in terms of actual years on the basis of his response.

Education: Education was measured in terms of years of schooling completed by an individual in educational institutions. The education score was computed for each respondent by giving 1 (one) score for each year of successful schooling. If a person acquired education from informal or non-formal sources, his education was assessed in terms of the standard of a normal school. Example, if a respondent did not know how to read and write his literacy was taken as zero (0). A score of 0.5 was given to that respondent who could sign his name only. Besides a respondent got actual score of one for every year of schooling i.e. 1 for class one, 2 for class two and so on.

Family size: Size of the family was measured by the total number of family members of a respondent including himself, his wife, children and others dependent fully or partially on his income. The total number of family members was considered as the family size score of a respondent. For example, if a respondent has 7 members in his family score of his family size was taken as 7.

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

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

Where,

A_1 = Homestead area (including pond)

A_2 = Own land under cultivation

A_3 = Land taken from others on barga

A_4 = Land given to others as barga

A_5 = Land taken from others as lease

Annual Income: Income of a respondent was measured in monetary term i.e. in Taka. It was computed on the basis of a farmer's total yearly earnings in thousand taka from farming and non-farming sources. At first the yields of all the crops produced in the immediate previous year of the study were converted into cash according to the market price. Earning from other non-farm activities (service, business, others) of the respondents were also included in calculating the income. Yearly earnings from farming and non-farming activities were added together to obtain the total income of a respondent.

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

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

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

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

Therefore, the total score of organizational participation was computed in the following way:

$$\text{Organizational participation score} = \sum O_1 \times D + O_2 \times D + O_3 \times D$$

Where,

O_1 = Participation as ordinary member

O_2 = Participation as executive committee member

O_3 = Participation as president or secretary

D = Duration

Cosmopoliteness: Cosmopoliteness of a respondent referred to frequency of visit to different places outside from his own village. The following scale was used for computing cosmopoliteness score of a respondent.

Place of visit	Scoring system
1. Visit to other villages	0 = not even once a month (Never) 1 = 1-4 times in a month (Rarely) 2 = 5-8 times in a month (Occasionally) 3 = 9 or more times in a month (Regularly)

2. Visit to own upazila town	0 = Not even once in 6 months (Never) 1 = 1-4 times in 6 months (Rarely) 2 = 5-8 times in 6 months (Occasionally) 3 = 9 or more times in 6 months (Regularly)
3. Visit to own district town	0 = Not even once in a year (Never) 1 = 1-4 times in a year (Rarely) 2 = 5-8 times in a year (Occasionally) 3 = 9 or more times in a year (Regularly)
4. Visit to other district town	0 = Not even once in a year (Never) 1 = 1-2 times in a year (Rarely) 2 = 3-4 times in a year (Occasionally) 3 = 5 or more times in a year (Regularly)
5. Visit to capital city/divisional town	0 = Not even once in a year (Never) 1 = Once in a year (Rarely) 2 = Twice in a year (Occasionally) 3 = 3 or more times in a year (Regularly)

Scores obtained for visit to each of the above five categories of places were added together to get the cosmopolitanism score of a respondent. The range of cosmopolitanism score could range from '0' to '15', where '0' indicates 'no cosmopolitanism' and '15' indicates 'very high cosmopolitanism'.

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 6 improved selected varieties of potato (LIV-Lolita, HYV-Diamont) and, tomato (LIV-Borokhatta, HYV-Apurbo) and radish (LIV-Tasakistanmula-1, HYV-Red Bombai) 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:

<u>Adoption year after hearing</u>	<u>Assigned score</u>
6-7 years	1
4-5 years	2
2-3 years	3
1 year	4

Thus, the innovativeness score of a respondent was obtained by adding his scores for all the six items and it could range from 1 to 24 where 1 indicating low innovativeness and 24 indicating high innovativeness.

Knowledge on agriculture: It referred to the knowledge gained by the farmers from different media and also through their experience of farming. The farmers were asked 20 questions on different aspects of agriculture. The total assigned score on all the questions was 20. A respondent obtained 1 from each question for each correct answer, for wrong answer he obtained zero. The total score obtained by a respondent was taken as the knowledge on agriculture score of the respondents. The score possible score ranged from 0 to 20.

3.5.2 Measurement of dependent variable

Use of communication media in cultivation of selected winter vegetable was the dependent variable of the study. The researcher selected three broad types of communication media namely, individual, group and mass media comprising of fifteen media in total. The researcher selected the following media of information for studying their extent of use by the farmers:

- **Individual media:** Sub Assistant Agricultural Officer (SAAO), experienced farmer, relatives, input dealers, neighbours, local leaders and result demonstration.

⇒ **Group media:** Group discussion, farmers' rally, result demonstration meeting, agricultural exhibition and method demonstration.

⇒ **Mass media:** Radio, agricultural printed materials and television.

So, Use of communication media score = Individual contact score +
Group contact score + Mass contact score.

Use of communication media: The communication media used by the farmers were measured on the basis of their opinions regarding the extent of use of the above mentioned media in receiving information on winter vegetable cultivation during the immediate passed year. Hence, the use of each of the fifteen communication media was first ascertained by computing their using score. A four point scale was used to compute the extent of use of communication media. Then the extent of use of communication media score of a respondent for the fifteen media were added together to ascertain his total score in receiving agricultural information on winter vegetable cultivation. In this regard weight was assigned to each of the four types of responses provided by the farmers in the following manner:

<u>Responses</u>	<u>Weight</u>
Regularly	4
Occasionally	3
Seldom	2
Rarely	1

Thus, the use of communication media score of a respondent could range from 15 to 60 where, 15 indicate very low use and 60 indicate very high use of communication media in receiving agricultural information.

Effectiveness of communication media: The effectiveness of the communication media was measured on the basis of opinion provided by the farmers regarding the extent of effectiveness of communication media. Three point scale namely "very effective", "effective" and "not effective" was used to measure the extent of effectiveness of selected 15 communication media.

In this regard weight was assigned to each of the three types of responses provided by the farmers in the following manner:

<u>Responses</u>	<u>Weight</u>
a. Very effective	3
b. Effective	2
c. Not effective	1

Thus, the effectiveness score of a respondent was obtained by adding the scores of all the fifteen items and it could range from 15 to 45, where, 15 indicates very low effectiveness of communication media and 45 indicates very high effectiveness of communication media.

Credibility of communication media: The credibility of the communication media was measured on the basis of opinion provided by the respondents regarding the extent of credibility of communication media. A three point scale namely "highly credible", "moderately credible" and "less credible" was used to measure the extent of credibility of selected 15 communication media. In this regard weight was assigned to each of the three types of responses provided by the farmers in the following manner:

<u>Responses</u>	<u>Weight</u>
a. Highly credible	3
b. Moderately credible	2
c. Less credible	1

Thus, the credibility score of a respondent was obtained by adding the scores of all the fifteen items and it could range from 15 to 45, where, 15 indicated very low credibility and 45 indicated very high credibility.

3.6 Methods of Analysis

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

For determining the association of the selected characteristics of the farmers with their use of communication media in receiving agricultural information, Pearson Product Moment Coefficient of Correlation was used. Five percent (0.05) and one percent (0.01) level of probability was used as the basis for rejecting any null hypothesis.

CHAPTER
RESULTS AND DISCUSSION



Chapter 4

Results and Discussion

CHAPTER 4

RESULTS AND DISCUSSION

A sequential and detailed discussion on the findings of the study has been presented in this chapter. The chapter is divided into three sections. In the first section, independent variables i.e. characteristics of the respondents have been discussed. The second section dealt with dependent variables (extent of use of communication media by the farmers in receiving information on winter vegetable cultivation, effectiveness of communication media, credibility of communication media) and finally, the relationship between the dependent and independent variables have been discussed in the third section.

