EFFECTIVENESS OF RESULT DEMONSTRATION IN ADOPTION OF BRRI DHAN 28 / 29

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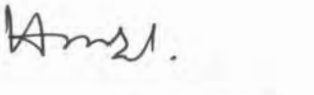

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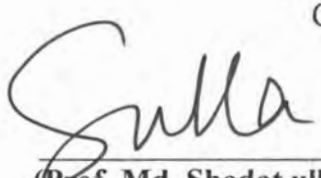

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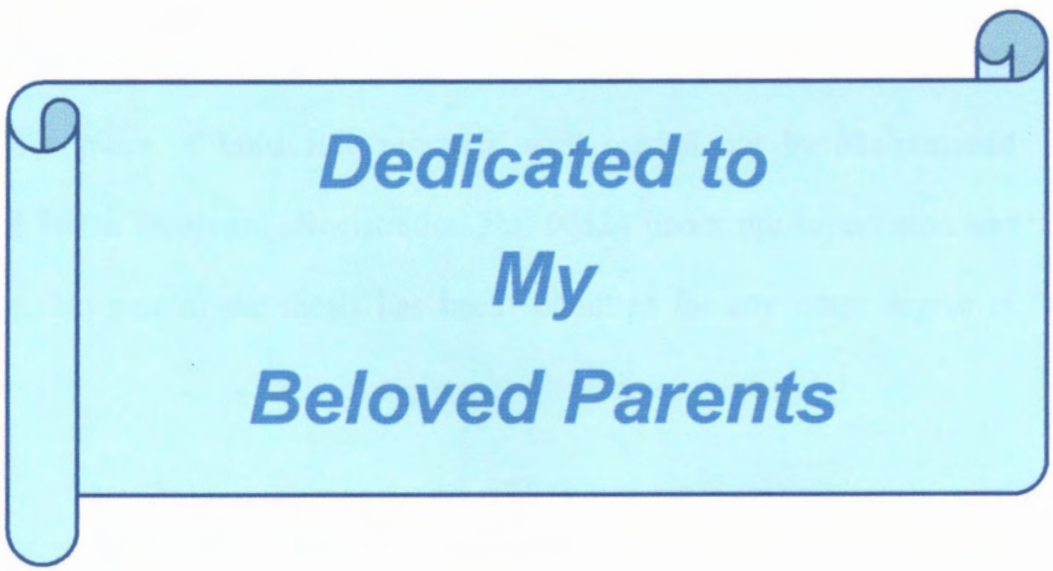
Dedicated to
My
Beloved Parents

CERTIFICATE

This is to certify that the thesis entitled, **"EFFECTIVENESS OF RESULT DEMONSTRATION IN ADPOTION OF BRRI DHAN-28 OR 29"** 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 **Mohammad Monirul Islam Bhuiyan,** Registration No. 00524 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 duly been acknowledged.

Dated:

Dhaka, Bangladesh

(Prof. Mohammad Hossain Bhuiyan)

Supervisor

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ABSTRACT

This study was intended to investigate the farmer's opinion towards the effectiveness of result demonstration in adoption of BRRI dhan-28 / 29 and to explore the relationship between the effectiveness of result demonstration and some of selected characteristics of the farmers. The selected characteristics includes: age, education, family size, farm size, annual income, extension media contact, organizational participation and agriculture knowledge of the farmers. The data were collected from the villages of Birbagber, Baznabo and Dakshindhuru of the Belabo Upazilla under Narsingdi District. The data were collected through personal interview by using an interview schedule during the period from 15 October to 5, December 2006. Pearson's product moment correlation co-efficient (r) was computed to examine the relationship between the concerned variables. Finding revealed that 65 percent farmers considered result demonstration as medium effective while 12.5 percent low effective and 17.5 percent farmers considered as highly effectives respectively. Correlation analysis indicated that the characteristics such as Education, farm size, Annual income, Extension contact and Agricultural knowledge of the farmers had significant and positive relationship with their opinion about the effectiveness of result demonstration in adoption of BRRI dhan-28 / 29. On the other hand age, family size, and organizational participation of the farmers had no relationship with the effectiveness of result demonstration in adoption of BRRI dhan-28 / 29.

ABBREVIATIONS

Ag. Ext. Ed.	=	Agricultural Extension Education
BBS	=	Bangladesh Bureau of Statistics
DAE	=	Department of Agricultural Extension
df	=	Degree of freedom
HYV	=	High Yielding Varieties
NGO	=	Non-Government Organization
SPSS	=	Statistical Package for Social Science
Sq km	=	Square Kilometer
%	=	Percent
(000) Taka	=	Thousand Taka
MS	=	Masters of Science

Chapter -1

INTRODUCTION

1.1 General Background

Bangladesh is an agricultural country with the geographical area of 1,47,570 sq kilometers and population of about 148 millions. About 80 percent of its population live in rural areas and 51.7 percent of the total labour force are engaged in agriculture (BBS, 2005). The development of the country depends mostly upon the development of agriculture. According to BBS report, agriculture output at current prices has been found to contribute 21.77 percent of the GDP in which 12.19 percent comes from crops, 1.79 percent from forestry, 2.93 percent from livestock and 4.86 percent from fisheries (BBS,2006). So agriculture plays vital roles for poverty alleviation and food security by increasing income level of rural population.

Though agriculture constitutes the largest segment of the economy of Bangladesh its per hectare production of different crops is very low compared to other courtiers. Shortage of food is common phenomenon in the country. However, severity of food shortage no longer exists due to great effort of our scientists and extensionists. Since after liberation BRRI scientists developed 47 HYV of rice and extensionists transferred those technologies among the farmers. Yet all concerned with rice production scientists, extensionists and farmers are to be alert to grow more food. In response to the demand of food to feed the increasing population agricultural policy has given emphasis to increase food supplies.

Rice, the staple food crop in Bangladesh about 80% of the total cultivable land are occupied by rice. Aus, Amon, Boro covers 11.11%, 52.46% and 36.43% of land respectively and total production was estimated to be 251.2 lakh metric ton (BBS,2005). About 100% population of the country depend on rice as their major food. The cultivation of Boro rice shows an increasing trend since few years with rapid intensification of land.

There are so many agricultural organizations those are directly or indirectly involved in the development of agriculture. The Department of Agricultural Extension (DAE) is one of the main government extension organization which is responsible for dissemination of agricultural information to stimulate agricultural development. The main function of the DAE is to inform, educate and motivate farmers to adopt new and modern agricultural practices including rice production technologies. In performing this responsibility it uses so many methods and devices to reach the farmers. Among them individual contact, group contact and mass contact methods are used in general. DAE uses almost all the extension methods in parallel, but different methods have different degrees of effectiveness. The New Extension Approach has given emphasis to use wide verity of extension teaching methods, particularly the use of result demonstration. Result demonstration stimulates learning among the farmers with motivation. Result demonstration is found to be one of the most effective methods that are being practiced by the extension personnel to educate farmers to try out different innovations. It has been observed from the past experience that result demonstration proved to be a suitable method to various categories of farmers to adopt agricultural technologies. Through this method, farmers get the opportunity to observe the results of agricultural technologies including new varieties in their own situation. Farmers have the opportunity to observe the different stages of development of innovation and learn from their own experiences.

The farmers of Belabo Upazila are using boro varieties (BRRIdhan28/29)for the last few years. To convince the farmers of this area DAE organized a good number result demonstration in their fields but It is not known whether the farmers were motivated to use the boro rice varieties by the result demonstrations. Therefore the researcher felt necessity to conduct a research to find out the effectiveness of result demonstration in adoption of BRRI dhan 28/29.

1.2 Statement of the problem

In view of the above discussion, the researcher undertook a study on EFFECTIVENESS OF RESULT DEMONSTRATION IN ADOPTION OF BRRI DHAN 28/29. The purpose of this study was to have farmer views about the

effectiveness of result demonstration in the adoption of BRRI dhan28 /29 varieties in the process of transferring knowledge, developing skill and forming attitude. It is expected that the findings of this study may be helpful for the personnel of the Department of Agricultural Extension (DAE) and other similar organizations.

For conducting the research the researcher tried to get the answer of the following questions:

1. Is there any influence or effectiveness of result demonstration in adoption of BRRI dhan28 /29 by the farmers of Belabo Upazila?
2. What are the characteristics of farmers of Belabo Upazila that exerted force to adoption BRRI dhan 28/29 out of the influence of result demonstration?
3. What are relationships between the effectiveness of result demonstration and selected characteristics of farmers?

