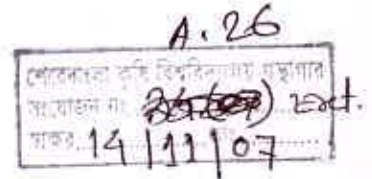


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**COMMUNICATION EXPOSURE OF SUB-ASSISTANT  
AGRICULTURE OFFICERS (SAAOs) REGARDING  
RICE PRODUCTION TECHNOLOGIES**

BY

**MD. MAHBUBUL ALAM  
REGISTRATION NO. 00441**



**A Thesis**

*Submitted to the Faculty of Agriculture,  
Sher-e-Bangla Agricultural University, Dhaka,  
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## *CERTIFICATE*

This is to certify that thesis entitled, "**COMMUNICATION EXPOSURE OF SUB-ASSISTANT AGRICULTURE OFFICERS (SAAOs) REGARDING RICE PRODUCTION TECHNOLOGIES**" submitted to the Faculty of Agriculture, Sher-e-Bangla Agricultural University, Dhaka in partial fulfillment of the requirements for the degree of **MASTER OF SCIENCE IN AGRICULTURAL EXTENSION AND INFORMATION SYSTEM**, embodies the result of a piece of bona fide research work carried out by **MD. MAHBUBUL ALAM**, Registration No. 00441 under my supervision and guidance. No part of the thesis has been submitted for any other degree or diploma.

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

**Dated:**  
**Place: Dhaka, Bangladesh**

  
**(Md. Rafiqul Islam)**  
**Supervisor**



**Dedicated**

**To**

**All of my true friends who  
are my inspiration**





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**The Author**

# **COMMUNICATION EXPOSURE OF SUB-ASSISTANT AGRICULTURE OFFICERS (SAAOs) REGARDING RICE PRODUCTION TECHNOLOGIES**

**Md. Mahbubul Alam**

## **ABSTRACT**

The specific objective of the study was to determine the communication exposure of Sub-Assistant Agriculture Officers (SAAOs) regarding rice production technologies. Attempts were also made to determine nine selected characteristics of the SAAOs and their relationship with communication exposure. Twenty communication media were considered in this study for measuring the communication exposure of the SAAOs. Data were collected from a sample of 100 SAAOs of the five Upazilas of Chapainawabgonj District. Pearson's correlation co-efficient was used to determine the relationships between the dependent and independent variables. Twenty four percent of the SAAOs had high compared to 37 percent had medium and 39 percent had low communication exposure regarding rice production technologies. In respect of media-wise communication exposure AEO, UAO, AAEO, group discussion, method and result demonstration came out as first six effective communication media used by the SAAOs in receiving information. Respondents' service length, training received, organizational participation, job facility, opinion on effectiveness of communication media, attitude towards rice production technology and extent of communication with regard to job responsibilities had positive and highly significant relationship with their communication exposure regarding rice production technologies. The other characteristics such as age and annual family income of the SAAOs were not related with their communication exposure.



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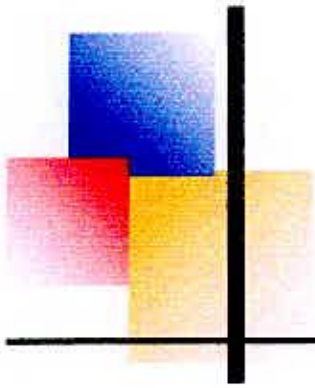
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## ACRONYMS AND ABBREVIATIONS

AAEO	Assistant Agriculture Extension Officer
AEO	Agriculture Extension Officer
ASSP	Agricultural Support Services Project
BAU	Bangladesh Agricultural University
BBS	Bangladesh Bureau of Statistics
BRR1	Bangladesh Rice Research Institute
BSMRAU	Bangabandhu Sheikh Mujibur Rahman Agricultural University
DAE	Department of Agricultural Extension
GDP	Gross Domestic Product
HYV	High Yielding Variety
KSS	Krishak Samabay Sangstha
MT	Metric Ton
MV	Modern Variety
NAEP	New Agricultural Extension Policy
NGO	Non-Government Organization
UAO	Upazila Agriculture Officer





# Chapter 1

## Introduction

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## CHAPTER 1

### INTRODUCTION

#### **1.1 General Background**

Bangladesh is one of the least developing countries of the south-east Asia, lies between 20°34' and 26°38' north latitude and between 88°1' and 92°41' east longitude, comprising of total area of 1,47,570 sq. Km. Agriculture is the back bone of Bangladesh's economy. The major portions of the population live in the villages and two-thirds of labour forces (59.2 percent) are engaged in agriculture (BBS, 2003). The economy of the country is predominantly agrarian and agricultural sector provides 20.14 percent of the Gross Domestic Product (GDP), (BBS, 2005). So, agriculture plays a vital role in employment generation, poverty alleviation, food security, standard of living and in increase of earnings.

Bangladesh is one of the most densely populated countries in the world with a population of over 139.76 million with a growing rate of 1.48 percent per annum (BBS, 2005) and 76.61 percent of the population live in rural area. Population density is 928 persons per square kilometer (BBS, 2005). The per capita income is about \$ 470 and its people have a life expectancy of 64.9 years (BBS, 2005). Most of the rural people (85 percent) are deprived of many of the amenities that have largely associated with urban people like education, electricity, water supply, housing and health facilities. Majority of them (50.9 percent) are illiterate (BBS, 2005). They mainly depend on nature for their livelihood. The mass illiteracy in the rural population had become a hurdle to mass communication. Though most of the people

are engaged in agriculture, the figure indicates poor efficiency of Bangladesh agriculture. The majorities of the rural people are self-employed and remain fully-occupied in peak seasons, but the employment rate drops during the lean seasons. Moreover, 45% of the farmers are landless (holding less than 0.2 ha.) and per capita land holding is only 0.1 ha. (Nasiruddin, 1998). Hence the contribution of this sector to the GDP is decreasing day by day. In 2003-2004, this sector provides 20.14 percent of the GDP (BBS, 2005).

The deficit of food production is a great problem of Bangladesh as the pressure of population is massive, although the total food production in the country increased from 10.13 million tons in 1973 to 19.58 million tons in 1993 (Sattar, 1995). Bangladesh is mainly a rice based agricultural country. Rice in this country is, so to speak, the life blood of the people. The land and climate offer a highly favourable environment for the growth of rice throughout the year in one-hand and on the other hand, a huge number of rice cultivars suited to varied agro-ecological conditions have evolved and been cultivated in this country from time immemorial. This is why rice can be seen standing in any part of the country at any time of the year. It is also the staple food crop of this country. More than 90 percent of the population consume rice; derive 70 percent of their daily calories and 54 percent of protein. Rice contributes 18 percent to the GDP and 55 percent of employment of labor forces in rice production, processing and marketing (Nasiruddin, 1998). It accounts 60 percent of the total food intake per day per family (Halim, 1985). Bangladesh occupies the third position as regards to total rice area, the fourth in the total production and sixteenth in yield out of 26 leading rice growing countries of the world (Nasiruddin, 1980).



Considering the importance of rice production in the national economy, Bangladesh Rice Research Institute (BRRI) was established in 1970. It has been providing valuable service to the nation through the development of high yielding rice varieties and improved production technology. The BRRI modern varieties and improved technology played a vital role in boosting up the annual rice production in Bangladesh from 13,881 MT in 1980-81 to 19,905 MT in 1998-99 (Anonymous, 1999). Table1. shows food grain production in Bangladesh from 2000 to 2005.

**Table 1. Food grain production in Bangladesh (2000-2005)**

(in 000 MT)

Year	Rice	Wheat	Total
2000-01	25,086	1,673	26,759
2001-02	24,299	1,606	25,905
2002-03	25,188	1,507	26,695
2003-04	26,190	1,253	27,443
2004-05	25,157	976	26,133

Source: BBS, 2005.

The BRRI has so far released 45 modern varieties for diverse rice growing environments in Bangladesh. With appropriate management and under favorable soil and environmental conditions, these MVs may yield 5-6 t/ha in Boro, 3-4 t/ha in Aus and 4-5 t/ha in transplant Aman seasons compare to 2-3 t/ha higher than traditional varieties. A few BRRI varieties are now widely grown in some other countries, such as India, Nepal, Bhutan, Myanmar, Vietnam and West Africa. Moreover, a few MVs of India like 'Sarna', 'Minikits' and Hybrid (Alok 6205) are also adopted by the farmers of Bangladesh especially in the bordering district (Wali ullah, 2000). Besides BRRI, Bangladesh Institute of Nuclear Agriculture (BINA), Bangladesh Agricultural University (BAU), Mymensingh and Bangabandhu Sheikh Mujibur Rahman Agricultural University (BSMRAU), Gazipur have been rendering valuable services to the nation through developing high-yielding rice varieties and improved rice production technologies.

Not only researches, but also agricultural extension service should be given more priority in case of rice production. The Department of Agricultural Extension (DAE) is the largest extension organization in Bangladesh which is directly involved in motivating farmers for using modern agricultural technologies in order to improve productivity and to increase production. The DAE introduced training and visit (T & V) system of extension work since 1978. Then the procedure of conducting extension work of the DAE has been partially modified under the Agricultural Support Service Project (ASSP). The ASSP is also being recognized under New Agricultural Extension Policy (NAEP). The role of agricultural extension is to assist farmers through education in improving farming methods and techniques, increasing production efficiency and income and enhancing their quality of life. It provides scientific and factual information to farmers and also provides training and guidance in the application of such information to the solution of their problems. It also tries to find out the unsolved issues and problems to the notice of research and other related institution for solving those problems. So it can say that agricultural extension maintains a linkage between research and farmers.

The Sub-Assistant Agriculture Officers (SAAOs) are the grassroots level workers of DAE, working in the block level. They are directly communicating with the rural farmers. DAE provides their support to the farmers through SAAOs. The success of extension service of DAE largely depends on SAAOs. So it is very important for SAAOs that they perform their duties and responsibilities properly. But there is a large gap still exists between extension service and the farmers, because most of our farmers are illiterate, unaware and poor. For narrowing this gap a vigorous and well organized extension service for more efficient technology transfer is an imperative need. The agriculture production process, researchers, extension workers and farmers need to work hard together. Most of the farmers of rural areas largely depend on interpersonal channels of communication. Due to mass illiteracy and limited urbanization they have not good access to printed media like newspaper, magazines, books, radio and television. For this reason, it is important that the extension workers should concentrate their activities and efforts more on interpersonal communication rather than mass communication media. In this regard, it is necessary to know the communication exposure of Sub-Assistant Agriculture Officers (SAAOs) regarding rice production technologies.



## **1.2 Statement of the problem**

Generally most of the farmers of our country are small category farmers, having subsistence land holdings capacity. Unemployment is one the major problems in the rural areas. On the other hand, the rural culture is a traditional one where traditional norms, values and beliefs are predominant which are somewhat difficult to change. Because of mass illiteracy, the impact of mass media is very limited on their life, while interpersonal communication dominates in the rural areas. For this reason, any change takes place in the rural areas occurs very slowly. To achieve the changes in crop production, the role of SAAOs is very important. The SAAOs are the key workers who are engaged in rural areas for transferring agricultural information to the farmers. The success of any technology depends on its dissemination among the potential users. It is assumed that notable improvement can take place in Bangladesh agriculture if the available technologies are accepted and adopted by farmers. SAAOs can help the farmers to adopt the improved technologies for increasing rice production.

The present study attempts to determine the communication exposure of SAAOs regarding rice production technologies. The study is also aimed to have an understanding of the selected characteristics of the SAAOs and their relationship with the communication exposure.