4.1 Selected Characteristics of the Farmers

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

Table 4.1 Farmers' Characteristics Profile

Sl. No.	Characteristics	Measuring Unit	Possible range	Observed range	Mean	Standard deviation
1.	Age	Actual years	Unknown	25-70	43.58	11.97
2.	Education	Year of schooling	Unknown	0-14	7.21	4.55
3.	Family size	Actual Number	Unknown	3-12	5.74	1.80

Sl. No.	Characteristics	Measuring Unit	Possible range	Observed range	Mean	Standard deviation
4.	Farm size	Hectare	Unknown	0.27-6.65	1.18	1.00
5.	Annual income	In Tk.1000	Unknown	45.00-560.00	147.04	83.39
6.	Organizational participation	Score	Unknown	3-39	16.54	8.22
7.	Cosmopolitaness	Score	0-15	2-11	5.88	2.06
8.	Innovativeness	Score	0-24	4-17	9.99	2.92
9.	Knowledge on agriculture	Score	0-20	7-19	14.77	2.72

4.1.1 Age

The observed age scores of the farmers ranged from 25 to 70 having an average of 43.58 with a standard deviation 11.97. On the basis of the age scores of the farmers, they were classified into three categories: “young” (up to 37 years), “middle aged” (38-50 years) and “old” (above 50 years). The distribution of the farmers according to their age is shown in Table 4.2.

Table 4.2: Distribution of the farmers according to their age

Categories	Farmers		Mean	Standard Deviation
	Number	Percent		
Young (up to 37 years)	39	39	43.58	11.97
Middle aged (38-50 years)	35	35		
Old (above 50 years)	26	26		
Total	100	100		

Findings indicate that a large proportion (39 percent) of the farmers were young compared to 35 and 26 percent being middle aged and old respectively. It is expected that Young and middle aged farmers are generally more receptive to adopt new technologies and practices through various communication media. They maintain better communication with various communication media available in rural areas. They are usually and influential partner in making decision regarding farming affairs.

4.1.2 Education

The observed education scores of the farmers ranged from 0 to 14 having an average of 7.21 and the standard deviation was 4.55. On the basis of their education scores, the farmers were classified into five categories, namely “illiterate” (0), “can sign only” (0.5), “primary education” (1-5), “secondary education” (6-10) and “above secondary education” (above 10). The distribution of the farmers according to their education is shown in Table 4.3.

Table 4.3: Distribution of the farmers according to their education

Categories	Farmers		Mean	Standard Deviation
	Number	Percent		
Illiterate (0)	5	5	7.21	4.55
Can sign only (0.5)	16	16		
Primary education (1-5)	13	13		
Secondary education (6-10)	46	46		
Above secondary education (above 10)	20	20		
Total	100	100		

It was found that the majority (46 percent) of the farmers had secondary education compared to 13 and 20 percent having primary and above secondary education respectively. Besides, 5 percent of the respondents were illiterate and 16 percent of them can sign only. The finding of the study reveals that 79 percent of the respondents were literate which is higher than the national average literacy rate 63.0 percent (BBS 2007). As the major part of the farmers under the study area are literate. It can be said that in this study area, education of the farmers was relatively higher compared to typical rural area in Bangladesh. So they can understand and utilize successfully new technologies through communication media.

4.1.3 Family Size

The observed family size scores of the farmers ranged from 3 to 12 having an average of 5.74 and standard deviation of 1.80. On the basis of their family size scores, the farmers were classified into the following three categories: “small family” (2-4), “medium family” (5-6) and “large family” (above 6). The distribution of the farmers according to their family size is shown in Table 4.4.

Table 4.4: Distribution of farmers according to their family size

Categories	Farmers		Mean	Standard Deviation
	Number	Percent		
Small family (2-4)	27	27	5.74	1.80
Medium family (5-6)	39	39		
Large family (above 6)	34	34		
Total	100	100		

Findings reveal that 39 percent of the farmers had medium family compared to 27 and 34 percent having small and large family respectively. Based on the above data it can be concluded that the average family size of the farmers is near about the national average family size of Bangladesh which is equivalent to 5.60 (BBS, 2006). It is expected that the family having more number of people could invest better labour in their farming enterprises than those of the farmers having small size family. Majority (73percent) of the farmers having medium to large size families may have scope to invest more labour force in their vegetable farms.

4.1.4 Farm Size

The observed farm size scores of the farmers ranged from 0.27 hectare to 6.65 hectares. The average farm size was 1.18 hectares and the standard deviation was 1.00. The farmers were classified into the following four categories based on their farm size scores: “marginal farm size” (up to 0.5 ha), “small farm size” (0.51 ha - 1.00 ha), and “medium farm size” (1.01 ha - 3.00 ha) and “large farm size” (above 3.00 ha). The distribution of the farmers according to their farm size is shown in Table 4.5.

Table 4.5: Distribution of farmers according to their farm size

Categories	Farmers		Mean	Standard Deviation
	Number	Percent		
Marginal farm size (up to 0.5 ha)	15	15	1.18	1.00
Small farm size (0.51 ha -1.00 ha)	47	47		
Medium farm size (1.01 ha - 3.00 ha)	35	35		
Large farm size (above 3.00 ha)	3	3		
Total	100	100		

It was found that 47 percent of the farmers possessed small farm size compared to 15, 35 and only 3 percent marginal, medium and large farm size respectively. The average farm size of the farmers was 1.18 hectares which is higher than the national average farm size 0.8 hectare (BBS, 2005). Therefore, it can be assumed that marginal and small farmers cultivate their land by themselves and also take others Land on lease or share cropping. So they have commitment to their own family members. In this condition they were used to seek new technologies through various communication media. Medium or large also seek new technologies for themselves and particularly for vegetable growers, use of communication media is necessary.

4.1.5 Annual Income

The observed annual income of the farmers ranged from 45.00-560.00 having an average of 147.04 with a standard deviation of 83.39. Based on their annual income scores, the farmers were classified into three categories: “low annual income” (up to 100 thousand Taka), “medium annual income” (100-200 thousand Taka) and “high annual income”

(above 200 thousand Taka). The distribution of the farmers according to their annual income is shown in Table 4.6.

Table 4.6: Distribution of farmers according to their annual income

Categories	Farmers		Mean	Standard Deviation
	Number	Percent		
Low annual income (up to 100 thousand Taka)	29	29	147.04	83.39
Medium annual income (101-200 thousand Taka)	56	56		
High annual income (above 200 thousand Taka)	15	15		
Total	100	100		

Findings reveal that the highest portion (56 percent) of the farmers had medium annual income while 29 and 15 percent had low and high annual income respectively. That means 85 percent of the farmers had low to medium annual income. From the above finding this might be due to the fact that the farmers of the study area were not engaged in only agricultural activities. They earned from other sources such as services, business etc. So proper communication media should be used to provide information to the farmers on winter vegetable cultivation.

4.1.6 Organizational Participation

The observed organizational participation scores of the farmers ranged from 3-39 having an average of 16.54 with a standard deviation of 8.22. Based on the organizational participation scores, the farmers were classified into three categories: "low organizational participation" (up to 14) and "medium

organizational participation” (15-26) and “high organizational participation” (above 26). The distribution of the farmers according to their organizational participation scores is shown in Table 4.7.

Table 4.7: Distribution of farmers according to their organizational participation

Categories	Farmers		Mean	Standard Deviation
	<i>Number</i>	<i>Percent</i>		
Low organizational participation (up to 14)	45	45	16.54	8.22
Medium organizational participation (15-26)	42	42		
High organizational participation (above 26)	13	13		
Total	100	100		

The finding indicates that majority (45 percent) of the farmers had low organizational participation compared to 42 and 13 percent having medium organizational participation and high organizational participation respectively. Thus, it can be concluded that most of the farmers (87 percent) had low to medium organizational participation. This means that the farmers of the study area are mostly engaged in their farm works and do not participate in other social activities. Social participation was very much important for adopting new technologies through communication media .