1.3 Specific Objectives Of The Study

1. To determine the effectiveness of result demonstration in adoption of BRRI dhan 28 /29.
2. To determine and describe some of the selected characteristics of the farmers. The characteristics are:
   - i) Age
   - ii) Education
   - iii) Family size
   - iv) Farm Size
   - v) Annual family income.
   - vi) Organizational participation
   - vii) Extension media contact
   - viii) Knowledge on BRRI dhan 28 / 29
3. To explore the relationships between the effectiveness of result demonstration in adoption of BRRI dhan28/29 and selected characteristics of the farmers.

1.4 Justification of the study

Most people of our country are poor and landless, live in the remote villages and their development opportunity are also limited. Due to the low level of knowledge, skills, literacy, lack of communication and transport facilities they contribute low productivity. The Government has limited ability to play a leading role in their development due to top down approaches, centralized mode of operation and limited resources. So, to ensure adequate food supply, it is necessary to increase food production acquiring knowledge on modern rice varieties through appropriate and effective extension methods.

Bangladesh Rice Research Institute has developed 47 HYV rice verities to face production problems, insect and disease infestation, early or late flood, salinity and drought problem etc. Present per hectare yield of local varieties in Bangladesh is very low but per hectare yield of HYV is comparatively higher than that of local varieties. BRRI dhan 28 / 29 are the two Boro rice varieties that are being cultivated by the farmers of Belabo Upazila. It is not know how the two varieties were adopted by the farmers. Is it the influence of TV Program? Is it the influence of extension worker? Is it the influence of result demonstration or method demonstration? Result demonstration has shown spectacular result in disseminating agricultural information from the source to the farmer's field. Result demonstration is very important for presentation and decision of adoption of the technology. Result demonstration offers opportunity to observe the result of innovation with there own eyes and they adopt the technologies with firm conviction. Adoption of a technology mostly depends on the effectiveness of result demonstration. But without empirical research it is not possible to understand exactly the degree of effectiveness of result demonstration. Therefore, undertaking the study entitled **"Effectiveness of Result Demonstration in adoption of BRRI dhan 28/29"** is justified.

1.5 Assumptions and Limitations of the Study

1.5.1 Assumptions of the study

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

belief to be true without proof. In this study, the researcher had the following assumptions in mind while carrying out this study.

1. The respondents included in the sample were competent to furnish proper responses to the items included in the interview schedule.
2. The researcher who also acted as the interviewer was well adjusted to the social environment of the study area.
3. The responses furnished by the respondents were reliable and they truly expressed their opinion on the effectiveness of result demonstration in adoption of selected boro rice varieties and their selected characteristics.
4. The characteristics of farmers as well as the indicator of the effectiveness of result demonstration were normally and independently distributed with their respective means and standard deviation.
5. The finding of the study will have general application to other parts of the country with similar socio-economic and cultural characteristics of the respondents of the study area.

1.5.2 Limitations of the study

In order to make the study manageable and meaningful from the research view point it was necessary to impose certain limitations as noted below:

1. The study was confined to Birbagber, Baznabo and Dakshindhuru villages of Belabo Upazilla under Narsingdi district.
2. The study focused on effectiveness of result demonstration in adoption of BRRI dhan28/29.
3. BRRI dhan28/29 as modern boro ricc varieties were selected to examine the extent of effectiveness of result demonstration in adoption among the rice growers of Belabo upazilla.
4. Relationships of effectiveness of result demonstration could be studied with various characteristics of the farmers. But only eight (8) characteristics were selected for investigation in this study.
5. Only the boro rice growers who cultivated BRRI dhan28/29 were selected for this study.

6. The researcher relied on the data furnished by the boro rice growers from their memory during interview.

The findings of the study were particularly applicable to Birbagber, Baznabo and Dakshindhure villages of Belabo upailla of Narsingdi district. However, the study area having considerable similarity with other areas of Bangladesh, the findings of the study might have applications for other areas of the country as well.

1.6 Hypothesis of the Study

As defined by Goode and Hatt (1952) "A hypothesis is a proposition which can be put to a test to determine it's validity. It may seem contrary to, or in accord with common sense. It may be proved to be correct or incorrect. In any event, however, it leads to an empirical test.

1.6.1 Null hypothesis

A research hypothesis is a predictive statement capable of being tested by scientific methods that related independent variables and dependent variables. There is no relationship between effectiveness of result demonstration in adoptions of BRRI dhan 28 / 29 and their each of the eight (8) selected characteristics of the adopters. The characteristics are: age, education, family size, farm size, annual income, organizational participation, extension media contact and knowledge on BRRI dhan-28 / 29. Each of the research hypotheses was converted into null form for the purpose of statistical test. A null hypothesis states that there is no relationship between the concerned variables. If a null hypothesis is rejected on the basis of a statistical test, it is assumed that there is a relationship between the concerned variables. The null hypothesis is "There is no relationship between effectiveness of result demonstration in adoption of BRRI dhan 28/29with each of the selected characteristics".

1.7 Definition of the Terms

In order to avoid confusion and misunderstanding, certain terms used throughout the study are defined as follows:

Age

Age of an individual farmer was defined as the period of time in years from his birth to the time of interview.

Eeducation

Education of an individual farmer was defined as the formal education received up to a certain level from an educational institute (e.g. school, college and university) at the time of interview.

Farm size

Farm size of a respondent refers to the area of farmland employable for raising crops and animal grazing. It includes the land holdings, which the farmers has got ownership upon and has the prospect of engaging in farm activities as and when he wishes.

Annual family income

Annual family income referred to the total annual earnings of all the family members of a respondent from agriculture, livestock, fisheries and other accessible sources (business, service, daily working etc) during last year

Organizational participation

Organizational participation of an individual refers to his association and participation in various organizations within a specific period of time with a view to serve the society voluntarily toward development.

Extension media contact

It refers to an individual's exposure to or contact with different communication media, source and personalities being used for dissemination of new technologies among the growers.

Knowledge on BRRI dhan 28 / 29

It is the extent of basic understanding of the growers in different aspects of BRRI dhan28/29 cultivation i.e. soil, seed, fertilizer, insects and diseases management etc. It includes the basic understanding the use of different agricultural inputs and practices.

Variable

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

Result demonstration

Result demonstration is a method of teaching which establishes proof that an improved practice advocated by extension worker is applicable locally. It is conducted in the farm or home of selected individuals.

Effectiveness

Effectiveness means the usefulness or efficiency for the specific initiatives with viewing specific objectives. Effectiveness may be defined as the degree to which a group or social system achieves its goal. (Scharmerhorn et al. 1988). Effectiveness may be defined as the degree to usefulness of socio-economic development program emphasizing on agricultural activities.

CHAPTER-II

REVIEW OF RELATED LITERATURE

Attempts have been made in this chapter to review that finding of past researches having relevance to the present study. But unfortunately, very few studies have been obtained which were directly related to demonstration in general or which explain the factors that influence the effectiveness of result demonstration in particular. However, many studies could be found on adoption and diffusion research, the result of which were indirectly related to the present study, and also which focuses general behaviour pattern of the farmers and their overall effectiveness. As eight characteristics of the farmers were studied in the present study, review of research findings have been first presented in eight sub-sections of first section, each dealing with findings that mostly reflect situations commonly encountered in diffusion research. Secondly, certain fundamental and general observations on demonstration are presented in another section to introduce some of the issues explaining the effectiveness of result demonstration and the inherent causes for its success and failure. At last conceptual model of the study is presented in the last section of the study.

2.1.1 Age

Beal and Sibley (1967) in their combined study on the adoption of agricultural technology by the Indians of Guatemala found significant and negative relationship between the age score and the farm practices adoption score.

Islam (1998) indicated that there was no significant relationship between age of farmers and effectiveness of result demonstration in disseminating agricultural technology

Islam (1996) conducted a study on farmers use of indigenous technical knowledge (ITK) in the context of sustainable agricultural development. He found that age of the farmers had significant negative relationship with their extent or use of ITK.

Paul (1989) in his study found that the effectiveness of result demonstration was significantly related with age of the farmers. This mean that older farmers viewed result demonstration to be more effective than younger farmers. This was probably because the extension personnel were found to be based in selecting demonstration comparatively older farmers. So, reasonably older farmers viewed result demonstration more effectivess for them.

Shamsuzzoha (1967) conducted a study to determine the influences of result demonstration on the adoption of improved practices in six countrys area in Texas. The study indicated a trend that the younger farmers (20 to 39 years) were more likely to adopt demonstrated practices than older farmers (60 year and over). But the variations in the extent of use of the demonstrated practices among the different age groups were not statistically significant.