The study is mainly deal for finding the answer of the following questions:

1. What are the extents of use of communication media by the SAAOs regarding rice production?
2. What characteristics of the SAAOs influence their communication exposure?
3. Is there any relationship between characteristics of SAAOs and their extent of use of communication media?

For getting clarification of the above questions the researcher undertook a study entitled 'Communication Exposure of Sub-Assistant Agriculture Officers Regarding Rice Production Technologies.'



### **1.3 Objectives of the study**

Objectives help researcher to get into the right track. Meaningful, clear-cut and achievable objectives are the key factors in all kinds of research work. The research work conducted with the following specific objectives:

1. To determine the communication exposure of the Sub-Assistant Agriculture Officers (SAAOs) regarding rice production technologies;
2. To determine some of the selected characteristics of the Sub-Assistant Agriculture Officers (SAAOs). The selected characteristics are: age, annual family income, service length, training received, organizational participation, job facility, opinion on effectiveness of communication media, attitude towards rice production technology and extent of communication with regard to job responsibilities;
3. To explore the relationship between communication exposure of Sub-Assistant Agriculture Officers (SAAOs) and their selected characteristics.

### **1.4 Scope of the study**

The present study was conducted to determine how the SAAOs process the information and report it to the extension system for solution of rice production problems so that it may be passed on to farmers. It is expected that the findings of the study will be helped the extension workers to communicate with the farmers and it will also be helpful for designing a communication strategy for transferring technological information. This study was also identified some selected characteristics of the SAAOs which influenced their communication efficiency.

It is expected that the findings of this study will also be useful for identifying the problems generally the extension workers faced in the rural areas while they are transferring information to the farmers. The findings of the study will be useful for planning and executions of the programmes of extension services of The Department of Agricultural Extension (DAE) and other related development agencies.

### **1.5 Limitation of the study**

In order to conduct the study in meaningful manner with limited time, money and other resources available to the researcher, the following limitations were imposed in this study:

1. The study was confined to Chapainawabgonj district of Rajshahi region. The district consists of five upazilas and 126 blocks.
2. The characteristics of the SAAOs are many and varied, but in the present study only nine personal and situational characteristics were taken into consideration.
3. There are many communication media from where SAAOs can receive information for their farming activities. But only 20 communication media were selected for this study.
4. The study was confined only with the information related to rice production and their dissemination to the farmers.
5. The findings of the study will have general application to other parts of the country where the physical, geographical, socio-economic and cultural condition do not differ much from the study area.



## **1.6 Justification of the study**

Contact with information source is a pre-condition to receive information and to use of technology in real situation (Kashem and Halim, 1991). For agricultural development, technology generation, diffusion and its adoption are important. Agricultural research and agricultural extension has symbiotic relationship and each of them uses communication channels to send technological information among their own staffs and farmers as well. Lack of effective communication among them results in the low agricultural productivity anywhere in the world. The dissemination of technology for modernizing agriculture requires three system: (a) the research system which generates knowledge and develops technology, (b) the extension system performing the task of communication links between the research and the client (farmer) system, and (c) the client system consisting of ultimate users of technology (Coughenour, 1968). Each of the three systems is equally important in the process of modernizing agriculture (Rogers and Srenning, 1969). The more is the communication within and between the systems, the faster will be the dissemination of information in the process of modernization of agriculture (Lionberger and Chang, 1970). But in Bangladesh, very few researchers have so far been conducted for studying communication exposure of SAAOs though considerable studies have been conducted in other countries. For dissemination of information, the role of SAAO is very important. They are the key extension workers in this purpose. Farmers seek advice and information from them. So it can be opined that communication exposure of SAAOs regarding rice production technologies will be helpful for increasing the rice production of the country.



### **1.7 Assumptions of the study**

An assumption is the supposition that an apparent fact on principle is true in the light of available evidence (Goode, 1945). An assumption is taken as a fact or believes to be true without proof. The researcher had the following assumptions while under taking this study:

1. The respondents included in the sample of the study were able to provide their opinions and were competent enough to satisfy the queries.
2. The information furnished by the respondents was valid and reliable.
3. The researcher acted as the interviewer well adjusted to the social environment of the study area. Hence, the data collected can be treated as reliable.
4. The communication media included in the study were known to the respondent.
5. The data collected from the respondent were free from any bias.
6. Views and opinion furnished by the respondents included in the sample were the representative views and opinions of the whole population of the area concerned.
7. The findings of the study are expected to be useful for planning and execution of various programmes in connection with the using of communication media and in the process of transferring rice production technologies.

### **1.8 Statement of the Hypothesis**

A hypothesis simply means a mere assumption or some supposition to be proved or disproved. But for a researcher, hypothesis is a formal question that he intends to resolve. According to Kerlinger (1973) "A hypothesis is a conjectural statement of the relation between two or more variables. Hypothesis are always in declarative sentence form and they related either generally or specifically variables to variables." As defined by Goode and Hatt (1952) "A hypothesis is a proposition which can be put to test to determine its validity. It may be contrary to or in accord with the common sense. It deals to an empirical test." In broad sense, hypothesis may be divided into two categories, (a) research hypothesis ( $H_1$ ) and (b) null hypothesis ( $H_0$ ). However, for the present study the hypothesis were formulated in null form.

The following null hypothesis was formulated to explore the relationship between communication exposure of Sub-Assistant Agriculture Officers (SAAOs) and their selected characteristics regarding rice production technologies.

"There is no relationship between age, annual family income, service length, training received, organization participation, job facility, opinion on effectiveness of communication media, attitude towards rice production technology, extent of communication with regard to job responsibilities of SAAOs and their communication exposure regarding rice production technologies."

## **1.9 Definition of Terms**

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

### **Communication exposure**

The term Communication exposure refers to the extent of contact made by an individual with various media for receiving agricultural information. The communication exposure of Sub-Assistant Agriculture Officers thus, refers to his extent of contact with various communication media for obtaining information of rice production.

### **Communication**

Communication is a process of purposeful and mutual transmission or exchange of information in order to affect the desired change of behaviour.

### **Communication media**

The term communication media refers to the channels through which various information are diffused to the SAAOs about different aspects of rice production. However, some literature shows that the term communication media have been used as information sources.

### **Individual media**

In this media the extension agent communicates with the people individually, maintaining separate identity of each person. This media is followed when the number of people to be contacted are few, are conveniently located close to the communicator, and sufficient time is available for communication. Example: farm and home visits, farmers call etc.



### **Group media**

In this media, the communicator communicates with the people in groups and not as individual persons. This media is adopted when it is necessary to communicate with a number of people simultaneously, who are located not far off from the communicator reasonably good time is available for communication. Example: result and method demonstration, group meeting etc.

### **Mass media**

Mass media are the communication channels through which a communicator communicates with the vast and heterogeneous mass of people, without taking into consideration their individual or group identity. The normal group boundary gets obliterated. Example: poster, bulletin, Krishi Katha, leaflets, newspaper, radio and television.

### **Organizational participation**

It is defined as an association of two or more persons which have an at least one face to face meeting in a year. Participation in an organization refers to his taking part in the organization as ordinary member, executive committee member or officer.

### **Technology**

Technology is a design of instrumental action that reduces the uncertainty in the cause-effect relationship involved in achieving a desired outcome (Rogers, 1995). In other words, technology refers to the combination of knowledge, inputs and managerial practices, which are used together with productive resources to gain desired output.

### **Information**

Information is something that reduces uncertainty (Thomson, 1967).

### **Sub-Assistant Agricultural Officer (SAAO)**

Sub-Assistant agricultural Officer is a grass-root level extension agent of Department of Agricultural Extension (DAE) working in the block level for dissemination of information.

### **Age**

Age is defined as the period of time from the birth of the SAAOs to the time of interview. It was measured in terms of years.

### **Annual family income**

Annual family income referred to the total earnings of a respondent and others members of his family from service and other sources (agriculture, business etc.) during a year.

### **Attitude towards technology**

It means one's feeling and actions towards a technology. It was organized by developing an attitude scale, following Likert method of summated rating.

### **Service length**

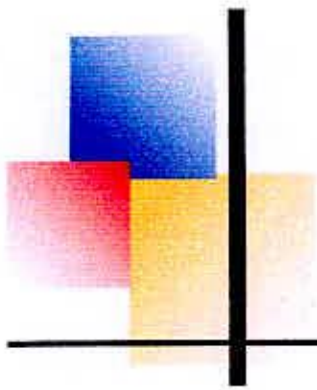
This refers to the total length of service expressed in completed years by the respondent. Total service length was measured by assigning a score of one for each completed year of service in any organization.

### **Training received**

This refers to the training which an individual received during his service carrier pertaining to his job. Each training was given attention by considering its duration. In this study training on technical matters of various technologies were taken into consideration.

### **Job facility**

It refers to the factors which help to facilitate one's job performance. It includes salary, technical suggestion, co-operation from the other personnel, training, traveling facilities, working environment and so on.



## Chapter 2

# Review of Literature

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## CHAPTER 2

### REVIEW OF LITERATURE

The purpose of this chapter is to review literature having relevance to the present study. The purpose of this study was to have an understanding of the communication exposure of the Sub-Assistant Agriculture officers (SAAOs) and their relationship with the selected characteristics. Little work had been done in Bangladesh in this matter. However, the investigator of this study had come across related studies conducted in other countries. This chapter was divided into two sections dealing with review of past studies concerning relationships of the selected characteristics of SAAOs with their communication exposure.

#### **2.1 General review on communication exposure**

There are various channels of communication through which information about technology is transmitted to the SAAOs.

Hirsch *et al.* (1958) reported that extension officers obtain approximately 20 percent information important to their work from discussion with their colleagues.

Rogers and Yost (1960) reported that county agents' most common methods of dissemination of new farm practices were personal contacts, meetings and newsletters. The least used methods were radio, film shows, tours and demonstrations. Singh *et al.* (1967) found that 60 percent of the village level workers of Community Development Blocks of Patna obtained above average job performance scores, 30 percent average and 10 percent below average. Choukidar (1968) concluded on the basis of supervisors' rating, that village level workers' job performance in agricultural job was satisfactory.

Aroon (1968), Lingwood (1969), Jain (1970), Lionberger and Chang (1970) reported that research professionals get research ideas from professional research journals, farmers representations or extension workers and researchers outside the system. Aroon (1970) further reported that information source that lead to ideas for research project are the literature on scientific and technical progress in agriculture, basic research findings, market research and population trends.

Lingwood (1969) reported that researchers used the meeting presentations as the formal scientific medium for input of information.

Lionberger and Chang (1970) reported that agricultural technicians of research institutes and improvement stations used farmers and immediate superiors as the most important source of getting research ideas for information input. They also revealed that agricultural scientists abstract new ideas from the theory and synthesize it with the applied level of research for development of useful innovations on the basis of self-observation.

Lionberger and Chang (1970), Rogers and Yost (1962) and Akhouri (1973) reported that extension personnel mostly use extension publications, Agricultural University, experimental publications, meeting-workshops and scientists consultation for acquiring farm information. They also reported that fewer extension personnel used radio as a channel for obtaining farm information.

Akhouri (1973) reported that extension personnel commonly used memory, subject-wise files and common notebook for preserving farm information. Ambastha (1979) reported that memorizing was the most used method of information storage among the workers and other methods were used rarely in case of information processing.



Regarding the opinion leadership, Akhouri (1973) stated that extension personnel, who in the higher level organizational hierarchy accord high opinion leadership than that of lower personnel. Shete (1974) reported that extension personnel do not take opinions from farmers while disseminating information.

Akhouri (1973) also reported that higher level extension personnel have communicated more number of field problems than those of lower level. He also reported that extension personnel of all categories had higher degree of contact with progressive farmers visiting them, institutional farmers and those having demonstration on their fields.