4.1.7 Cosmopolitaness

The observed cosmopolitaness scores of the farmers ranged from 2 to 11 with an average of 5.88 and a standard deviation of 2.06 against the possible range of 0 to 12. On the basis of their cosmopolitaness scores, the farmers were classified into three categories: “low cosmopolitaness” (up to 5), “medium cosmopolitaness (6-9) and “high cosmopolitaness” (above 9). The distribution of the farmers according to their cosmopolitaness is shown in Table 4.8.

Table 4.8: Distribution of farmers according to their cosmopolitaness

Categories	Farmers		Mean	Standard Deviation
	Number	Percent		
Low cosmopolitaness (up to 5)	46	46	5.88	2.06
Medium cosmopolitaness (6-9)	49	49		
High cosmopolitaness (above 9)	5	5		
Total	100	100		

Findings show that the majority (49 percent) of the farmers had medium cosmopolitaness compared to 46 and 5 percent having low and high cosmopolitaness respectively. This means that majority (54 percent) of the farmers had medium to high cosmopolitaness. so it can be said that the more the cosmopolitaness of the poor farmers, the more the use of communication media in receiving agricultural information.

4.1.8 Innovativeness

The observed innovativeness scores of the farmers ranged from 4 to 17 having an average of 9.99 and a standard deviation of 2.92 against the possible range of 0-24. On the basis of their innovativeness scores, the farmers were classified into three categories: “low innovativeness” (up to

8) and “medium innovativeness” (9-13), “high innovativeness” (above 13). The distribution of the farmers according to their innovativeness scores is shown in Table 4.9.

Table 4.9: Distribution of farmers according to their innovativeness

Categories	Farmers		Mean	Standard Deviation
	Number	Percent		
Low innovativeness (up to 8)	33	33	9.99	2.92
Medium innovativeness (9-13)	57	57		
High innovativeness (above 13)	10	10		
Total	100	100		

Findings reveal that 57 percent of the farmers had medium innovativeness compared to 33 and 10 percent of the respondents had low and medium innovativeness respectively. The farmers with medium innovativeness opined that they received agricultural information from their peer groups while the others used interpersonal, group and mass media sources of information for getting agricultural information on winter vegetable cultivation.

4.1.9 Knowledge on Agriculture

The observed knowledge on agriculture scores of the farmers ranged from 7 to 19 having an average of 14.77 and a standard deviation of 2.72 against the possible range of 0-20. Based on the knowledge on agriculture scores, the farmers were classified into the following three categories: “poor knowledge” (up to 12), “medium knowledge” (13 to 16) and “high knowledge” (above 16). The distribution of the farmers according to their knowledge on agriculture is shown in Table 4.10.

Table 4.10: Distribution of farmers according to their knowledge on agriculture

Categories	Farmers		Mean	Standard Deviation
	Number	Percent		
Poor knowledge (up to 12)	24	24	14.77	2.72
Medium knowledge (13-16)	46	46		
High knowledge (above 16)	30	30		
Total	100	100		

Findings indicate that the highest proportion (46 percent) of the farmers had medium knowledge on agriculture compared to 24 and 30 percent having poor knowledge and high knowledge on agriculture respectively. It can be clear seen from the table 4.10 that majority of the respondents farmers (76 percent) had both medium to high agricultural knowledge. The farmers who had more favourable opinion were also found to have more knowledge on winter vegetables cultivation.

4.2 Use of communication media by the farmers in receiving information on winter vegetable cultivation

An interval scale was used to measure the extent of use of communication media by the farmers in receiving information on winter vegetable cultivation. Besides, effectiveness of communication media and credibility of communication media were also measured which has been described below:

4.2.1 Extent of use of communication media

The observed extent of use of communication media score of the farmers in receiving information on winter vegetable cultivation ranged from 15 to 43 having an average of 28.79 with a standard deviation 6.71 against the possible range of 0 to 60. On the basis of their extent of use of communication media score, the farmers were classified into three categories: “low use” (up to 24), “medium use” (25-34) and “high use” (above 34). The highest proportion (56 percent) of the farmers fell in the “medium use” category while 23 percent fell in the “low use” category and 21 percent of them fell in the “high use” category.

The distribution of the farmers according to their extent of use of communication media in receiving information on winter vegetable cultivation is shown in Figure 4.1.

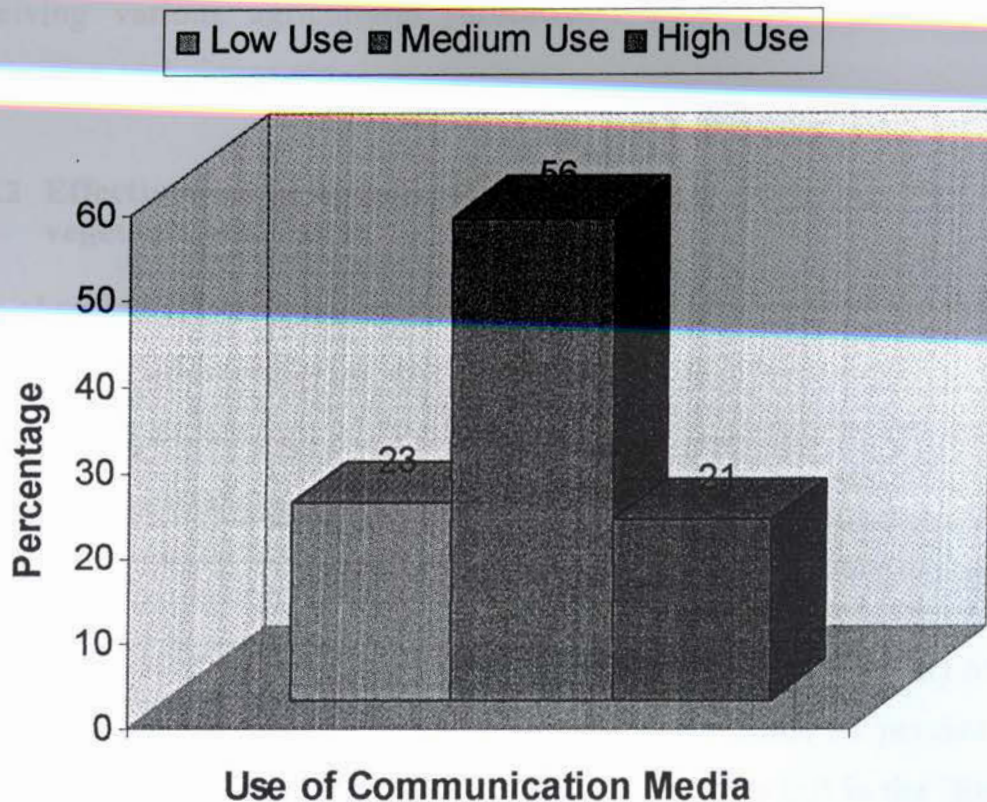


Figure 4.1: Bar graph showing use of communication media

The finding indicates that majority (56 percent) of the farmers had medium use of communication media in receiving information on winter vegetable cultivation compared to 23 and 21 percent having low use of communication media and high use of communication media respectively. This scenario is not satisfactory and should increase by taking necessary steps by GOs and NGOs. Appropriate knowledge can effectively change behaviour of the farmers towards adopting new agricultural technologies. For transferring knowledge to the root level farmers, different communication media play the vital role. The present finding indicates that use of communication media by the respondents of the study area is not up to the mark. So, for the continuous improvement in the earning and living status of the country people it is the high time to increase the use of communication media of the rural farmers to a great extent for

receiving various agricultural information such as winter vegetable cultivation techniques etc.