Sardar (2002) found that the age of the farmers had positive significant negative. correlation with their adoption of IPM practices.

2.1.2 Education

Suryanaryana et. al. (1990) reported that there was a positive significant relationship between education level of the contact farmers and their effectiveness in influencing the adoption behavior of farmers.

Sardar (2002) found that the education of the farmers had significant positive relationship with their adoption of IPM practices.

Ullah (1995) found a positive and significant relationship between family education and group members effectiveness in respect of adoption of livestock and green revolution technology.

2.1.3 Farm size

Gogoi and Gogoi (1989) in their study observed that size of land holding of farmers had a significant relationship and positive effect on their adoption of plant protection practices.

Haque et. al. (1982) found a significant relationship between farm size of the farmers and effectiveness of agricultural activates.

Hossain (1983) found that size of the farm of transplanted Aman farmers in Bhabakhali union of Mymensingh district had a negative relationship with their adoption of HYV T-aman rice.

Hossain (1999) also found that farm size of the farmers had positive significant relationship with the adoption of agro-chemical.

Hussen (2001) found that the farm size had positive significant relation with their adoption of modern sugarcane cultivation practices.

Paul (1989) in his study found positive relationship between farm size of the farmer and effectiveness of Result demonstration.

2.1.4 Annual family income

Hossain (1999) found a positive significant relationship between family income and effectiveness of agricultural activates.

Hossen (2001) found that the annual income had positive significant relationship with their adoption of modern sugarcane cultivation practices.

Paul (1989) observed that there was a positive relationship between the income of the farmers and their opinion on the effectiveness of result demonstration. This means that the more the income of the farmers, the more was the effectiveness for result demonstration.

Rahman (2001) conducted a study on knowledge, attitude and adoption of the farmers regarding Aolok 6201 hybrid rice in Sadar upazila of Mymensingh district. He found that annual income of the farmers had a significant and positive relationship with their adoption of Aalok 6201 hybrid rice.

Sarker (1997) found that family income of potato growers had a significant positive relations with their adoption of improved potato cultivation practices.

2.1.5 Organizational Participation

Mortuza et. al (1998) reveled that there was a positive significant relationship between the participation in group activities and their effectiveness of KSS.

Kumar et. al (1991) found that there was a significant relationship between effectiveness and social participation of farmers.

Paul (1989) concluded that organization participation did no show any significant relationship with the effectiveness of result demonstration although it showed a positives trend. it implies that participation in organization activates and effectiveness of result demonstration and independent to each other.

2.1.6 Extension media contact

Paul (1989) revealed that there was a positively significant relationship between the extension contact of the farmers and their opnion of the effectiveness of result demonstration. It means that more the extension Contact of farmers, the more the effectiveness for result demonstration.

Suryanarayana et. al. (1990) observed that extension media contact had a positive significant relationship with the effectiveness of contact farmers in influencing adoption behavior of other farmers.

Aurangozeb (2002) observed that there was significant relationship between contact with extension media and adoption of integrated homestead fanning technologies.

Sardar (2002) concluded that the extension contact had positively signiticant relationship with their adoption of IPM practices.

Hoque (2003) concluded that extension contact of the fanners had significant positive relationship with their adoption of modern maize cultivation technologies.

2.1.7 Knowledge on BRRI dhan 28/29

Paul (1989) Concluded that there was a positive significant relationship between agricultural knowledge of the farmers and their opinion about effectiveness of result demonstrations. This mean that the more the agricultural knowledge of the farmers increase the more is the favorable opinion about effectiveness of result demonstration.

Shamsuzzoha (1967) conducted a study to determine the influence of result demonstration on the adoption of improve practices in six country area in texes. He found that agricultural knowledge of farmers had significant relationship with the extent of use of the demonstration practices among the farmers.

Reddy *et al.* (1987) found that the significant association between knowledge and use of improved package of practices in paddy production by participant and no participant farmers.

Sardar (2002) studied, adoption of IPM practices by the farmers under PETRRA Project of BDRS. He found that agricultural knowledge had positive significant relationship with their adoption of IPM practices.

Hoque (2003) concluded that extension contact of the farmers had a significant positive relationship with the adoption of modern maize cultivation technologies.

2.2 Review of literature dealing with effectiveness of result demonastration

Hossain and Akanda (1987) cited the findings of a study conducted in India on farmers credibility ranking of different information sources. Based on the findings of the study, it was reported that demonstration ranked first. It was followed by

scientists, block extension agency, progressive farmer, television, radio, folders / leaflets / bulleting and newspapers.

Van Den Ban and Hawkins (1988) in their book "Agricultural Extension" made some valuable comments on the characteristics and importance of demonstrations and the inherent causes for their success and failure. Their observations were as follows:

> "Farmers will often accept that the experience on the demonstration farm are valid for their conditions and the demonstration farm are valid for their conditions and the demonstration farms and farmers are similar to their own situation. Result demonstration are very important for making people aware of innovations in countries. Demonstrations must show clear differences between traditional and recommended practices, and they must be well managed. Demonstration plots should be kept simple, preferably comparing only the traditional with the improved method on a good sized field. Selection of the farms where a demonstration is to be given can have considerable impact on the effectiveness of demonstration".

Dr. Seaman Knapp an American Professor in 1902 observed that cotton field was due to insect infestation by cotton weevil. He successfully controlled this insect by using insecticides with the help of local and central government of through result demonstration.(Bhuiyan, 1988)

A report prepared by the Missouri Extension Service (1945) gives a very satisfactory review of the result demonstrations. Since the investment in time and work is heavy it is used only when necessary to introduce new practices. The report is quoted, with modifications, as a guide for the use of this method.

A result demonstration is a method of teaching designed to show by example the practical application of an established fact or group of related facts.

It is used to prove the practical application of basic facts to farm and home problems and is in no experimental except possibly in the mind of the detonators with this method the extension worker can utilize the results secured from the adoption of a

farm or home practice or a combination of practices to prove by comparison the value of the new method.

Islam (1964) conducted a research to determine the extent to which teaching methods were used by the country agents. he found that the percentage of agents reporting the use of different teaching methods were 97, method demonstration; 94, result demonstration; 79, field days or tours; 44, farms unit demonstration; 94, news stories; 56, radio talks; 98 television; 97, farm and home visits 76, short courses; 94, leader training meeting; 85, exhibits; 97, circular letters; 97, individual contact; and 97, telephone calls.

Karim (1969) found that his respondents mentioned more than one information sources for learning about improved rice forming. He ound that 97 percent of the entire study group mentioned friends and neighbors as information source, while 26 percent named result demonstration, field tour, method demonstration, meeting and short course training as the source of farm information.

2.3 Conceptual Framework of the Study

The hypothesis of a research while constructed properly contains at least two important elements i.e. a dependent variable and 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).Here, effectiveness of result demonstation in adoption of BRRI dhan 28/29 has been seleceed as dependent variable and Age, Education, Family size, Farm size, Annual family income, Organizational participation, extension media contact and knowledge on BRRIdhan 28/29 is independent variable. Dr Seaman knap, father of result demonstration successfully controlled cotton weevil through result demonstration by using insecticide. The users of insecticide through result demonstration must have influenced by their personal character which are called independent variable. In view about discussion and prime findings of review of literature, the researcher constructed a conceptual framework of the study which is self explanatory and is presented in Fig. 2.1