Shete (1974) found on the basis of communication behaviour indices that the information processing behaviour of the Agricultural Extension Officers of Moharashtra was most efficient, the next in order of efficiency was information output behaviour and least efficiency was their information input behaviour.

Singh and Prasad (1974) in their study of communication behaviour and some credibility pattern of young farmers observed that progressive farmers ranked the village level worker with highest credibility. On the other hand, non-progressive farmers stated demonstration as the most credible with village level worker as second.

Perumal (1975) undertook a research in four districts of Tamil Nadu state in India. He found that communication behaviour of the Agricultural Extension Officers was very good as regards discussing field problems with farmers, farm and home visits, addressing meetings arranged for farmers, receiving extension publication, conducting



field days and field trips. But their communication behaviour is rather poor in regard to publishing technical news stories, participating in radio broadcast, listening to farm radio broadcast and participating in the lecture given by specialists. The study further revealed that communication behaviour of the Agricultural Extension Officers had significant and positive effect on their job performance.

Elahi (1977) recommended that personal contact is an excellent medium for channeling information to rural communities where the mass media could not penetrate because of educational under development.

Van Den Ban (1981) found that the people may aware new ideas from the mass media, but usually wait for confirmation from personal sources of information.

Patil *et al.* (1984) found that contact farmers received information on improved agricultural technology from village extension workers (91.84%), neighbouring farmers (59.18%), progressive farmers (56.12%), agricultural officers (31.63%), group discussion (16.33%), demonstration (14.28%), radio (88.77%) and newspaper (50.20%).

Allen (1985) found in a study that a greater proportion of farm wives use interpersonal information sources, such as family, friends and neighbours whereas a greater proportion of farm husband use interpersonal extension, research based personal information sources.

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

Blum (1989) observed extension advisors and other farmers are about equal in their importance as first source of information.

Malik *et al.* (1991) in a study conducted in Punjab observed that the local level extension agents (field assistant for agriculture) and friends are close and dependable sources of farmers for farm information.

Chugh (1991) in a study observed that the press, radio and television were regarded as important vehicles of information which ensured the supply of inputs to those who really read them.

Karim (1994) found that majority of the extension workers (SAAOs) acquired information input from professional meetings. The other sources were training, extension publication and discussion with specialists. He also found that age, education, service experience, in-service training, job satisfaction, job facilities, attitude and income of the respondents have positive association with the information input pattern but not significant.

Halse and Anderson (1994) found that information flow between researchers, extension workers and farmers was effectively used to extent the complex issues involved in modification to farming systems to Australia and in Wes Asia and North Africa the interaction farmers, extension workers and researchers had not been achieved.

Baldwin (1994) conducted mail surveys to determine the communication behaviour of scientists, foresters and landowner in Virginia, North Carolina, South Carolina and Georgia. The commonest information sources for the scientists were other scientists, meetings and journals; the information output of scientists was primarily directed towards scientists. Nearly all foresters had contacts with non-industrial private forest owners; their commonest sources of information were other foresters, agency pamphlets and meetings. Their information output was mainly interpersonal communication.



Karim (1994) in a study found that extension officers of DAE possessed an average communication efficiency of 75.47 and majority of them had moderate communication efficiency while SAAOs possessed an average communication efficiency of 60.07 but majority of them had low communication efficiency.

Karim (1994) found in a study that extension officers used professional meetings to the maximum extent (4.51) followed by ideas got from seminars and conferences (4.16), professional societies (3.85), extension publications (3.75), training attended (3.50), consultation with scientists (3.00), self-observation with adaptive research (2.5) and research findings got from research journal for acquisition of farm information related to rice production. Majority of the SAAOs used professional meetings as the main source to acquire farm information related to rice production, followed by training and extension publication.

Karim (1994) also indicate that majority extension officers preserve scientific information by making notes in a common note book, keeping in diary and by memorizing and only a few officers used subject-wise files and reference cards; while majority of the SAAOs (85.5%) use common note book and 45.5 percent just memorize the information.

Karim (1994) also indicate that extension officers used a number of personal, group and mass media methods for disseminating farm information; among personal contact methods, farm and home visits emerged as the most common method; among group contact methods, training, demonstration and field days are the most commonly used practice and mass media methods include extension publication, articles in the magazines and newspapers.



Lupanga (1995) after reviewing six studies undertaken in India, Tanzania, Thailand, Israel and Australia found that communication behaviour of researchers and extension workers are mediated by different perceptions about rules, opinions, attitudes, institutional and or spatial separations and conceptual factors. Five lessons are drawn from the six studies with the aim of assisting researchers and extension workers maintain mutually beneficial contact among themselves and with farmers.

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

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

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

DAE (1995) further reported that the media cell has been established within the Department having responsibility for overseeing all media issues. The main tasks of the media cell are to:

- Coordinate the production and dissemination of technical bulletins.
- Assist Radio Bangladesh and Bangladesh Television in the production of farm broadcast.
- Create publication formatted for the DAE.
- Assist district and thanas with their extension publication.

Teoh (1995) expressed that the mass approach in agricultural extension uses a single or combination of different communication media to a large client group, and are usually organized at the national level and decentralized for implementation at regional, district and thanas levels. They are aimed to create awareness and interest on issues that concern the majority of the production.

Wabhitkar *et al.* (1998) reported that contact with extension agencies and mass media exposure were found to be significantly related to adoption.

Egbule and Njoku (2001) in their study on mass media for adult education in Nigeria found that mass media have performed poorly than individual media in disseminating requisite agricultural information to farmers.

Singh *et al.* (2003) reported that the important source of acquisition of farm technology for extension personnel was state department of agriculture and the important modes were staff meetings, trainings, leaflets /pamphlets, departmental circulars and subject matter specialists while the least used modes were scientists, agro-industry, telecast, journals, radio and personal correspondence with researchers.

Singh *et al.* (2003) found that farm and home visits, group meetings, training of farmers, demonstrations, crop competitions and field trips were most used methods by extension personnel for transfer of technologies. Whereas, television talks, radio talks, telephone calls, educational films, publications, advisory letters and exhibitions were the least used channels. Voluntary organizations, farmers' organizations and research stations were surprisingly also the least used sources.

Singh *et al.* (2003) also revealed that extension personnel made maximum use of personal contact methods like farm and home visits followed by group contact methods like group meetings, demonstrations, crop competitions etc. while least used were mass media such as TV, radio, educational films, publications and exhibitions.



## **2.2 Relationship between selected characteristics of SAAOs and their communication exposure**

### **2.2.1 Age**

Austman (1961) found a positive relationship between age and exposure to different media of the beginning male county extension agents.

Haque (1972) observed in a study that statistically there was no relationship between age and use of information sources.

Rahman (1974) concluded in his study that the age had no significant influence on the use of information sources.

Annisuzzaman (2003) concluded that age of the respondent had no significant relationship with their use of communication media for adoption of improved rice production technology.

### **2.2.2 Annual family income**

Karim (1994) found a positive and significant relationship between income and communication behaviour of extension workers.

Nuruzzaman (2003) revealed that there was no relationship between annual income of the respondent and their use of mass media in receiving agricultural information.

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

### **2.2.3 Service length**

Akhouri (1973) reported that the positive relationship of communication efficiency with extension work experience suggests that those who have sufficient experience of extension work are most efficient in communication work. He also reported that job performance and job satisfaction traits are associated with the most efficient extension personnel.



#### **2.2.4 Training received**

Sanoria (1977) in his study conducted in India found that training of the agricultural extension personnel was associated with their communication efficiency.

Pandey (1979) revealed that in-service training of extension personnel was significantly and positively correlated with information input process. This statement was also established by Ambastha (1974), Akhouri (1973) and Shete (1979) who reported that information processing had significantly positive correlation with output among the extension personnel.

Joshi (1981) reported that there was significant increase in knowledge gained by village level workers as a result of in-service training.

Gangadharappa (1981) in his study found that trained persons had higher knowledge level and adoption behaviour as compared to untrained persons.

#### **2.2.5 Organizational participation**

Stagner (1961) who made an extensive study of personality pointed out the influence of group and organizations on an individual's personality. He reported that organizations in which the researchers and extension personnel participate are, therefore, expected to have influence on their communication pattern and communication efficiency.

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

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

### **2.2.6 Job facility**

Weitz (1952), Kahn (1964), Harrel (1964) and Lawler and Porter (1967) found that job facilities and productivity go together.

Kuriloff (1963) found that facilities and satisfaction felt by a worker in doing his job tends to enhance his work output.

### **2.2.7 Attitude towards technology**

Nuruzzaman (2003) in his study found that there was no relationship between attitude towards technology and their use of mass media in receiving agricultural information.

## **2.3 The conceptual framework of the study**

In scientific research, selection and measurement of variables constitute an important task. The hypothesis of a research while constructed properly contains at least two important elements i.e. “a dependent variable” and “an independent variable”. A dependent variable is that factor which appears, disappears or varies as the researcher introduces, removes or varies the independent variables (Townsend, 1953). An independent variable is that factor which is manipulated by the researcher in his attempt to ascertain its relationship to an observed phenomenon. A simple conceptual framework for the study is shown in Figure 2.1.

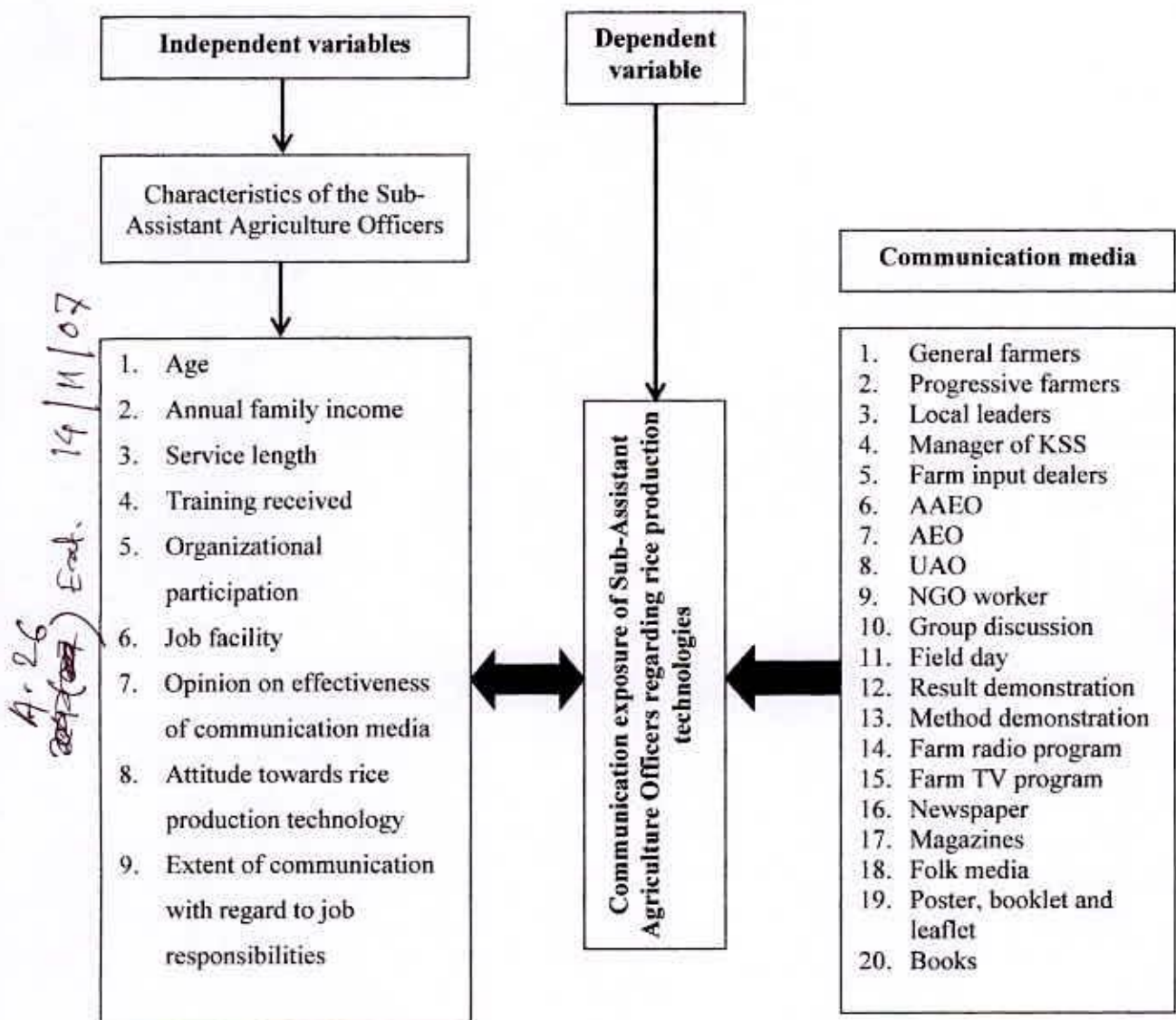
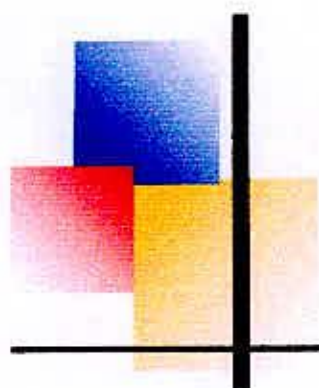