4.2.2 Effectiveness of communication media in receiving on winter vegetable cultivation

The observed effectiveness of communication media score of the farmers in receiving information on winter vegetable cultivation ranged from 15 to 37 having an average of 26.66 with a standard deviation 4.85 against the possible range of 0 to 45. On the basis of their effectiveness of communication media score, the farmers were classified into three categories: “less effective” (up to 22), “moderately effective” (23-30) and “highly effective” (above 30). The highest proportion (57 percent) of the farmers fell in the “moderately effective” category while 21 percent fell in the “less effective” category and 22 percent of them fell in the “highly effective” category.

The distribution of the farmers according to their extent of effectiveness of communication media in receiving information on winter vegetable cultivation is shown in Figure 4.2.

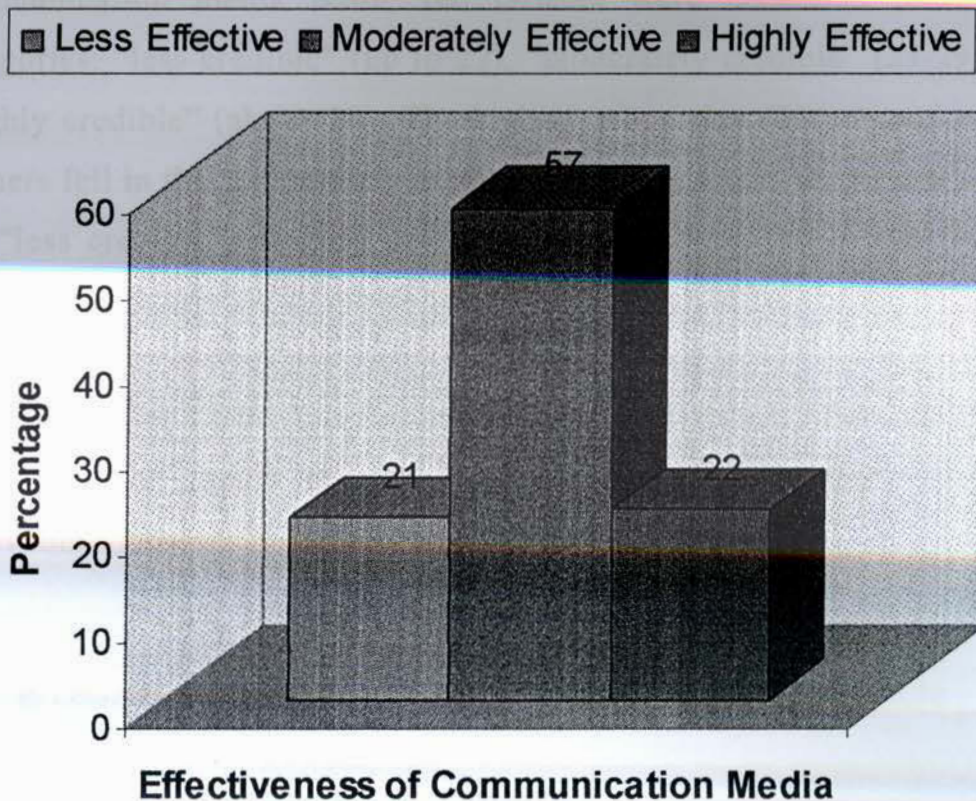


Figure 4.2: Bar graph showing effectiveness of communication media

The finding indicates that majority (57 percent) of the farmers had moderate effectiveness of communication media in receiving agricultural information compared to 21 and 22 percent having less effectiveness of communication media and high effectiveness of communication media respectively. This scenario is not satisfactory and should increase by taking necessary steps by GOs and NGOs.

4.2.3 Credibility of communication media in receiving information on winter vegetable cultivation

The observed credibility of communication media score of the farmers in receiving information on winter vegetable cultivation ranged from 16 to 35 having an average of 26.27 with a standard deviation 3.87 against the possible range of 0 to 45. On the basis of their credibility of

communication media score, the farmers were classified into three categories: “less credible” (up to 22), “moderately credible” (23-29) and “highly credible” (above 29). The highest proportion (66 percent) of the farmers fell in the “moderately credible” category while 16 percent fell in the “less credible” category and 18 percent of them fell in the “highly credible” category.

The distribution of the farmers according to their extent of credibility of communication media in receiving information on winter vegetable cultivation is shown in Figure 4.3.

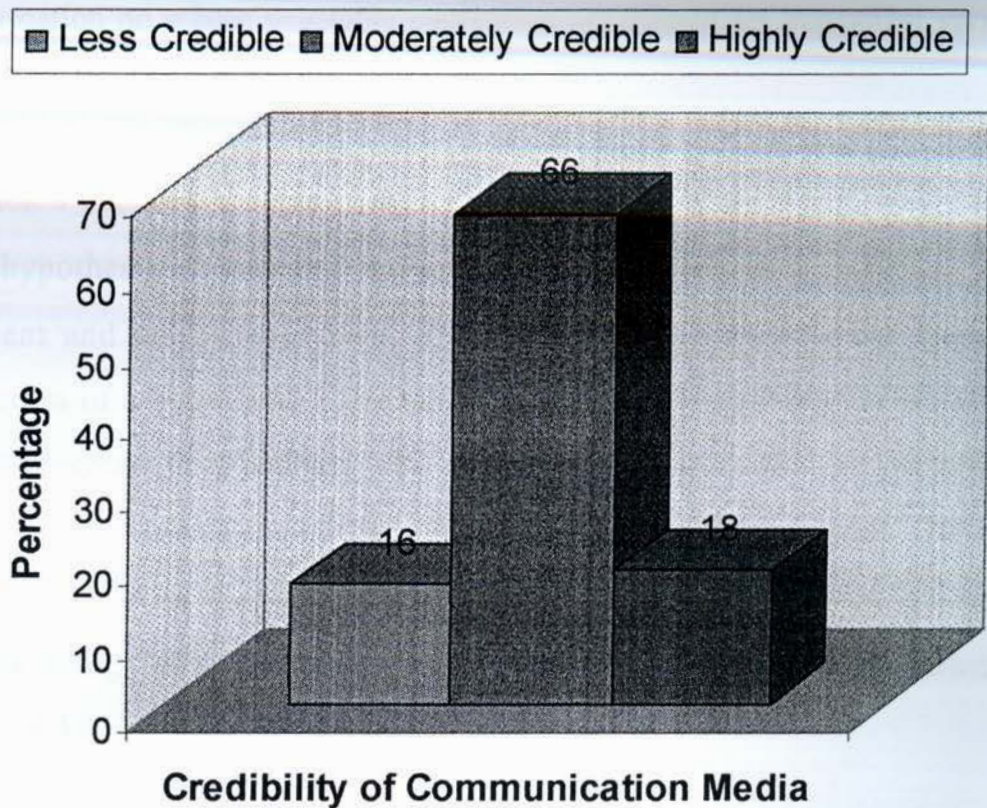


Figure 4.1: Bar graph showing credibility of communication media

The finding indicates that majority (66 percent) of the farmers had moderate credibility of communication media in receiving information on winter vegetable cultivation compared to 16 and 18 percent having less

credibility of communication media and high credibility of communication media respectively. This scenario is not satisfactory and should increase by taking necessary steps by GOs and NGOs.

4.3 Relationship between Selected Characteristics of the Farmers and their Use of Communication Media in Receiving Information on Winter Vegetable Cultivation

Coefficient of correlation was computed in order to explore the relationship between the selected characteristics of the farmers and their use of communication media in receiving information on winter vegetable cultivation. The selected characteristics of the farmers constituted independent variables of the study and use of communication media by the farmers in receiving information on winter vegetable cultivation constituted the dependent variable of the study.