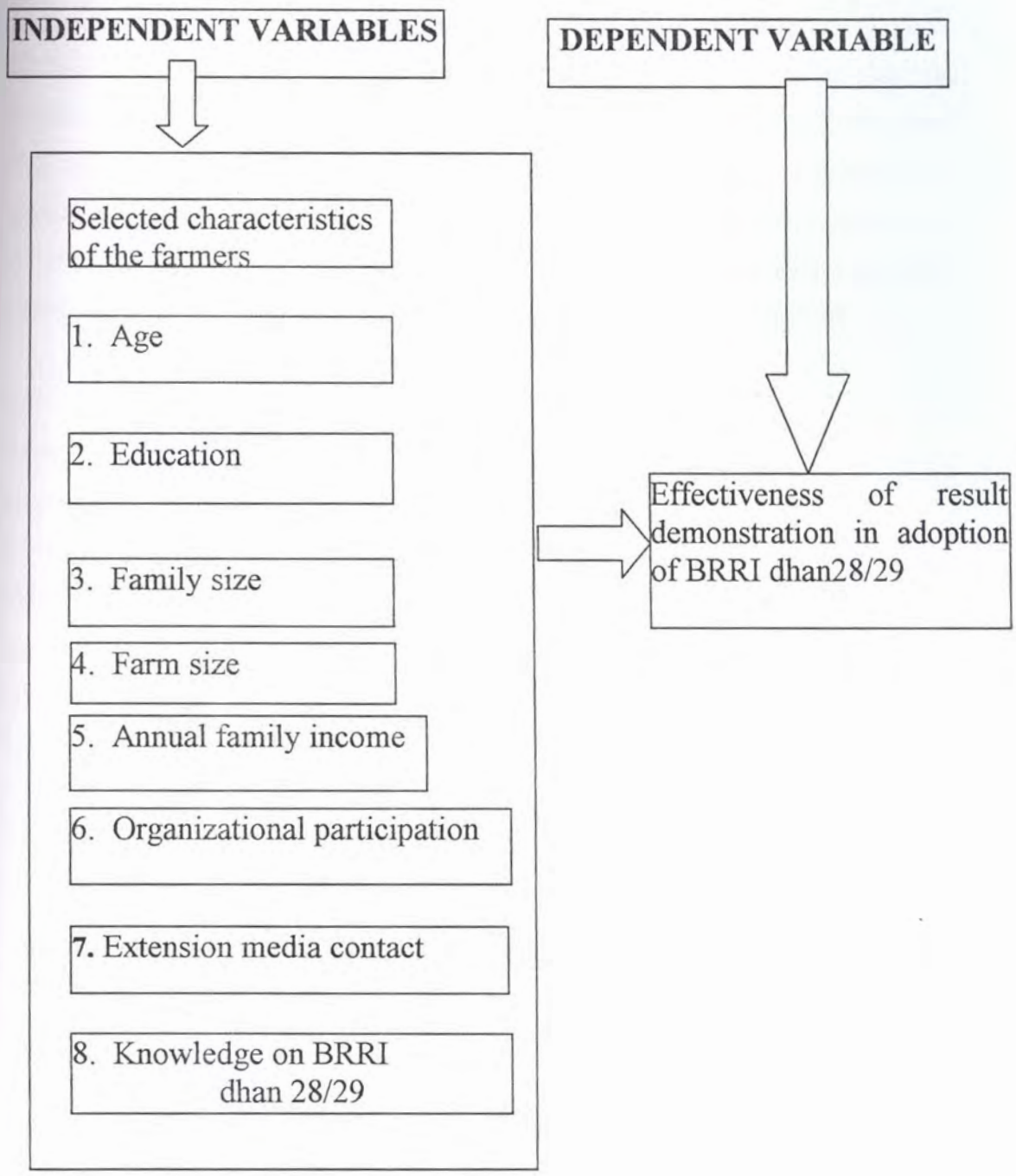


Fig. 2.1 Conceptual Framework of the study

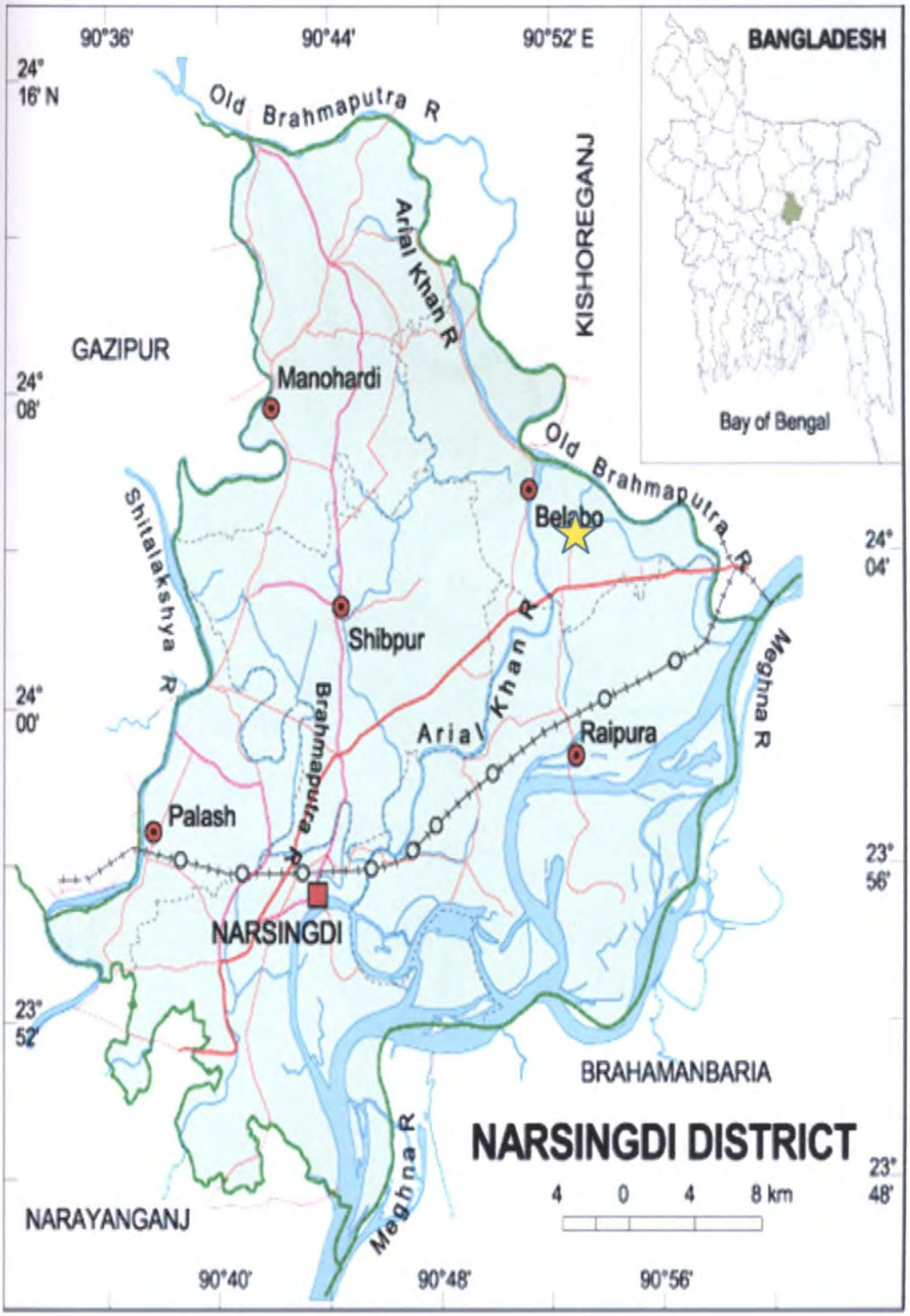
CHAPTER-III

METHODOLOGY

Methodological issues followed in conducting the study have been presented in this chapter. Those issues are the foundations on which the research process rests upon. The methods and operational procedures followed in conducting the study e.g. selection of study area, sampling procedure, instrumentation, operationalization of variables, collection of data, measurement of the variables and statistical treatments. This chapter spells out the methods used and presented in sequential manner.

3.1 Locale and Population of Study

Baznabo Union of Belabo Upazila of Narshingdi district was selected purposely as the locale of the study. There are six (6) villages in this union. Three villages namely Birbagber, Baznabo and Dakshindhuru were selected randomly. Farmers of this villages who observed result demonstration cultivating BRRI dhan 28 /29 varieties constituted the population of the study. The map of Narshindi district and Belabo upazilla have been shown in Fig 3.1 and Fig 3.2 respectively.