Figure 2.1. The conceptual framework of the study

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## Chapter 3

# Methodology

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## **CHAPTER 3**

### **METHODOLOGY**

Methodology deserves a very careful consideration in a scientific research. Methodology of any study should be such as to enable the researcher to collect valid and reliable information to analyze the same properly and to arrive at appropriate decisions. Methods and procedures followed in conducting this study has been discussed in this chapter.

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

The present study was conducted in the Chapainawabgonj district of Rajshahi division. The study area consists of five upazilas and 126 blocks. The researcher selected all blocks as the locale of the study. Considering time, money and resources of the researcher, the study was kept confined Chapainawabgonj was selected as a locale of the study. A map of Bangladesh showing the locale of the study area has been presented in Figure 3.1.

#### **3.2 Population and sample of the study**

The researcher himself with the help of the Deputy Director of Chapainawabgonj district prepared an updated list of all the Sub-Assistant Agriculture Officers (SAAOs) of the district. The total number of SAAOs in this district was 126, which constituted the population of the study. From this population 100 SAAOs (80% of the population) were randomly selected as the sample. A reserve list of 12 SAAOs (10% of the population) was also prepared. The SAAOs in the reserve list were used only when a respondent in the original list was not available for interview. The distribution of the population and the sample SAAOs (including in the reserve list) from the study area is shown in Table 3.1.

**Table 3.1 Distribution of population and sample of SAAOs**

Name of district	No. of population	Sample size	No. of respondents in the reserve list
Chapainawabgonj	126	100	12



Figure 3.1. A map of Chapainawabgonj District showing the study area



### **3.3 Preparation of data gathering instrument**

In order to collect relevant information, an interview schedule was prepared carefully keeping the objective of the researcher in view. The questions and statements obtained in the schedule were simple, direct and easily understandable to the SAAOs. The schedule contained close form of questions. Appropriate scales and measurement techniques were developed to ensure correct responses in the variables concerned.

After devoting considerable time and efforts to prepare the interview schedule, the researcher felt further improvement of the same. The interview schedule was pre-tested with 10 SAAOs under actual situation. Necessary corrections, modifications and additions were made in the interview schedule on the basis of results of pre-test. The interview schedule was then printed in its final forms. A copy of the interview schedule in English version has been presented in appendix-A.

### **3.4 Data collection procedure**

The researcher himself collected data from the sample SAAOs through the personal contact with the help of interview schedule during the 01 to 30 November, 2006. Before starting collection of data, the researcher met the Deputy Director (DD), Upazila Agriculture Officer (UAO) and Agriculture Extension Officer (AEO). The researcher also discussed the objectives of the present study with the respondents so that they did not feel any hesitate at the time of interview. However, if any respondent failed to understand any question, the researcher took necessary care to explain the issue as far as possible. After completion of the interview, it was checked and editing was done in case of necessity. The researcher did not face any major problem in collecting data. Excellent cooperation and coordination were extended by the respondents and other concerned persons at the time of data collection.

### **3.5 Processing of data**

Data obtained from the respondents were coded, compiled, tabulated and analyzed in accordance with the objectives of the study. Qualitative data were converted to quantitative data by means of suitable scoring to facilitate analysis and interpretation.

### **3.6 Variables of the study**

Independent and dependent variables of the study are presented below:

#### **3.6.1 Independent variables**

The selected characteristics of the SAAOs were considered as independent variables which are as follows:

- 1) Age
- 2) Annual family income
- 3) Service length
- 4) Training received
- 5) Organizational participation
- 6) Job facility
- 7) Opinion on effectiveness of communication media
- 8) Attitude towards rice production technology
- 9) Extent of communication with regard to job responsibilities

#### **3.6.2 Dependent variable**

Communication exposure of Sub-assistant Agriculture Officers (SAAOs) regarding rice production technologies was the dependent variable of the study. Various communication media used by the SAAOs in receiving agricultural information. Among them 20 communication media were selected as source.

### **3.7 Measurement of variables**

The procedures followed in measuring the independent and dependent variables are presented below:

#### **3.7.1 Measurement of independent variables**

##### **3.7.1.1 Age**

Age of a respondent was measured in terms of actual years from his birth to the time of interview. A score of one (1) was assigned for each year of age. It was measured in complete years as reported by a respondent.

##### **3.7.1.2 Annual family income**

This refers to the total earning in taka of all the family members of a respondent from service, agriculture (crops, livestock and fisheries), business and other sources in a year. Annual income was measured in 'thousand' taka per year and a score was given to one thousand taka.

##### **3.7.1.3 Service length**

This refers to the total length of service expressed in completed years by the respondent. Total service length was measured by assigning a score of one for each completed year of service in any organization.

##### **3.7.1.4 Training received**

This refers to the training which an individual received during his service carrier pertaining to his job. Each training was given attention by considering its duration. The scores obtained in respect of all the training received by an individual respondent were added to present his total scores of training.



### 3.7.1.5 Organizational participation

It refers to an association of persons which has a name, a regular set officers work together and they meet at least one face to face meeting in a year. Participation in an organization refers to taking part in an organization as an ordinary member or office bearer. It was measured on the basis of the nature of participation in an organization both in the past and also at the present time. Scoring was assigned on the basis of the following:

Score	Basis for scoring
0	No participation
1	Participation as general member
2	Participation as executive committee member
3	Participation as office bearer of executive committee

Scores of a respondent for his /her participation in all the organizations were added together to obtain his /her organizational participation score. Moreover, duration of participation was recorded and scores were multiplied accordingly.

### 3.7.1.6 Job facility

It refers to the factors which help to facilitate one's job performance. For measuring the job facility scores of a respondent, some job facilitating factors were identified and against each factor there were five responses namely, strongly agree, agree, undecided, disagree and strongly disagree. Scores were assigned to these responses as 4, 3, 2, 1, and 0 respectively. A job facility was obtained for each respondent by summing the scores for his responses against the job facilitating factors. Thus, job facility scores of respondents could range from 0 to 48, where 0 indicated no facility and 48 indicated maximum job facility.

### **3.7.1.7 Opinion on effectiveness of communication media**

It refers to the respondent's opinion on effectiveness of a communication media. For measuring the scores of a respondent, some communication media were selected and against each media there were five responses namely, very effective, effective, no opinion, not effective and not effective at all. Scores were assigned to these responses as 4,3,2,1 and 0 respectively. The total score was obtained for each respondent by summing the scores for his response. Thus, the scores of respondents could range from 0 to 40, where 0 indicated no effectiveness and 40 indicated maximum effectiveness.

### **3.7.1.8 Attitude towards rice production technology**

Attitude towards technology of a respondent referred to his feelings, belief and action tendency towards the various improved technologies. Likert's rating scale was used to determine the attitudes towards rice production technology. The scale contained eight statements out of which 4 statements were positive and 4 statements were negative. The statements were arranged at random. A statement was considered positive only when it reflected the idea of favourableness towards the modern technologies. The respondents were asked to express the opinion in the form of strongly agree, agree, no opinion, disagree and strongly disagree. Scores of 4,3,2,1 and 0 were assigned respectively in case of strongly agree, agree, no opinion, disagree and strongly disagree for a positive statement. On the other hand, for a negative statement reverse scoring method was followed. Hence attitude towards rice production technologies of a respondent were determined by summing up the scores obtained him for all the statements in the scale. The possible attitude towards rice production technologies scores of the respondents could range from 0 to 32, where 0 indicating very unfavourable attitude and 32 indicating highly favourable attitude.



### 3.7.1.9 Extent of communication with regard to job responsibilities

It refers to the factors which help to facilitate one's job responsibilities. For measuring the extent of communication scores of a respondent, some job responsible items were identified and against each items there were four responses namely, regularly, occasionally, rarely and not at all. Scores were assigned to these responses as 3, 2, 1 and 0, respectively. Extent of communication of the respondents with regard to job responsibilities was obtained for each respondent by summing the scores for his responses against the job responsible items. The possible extent of communication scores of the respondents could range from 0 to 24, where 0 indicated no communication and 24 indicated very high communication.

### 3.7.2 Measurement of dependent variable

Communication exposure of SAAOs was the dependent variable of the study. Twenty communication media of different nature were selected to measure the communication exposure of SAAOs. It was measured on a 4-point rating scale of 0 to 3 as follows:

Communication media	Assigned score
General farmers, progressive farmers, local leaders, manager of KSS, farm input dealers	0 = Not even once per week 1 = 1 time per week 2 = 2-3 times per week 3 = 4 or more times per week
Assistant Agriculture Extension Officer (AAEO), Agriculture Extension Officer (AEO), Upazila Agriculture Officer (UAO), NGO workers	0 = Not even once per month 1 = 1 time per month 2 = 2-3 times per month 3 = 4 or more times per month
Group discussion, field day, result demonstration, method demonstration	0 = Not even once per year 1 = 1 time per year 2 = 2-3 times per year 3 = 4 or more times per year
Farm radio program, farm TV program, newspaper, farm magazine, folk media, poster, booklet, leaflet, books	0 = Not even once per month 1 = 1-2 times per month 2 = 3-5 times per month 3 = 6 or more times per month

The communication exposure score of a respondent was obtained by adding his weights in all the 20 media. Thus, the communication exposure score of a respondent could range from 0 to 60, where 0 indicated no exposure and 60 indicate very high exposure.