Person's Product Moment Coefficient of Correlation (r) was used to test the hypothesis concerning the relationship between two variables. Five percent and one percent level of probability were used as the basis for rejection of a hypothesis. The table value of ' r ' was calculated at $(100-2) = 98$ degrees of freedom. The summary of the results of correlation coefficient indicating the relationships between the selected characteristics of the respondents and their use of communication media in receiving information on winter vegetable cultivation is shown in Table 4.11.

In this section relationship between nine selected characteristics (independent variables) of the farmers viz. age, education, family size, farm size, annual income, organizational participation, cosmopolitaness, innovativeness, knowledge on agriculture and the dependent variable i.e. use of communication media by the farmers in receiving information on winter vegetable cultivation has been described.

Table 4.11: Coefficient of correlation between the selected independent variables and dependent variable

Independent Variables	Computed Value of 'r'	Dependent Variable	Table Value of 'r' at 98 Degrees of Freedom	
			5%	1%
Age	.006 ^{NS}	Use of communication media by the farmers in receiving information on winter vegetable cultivation	0.196	0.256
Education	.251*			
Family Size	.059 ^{NS}			
Farm Size	.358**			
Annual Income	.302**			
Organizational Participation	.402**			
Cosmopolitaness	.250*			
Innovativeness	.265**			
Knowledge on Agriculture	.377**			

^{NS} = Not significant

* = Significant at 0.05 level of probability

** = Significant at 0.01 level of probability

4.3.1 Relationship between age of the farmers and dependent variable

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

“There is no relationship between age of the farmers and their use of communication media in receiving information on winter vegetable cultivation”

Computed value of the coefficient of correlation between age of the farmers and their use of communication media in receiving information on winter vegetable cultivation was found to be 0.006^{NS} as shown in Table 4.11. The following observations were recorded regarding the relationship between the two variables on the basis of the co-efficient of correlation:

- The relationship showed a positive trend.
- A negligible relationship was found to exist between the two variables.
- The computed value of 'r' (0.006) was smaller than the table value (± 0.196) with 98 degrees of freedom at 0.05 level of probability.
- The concerned null hypothesis was accepted.
- The coefficient of correlation between the concerned variables was not significant at 0.05 level of probability.

The findings demonstrate that age of the farmers had no significant relationship with their use of communication media in receiving information on winter vegetable cultivation.

4.3.2 Relationship between education of the farmers and dependent variable

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

“There is no relationship between education of the farmers and their use of communication media in receiving information on winter vegetable cultivation”

The coefficient of correlation between education of the farmers and their use of communication media in receiving information on winter vegetable cultivation was found to be 0.251* as shown in Table 4.11. The following observations were recorded regarding the relationship between the two variables on the basis of the co-efficient of correlation:

- The relationship showed a positive trend.
- A high relationship was found to exist between the two variables.
- The computed value of ‘r’ (0.251) was greater than the table value (± 0.196) with 98 degrees of freedom at 0.05 level of probability.
- The concerned null hypothesis was rejected.
- The coefficient of correlation between the concerned variables was significant at 0.05 level of probability.

The finding demonstrates that there was a significant positive relationship between the education of the farmers and their use of communication media in receiving information on winter vegetable cultivation.

4.3.3 Relationship between family size of the farmers and dependent variable

The relationship between family size of the farmers and their use of communication media in receiving information on winter vegetable cultivation was examined by testing the following null hypothesis:

“There is no relationship between family size of the farmers and their use of communication media in receiving information on winter vegetable cultivation”

Computed value of the coefficient of correlation between family size of the farmers and their use of communication media in receiving information on winter vegetable cultivation was found to be 0.059^{NS} as shown in Table 4.11. The following observations were recorded regarding the relationship between the two variables on the basis of the co-efficient of correlation:

- The relationship showed a positive trend.
- A negligible relationship was found to exist between the two variables.
- The computed value of ‘r’ (0.059) was smaller than the table value (± 0.196) with 98 degrees of freedom at 0.05 level of probability.
- The concerned null hypothesis was accepted.
- The coefficient of correlation between the concerned variables was not significant at 0.05 level of probability.

The finding demonstrates that the family size of the farmers had no significant relationship with their use of communication media in receiving information on winter vegetable cultivation.

4.3.4 Relationship between farm size of the farmers and dependent variable

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

“There is no relationship between farm size of the farmers and their use of communication media in receiving information on winter vegetable cultivation”

Computed value of the coefficient of correlation between farm size of the farmers and their use of communication media in receiving information on winter vegetable cultivation was found to be 0.358** as shown in Table 4.11. The following observations were recorded regarding the relationship between the two variables on the basis of the co-efficient of correlation:

- The relationship showed a positive trend.
- A high relationship was found to exist between the two variables.
- The computed value of ‘r’ (0.358) was greater than the table value (± 0.256) with 98 degrees of freedom at 0.01 level of probability.
- The concerned null hypothesis was rejected.
- The coefficient of correlation between the concerned variables was significant at 0.01 level of probability.

The finding demonstrates that the farm size of the farmers had a significant positive relationship with their use of communication media in receiving information on winter vegetable cultivation.

4.3.5 Relationship between annual income of the farmers and dependent variable

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

“There is no relationship between annual income of the farmers and their use of communication media in receiving information on winter vegetable cultivation”

Computed value of the coefficient of correlation between annual income of the farmers and their use of communication media in receiving information on winter vegetable cultivation was found to be 0.302** as shown in Table 4.11. The following observations were recorded regarding the relationship between the two variables on the basis of the co-efficient of correlation:

- The relationship showed a positive trend.
- A high relationship was found to exist between the two variables.
- The computed value of ‘r’ (0.302) was greater than the table value (± 0.256) with 98 degrees of freedom at 0.01 level of probability.
- The concerned null hypothesis was rejected.
- The coefficient of correlation between the concerned variables was significant at 0.01 level of probability.

The findings demonstrate that the annual income of the farmers had a significant positive relationship with their use of communication media in receiving information on winter vegetable cultivation.

4.3.6 Relationship between organizational participation of the farmers and dependent variable

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

“There is no relationship between organizational participation of the farmers and their use of communication media in receiving information on winter vegetable cultivation”

Computed value of the coefficient of correlation between organizational participation of the farmers and their use of communication media in receiving information on winter vegetable cultivation was found to be 0.402** which is shown in Table 4.11. The following observations were recorded regarding the relationship between the two variables on the basis of the coefficient of correlation:

- The relationship showed a positive trend.
- A high relationship was found to exist between the two variables.
- The computed value of ‘r’ (0.402) was greater than the table value (± 0.256) with 98 degrees of freedom at 0.01 level of probability.
- The concerned null hypothesis was rejected.
- The coefficient of correlation between the concerned variables was significant at 0.01 level of probability.

The findings demonstrate that the organizational participation of the farmers had a significant positive relationship with their use of communication media in receiving information on winter vegetable cultivation.

4.3.7 Relationship between cosmopolitanism of the farmers and dependent variable

The relationship between cosmopolitanism of the farmers and their use of communication media in receiving information on winter vegetable cultivation was examined by testing the following null hypothesis:

“There is no relationship between cosmopolitanism of the farmers and their use of communication media in receiving information on winter vegetable cultivation”

Computed value of the coefficient of correlation between cosmopolitanism of the farmers and their use of communication media in receiving information on winter vegetable cultivation was found to be 0.250* which is shown in Table 4.11. The following observations were recorded regarding the relationship between the two variables on the basis of the coefficient of correlation:

- The relationship showed a positive trend.
- A high relationship was found to exist between the two variables.
- The computed value of ‘r’ (0.250) was greater than the table value (± 0.196) with 98 degrees of freedom at 0.05 level of probability.
- The concerned null hypothesis was rejected.
- The coefficient of correlation between the concerned variables was significant at 0.05 level of probability.