Study area ★

Fig 3.1.MAP of Narshingdi District showing Belabo Upzilla

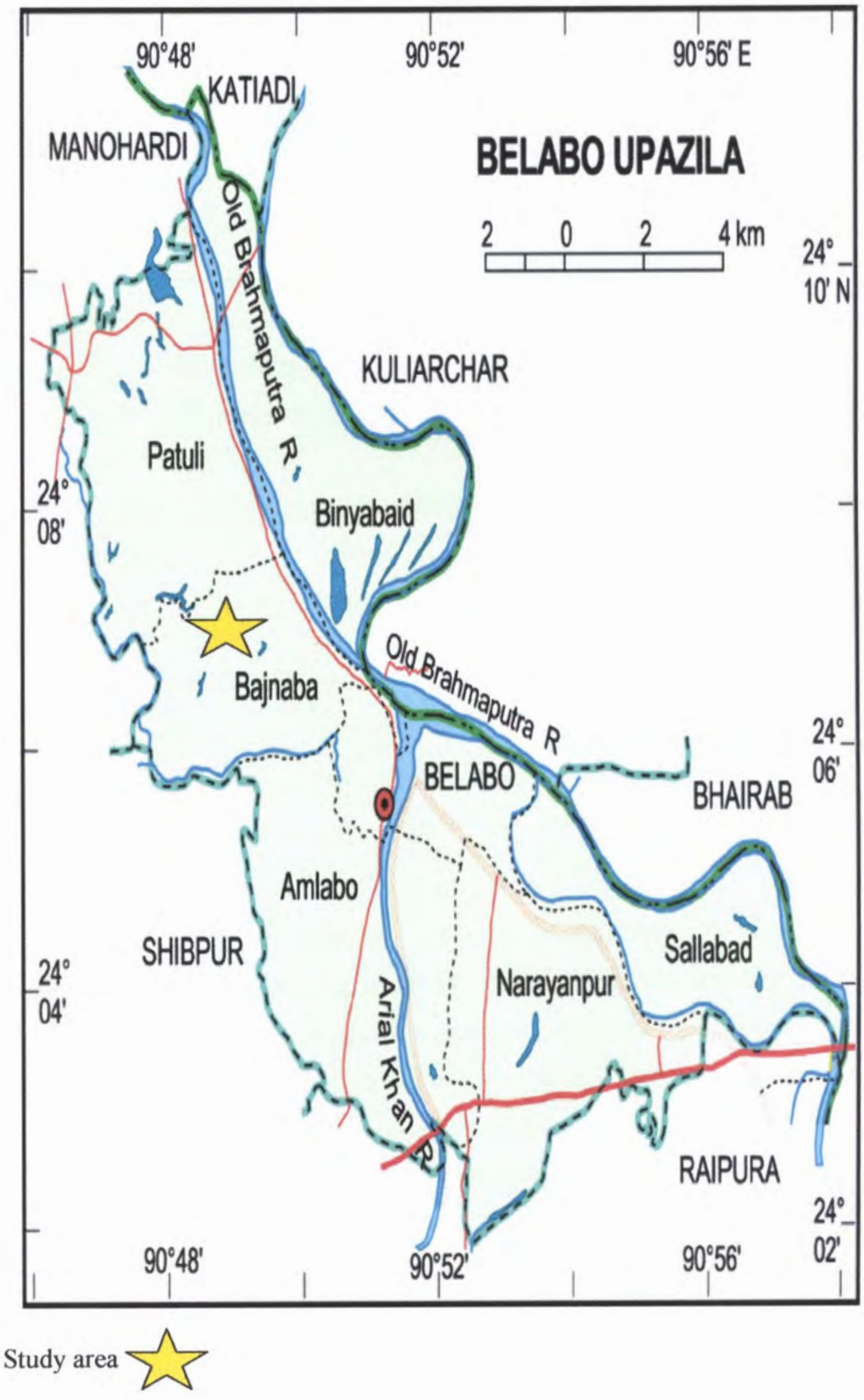


Fig 3.2.MAP of Belabo upzilla showing Baznabo union as the study area

3.2 Sampling Technique:

A list of farmers who observed/conducted result demonstration of BRRI dhan28/29 was prepared with the help of DAE personnel from the selected villages which constituted the population of the study. Eighty farmers from this population were selected randomly which constituted the sample of the study. Further eight farmers were selected randomly from the population except the sample included in the reserved list, which were interviewed when the farmers in the original sample list were not available at the time of interview. Village wise result demonstrator or observers and sample are reserve list are presented in the table 3.1

Table: 3.1 Population and sampling distribution

Name of villages	Total demonstrator/Observer	Sample size	Reserved list
Birbagber	45	36	4
Baznabo	30	24	2
Dakshindhuru	25	20	2
Total	100	80	8

3.3 Instrument for collection of data

An interview schedule was prepared for collection of data from the respondents keeping the objectives of the study in mind. The questions and statements contained in the schedule were simple, direct and easily understandable by the farmers. Simple and direct questions, different scales, closed and open form statements and questions were included in the interview schedule to obtain necessary information. Appropriate scales were also developed to operationalize the reasons to questions.

The draft interview schedule was pretested in actual field situation before finalizing it for collection of data. The pretest was helpful to identify inappropriate questions and statements in the draft schedule. Necessary addition, alternations and adjustments were made in the schedule on the basis of the experience of the pretest. The interview schedule was then cyclostyled in its final form for the collection of data.

3.4 Data Collection

Data were collected personally by the researcher himself. A rapport was established with the farmers so that they feel easy to answer the question. The interviews were made individually in the houses of respondents. Whenever a respondent faced difficulty in understanding any question, care was taken to explain the same clearly with a view to enabling him to answer it properly.

Before going to the respondent's home for interviewing they were informed verbally to ensure their availability at home as per schedule date and time. If any respondent failed to understand any question, the researcher took great care to explain the issue. Data were collected during 15 Oct. to 5 December, 2006.

3.5 Data Processing

To facilitate tabulation, the collected data were properly coded and transferred from interview schedule to a master sheet. Qualitative data were converted into quantitative forms by means of suitable scoring method whenever necessary. Tabulation and cross tabulation was done on the basis of categorization developed by the researcher.

3.6 Variables of the Study and their Measurement

In a descriptive social research, selection and measurement of the variable is an important task. A variable is any characteristic which can assume varying or different values is successive individual cases (Ezekiel and Fox, 1959). An organized research usually contains at least two identical elements i.e. Independent and dependent variable.

An independent variable is that factor which is manipulated by the researcher in his attempt to ascertain its relationship to an observed phenomenon. A dependent variable varies as the experimenter introduces, removes or varies the independent variables (Townsend, 1953). According to the relevant research area, the researcher selected 8 (eight) characteristics of rice farmers as the independent variables (e.g. age, education, family size, farm size, annual family income, organizational participation,

extension media contact, knowledge on BRRI dhan28/29 and effectiveness of result demonstration in adoption of BRRI dhan28 / 29 was the only dependent variable.

3.6.1 Measurement of independent variables

The independent variables of the study were age, education, family size, farm size, annual family income, extension media contact, organizational participation, and knowledge on BRRI dhan28/29. Procedure for measuring independent variables has been discussed as follows.

3.6.1.1 Age

Age of the respondents was measured in terms of actual years from their birth to the time of interview. A score of one (1) was assigned for each year of one's age. This variable appears in item no 1 in the interview schedule as presented in *Appendix-I.*

6.1.2 Education

Education of a respondent was measured on the basis of classes he had passed form formal educational institution. For example, if a respondent passed class VII, his education score was 7. If a respondent did not know how to read and write, his education score was taken as (0). A score of 0.5 was also given to that respondent who could sign his name only. This variable appears in the question no. 2 in the interview schedule as presented in *Appendix* -1.

3.6.1.3 Family size

Family size of a respondent was measured by computing a 'family size score' on the basis of total number of members in his family including himself, his wife, children, brothers and sisters, parents and any other person living and eating together and being dependent fully or partially on his income. The total number of family members was considered as his family size score.

3.6.1.4 Farm size

The farm size of a respondent referred to the total area of land in hectare on which his family carried out farming operations, the area being estimated in terms of full benefit

to his family and expressed. It was measured by using the following formula:

$$FS = A_1 + A_2 + A_3 + 1/2\ (A_4 + A_5)$$

Where,

FS = Farm size

A_1 = Homestead area including garden and pond

A_2 = Own land under own cultivation

A_3 = Cultivated area taken from others on lease

A_4 = Area given by a respondent to others on borga system

A_5 = Area taken by a respondent from other on borga system.

The total area, thus, obtained is considered as his farm size score (assigning a score of 1 for each hectare of land). This variable appears in the question no. 4 in interview schedule as presented in *Appendix-I.*

3.6.1.5 Annual family income

Annual family income of a respondent was measured in thousand taka on the basis of his total yearly earning from different sources (e.g. agricultural and non-agricultural) in last year. A score of one (1) was assigned for each thousand taka. This variable appears in the question no. 5 in the interview schedule as presented in *Appendix* -1.

3.6.1.6 Organizational participation

Organizational participation score of a respondent was measured by his nature and duration of participation in 7 selected organizations. Organizational participations of a respondents with a particular organization was measured by the following formula:

$OP = D \times N$

Where,

OP = Organizational Participation

D = Duration (year)

N = Nature of participation

Score for Nature of participation were assigned as follows

Nature of participation	Score
No participation	0
As ordinary member	1
As executive member	2
As executive officer	3

Finally organizational participation score of respondent was measured by summing up all the scores of his participation with all the 7 selected organizations.