### **Extent of use of particular Communication Media**

To measure the extent of use of a particular media, a Media Use Index (MUI) was computed. It was calculated by adding the weights of responses made by an individual towards a particular media in receiving information. Finally, an overall Media use Index (MUI) obtained by adding all the MUI. MUI is measured by using the following formula:

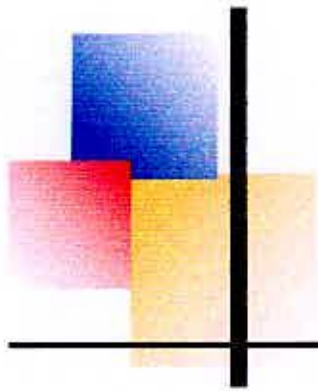
$$\text{MUI} = 3 \times \text{frequently use} + 2 \times \text{occasionally use} + 1 \times \text{rarely use} + 0 \times \text{not use at all}$$

### **3.8 Categorization**

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

### **3.9 Method of data analysis**

The collected data were compiled, tabulated, coded and analyzed in accordance with the objectives of the study. The statistical measures such as, number and percentage distribution, range, mean, standard deviation were used for describing the variables of the study. To find out the relationship between communication exposure and the selected characteristics of the SAAOs, the Pearson's Product Correlation co-efficient (r) was computed. Correlation matrix was also computed to determine the inter-relationships among the variables. If the computed value of co-efficient of correlation 'r' was equal or greater than the table value of co-efficient at designated level of significant for the relevant degree of freedom, the null hypothesis was rejected and it was concluded that there was significant relationship between the concerned variables. However, when the computed value of co-efficient of correlation was found to be smaller than the tabulated value at the designated level of significant for the relevant degree of freedom, it was concluded that the null hypothesis could not be rejected and hence there was no relationship between the concerned variables.



## Chapter 4

# Results and Discussion

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## 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, dependent variable (communication exposure of SAAOs regarding rice production technologies) has been discussed and rank order of communication media used by the SAAOs in receiving information has also been identified. The second section dealt with independent variables i.e. characteristics of the respondents and finally, in the third section the relationship between the dependent and independent variables have been discussed.

#### 4.1.1 Communication exposure of SAAOs regarding rice production technologies

Communication exposure of the SAAOs was the dependent variable of the study. It was measured by computing a communication exposure score on the basis of their use of 20 communication media in receiving information on rice production technologies.

The computed communication exposure of the respondents ranged from 14 to 47 with an average of 31.18 and standard deviation of 7.71. The SAAOs were classified into 3 categories on the basis of communication exposure score as shown in Table 4.1.1 and Fig. 4.1.1.

**Table 4.1.1 Distribution of SAAOs according to their communication exposure**

Categories	Respondents		Mean	S.D.
	Number	Percent		
Low exposure (Up to 20)	39	39	31.18	7.71
Medium exposure (21-40)	37	37		
High exposure ( 41-60)	24	24		
Total	100	100		



Data presented in Table 4.1.1 showed that 39 percent of the respondents had low communication exposure in receiving rice production information while equal proportion (37 percent) of them had medium exposure and 24 percent of the respondents had high exposure. Thus, the majority (76 percent) of the SAAOs had low to medium communication exposure. Low exposure may lead to poor performance in their jobs.

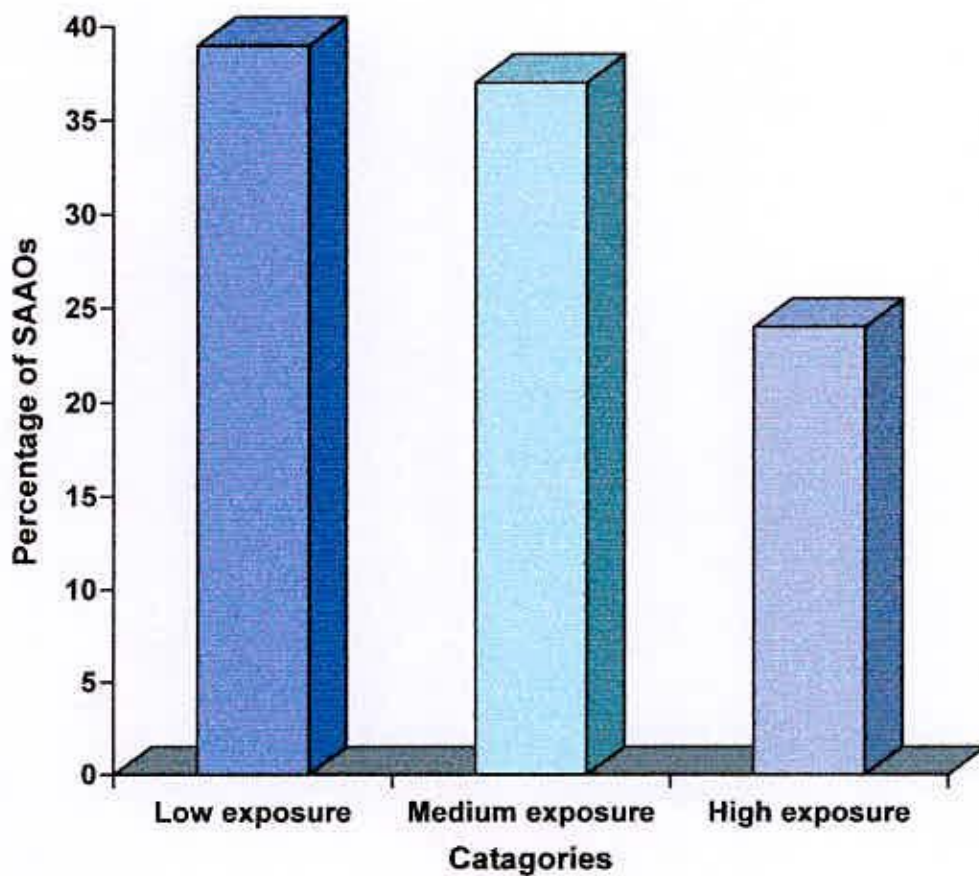


Figure 4.1.1. Graph showing the distribution of SAAOs according to their communication exposure

#### 4.1.2 Extent of use of Communication Media by the SAAOs in receiving information

Use of 20 selected communication media was investigated in this study. Extent of use of different communication media was measured according to the Media Use Index (MUI). The 20 communication media have been arranged in rank order in the Table 4.1.2 on the basis of their combined Media Use Index (MUI).

Table 4.1.2 shows that AEOs were used as the communication source to the highest extent (285) and it was closely followed by UAOs (270), AAEOs (265), group discussion (231), method demonstration (226) and result demonstration (214). NGO workers were used to the lowest extent (59) among the selected communication media by the SAAOs.

**Table 4.1.2 Rank order of communication media used by the SAAOs in receiving agricultural information (according to Media Use Index)**

Communication Media	Media Use Index	Rank order
Agriculture Extension Officer (AEO)	285	1
Upazila Agriculture Officer (UAO)	270	2
Assistant Agriculture Extension Officer (AAEO)	265	3
Group discussion	231	4
Method demonstration	226	5
Result demonstration	214	6
Field day	195	7
Farm input dealer	182	8
Poster, booklet, leaflet	170	9
Farm radio program	155	10
Farm TV program	136	11
Newspaper	122	12
Progressive farmers	120	13
Local leaders	116	14
Weekly and monthly magazine	110	15
Books	107	16
Manager of KSS	102	17
General farmers	90	18
Folk media	64	19
NGO workers	59	20

## 4.2 Characteristics of the SAAOs

By the characteristics, communication exposure of an individual can be largely determined. The major hypothesis of this study is the communication exposure of SAAOs regarding rice production technologies would be influenced by the various personal and situational characteristics. The selected characteristics of the SAAOs are age, annual family income, service length, training received, organizational participation, job facility, opinion on effectiveness of communication media, attitude towards rice production technology and extent of communication with regard to job responsibilities.

### 4.2.1 Age

The age of the SAAOs ranged from 28 to 55 with an average of 42.63 and standard deviation of 6.93. On the basis of the scores obtained, the respondents were classified into three categories has been shown in the following Table 4.2.1.

**Table 4.2.1 Distribution of SAAOs according to their age**

Categories	Respondents		Mean	S.D.
	Number	Percent		
Young age ( upto 35 years)	17	17	42.63	6.93
Middle age (36-50 years)	66	66		
Old age (Above 50 years)	17	17		
Total	100	100		

Data contained in the Table 4.2.1 indicated that the highest proportion of the SAAOs (66 percent) fell in the middle age group, while equal proportion of the respondents (17 percent) fell in young and old age group. This finding indicated that young and middle age respondents used more communication media than that of old age group.



#### 4.2.2 Annual family income

The annual family income of the SAAOs ranged from 50 to 230 thousands, the average being 116.43 thousands and standard deviation being 35.52. On the basis of annual income, the respondents were classified into three categories. The categories and distribution of the respondents were shown in Table 4.2.2.

**Table 4.2.2 Distribution of SAAOs according to their annual family income**

Categories	Respondents		Mean	S.D.
	Number	Percent		
Low (< 1 lac)	33	33	116.43	35.52
Medium (1-2 lac)	64	64		
High (>2 lac)	3	3		
Total	100	100		

Data presented in the Table 4.2.2 indicated that more than half of the respondents (64 percent) had medium income, compared to 33 percent had low and only 3 percent had high income. This finding indicated that annual income of the SAAOs was not high enough. For this reason most of the respondents suffered to use mass communication media.

#### 4.2.3 Service length

The service length of the SAAOs ranged from 5 to 32 years with an average of 18.78 years and a standard deviation of 6.97. On the basis of the service length the respondents were classified into three categories as shown in Table 4.2.3.

**Table 4.2.3 Distribution of SAAOs according to their service length**

Categories	Respondents		Mean	S.D.
	Number	Percent		
Short service (upto 12 years)	18	18	18.78	6.97
Medium service (13-24 years)	38	38		
Long service (above 24 years)	44	44		
Total	100	100		

Data presented in the Table 4.2.3 indicated that majority (44 percent) of the respondents had long service length and nearly equal proportion (38 percent) of the respondents had medium service length, while 18 percent of the respondents had short service length. It is expected that long service length helped the SAAOs to perform their duties better. Consequently the better performance required higher communication exposure. The findings indicated a probability of higher communication exposure of the SAAOs.

#### 4.2.4 Training received

Training received scores of the SAAOs ranged from 3 to 43 days, with an average of 12.24 days and a standard deviation of 8.10. On the basis of the training received, the SAAOs were classified into three categories as shown in Table 4.2.4.

**Table 4.2.4 Distribution of SAAOs according to their training received**

Categories	Respondents		Mean	S.D.
	Number	Percent		
Short training (upto 5 days)	76	76	12.24	8.10
Moderate training (6-20 days)	21	21		
Long training (above 20 days)	3	3		
Total	100	100		



Data furnished in Table 4.2.4 indicated that highest proportion (76 percent) of the SAAOs received short training as compared to nearly one-fifth (21 percent) of the respondents received moderate training and a little proportion (3 percent) of them received long training. Training helped the respondents to do their job better. An individual obtains knowledge, skill, views or attitudes towards different technologies through training. So it is expected that more the training received, more the communication exposure of the respondents.

#### 4.2.5 Organizational participation

The range of organizational participation scores of the SAAOs was 0 to 28. The average score was 5.94 with a standard deviation of 5.39. On the basis of these scores, the SAAOs were classified into four categories as shown in Table 4.2.5.

**Table 4.2.5 Distribution of SAAOs according to their organizational participation**

Categories	Respondents		Mean	S.D.
	Number	Percent		
No participation (0)	6	6	5.94	5.39
Low participation (1- 10)	81	81		
Moderate participation (11 to 20)	10	10		
High participation (Above 20)	3	3		
Total	100	100		

Data furnished in Table 4.2.5 revealed that majority (81 percent) of the respondents had low organizational participation compared to small proportion (10 percent) had moderate and a few (6 percent) had no participation. Only 3 percent of the respondents had high organizational participation. Through participation in organization an individual comes in contact with other people, so that they can learn new ideas and new way of doing thing. Organizational participation may have the effect of favourably disposing the respondents towards the use of communication media. The findings of this study indicated that the SAAOs with more organizational participation are expected to use more communication media in receiving agricultural information.