The finding demonstrates that the cosmopolitanism of the farmers had a significant positive relationship with their use of communication media in receiving information on winter vegetable cultivation.

4.3.8 Relationship between innovativeness of the farmers and dependent variable

The relationship between innovativeness of the farmers and their use of communication media in receiving information on winter vegetable cultivation was examined by testing the following null hypothesis:

“There is no relationship between innovativeness of the farmers and their use of communication media in receiving information on winter vegetable cultivation”

Computed value of the coefficient of correlation between innovativeness of the farmers and their use of communication media in receiving information on winter vegetable cultivation was found to be 0.265** as shown in Table 4.11. The following observations were recorded regarding the relationship between the two variables on the basis of the coefficient of correlation:

- The relationship showed a positive trend.
- A high relationship was found to exist between the two variables.
- The computed value of 'r' (0.265) was greater than the table value (± 0.256) with 98 degrees of freedom at 0.01 level of probability.
- The concerned null hypothesis was rejected.
- The coefficient of correlation between the concerned variables was significant at 0.01 level of probability.

The findings reveal that the innovativeness of the farmers had a significant positive relationship with their use of communication media in receiving information on winter vegetable cultivation.

4.3.9 Relationship between knowledge on agriculture of the farmers and dependent variable

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

“There is no relationship between knowledge on agriculture and their use of communication media in receiving information on winter vegetable cultivation”

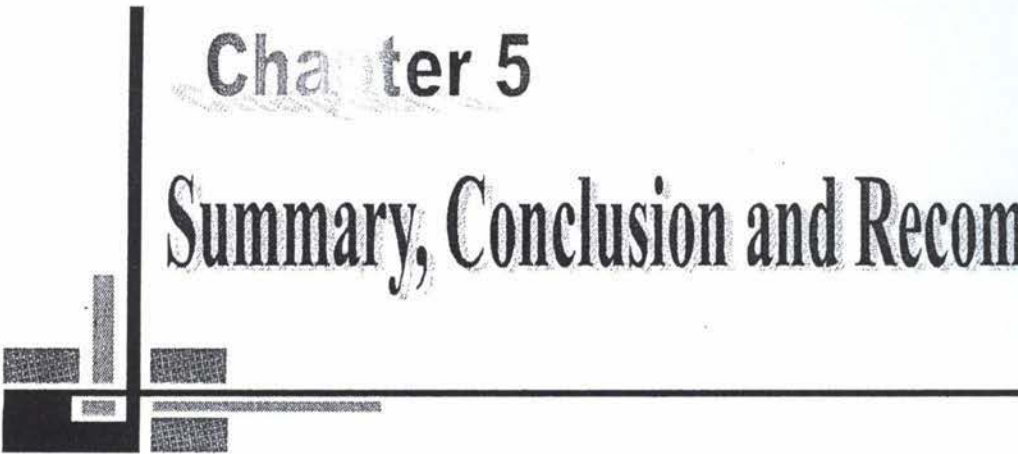
Computed value of the coefficient of correlation between the knowledge on agriculture and their use of communication media in receiving information on winter vegetable cultivation was found to be 0.377** as shown in Table 4.11. The following observations were recorded regarding the relationship between the two variables on the basis of the coefficient of correlation:

- The relationship showed a positive trend.
- A high relationship was found to exist between the two variables.
- The computed value of ‘r’ (0.377) was greater than the table value (± 0.256) with 98 degrees of freedom at 0.01 level of probability.
- The concerned null hypothesis was rejected.
- The coefficient of correlation between the concerned variables was significant at 0.01 level of probability.

The finding demonstrates that the knowledge on agriculture of the farmers had a significant positive relationship with their use of communication media in receiving information on winter vegetable cultivation.

Chapter 5

Summary, Conclusion and Recommendation



CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

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

5.1 Summary of the Findings

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

5.1.1 Selected Characteristics of the Farmers

Age

Age scores of the farmers ranged from 25 to 70 with an average of 43.58 and the standard deviation was 11.97. Findings indicate that a large proportion (39 percent) of the farmers were young compared to 35 and 26 percent being middle aged and old respectively.

Education

The education scores of the farmers ranged from 0 to 14 with an average of 7.21 and the standard deviation was 4.55. It was found that the majority (46 percent) of the farmers had secondary education compared to 13 and 20 percent having primary and above secondary education respectively. Besides, 5 percent of the respondents were illiterate and 16 percent of them can sign only.

Family Size

The family size scores of the farmers ranged from 3 to 12 with an average of 5.74 and the standard deviation was 1.80. Finding reveals that 39 percent of the farmers had medium family compared to 27 and 34 percent having small and large family respectively.

Farm Size

Farm size scores of the farmers ranged from 0.27 to 6.65 with an average of 1.18 and the standard deviation was 1.00. It was found that 47 percent of the farmers possessed small farm size compared to 15, 35 and only 3 percent of them having marginal, medium farm size and large farm size respectively.

Annual Income

Annual income scores of the farmers ranged from 45.00 to 560.00 with an average of 147.04 and the standard deviation was 83.39. Finding reveals that the highest portion (56 percent) of the farmers had medium annual income while 29 and 15 percent of them had low annual income and high annual income respectively.

Organizational Participation

Organizational participation scores of the farmers ranged from 3 to 39 with an average of 16.54 and the standard deviation was 8.22. The finding indicates that majority (45 percent) of the farmers had low organizational participation compared to 42 and 13 percent having medium organizational participation and high organizational participation respectively.

Cosmopolitaness

Cosmopolitaness scores of the farmers ranged from 2 to 11 against the possible range of 0 to 15 with an average of 5.88 and the standard deviation was 2.06. Finding shows that the majority (49 percent) of the farmers had medium

cosmopolitanism compared to 46 and 5 percent having low and high cosmopolitanism respectively.

Innovativeness

The innovativeness scores of the farmers ranged from 4 to 17 against the possible range of 0 to 24 with an average of 9.99 and the standard deviation was 2.92. Finding reveals that 57 percent of the farmers had medium innovativeness compared to 33 and 10 percent of the respondents had low and medium innovativeness respectively.

Knowledge on Agriculture

The knowledge on agriculture scores of the farmers ranged from 7 to 19 against the possible range of 0 to 20 with an average of 14.77 and the standard deviation 2.72. Finding indicates that the highest proportion (46 percent) of the farmers had medium knowledge on agriculture compared to 24 and 30 percent having poor knowledge and high knowledge on agriculture respectively.

5.1.2 Use of Communication Media in Receiving Information on Winter Vegetable Cultivation

5.1.2.1 Use of communication media

Measuring the extent of use of communication media in receiving information on winter vegetable cultivation was the main focus of this study. It was quantified by computing scores. These scores of the respondents could range from '0' to '60', where '0' indicates lowest level of use of communication media and '60' indicates highest level of use of communication media. The observed scores of the respondents ranged from 15 to 43 with an average of 28.79 and the standard deviation was 6.71. The finding indicates that majority (56 percent) of the farmers had medium use of communication media in receiving information on winter

vegetable cultivation compared to 23 and 21 percent having low use of communication media and high use of communication media respectively.

5.1.2.2 Effectiveness of communication media

Measuring the extent of effectiveness of communication media in receiving agricultural information was another dependent variable of this study. It was quantified by computing scores. These scores of the respondents could range from '0' to '45', where '0' indicates lowest level of effectiveness of communication media and '45' indicates highest level of effectiveness of communication media. The observed scores of the respondents ranged from 15 to 37 with an average of 26.66 and the standard deviation was 4.85. The finding indicates that majority (57 percent) of the farmers had moderate effectiveness of communication media in receiving agricultural information compared to 21 and 22 percent having less effectiveness of communication media and high effectiveness of communication media respectively.