3.6.1. 7 Extension media contact

Extension media contact of a respondent was measured by computing extension media contact score on the basis of their nature of contact with 15 extension media by taking six individual, four group and five mass media. Each respondent was asked to indicate his nature of contact with four alternative responses, like frequently occasionally, rarely and not at all basis to each of the 15 media and scores of 3,2,1and 0 were assigned for those alternative responses respectively. Logical frequencies were assigned for each of the four alternative nature of contact as follows:

Sl. No.	Communication	Nature or Frequency of Contact			
		3, Frequently	2, Occasionally	1, Rarely	o, Not at all
a.	**Interpersonal communication**				
1.	Upazilla Agril. Officer/ Agril. Extension officer	At least 1 time/month	At least 1 time/ two month	1-4 time/year	0 time/ year
2.	Sub assistant Agril. Officer/ Block Super VIsor	4 or more times/ month	1- 3 times/ month	3 times / year	
3.	Upazilla Fisheries/ Livestock officer	At least 1 time/ month	At least 1 time/ two month	1-5 times/ year	
4.	NGO Worker	4 or more time/ month	1- 3 times/ month	At least 1 time/ year	
5.	Fertilizer, Seed and Pesticide dealer	4 or more times/ month	1-3 times/ month	3 times / year	
6.	Neighbours	5 or more times/week	3-4 times/week	1-2 times/ week	
b.	**Group contact**				
1.	Group discussion	3 or more time/ year	1-2 time/ year	1 time/ vear	
2.	Field day	3 or more time/ year	1-2 time/ year	1 time/ year	
3.	Result demonstration	2-3 time/ year	1 time/ year	1 time/ life	
4.	Farmers field school	4 or more time/ life	2-3 time/life	1 time/ life	
C	**Mass Contact**				
	Daily Newspaper	5 or more time/ week	3 -4 time/ week	1-2 time/week	
2.	Listening farm Radio talk	4- 7 days/ week	1-3 days/ week	1-3 days/ month	
3.	Watching Agricultural Program in Television	5 or more time/ month	3-4 times/ month	1-2 time/. month	
4.	Agricultural fair	1 time/ year	1 time/ 2 year	1 time/ 3 year	
5.	Reading Agricultural Magazine (Booklet/Leaflet)	5 or more time/ year	3-4 time/ year	1- 2 time / year	

Extension media contact of the respondent was measured by adding the scores of 15 selected extension media. Thus extension media contact score of a respondent could range from 0 to 45, where 0 indicated no extension media contact and 45 indicated highest level of extension media contact. This variable appears in the question no. 6 in the interviews schedule as presented in appendix-1

3.6.1.8 Knowledge on BRRI dhan28/ 29 cultivation

Knowledge BRRI dhan28/29 was measured by computing a 'knowledge score' based on 20 questions on BRRI dhan28/29 taking four questions from each of five different aspects of rice cultivation e.g., (i) seed variety and seedlings, (ii) planting time and spacing, (iii) fertilizer management, (iv) weeds, insects and diseases control, and (v) harvesting, threshing, drying and storing. The questions appear in item no. 8 of *Appendix 1*. Each of these questions carried a total score of 5. Full score was given to a respondent for each correct answer and 0 was assigned for wrong or no answer. However, a partial score was given to any partially correct answer to a question and it was judged by the interviewer. The knowledge on BRRI dhan28/29 scores of a respondent could range from '0 to 100' where, 0 indicated very low knowledge and 100 indicated very high knowledge on BRRI dhan-28 or 29 rice cultivation.

3.6.2 Measurement of dependent variable

Effectiveness of result demonstration in adoption of BRRI dhan 28/29 was the dependent variable of the study, which was measured on the basis of the difference of adoption of BRRI dhan28/29 before and after observing/conducting of result demonstrations. Adoption of before observing or conducting result demonstration was measured by following formula

$$\text{Before adoption} = \frac{E_b}{P_b} \times 100$$

Where,

E_b = Cultivated area of BRRI dhan28/29 before observing /conducting the result demonstration.

P_b = Potential area of BRRI dhan28/29 cultivation before observing/ conducting result the demonstration.

Similarly adoption after observing conduction result demonstration was measured by the following formula.

$$\text{After adoption} = \frac{E_a}{P_a} \times 100$$

E_a = Cultivated area of BRRI dhan28/29 after observing/conducting the result demonstration.

P_a = Potential area of BRRI dhan28/ 29 cultivation after observing / conducting the result demonstration.

Finally effectiveness of result demonstration on BRRI dhan-28 / 29 score was measured by the following formula :

ERD= After adoption – before adoption

Where,

ERD= Effectiveness of result demonstration

Thus effectiveness of result demonstration score of a despondent could ranged from 0-100,while 0 indicating no effectiveness and 100 indicating highly effectiveness of result demonstration in adoption of BRRI dhan 28/29.

3.7 Statistical Analysis

Data collected form the respondents were analyzed and interpreted in accordance with the objectives of the study. The analysis of data was performed using statistical treatment with SPSS (Statistical package for social science) computer package. Statistical measures as number, range, mean, standard deviation and rank order were used in describing the variables wherever applicable. In order to explore the relationship between the farmers effectiveness of resulted demonstration and their selected characteristics, Pearson's product Moment correlation Co-efficient (r) was used.

Throughout the study, five percent (0.05) level of significance was used as the basis for rejecting any null hypothesis. If the computed value of (r) was equal to or greater than the table value of (r) at the designated level of significance for the relevant

degrees of freedom, the null hypothesis was rejected and it was concluded that there was significant relationship between the concerned variable.

Whenever the computed value of (r) was found to be smaller than the Table value of (r) at the designated level of significance for the relevant degrees of freedom, the null hypothesis could not be rejected. Hence, it was concluded that there was no relationship between the concerned variables.

Paired 't' test was used to determine the difference in adoption of BRRI dhan28/ 29 by the farmers between before and after observing or conducting result demonstration.

CHAPTER- IV

FINDINGS AND DISCUSSION

The findings of the study and interpretation of the results have been presented in this Chapter. These are presented in three sections according to the objectives of the study. The first section deals with the selected characteristics of the farmers, while the second section deals with the effectiveness of result demonstration in adoption of BRRI dhan-28 or 29. The third section deals with relationship between the selected characteristics of the farmers and effectiveness of result demonstration.

4.1 Selected Characteristics of the Farmers

The purpose of this section is to gain understanding on eight characteristics of BRRI dhan-28 or 29 growers. The features of different characteristics of the respondents have been presented below:

4.1.1 Age

The respondents age ranged from 20-69 years with the mean of 48.63 and standered diviation of 11.148. Based on their age, the BRRI dhan-28 or 29 growers were classified into three categories as follows:

Categories	Year
Young	up to 35
Middle aged	36-55
old	above 55

Data presented in Table 4.1 indicates that about half (51.25 Percent) of the respondents were of middle aged and 17.5 and 31.25 percent of them were young and old respectively.

Table 4.1 Distribution of the respondents according to their age

Categories	Number of respondent	Percent	Mean	SD
Young (up to 35)	14	17.5		
Middle aged (36-55)	41	51.25	48.63	11.148
Old (>55)	25	31.25		
Total	80	100		

This result again indicated that majority (68.75 percent) of the BRRI dhan 28/29 growers were either young or middle aged. This lead to understanding that effectiveness of result demonstration would reflected more by the middle aged group in the present study. As large section(51.25%) of the respondent were found middle aged in the study area. So extension agencies should pay a clear attention to the middle aged farmers for more effectives of result demonstration.

4.3.2 Education

Educations of the respondents in the present study ranged from 0 to 11 with the mean 5.712 and standard deviation of 2.93. On the basis of educational scores, the respondents were classified into four categories as follows:

Categories	**Year of schooling**
No education	0
Can sign only	0.5
Primary level	1-5
Secondary level	6-10
Above secondary level	above 10

Data presented in Table 4.2 indicated that a majority (52.5 percent) of the respondents had of 'Secondary level of education' compared to 33.75 percent primary education, 12.5 percent no education and 1.25 percent 'above secondary education.'

Table 4.2 Distribution of the respondents according to their education

Category	Number of respondents	Percent	Mean	SD
No education (0)	6	7.5		
Can sign only(0.5)	4	5		
Primary (1-5)	27	33.75	5.712	2.934
secondary (6-10)	42	52.5		
Above secondary (>10)	1	1.25		
Total	80	100		

The finding indicates that highest proportions of BRRI dhan28/29 growers in the study area had secondary level of education. So it can be concluded that in the study area the education of the farmers was relatively higher compared to typical rural area in Bangladesh because of there are many educational institution in the study area and many educated people live in the study area. It is also near the side of the town and communication facilities is good.