#### 4.2.6 Job facility

The term job facility was used to refer to the convenience caused by different environmental factors in the communication activities of the SAAOs. Job facility scores of the SAAOs ranged from 19 to 43. The average score was 32.20 with a standard deviation of 5.08. On the basis of job facility scores, the SAAOs were classified into the following three categories as shown in Table 4.2.6.

**Table 4.2.6 Distribution of SAAOs according to their job facility**

Categories	Respondents		Mean	S.D.
	Number	Percent		
Low job facility (upto 28)	24	24	32.20	5.08
Medium job facility (29-40)	67	67		
High job facility (above 40)	9	9		
Total	100	100		

Data presented in Table 4.2.6 showed that majority (67 percent) of the respondents got medium job facility as compared to nearly one-fourth (24 percent) of the respondents got low job facility. But only 9 percent of the SAAOs were in a position to avail high job facility. High job facility influenced the respondents in serving their job responsibility efficiently. It is expected that the higher job facility, the higher communication exposure of the SAAOs.

#### 4.2.7 Opinion on effectiveness of communication media

Opinion on effectiveness of communication media scores of the respondents ranged from 13 to 36. The average score was 25.28 with a standard deviation of 6.81. On the basis of these scores, the respondents were classified into the following three categories as shown in Table 4.2.7.

**Table 4.2.7 Distribution of SAAOs according to opinion on effectiveness of communication media**

Categories	Respondents		Mean	S.D.
	Number	Percent		
Less effective (upto 18)	10	10	25.28	6.81
Moderately effective (19-30)	61	61		
Highly effective (above 30)	29	29		
Total	100	100		

Data presented in table 4.2.7 revealed that highest proportion (61 percent) of the respondents opined these communication media were moderately effective, while 29 percent and only 10 percent of the respondents opined these media were highly and less effective respectively.

#### **4.2.8 Attitude towards rice production technology**

Attitude score of the SAAOs ranged from 21 to 31 against a possible range of 0 to 32. The average score was 26.48 with a standard deviation of 3.22. Based on the attitude scores, the SAAOs were classified into three categories as shown in Table 4.2.8.

**Table 4.2.8 Distribution of SAAOs according to their attitude towards rice production technology**

Categories	Respondents		Mean	S.D.
	Number	Percent		
Less favourable (upto 22)	9	9	26.48	3.22
Moderately favourable (23-29)	61	61		
High favourable (above 29)	30	30		
Total	100	100		

Data presented in Table 4.2.8 indicated that majority (61 percent) of the respondents had moderately favourable attitude towards rice production technology as compared to nearly one-third (30 percent) had high and a few (9 percent) of the respondents had less favourable attitude. The findings indicated that majority of the respondents had moderate to high favourable attitude towards rice production technology and they are likely to maintain better contact with various communication media for obtaining information.

#### **4.2.9 Extent of communication with regard to job responsibilities**

Extent of communication score of the SAAOs ranged from 14 to 22 against a possible range of 0 to 24. The average score was 18.24 with a standard deviation of 2.19. On the basis of these scores, the respondents were classified into the following three categories as shown in Table 4.2.9.

**Table 4.2.9 Distribution of SAAOs according to their extent of communication with regard to job responsibilities**

Categories	Respondents		Mean	S.D.
	Number	Percent		
Low (upto15)	14	14	18.24	2.19
Medium (16-20)	74	74		
High (above 20)	12	12		
Total	100	100		

Data contained in Table 4.2.9 indicated that majority (74 percent) of the SAAOs had medium extent of communication as compared to equal proportion of ( 14 percent and 12 percent) had low and high extent of communication respectively.



### **4.3 Relationship between the selected characteristics of the SAAOs and their communication exposure**

The purpose of this section is to examine the relationship of 9 selected characteristics of the SAAOs with their communication exposure regarding rice production technologies. The selected characteristics of the SAAOs includes age, annual family income, service length, training received, organizational participation, job facility, opinion on effectiveness of communication media, attitude towards rice production technology and extent of communication with regard to job responsibilities.

Each of the above characteristics constituted an independent variable while communication exposure of the SAAOs regarding rice production technologies was the only dependent variable in this study. Significant relationship as determined by co-efficient of correlation test 'r' have been examined. The null hypothesis formulated for this study has been described in Chapter 1. A null hypothesis was rejected for this study when the observed 'r' value was equal or greater than the table value of 'r' at 0.05 levels and 0.01 levels of probability. The relationship between the selected characteristics of the SAAOs and their communication exposure has been presented in Table 4.3.

**Table 4.3 Co-efficient of correlation between selected characteristics and communication exposure of the SAAOs**

Dependent variable	Independent variables	Value of 'r'	Table value of 'r' with 98 df at	
			0.05 level	0.01 level
Communication exposure of SAAOs regarding rice production technologies	Age	0.128 <sup>NS</sup>		
	Annual family income	0.171 <sup>NS</sup>		
	Service length	0.432**		
	Training received	0.372**		
	Organizational participation	0.233*	0.196	0.256
	Job facility	0.557**		
	Opinion on effectiveness of communication media	0.570**		
	Attitude towards rice production technology	0.527**		
	Extent of communication with regard to job responsibility	0.658**		

NS = Not significant

\* = Correlation is significant at the 0.05 level

\*\* = Correlation is significant at the 0.01 level

During interpretation of the relationship the following thumb rule has been used

(Cohen and Holiday, 1982).

'r' value	Meaning
0.00 to 0.19	A very low correlation
0.20 to 0.39	A low correlation
0.40 to 0.69	A moderate correlation
0.70 to 0.89	A high correlation
0.90 to 1.00	A very high correlation

### **4.3.1 Age and communication exposure of SAAOs**

The relationship between age of the SAAOs and their communication exposure was examined by testing the following null hypothesis: "There is no relationship between age of the SAAOs and their communication exposure."

The co-efficient of correlation between age of the SAAOs and their communication exposure was found (0.128) in table 4.3. The following observations were recorded regarding the relationship between the variables on the basis of the co-efficient of correlation:

Firstly, the relationship showed a positive trend. Secondly, the strength of relationship between the variables was very low. Thirdly, the computed value 'r' (0.128) was smaller than the table value ( $r = 0.196$ ) with 98 degree of freedom at 0.05 level of probability.

Based on the above findings, the null hypothesis could not be rejected and hence, the researcher concluded that age of the SAAOs had no significant relationship with their communication exposure. This indicates that the communication exposure of the SAAOs did not influence significantly by their various age levels. Though Austman (1961) revealed that there is positive relationship between age and communication exposure of extension workers, but Haque (1972) and Rahman (1974) found that there is no relationship between age and communication exposure of extension workers. The finding of the present study also supports them.



### **4.3.2 Annual family income and communication exposure of SAAOs**

The relationship between annual family income of the SAAOs and their communication exposure was examined by testing the following null hypothesis: "There is no relationship between annual family income of the SAAOs and their communication exposure."

The co-efficient of correlation between annual family income of the SAAOs and their communication exposure was found (0.171) in table 4.3. The following observations were recorded regarding the relationship between the variables on the basis of the co-efficient of correlation:

Firstly, the relationship showed a positive trend. Secondly, the strength of relationship between the variables was very low. Thirdly, the computed value 'r' (0.171) was smaller than the table value ( $r = 0.196$ ) with 98 degree of freedom at 0.05 level of probability.

Based on the above findings, the null hypothesis could not be rejected and hence, the researcher concluded that annual income of the SAAOs had no significant relationship with their communication exposure. This indicates that the communication exposure of the SAAOs did not influence significantly by their different income levels. The finding of the present study support the study conducted by Nuruzzaman (2003). But it does not support the finding of Karim (1994) who suggested that annual income had positive and significant relationship with communication exposure of the extension workers.

### **4.3.3 Service length and communication exposure of SAAOs**

The relationship between service length of the SAAOs and their communication exposure was examined by testing the following null hypothesis: "There is no relationship between service length of the SAAOs and their communication exposure."

The co-efficient of correlation between service length of the SAAOs and their communication exposure was found (0.432) in table 4.3. The following observations were recorded regarding the relationship between the variables on the basis of the co-efficient of correlation:

Firstly, the relationship showed a positive trend. Secondly, the strength of relationship between the variables was moderate. Thirdly, the computed value 'r' (0.432) was greater than the table value ( $r = 0.256$ ) with 98 degree of freedom at 0.01 level of probability.

Based on the above findings, the null hypothesis was rejected and hence, the researcher concluded that service length of the SAAOs had significant positive relationship with their communication exposure. This indicates that the communication exposure of the SAAOs influenced significantly by their service length. The finding of the present study also supports the study conducted by Akhouri (1973). He reported that the people who have sufficient experience of extension work are most efficient in communication work.

#### **4.3.4 Training received and communication exposure of SAAOs**

The relationship between training received of the SAAOs and their communication exposure was examined by testing the following null hypothesis: "There is no relationship between training received of the SAAOs and their communication exposure."

The co-efficient of correlation between training received of the SAAOs and their communication exposure was found (0.372) in table 4.3. The following observations were recorded regarding the relationship between the variables on the basis of the co-efficient of correlation:

Firstly, the relationship showed a positive trend. Secondly, the strength of relationship between the variables was low. Thirdly, the computed value 'r' (0.372) was greater than the table value ( $r = 0.256$ ) with 98 degree of freedom at 0.01 level of probability.

Based on the above findings, the null hypothesis was rejected and hence, the researcher concluded that training received of the SAAOs had significant positive relationship with their communication exposure. This indicates that the communication exposure of the SAAOs influenced significantly by their various training program. The present study supports the findings of the studies conducted by Pandey (1979) and Gangadharappa (1981). They concluded that training was a pre-requisite to be an effective extension agent. The person having sufficient training is likely to be able to help the farmers and provide them technical suggestions easily and effectively. That's why their communication efficiency is also high.



#### **4.3.5 Organizational participation and communication exposure of SAAOs**

The relationship between organizational participation of the SAAOs and their communication exposure was examined by testing the following null hypothesis: "There is no relationship between organizational participation of the SAAOs and their communication exposure."

The co-efficient of correlation between organizational participation of the SAAOs and their communication exposure was found (0.233) in table 4.3. The following observations were recorded regarding the relationship between the variables on the basis of the co-efficient of correlation:

Firstly, the relationship showed a positive trend. Secondly, the strength of relationship between the variables was low. Thirdly, the computed value 'r' (0.233) was greater than the table value ( $r = 0.196$ ) with 98 degree of freedom at 0.05 level of probability. Based on the above findings, the null hypothesis was rejected and hence, the researcher concluded that organizational participation of the SAAOs had significant and positive relationship with their communication exposure. This indicates that the communication exposure of the SAAOs influenced significantly by their organizational participation. The finding supports the observation of Stagner (1961). He revealed that organizational participation influenced the communication pattern and efficiency of extension agents. The reason is that organizational participation is motivating the extension workers to use the various communication media. Due to organizational involvement the workers get a change in their horizon of understanding by sharing ideas and views with other persons.

#### **4.3.6 Job facility and communication exposure of SAAOs**

The relationship between job facility of the SAAOs and their communication exposure was examined by testing the following null hypothesis: "There is no relationship between job facility of the SAAOs and their communication exposure."

The co-efficient of correlation between job facility of the SAAOs and their communication exposure was found (0.557) in table 4.3. The following observations were recorded regarding the relationship between the variables on the basis of the co-efficient of correlation:

Firstly, the relationship showed a positive trend. Secondly, the strength of relationship between the variables was moderate. Thirdly, the computed value 'r' (0.557) was greater than the table value ( $r = 0.256$ ) with 98 degree of freedom at 0.01 level of probability.