5.1.2.3 Credibility of communication media

Measuring the extent of credibility of communication media in receiving information on winter vegetable cultivation was another dependent variable of this study. It was quantified by computing scores. These scores of the respondents could range from '0' to '45', where '0' indicates lowest level of credibility of communication media and '45' indicates highest level of credibility of communication media. The observed scores of the respondents ranged from 16 to 35 with an average of 26.27 and the standard deviation was 3.87. The finding indicates that majority (66 percent) of the farmers had moderate credibility of communication media in receiving information on winter vegetable cultivation compared to 16

and 18 percent having less credibility of communication media and high credibility of communication media respectively.

5.1.3 Relationship between the selected characteristics of the farmers with their use of communication media in receiving information on winter vegetable cultivation

Nine null hypotheses were formulated to explore the relationship between the selected characteristics of the farmers and their use of communication media in receiving information on winter vegetable cultivation. For testing each of the hypotheses the coefficient of correlation (r) test was used.

Correlation analysis indicates that age and family size of the farmers had no significant relationship with their use of communication media in receiving information on winter vegetable cultivation. Hence, the null hypotheses concerning these two variables were accepted by the researcher. Other seven variables of the study were found to be significant and hence null hypotheses concerning those variables were rejected by the researcher.

5.2 Conclusions

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

1. The study indicated that 56 percent of the respondents maintained medium use of communication media in receiving information on winter vegetable cultivation. This is not enough for maintaining adequate flow of farm information among the farmers. The finding leads to the conclusion that the farmers should increase contact with the communication media available to them in receiving agricultural information for performing various farming operations.

2. Fifty seven percent of the respondents had moderate effectiveness of communication media and sixty six percent of the respondents had moderate credibility of communication media in receiving agricultural information. If we want to solve food problem of the country, effectiveness and credibility of communication media must be increased. However, to meet the ever-growing demand of food, there is a need to further enhance the effectiveness and credibility of communication media in receiving agricultural information. Particularly, both the Government Organization and Non-Government Organization workers should provide appropriate technical and management related information to the farmers through appropriate communication media and others support services. It may be concluded that the effectiveness and credibility of communication media is moderate and needs further improvement.

3. The study indicated that age of the farmers had no significant relationship with their use of communication media. This means that age of the farmers had no influence on their use of communication media in receiving information on winter vegetable cultivation.

4. Education is desirable quality to acquire knowledge and skills of a person, which in turn contributes to change individual behavior, attitude and practice in a desirable way. The statistical analysis showed a significant positive relationship of education of the farmers with their use of communication media in receiving information on winter vegetable cultivation. Therefore, it may be concluded that education plays an important role for using of communication media in receiving information on winter vegetable cultivation.

5. Family size of the framers had no significant relationship with their use of communication media in receiving information on winter vegetable cultivation. This fact leads to the conclusion that family size of the farmers and their use of communication media in receiving information on winter vegetable cultivation are not dependent to each other.

6. Annual income of the farmers had a positive significant relationship with the use of communication media in receiving information on winter vegetable cultivation. It leads to the conclusion that income of the farmers had helped them to increase their use of communication media in receiving information on winter vegetable cultivation.
7. Organizational participation of the respondents had a positive significant relationship with their use of communication media in receiving information on winter vegetable cultivation. The finding leads to the conclusion that the farmers with more organizational exposure are expected to have more interest in using different communication media related to winter vegetable cultivation.
8. Cosmopolitaness of the farmers had a significant positive relationship with their use of communication media in receiving information on winter vegetable cultivation. The finding leads to the conclusion that going outside one's periphery creates scope to learn and use new communication media related to winter vegetable cultivation.
9. Innovativeness of the farmers had a significant positive relationship with their use of communication media in receiving information on winter vegetable cultivation. This means that the more innovativeness towards the improved practices for winter vegetable cultivation, the more was their use of various communication media in receiving information related to winter vegetable cultivation.
10. A significant positive relationship was found between knowledge on agriculture of the farmers and their use of communication media in receiving information on winter vegetable cultivation which implied that the more the knowledge of the farmers on agriculture the more the use of communication media in receiving information on winter vegetable cultivation.

5.3 Recommendations

5.3.1 Recommendations for policy implications

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

1. The study reveals that the farmers with better organizational participation having opportunity to expose themselves with various communication media. Therefore, group approach of extension could effectively be used by different extension agencies in disseminating information. Extension agent has an example such to farm listening class of radio, TV etc.
2. The knowledge of the farmers on agriculture showed a positive significant relationship with their use of communication media. Extension agents should select those people considering the aforesaid characteristics as far as possible while conducting extension activities in the field.
3. Considering the entire situation it is recommended that care should be taken by the Department of Agricultural Extension (DAE) and other development agencies in handling communication media with the farmers. It should be remembered that failure of one effort may lead to reduce credibility of that communication media which may take long time to overcome psychological barriers to use of that communication media.

5.3.2 Recommendations for further study

1. It is strongly felt that study of this nature be replicated in other parts of Bangladesh. This recommendation is made because the study area at Chirirbandar upazilla in Dinajpur district is not typical of the situation in the entire country.
2. This study investigated the effects of nine characteristics of the farmers on their use of communications media in receiving information on winter vegetable cultivation. Therefore, it is recommended that further study should be conducted involving other characteristics (farm facilities, farming experienced, etc.) in this regards.
3. Similar study may also be replicated in future for studying any change of pattern regarding effectiveness of communication media used among the same population of the present study area.
4. On the basis of the characteristics pattern of farming population, more researches should be conducted to investigate the comparative effectiveness of communication media with other extension method and also identify the factors influencing the use of communication media, its utilization as well as effectiveness in receiving information by the farmers.



Chapter 6

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CHAPTER 6

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APPENDIX-A

**Department of Agricultural Extension & Information System
Sher-e-Bangla Agricultural University
Sher-e-Bangla Nagar, Dhaka-1207**

An English version of interview schedule on “Use of Communication Media by the Farmers in Receiving Information on Selected Winter Vegetable Cultivation”

Sl. No.

Name of respondent :

Father's Name :

Village : Union

Upazilla : District

(Please furnish the following the information)

1. Age

How old are you? : Years

2. Education

What is your level of education?

a) Can't read and write

b) Can sign only

c) I studied up to..... Class

3. Family Size

Please mention the total number of your family members.

Male : nos.

Female nos.

Total nos.

4. Farm Size

Please indicate the area of land in your possession.

Sl. no.	Type of land	Land area	
		Local unit	Hectare (ha)
1.	Homestead area (including ponds)		
2.	Own land under own cultivation		
3.	Own land given to others as borga		
4.	Land taken from other as borga		
5.	Own land given to others as lease		
6.	Land taken from other as lease		
Total			

5. Annual Income (last year)

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

a) Income from agricultural sector:

- i) From crop production.....
- ii) From livestock rearing.....
- iii) From poultry rising.....
- iv) From fish cultivation.....

b) Income from Non-agricultural sector:

- i) From business.....
- ii) From service.....
- iii) From daily labour.....

Total Income (a+b) = Tk.