4.1.3 Family size

The family size of the respondent ranged from 3 to 9 members. The mean and standard deviation were 6.05 and 1.566 respectively. On the basis of their family size, the farmers were classified into the following three categories

Categories	**No. of family members**
Small family	up to 4
Medium family	5-7
Large family	above 7

Data presented in Table 4.3 revealed that the highest proportion (67.5 percent) of the respondents had medium family size while 16.25 percent had small family and 16 percent had large family size.

Table 4.3 Distribution of the respondents according to their family size

Category	Number of respondents	Percent	Mean	SD
Small (up to 4)	13	16.25		
Medium (5-7)	54	67.5	6.05	1.566
Large (>7)	13	16		
Total	80	100		

Most of the BRRI dhan28/29 growers in the study area belonged to medium family size. The medium sized family generally receptive to new idea or technology to meet up family need.

4.3.4 Farm size

The farm size of the respondents varied from 0.12 to 3.02 hectares with the mean of 0.958 and standard deviation of 0.645.On the basis of farm size the farmers were classified as follows:

Categories	**farm size (hectare)**
marginal	up to mean-1sd i.e. upto 0.31
small	mean + 1sd i.e. 0.32 – 1.6
medium	> mean+1s i.e. > 1.6

Data presented in Table 4.4 revealed that the highest proportion (63.75 percent) of respondents possessed small farm while 18.75 prcent possessed marginal farm and 17.5 percent possessed medium farm.

Table 4.4 Distribution of the respondents according to their farm size

Category	Number of respondents	Percent	Mean	SD
Marginal (up to .31 ha)	15	18.75		
Small (0.32-1.6 ha)	51	63.75	0.958	0.645
Medium (>1.6 ha)	14	17.5		
Total	80	100		

The over whelming majority, (82.5 percent) of the respondents were the owners of marginal to small farms. As a result they cannot take any challenge of new agricultural technology. So Government extension agencies and NGO's should pay attention to take steps for Marginal and small farm holders on the priority basis for adoption of BRRI dhan 28/29.

4.1.5 Annual family income

Annual family income of the respondents ranged form 24.50 to 140.00 thousand taka with the mean of 56.246 and standard deviation of 26.604 Based on the annual family income scores, the farmers were classified into three categories as follows

Categories	**income ("000" Taka)**
Low	up to 30
Medium	30.01-83.00
High	Above 83

Data presented in Table 4.5 indicates that the highest proportion (81.25 percent) of respondents had medium annual family income, while 5 percent had low and 13.75percent had high annual family income.

Table 4.5 Distribution of the respondents according to their annual family income

Category	Number of respondents	Percent	Mean	SD
Low (up to 30.00)	4	5		
Medium (30.01-83.00)	65	81.25	56.246	26.604
High (>83.00)	11	13.75		
Total	80	100		

The finding indicated that majority (86.25 percent) of the respondent had low to medium annual family income. The income of the farmers of the study area is medium(81.25). This might be due t the fact that the farmers of the study area were not engaged in agriculture only. They earn from other sources such as services, business, etc. because the study area is near to the town and also a smooth high way connection facilities with the capital for higher income.

4.1.6 Organizational participation

Organizational participation score of the farmers ranged from 0 to 11 with the mean of 2.40 and standard deviation of 2.57. On the basis of organizational participation scores the respondents were classified into three categories as follows:

Categories	Score
Low	up to 1
Medium	2-4
High	above 4

Data presented in Table 4.6 indicated that the majority (47.5 percent) of respondents had low organizational while 37.5 percent had medium participation and 15 percent had high organizational participation.

Table 4.6 Distribution of the respondents according to their organizational participation

Category	Number of respondents	Percent	Mean	SD
Low (up to 1)	38	47.5		
Medium (2-4)	30	37.5	2.40	2.57
High (> 4)	12	15		
Total	80	100		

Statuses of the organizational participation of the respondents in the study area were quite low. Organizational participation broadens the outlook of an individual and create favorable attitude towards new innovations.

4.1.7 Extension media contact

The computed extension media contact scores of the farmers ranged from 10 to 30 against the possible range of 0-45 with the mean of 20.31 and standard deviation of 4.283. On the basis of their extension media contact scores, the respondents were classified into three categories as follows:

Categories	Score
Low	Mean-1sd, i.e. up to 16
Medium	Mean +1sd, i.e. 17-24
High	>Mean+1sd, i.e. above 24

Data presented in Table 4.7 indicates that the majority (62.5percent) of the respondents had medium extension contact while 20 percent had high extension contact and 17.5 percent had low extension contact.

Table 4.7 Distribution of the respondents according to their extension media contact

Category	Number of respondents	Percent	Mean	SD
Low (up to 16)	14	17.5		
Medium (17-24)	50	62.5	20.31	4.283
High (>24)	16	20		
Total	80	100		

Thus about 82.5 percent of the respondent had medium to high Extension media contact in the study area. It cold be concluded that extension agent or media of the study area were available to the respondents.So,the respondents gained knowledge on BRRI dhan 28/29 cultivation by their innovative experience and extension agencies.

4.1.8 Knowledge on BRRI dhan 28/29

Observed knowledge on BRRI dhan 28/29 scores of the respondents ranged from 35 to 70 against the possible ranged 0-100 with the mean of 54.95 and standard deviation of 6.86.On the basis of knowledge, the respondents were classified into the following three categories as follows:

Categories	**Score**
Low	Mean -1sd i.e. unto 48
Medium	Mean+1sd,i.e. 49-61
High	>Mean+1sd i.e. above 61

Data presented in Table 4.8 indicated that the majority (65 percent) of respondents had medium knowledge, while 21.25 percent low knowledge on BRRI dhan 28/29 and 13.75 percent had high knowledge on BRRI dhan 28/29.

Table4.8 Distribution of the respondents according to their knowledge on BRRI dhan 28/29.

Category	Number of respondents	Percent	Mean	SD
Low (up to 48)	17	21.25		
Medium (49-61)	52	65	54.95	6.86
High (>61)	11	13.75		
Total	80	100		

This majority (86.25 percent) of the BRRI dhan-28 or 29 growers had low to medium knowledge on BRRI dhan 28/29 in the study area. Knowledge helps a man to adopts new agricultural technology. It promote the effectiveness of result demonstration and create credibility among the farmers about the technology.

4.2 Effectiveness of result demonstration in adoption of BRRI dhan 28/29

The effectiveness of result demonstration score ranged from 0 to 20. Based on their effectiveness score respondents were classified in to four categories as follows:

Categories	Score
No effective	0
Low	mean-1sd, i.e 0.01-3.3
Medium	mean + 1sd, i.e 3.31-12.94
High	>mean + 1sd, i.e above 12.95

Data presented in Table 4.9 indicated that the majority (65 percent) of respondents had opined that result demonstration had medium effectiveness while 12.5 percent opined low effectiveness and 17.5 percent opined high effectiveness. The mean and standard deviation were found 8.12 and 4.82 respectively.

Table 4.9 Distribution of the respondents according to their opinion on effectiveness of result demonstration

Category	Number of respondents	Percent	Mean	SD
No effective	4	5		
Low (0.01-3.3)	10	12.5		
Medium (3.31-12.94)	52	65	8.117	4.82
High (> 12.94)	14	17.5		
Total	80	100		

Thus vast majority (82.5 percent) of the respondent opined that result demonstration had medium to high effectiveness in adoption of BRRI dhan 28/29. Result Demonstration was more effective to understand and adoption of BRRI dhan 28/29 in study area. Because some characteristics of the respondents such as education, annual family income, extension media contact and knowledge on BRRI dhan 28/29 were found to be higher than any other area of Bangladesh. In addition, they had more knowledge in agriculture. They contact with various media and get more information about new rice varieties. As a result either they conducted result demonstration of BRRI dhan 28/29 or they observed the result of demonstration plot conduct by fellow farmers.

4.3 Relationships between the selected characteristics of the farmers and there effectiveness of result demonstration in adoption of BRRI dhan28/29

This section deals with the relationship of the 8 selected characteristics of the farmers and their effectiveness of result demonstration in adoption of BRRI dhan28/29. The selected characteristics constituted the independent variables and the dependent variable was the effectiveness of result demonstration. The purpose of this section was examining the relationships of each of the independent variables with dependent variable.

Co-efficient of correlation "r' between the selected characteristics of rice growers' and their effectiveness of result demonstration have been presented in Table 4.10.