Based on the above findings, the null hypothesis was rejected and hence, the researcher concluded that job facility of the SAAOs had positive and significant relationship with their communication exposure. This indicates that the communication exposure of the SAAOs influenced significantly by their various job facility factors. Similar findings were revealed by Weitz (1952), Kahn (1964) and Porter (1967) in their respective studies. High degree of job facility enhanced the work output of the employee. So, if the job facility is increased, communication exposure will also be increased.



#### **4.3.7 Opinion on effectiveness of communication media and communication exposure of SAAOs**

The relationship between opinion on effectiveness of communication media of the SAAOs and their communication exposure was examined by testing the following null hypothesis: "There is no relationship between opinion on effectiveness of communication media of the SAAOs and their communication exposure."

The co-efficient of correlation between opinion on effectiveness of communication media of the SAAOs and their communication exposure was found (0.570) in table 4.3. The following observations were recorded regarding the relationship between the variables on the basis of the co-efficient of correlation:

Firstly, the relationship showed a positive trend. Secondly, the strength of relationship between the variables was moderate. Thirdly, the computed value 'r' (0.570) was greater than the table value ( $r = 0.256$ ) with 98 degree of freedom at 0.01 level of probability.

Based on the above findings, the null hypothesis was rejected and hence, the researcher concluded that opinion on effectiveness of communication media of the SAAOs had significant positive relationship with their communication exposure. This indicates that the communication exposure of the SAAOs influenced significantly by effective media. If one prefers an information media as effective source, he will be used it more frequently and thus his communication exposure will also be increased.



#### **4.3.8 Attitude towards rice production technology and communication exposure of SAAOs**

The relationship between attitude towards technology of the SAAOs and their communication exposure was examined by testing the following null hypothesis: "There is no relationship between attitude towards technology of the SAAOs and their communication exposure."

The co-efficient of correlation between attitude towards technology of the SAAOs and their communication exposure was found (0.527) in table 4.3. The following observations were recorded regarding the relationship between the variables on the basis of the co-efficient of correlation:

Firstly, the relationship showed a positive trend. Secondly, the strength of relationship between the variables was moderate. Thirdly, the computed value 'r' (0.527) was greater than the table value ( $r = 0.256$ ) with 98 degree of freedom at 0.01 level of probability.

Based on the above findings, the null hypothesis was rejected and hence, the researcher concluded that attitude towards rice production technology of the SAAOs had significant positive relationship with their communication exposure. This indicates that the communication exposure of the SAAOs influenced significantly by their attitude towards technology. The statistical analysis implies that with the increase of attitude towards technology the use of communication media is also increased. The extension agents, who have favourable attitude towards technology, will be used more communication media. Hence, his communication exposure will also be increased.

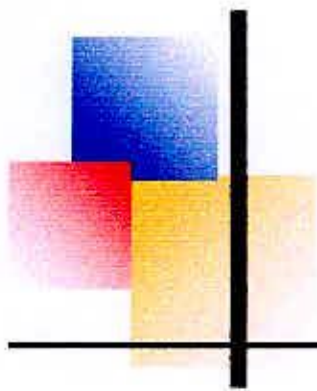
#### **4.3.9 Extent of communication with regard to job responsibility and communication exposure of SAAOs**

The relationship between extent of communication of the SAAOs and their communication exposure was examined by testing the following null hypothesis: "There is no relationship between extent of communication of the SAAOs and their communication exposure."

The co-efficient of correlation between extent of communication of the SAAOs and their communication exposure was found (0.658) in table 4.3. The following observations were recorded regarding the relationship between the variables on the basis of the co-efficient of correlation:

Firstly, the relationship showed a positive trend. Secondly, the strength of relationship between the variables was moderate. Thirdly, the computed value 'r' (0.658) was greater than the table value ( $r = 0.256$ ) with 98 degree of freedom at 0.01 level of probability.

Based on the above findings, the null hypothesis was rejected and hence, the researcher concluded that extent of communication of the SAAOs had positive and significant relationship with their communication exposure. This indicates that the communication exposure of the SAAOs influenced significantly by their extent of communication. The statistical analysis implied that the communication exposure of the SAAOs will be increased if the extent of communication with regard to job responsibility is increased.



## Chapter 5

# Summary and Conclusion

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## **CHAPTER 5**

### **SUMMARY, CONCLUSIONS AND RECOMMENDATIONS**

This chapter is devoted for the summaries of the background, methodology and major findings of this piece of research work. Conclusions and recommendations are also included briefly in this Chapter.

#### **SUMMARY**

##### **5.1 General background**

Rice is the main crop of our agriculture. The climate and land are very favourable for rice production. That's why, majority of the farmers of our country are rice farmers. A huge number of rice varieties and production technologies suited to varied agro-ecological conditions have evolved in this country. But there is a wide gap exists between knowledge and use of such kinds of rice varieties and improved rice production technologies. For improving our agriculture, we have to bring change in this sector. In this regard, we have to maintain an effective communication between farmers and our field level extension workers. Because an effective and efficient communication of farm information is an important prerequisite for promoting adoption of agricultural innovations and practices. Communication is blood stream of development administration. In rural development nothing is more important than the transfer of useful ideas from the sources to users. In the process of communication lies the potential for millions of village people to overcome ignorance, poverty and disease to attain a status of economic and social well-being. Extension workers are the real change agents and key communicators, who play an important role in diffusion of

innovations. To make farming communities, the SAAOs requires communication devices that can overcome of illiteracy and tradition which are predominant among the resource poor farmers and drive home the message effectively. Considering the importance of role played by communication agents in disseminating the farm technology, the present study was undertaken with the objectives of ascertaining the communication exposure of SAAOs regarding rice production technologies. The specific objectives of this study were:

1. To determine the communication exposure of the Sub-Assistant Agriculture Officers (SAAOs) regarding rice production technologies;
2. To determine some of the selected characteristics of the Sub-Assistant Agriculture Officers (SAAOs). The selected characteristics are: age, annual family income, service length, training received, organizational participation, job facility, opinion on effectiveness of communication media, attitude towards rice production technology and extent of communication with regard to job responsibilities;
3. To explore the relationship between communication exposure of Sub-Assistant Agriculture Officers (SAAOs) and their selected characteristics.

### **5.1.1 Hypothesis**

The null hypothesis which was tested on this study is summarizes below:

“ There is no relationship between age, annual family income, service length, training received, organization participation, job facility, opinion on effectiveness of communication media, attitude towards rice production technology, extent of communication with regard to job responsibilities of SAAOs and their communication exposure regarding rice production technologies.”

### **5.1.2 Methodology**

The SAAOs of Chapainawabgonj District of Rajshahi Division constitute the population of this study. The sample size of 100 randomly selected SAAOs from the whole district. Data were collected by the researcher himself. Communication exposure of the SAAOs regarding rice production technologies was the dependent variable. The selected individual characteristics of the SAAOs were the independent variables. The collected data were coded, compiled, tabulated and analyzed in accordance with the objectives of the study. Various statistical measures were used in describing the variables.

For exploring the relationship between the selected characteristics of the SAAOs and their communication exposure regarding rice production technologies, co-efficient of correlation test was used.

### **5.1.3 Findings**

The findings of the study and interpretation of the results have been presented elaborately in chapter 4. The findings of the study are summarized below:

Communication exposure of the SAAOs ranged from 14 to 47 with an average of 31.18 and standard deviation of 7.71. 39 percent of the respondents had low communication exposure in receiving rice production information while equal proportion (37 percent) of them had medium exposure and 24 percent of the respondents had high exposure. Thus, the majority (76 percent) of the SAAOs had low to medium communication exposure.



#### **5.1.4 Characteristics of the SAAOs**

##### **Age**

The age of the SAAOs ranged from 28 to 55 with an average of 42.63 and standard deviation of 6.93. The highest proportion of the SAAOs (66 percent) fell in the middle age group, while equal proportion of the respondents (17 percent) fell in young and old age group.

##### **Annual family income**

The annual family income of the SAAOs ranged from 50 to 230 thousands, the average being 116.43 thousands and standard deviation being 35.52. More than half of the respondents (64 percent) had medium income, compared to 33 percent had low and only 3 percent had high income.

##### **Service length**

The service length of the SAAOs ranged from 5 to 32 years with an average of 18.78 years and a standard deviation of 6.97. Majority (44 percent) of the respondents had long service length and nearly equal proportion (38 percent) of the respondents had medium service length, while 18 percent of the respondents had short service length.

##### **Training received**

Training received scores of the SAAOs ranged from 3 to 43 days, with an average of 12.24 days and a standard deviation of 8.10. The highest proportion (76 percent) of the SAAOs received short training as compared to nearly one-fifth (21 percent) of the respondents received moderate training and a little proportion (3 percent) of them received long training.

### **Organizational participation**

The range of organizational participation scores of the SAAOs was 0 to 28. The average score was 5.94 with a standard deviation of 5.39. The majority (81 percent) of the respondents had low organizational participation compared to small proportion (10 percent) had moderate and a few (6 percent) had no participation. Only 3 percent of the respondents had high organizational participation.

### **Job facility**

Job facility scores of the SAAOs ranged from 19 to 43. The average score was 32.20 with a standard deviation of 5.08. The majority (67 percent) of the respondents got medium job facility as compared to nearly one-fourth (24 percent) of the respondents got low job facility. But only 9 percent of the SAAOs were in a position to avail high job facility.

### **Opinion on effectiveness of communication media**

Opinion on effectiveness of communication media scores of the respondents ranged from 13 to 36. The average score was 25.28 with a standard deviation of 6.81. The highest proportion (61 percent) of the respondents thought these communication media were moderately effective, while 29 percent of the respondents and only 10 percent of them thought highly and less effective respectively.

### **Attitude towards rice production technology**

Attitude score of the SAAOs ranged from 21 to 31 against a possible range of 0 to 32. The average score was 26.48 with a standard deviation of 3.22. The majority (61 percent) of the respondents had moderately favourable attitude towards rice production technology as compared to nearly one-third (30 percent) had high and a few (9 percent) of the respondents had less favourable attitude.

### **Extent of communication with regard to job responsibilities**

Extent of communication score of the SAAOs ranged from 14 to 22 against a possible range of 0 to 24. The average score was 18.24 with a standard deviation of 2.19. The majority (74 percent) of the SAAOs had medium extent of communication as compared to equal proportion of (14 percent and 12 percent) had low and high extent of communication respectively.

### **5.1.5 Relationship of the selected characteristics of the SAAOs with their communication exposure**

This deals with relationship of the selected characteristics of the SAAOs with their communication exposure regarding rice production technologies. Co-efficient of correlation test was used to determine the relationship between the dependent and independent variables. The results of hypothesis testing are briefly presented below:

#### **Age and communication exposure**

Age of the SAAOs had no relationship with their communication exposure.

#### **Annual family income and communication exposure**

There was no relationship between annual family income and their communication exposure regarding rice production technologies.

#### **Service length and communication exposure**

Service length of the SAAOs had positive and significant relationship with their communication exposure.



### **Training received and communication exposure**

Training received of the SAAOs had positive and significant relationship with their communication exposure.

### **Organizational participation and communication exposure**

There was positive and significant relationship between organizational participation and communication exposure of the SAAOs.

### **Job facility and communication exposure**

Job facility of the SAAOs was positively and significantly related with their communication exposure.

### **Opinion on effectiveness of communication media and communication exposure**

There was positive and significant relationship between opinion on effectiveness of communication media and their communication exposure of the SAAOs.

### **Attitude towards rice production technology and communication exposure**

Attitude towards rice production technology of the SAAOs had positive and significant relationship with their communication exposure.