6. Organizational Participation

Please mention the extent of participation in the following institutions:

Sl. No.	Name of Institute	Extent of Participation						
		No Participation	Ordinary Member	Duration(Yrs)	Executive Members	Duration (Yrs)	President/ Secretary of Ex. com.	Duration (Yrs)
1.	Samabay Samity							
2.	Mosque/MonDir Committee							
3.	Union Parishad Committee							
4.	School/College Committee							
5.	Madrasha Committee							
6.	Youth Club							
7.	Bazar Committee							
8.	NGO Samity							
9.	Mass Literacy Committee							
10.	Sports Club							
11.	Others							
Total =								

7. Cosmopolitaness

Please mention your extent of visit in the following places:

Sl. No.	Places of visit	Extent of visit			
		Regularly	Occasionally	Rarely	Never
1.	Local leader	5 or more times/month	3-4 times month	1-2 times/month	0 (zero) time/month
2.	Upazila Agril. Officer	4 or more times/months	2-3 times/months	1 times/months	0 (zero) time/months
3.	District town	6 or more times/year	3-5 times year	1-4 times/year	0 (zero) time/year

8. Innovativeness

Sl. No.	Crop	Variety	Cultivated land		Duration of cultivation after first hearing			
			Local Unit	Hectare (ha)	1 Year	2-3 Years	4-5 Years	6-7 Years
1.	Potato	Lalita (LIV)						
		Diamont (HYV)						
2.	Tomato	Borokhatta (LIV)						
		Apurbo (HYV)						
3.	Radish	Tasakistanmula -1 (HYV)						
		Red Bombai (HYV)						
Total =								

9. Knowledge on Agriculture

Please answer the following questions:

Sl. no.	Questions	Full marks	Marks obtained
1.	What do you understand by intensive vegetable cultivation? (a) Cultivate intensively (score-1), (b) Cultivate with care (score-0)	1	
2.	Do you think homestead is ideal for vegetable cultivation? (a) Yes, I do (score-1), (b) No, I don't (score-0)	1	
3.	Name one improved variety of potato. (a) Diamont (score-1), (b) Tripti (score-0)	1	
4.	Name one improved variety of tomato. (a) Manik (score-1), (b) China king (score-0)	1	
5.	Name one improved variety of radish. (a) Red Bombai (score-1), (b) Ratan (score-0)	1	
6.	What is the optimum time for sowing potato? (a) Mid-October to Mid-November (score-1), (b) January-February (score-0)	1	
7.	What is the optimum time for sowing tomato? (a) October-November (score-1), (b) March-April (score-0)	1	
8.	What is the optimum time for sowing radish? (a) September-October (score-1), (b) June-July (score-0)	1	
9.	Name one disease of potato. (a) Late blight (score-1), (b) Stem rot (score-0)	1	
10.	Name one disease of tomato. (a) Damping off (score-1), (b) Anthracnose (score-0)	1	
11.	Name two organic fertilizers used in vegetable cultivation. (a) Cowdung & Rotten leaves (score-1), (b) Urea & Phosphate (score-0)	1	
12.	Name two exotic breeds of poultry. (a) Leghorn & Fayoumi (score-1), (b) Jalali & Lahori (score-0)	1	
13.	Name two epidemic diseases of poultry. (a) New Castle & Fowl Pox (score-1), (b) Diarrhoea & Fever (score-0)	1	
14.	At what age of goat get ready for its first offspring? (a) 2 years (score-1), (b) 4 years (score-0)	1	
15.	In ideal situation, how many times an adult goat should be supplied with foods in a day? (a) 3 times (score-1), (b) 6 times (score-0)	1	
16.	Name one function of Urea fertilizer. (a) To increase the vegetative growth of plants (score-1), (b) To ripen the fruits (score-0)	1	
17.	Name one cereal crop. (a) Rice (score-1), (b) Jute (score-0)	1	
18.	Name one function of phosphate fertilizer. (a) To increase the tiller number of cereal crops (score-1), (b) To increase the viability of plants (score-0)	1	
19.	Name one insect of potato. (a) Tuber worm (score-1), (b) Aphids (score-0)	1	
20.	Name one insect of tomato. (a) Tomato aphid (score-1), (b) Cut worm (score-0)	1	
	Total score =	20	

10. Effectiveness of Communication Media

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

Communication media	Name of the source of information	Extent of effectiveness		
		Very effective	Effective	Not effective at all
Individual	Sub Asst. Agriculture Officer			
	Experienced farmer			
	Relatives			
	Input dealers			
	Neighbors			
	Local leader			
	Result demonstration			
Group	Group discussion			
	Farmers' rally			
	Result demonstration Meeting			
	Agril. exhibition			
	Method demonstration			
Mass	Radio			
	Agril. printed materials			
	Television			
Total =				

11. Credibility of Communication Media

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

Communication media	Name of the source of information	Extent of credibility		
		Highly credible	Moderately credible	Less credible
Individual	Sub Asst. Agriculture Officer			
	Experienced farmer			
	Relatives			
	Input dealers			
	Neighbors			
	Local leader			
	Result demonstration			
Group	Group discussion			
	Farmers' rally			
	Result demonstration meeting			
	Agril. exhibition			
	Method demonstration			
Mass	Radio			
	Agril. printed materials			
	Television			
Total =				

12. Use of Communication Media

Please indicate your extent of use of the following communication media in receiving information on winter vegetable cultivation (put tick mark):

Communication media	Name of the source of information	Extent of use of the communication media			
		Regularly	Often	Seldom	Rarely
Individual	Sub Asst. Agricultural Officer				
	Experienced farmer				
	Relatives				
	Input dealers				
	Neighbors				
	Local leader				
	Result demo.				
Group	Group discussion				
	Farmers rally				
	Result demo. Meeting				
	Agril. exhibition				
	Method demo.				
Mass	Radio				
	Agril. printed materials				
	Television				
Total =					

Signature of investigator

Date:

APPENDIX – B

CORRELATION MATRIX AMONG DEPENDENT AND INDEPENDENT VARIABLES (N=100)

VARIABLE	X1	X2	X3	X4	X5	X6	X7	X8	X9	X10	X11
X1	1										
X2	.028 ^{NS}	1									
X3	.450**	-.011 ^{NS}	1								
X4	.022 ^{NS}	.483**	.019 ^{NS}	1							
X5	.140 ^{NS}	.474**	.099 ^{NS}	.927**	1						
X6	.017 ^{NS}	.321**	.011 ^{NS}	.448**	.438**	1					
X7	.133 ^{NS}	.345**	.051 ^{NS}	.296**	.260**	.144 ^{NS}	1				
X8	.067 ^{NS}	.142 ^{NS}	.107 ^{NS}	.145 ^{NS}	.106 ^{NS}	.184 ^{NS}	-.082 ^{NS}	1			
X9	.134 ^{NS}	.578**	.078 ^{NS}	.425**	.380**	.252*	.273**	.110 ^{NS}	1		
X10	.084 ^{NS}	.122 ^{NS}	.132 ^{NS}	.291**	.282**	.150 ^{NS}	.102 ^{NS}	.326**	.144 ^{NS}	1	
X11	.107 ^{NS}	.046 ^{NS}	.112 ^{NS}	.084 ^{NS}	.069 ^{NS}	.195 ^{NS}	.213*	.032 ^{NS}	.236*	.527**	1
X12	.006 ^{NS}	.251*	.059 ^{NS}	.358**	.302**	.402**	.250*	.265**	.377**	.622**	.463**

** = Significant at the 0.01 level

* = Significant at the 0.05 level

^{NS} = Not Significant

X1 = AGE

X2 = EDUCATION

X3 = FAMILY SIZE

X4 = FARM SIZE

X5 = ANNUAL INCOME

X6 = ORGANIZATIONAL PARTICIPATION

X7 = COSMOPOLITENESS

X8 = INNOVATIVENESS

X9 = KNOWLEDGE ON AGRICULTURE

X10 = EFFECTIVENESS OF COMMUNICATION MEDIA

X11 = CREDIBILITY OF COMMUNICATION MEDIA

X12 = USE OF COMMUNICATION MEDIA