### **Extent of communication with regard to job responsibilities and communication exposure**

There was positive and highly significant relationship between extent of communication of the SAAOs and their communication exposure regarding rice production technologies.

## 5.2 Conclusions

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

1. The study indicated that majority (76 percent) of the SAAOs had low to medium exposure while 24 percent had high exposure to various communication media. For increasing rice production it is essential to have better communication exposure of the SAAOs for effective dissemination of various farming technologies. Therefore, it may be concluded that the SAAOs had inadequate communication exposure which might be a cause for poor yield in rice production.
2. It was revealed that the SAAOs generally had discussions with their colleagues and their high officials to identify the field problems and also seek recent information from them.
3. Service length of the SAAOs had positive and significant relationship with their communication exposure. This means that the more the service length the more exposure towards various communication media. An individual gets experience from their long service, which is very essential for effective communication. An experienced worker can easily be analyzed the situation and provided information to the farmers.
4. There was positive and significant relationship between training and communication exposure of the SAAOs. Training increases knowledge, ideas, views on various innovations, which enhances communication exposure of the SAAOs towards communication media.

5. The statistical analysis showed that a strong correlation between job facility and communication exposure leads to the conclusion that job facility increases communication exposure of the SAAOs.
6. Organizational participation of the SAAO had a positive and significant relationship with their communication exposure regarding rice production technologies. This indicates that with the increase of organizational participation of the SAAOs, their communication exposure is also increased meaning due to organizational participation of them the chance to share their knowledge and experience with other personnel. Thus, it may be concluded that organizational participation enables them to broaden their mental make up as well as decision making abilities towards the choosing of appropriate communication media for getting useful information regarding rice production.
7. Positive attitude towards rice production technologies enhances the communication exposure of the SAAOs.
8. The findings of the study revealed that the characteristics such as age, annual family income of the SAAOs were not related with their communication exposure. This means that these characteristics were independent to the communication exposure of the SAAOs. These facts lead to the conclusions that communication exposure of the SAAOs may be influenced by age and annual family income to some extent but not significantly.
9. In respect of media-wise communication exposure of the SAAOs, it was found that AEOs, UAOs and AAEOs were mostly used media by the SAAOs. They were also exposed to group discussion, result and method demonstration, but they had very few contact with NGO workers.



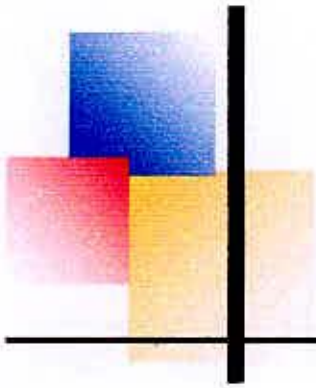
## **5.3 Recommendations**

### **5.3.1 Recommendations for policy implication**

1. For increasing the communication exposure of the SAAOs it is needed (i) to train them on technical matters of various technologies, and (ii) to increase their physical facilities, such as transport, office and residential accommodation.
2. The main function of the SAAOs is to transfer technological information to the farmers. Therefore, they should have more contacts with the individuals both within and outside their own organizations.
3. Setting up of quality demonstration plots and organizing discussion meeting should be strengthening the innovation dissemination program.
4. For increasing the communication exposure of the SAAOs, their staying in the place of posting should be ensured and monitored. They should be provided with the latest rice production technologies and encouraged to motivate the farmers to adopt those in their fields.
5. Strengthening the linkages between extension personnel and rice research personnel.
6. In order to boosting up agricultural production and income of the country, it is necessary to build more interaction between the field level extension workers and farmers.
7. The Upazila level officers need to make regular contact with the SAAOs and provide them with the latest farm information and getting feedback in adopting them.
8. The Department of Agricultural Extension (DAE) needs to pay more attention to ensure the use of communication media to show clear difference between traditional and improved rice production technologies and as such it creates more confidence among the farmers about new innovation.

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

1. The present investigation explored the relationships between some of the selected characteristics of the SAAOs and their communication exposure regarding rice production technologies. Besides these, there are other characteristics which may also influence communication exposure of SAAOs. Therefore, it is suggested to select other characteristics and establish relationships with communication exposure of extension workers.
2. The study was concerned with the SAAOs of Chapainawabgonj District. Similar studies may be replicated in other parts of the country to provide further valuable information.
3. It is recommended that researches may be undertaken to determine the preference of communication sources by the extension workers.
4. Further research study is needed to investigate the factors influenced the communication behaviour of the SAAOs.
5. Communication pattern of other extension personnel may also be investigated.
6. Further researches may be undertaken to investigate the problem faced by the SAAOs in performing their job responsibilities.



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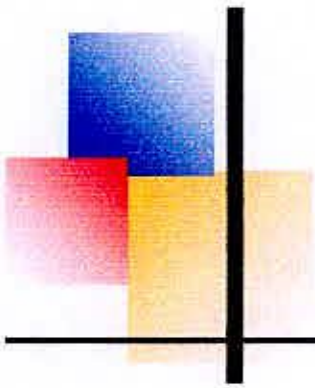
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# Appendices

## APPENDIX A

### COMMUNICATION EXPOSURE OF SUB-ASSISTANT AGRICULTURE OFFICERS REGARDING RICE PRODUCTION TECHNOLOGIES

#### INTERVIEW SCHEDULE FOR SUB-ASSISTANT AGRICULTURE OFFICERS

Respondent No \_\_\_\_\_

Name of respondent \_\_\_\_\_

Place of posting: Block \_\_\_\_\_ Block No. \_\_\_\_\_ Union \_\_\_\_\_

Upazila \_\_\_\_\_ District \_\_\_\_\_ Region \_\_\_\_\_

(Please answer the following questions)

#### 1. Age:

What is your present age (according to your S.S.C. certificate or your service record book)? \_\_\_\_\_ years

#### 2. Annual Family Income:

Please mention your last year family income.

Sources of income	Amount of income (Tk.)
1. Service	
2. Agriculture	
3. Business	
4. Others	
Total	

#### 3. Service Length:

Please mention your first joining date: \_\_\_\_\_

#### 4. Training Received:

Arrange chronologically the particulars of in-service training attended during the tenure of your service life.

Sl. No.	Field of training	Place of the training		Duration (In days) with year.
		Home	Abroad	



**5. Organizational Participation:**

Please indicate the nature and duration of your participation in the following organizations.

Name of organization	No participation	Participate		
		General member	Executive committee members	Office bearer of executive committee
1. Agricultural co-operative society				
2. Relief and rehabilitation committee				
3. School committee				
4. Club				
5. Mosque committee				
6. Bazar committee				

### 6. Job facilities:

Please indicate the extent of your agreement with the factors which facilitate to perform your responsibilities by putting tick mark (√) against each factor in the appropriate box.

Sl. No.	Facilitating factors	Strongly agree	Agree	Un-decided	Dis-agree	Strongly disagree
1.	Suggestion on technical matters					
2.	Group approach of extension activities					
3.	Practical training at the Upazila headquarter					
4.	Weekly conference at the Upazila headquarter					
5.	Co-operation from members of other organizations					
6.	Co-operation from farmers					
7.	Farmers Information Need Assessment and bottom-up planning					
8.	Arrangement of demonstration					
9.	Arrangement of motivational tour for farmers					
10.	Arrangement of training for farmers					
11.	Traveling facilities					
12.	Supervision of agricultural input distribution					

### 7. Opinion on effectiveness of communication media:

Please indicate the effectiveness of the following media with regard to agricultural information.

Sl. No.	Communication media	Degree of effectiveness				
		Very effective	Effective	No opinion	Not effective	Not effective at all
<b>A.</b>	<b>Individual media</b>					
1.	Progressive and general farmers, local leaders					
2.	UAO, AEO, AAEO, NGO workers, Farm input dealers					
<b>B.</b>	<b>Group media</b>					
3.	Group discussion and field day					
4.	Result demonstration					
5.	Method demonstration					
<b>C.</b>	<b>Mass media</b>					
6.	Radio program					
7.	Farm TV program					
8.	Newspaper and magazine					
9.	Folk media					
10.	Poster, booklet, leaflet, book					

### 8. Attitude towards rice production technology:

Sl. No.	Statements	Degree of attitude				
		Strongly agree	Agree	No opinion	Disagree	Strongly disagree
1. (+)	Modern variety of rice is more profitable than local variety					
2. (+)	It is necessary to use proper dose of fertilizer to get more yield					
3. (-)	Broadcast sowing of rice is better than line sowing to get more yield					
4. (+)	Organic fertilizer helps to preserve soil properties					
5. (-)	Disease do not create obstacle in rice production					
6. (+)	IPM is better than other pest control measures					
7. (-)	Chemical control method is the only way for pest management					
8. (-)	Over use of fertilizer and insecticide is not harmful for the environment					



### 9. Extent of communication with regard to job responsibilities

Sl. No.	Items	Extent of communication			
		Regularly	Occasionally	Rarely	Not at all
1.	Conduct Farm Information Need Assessment				
2.	Local extension planning				
3.	Discussion with farmers about new concept or technology				
4.	Advice on standing crop problem				
5.	Participation in follow-up program				
6.	Farm input assessment				
7.	Ask help from local leader				
8.	Keep information about block				

**10. Communication media exposure:**

Please indicate the extent of your exposure with regard to agricultural information.

Sl. No.	Communication media	Extent of exposure (Times)			
		Frequently	Occasionally	Rarely	Not at all
<b>A.</b>	<b>Individual media</b>				
1.	General farmers				
2.	Progressive farmers				
3.	Local leaders				
4.	Manager of KSS				
5.	Farm input dealer (fertilizer, pesticide, seed dealer, etc.)				
6.	Assistant Agriculture Extension Officer (AAEO)				
7.	Agriculture Extension Officer (AEO)				
8.	Upazila Agriculture Officer (UAO)				
9.	NGO workers				
<b>B.</b>	<b>Group media</b>				
10.	Group discussion				
11.	Field day				
12.	Result demonstration				
13.	Method demonstration				
<b>C.</b>	<b>Mass media</b>				
14.	Listening farm radio program				
15.	Watching farm TV program				
16.	Reading newspaper				
17.	Reading weekly, monthly magazine				
18.	Folk media				
19.	Poster, booklet, leaflet				
20.	Books				

Thank you,

Date:

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

**APPENDIX B**  
**Correlation Matrix**

	Age	Income	Service	Training	Organization	Job	Effectiveness	Attitude	Extent	Media
Age	1									
	100									
Income	.726(**)	1								
	.000	100								
Service	.672(**)	.606(**)	1							
	.000	.000	100							
Training	.468(**)	.411(**)	.531(**)	1						
	.000	.000	.000	100						
Organization	.493(**)	.439(**)	.365(**)	.422(**)	1					
	.000	.000	.000	.000	100					
Job	.328(**)	.303(**)	.507(**)	.414(**)	.386(**)	1				
	.001	.002	.000	.000	.000	100				
Effectiveness	.102	.089	.375(**)	.395(**)	.212(*)	.546(**)	1			
	.313	.377	.000	.000	.035	.000	100			
Attitude	.100	.100	.100	.100	.100	.100	.746(**)	1		
	.403	.359	.000	.000	.039	.000	.000	100		
Extent	.189	.205(*)	.427(**)	.396(**)	.298(**)	.520(**)	.562(**)	.494(**)	1	
	.060	.041	.000	.000	.003	.000	.000	.000	100	
Media	.128	.171	.432(**)	.372(**)	.233(*)	.557(**)	.570(**)	.527(**)	.658(**)	1
	.203	.089	.000	.000	.019	.000	.000	.000	.000	100
	100	100	100	100	100	100	100	100	100	100

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

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



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