However the interrelationships among the different variables have also been computed by using Pearson's Product Moment Co-efficient and presented as a correlation matrix in appendix-2

4.3.1 Relationship between age of the farmers and effectiveness of result demonstration in adoption of BRRI dhan28/29

The relationship between age of the farmers and effectiveness of result demonstration measured by testing the null hypothesis; "there was no relationship between age of the farmers and effectiveness of result demonstration. Following observations were made regarding the relationship between two variables under consideration.

a. The relationship showed a negative trend

b. The computed value of "r' (-.076) was found to be smaller than the tabulated value (r = 0.220) with 78 degrees of freedom at 0.05 level of probability. (Table 4.10)

Based on the above finding, the null hypothesis could not be rejected and hence, the researcher concluded that age of the respondents had no significant relationship with their effectiveness of result demonstration in adoption of BRRI dhan28/29. This implies that age and effectiveness of result demonstration were independent to each other.

Table:4.10 Correlation co-efficient between the selected characteristics of the farmers and effectiveness of result demonstration in adoption of BRRI dhan28 / 29

Dependent variable	Independent variable	Computed value of 'r'	Table value of 'r' at 78 degree of freedom (80-2=78)	
			0.05 level	0.01level
Effectiveness of result demonstration in adoption of BRRI dhan28/29.	Age	-0.076 NS	0.220	0.286
	Level of education	0.224*		
	Family Size	0.167NS		
	Farm size	0.233*		
	Annual family income	0.310**		
	Extension media contact	0.301**		
	Organizational Participation	0.116 NS		
	Knowledge on BRRI dhan 28/29	0.293**		

NS = Non significant

* = Significant at 5 percent (0.05) level

** = Significant at 1 percent (0.0 1) level

4.3.2 Relationship between education of the farmers and their effectiveness of result demonstration in adoption of BRRI dhan28/29

The relationship between education of the farmers and their effectiveness of result demonstration was measured by testing the null hypothesis, "There was no relationship between the education of the farmers and effectiveness of result demonstration." Following observations was made regarding the relationship between these two variables under consideration.

a. The relationship showed a positive trend.

b. The computed value of 'r' (0.224) was found to be greater than the tabulated value (r = 0.220) with 78 degrees of freedom at 0.05 level of probability. (Table-4.10).

Based on the above finding the null hypothesis was rejected and hence the researcher concluded that education of the respondents had positive significant relationship with their effectiveness of result demonstration in adoption of BRRI dhan28/29. This means that more the education of the farmers the more was their effectiveness for result demonstration.

4.3.3 Relationship between family size of the farmers and their effectiveness of result demonstration in adoption of BRRI dhan28/29

The relationship between family size of the farmers and effectiveness of result demonstration in adoption of BRRI dhan28/29 was measured by testing the null hypothesis. "There was no relationship between family size of the farmers and their effectiveness of result demonstration." Following observations were made regarding the relationship between two variables under consideration.

a. The relationship showed a positive trend

b. The computed value of 'r' (0.167) was found to be smaller than the tabulated value ('r' = 0.220) with 78 degrees of freedom at 0.05 level of probability. (Table 4.10)

Based on the above finding, the null hypothesis could not be rejected and hence, the researcher concluded that family size of the respondents had no significant relationship with their effectiveness of result demonstration in adoption of BRRI dhan28 /29.

4.3.4 Relationship between farm size of the farmers and effectiveness of result demonstration in adoption of BRRI dhan28/29

The relationship between farm size of the farmers and effectiveness of result demonstration was measured by testing the null Hypothesis, "There is no relationship between the farm size of the farmers and their effectiveness of result demonstration." Following observations was made regarding the relationship between these two variables under consideration

a. The relationship showed a positive trend.
b. The computed value of 'r' (0.233) was found to be greater than the tabulated value ('r' = 0.220) with 78 degrees of freedom at 0.05 level of probability. (Table: 4.10)

Based on the above finding the null hypothesis was rejected and hence the researcher concluded that ,farm size of the respondents had positive significant relationship with effectiveness of result demonstration in adoption of BRRI dhan28/29. This means that lager the farm size of the farmers, the more was the effectiveness of result demonstration.

4.3.5 Relationship between annual family income of the farmers and effectiveness of result demonstration in adoption of BRRI dhan 28/ 29

The relationship between annual family income of the farmers and effectiveness of result demonstration was measured by testing the null hypothesis, "There is no relationship between the annual family income or the farmers and their effectiveness of result demonstration." Following observations was made regarding the relationship between these two variables under consideration.

a. The relationship showed a positive trend.

Based on the above finding, the null hypothesis could not be rejected and hence, the researcher concluded that family size of the respondents had no significant relationship with their effectiveness of result demonstration in adoption of BRRI dhan28 /29.

4.3.4 Relationship between farm size of the farmers and effectiveness of result demonstration in adoption of BRRI dhan28/29

The relationship between farm size of the farmers and effectiveness of result demonstration was measured by testing the null Hypothesis, "There is no relationship between the farm size of the farmers and their effectiveness of result demonstration." Following observations was made regarding the relationship between these two variables under consideration

a. The relationship showed a positive trend.
b. The computed value of 'r' (0.233) was found to be greater than the tabulated value ('r' = 0.220) with 78 degrees of freedom at 0.05 level of probability. (Table: 4.10)

Based on the above finding the null hypothesis was rejected and hence the researcher concluded that ,farm size of the respondents had positive significant relationship with effectiveness of result demonstration in adoption of BRRI dhan28/29. This means that lager the farm size of the farmers, the more was the effectiveness of result demonstration.

4.3.5 Relationship between annual family income of the farmers and effectiveness of result demonstration in adoption of BRRI dhan 28/ 29

The relationship between annual family income of the farmers and effectiveness of result demonstration was measured by testing the null hypothesis, "There is no relationship between the annual family income or the farmers and their effectiveness of result demonstration." Following observations was made regarding the relationship between these two variables under consideration.

a. The relationship showed a positive trend.

result demonstration." Following observations were made regarding the relationship between these two variables under consideration.

a. The relationship showed a positive trend.

b. The computed value of ('r' = 0.301) was found to be greater than the tabulated value ('r' = 0.286) with 78 degrees of freedom at 0.01 level of probability. (Table: 4.10)

Based on the above finding the null hypothesis was rejected and hence the researcher concluded that extension media contact of the respondents had positive significant relationship with effectiveness of result demonstration in adoption of BRRI dhan28 /29. This means that more the media contact of the farmers, the more was the effectiveness for result demonstration.

4.3.8 Relationship between Knowledge on BRRI dhan 28/29 of the farmers and effectiveness of result demonstration in adoption of BRRI dhan28/29

The relationship between Knowledge on BRRI dhan 28/29 of the farmers and effectiveness of result demonstration was measured by testing the null hypothesis; "There was no relationship between Knowledge on BRRI dhan 28/29 of the farmers and their effectiveness of result demonstration." Following observations were made regarding the relationship between two variables under consideration.

a. The relationship showed a positive trend

b. The computed value of ('r' 0.293) was found to be greater than the tabulated value ('r' = 0.286) with 78 degrees of freedom at 0.01 level of probability. (Table 4.10)

Based on the above finding, the null hypothesis was rejected and hence, the researcher concluded that Knowledge on BRRI dhan 28/29 of the respondents had positive significant relationship with effectiveness of result demonstration in adoption of BRRI dhan28 / 29.This means that more the knowledge of farmer, the more was the effectiveness of result demonstration.

result demonstration." Following observations were made regarding the relationship between these two variables under consideration.

a. The relationship showed a positive trend.

b. The computed value of ('r' = 0.301) was found to be greater than the tabulated value ('r' = 0.286) with 78 degrees of freedom at 0.01 level of probability. (Table: 4.10)

Based on the above finding the null hypothesis was rejected and hence the researcher concluded that extension media contact of the respondents had positive significant relationship with effectiveness of result demonstration in adoption of BRRI dhan28 /29. This means that more the media contact of the farmers, the more was the effectiveness for result demonstration.

4.3.8 Relationship between Knowledge on BRRI dhan 28/29 of the farmers and effectiveness of result demonstration in adoption of BRRI dhan28/29

The relationship between Knowledge on BRRI dhan 28/29 of the farmers and effectiveness of result demonstration was measured by testing the null hypothesis; "There was no relationship between Knowledge on BRRI dhan 28/29 of the farmers and their effectiveness of result demonstration." Following observations were made regarding the relationship between two variables under consideration.

a. The relationship showed a positive trend

b. The computed value of ('r' 0.293) was found to be greater than the tabulated value ('r' = 0.286) with 78 degrees of freedom at 0.01 level of probability. (Table 4.10)

Based on the above finding, the null hypothesis was rejected and hence, the researcher concluded that Knowledge on BRRI dhan 28/29 of the respondents had positive significant relationship with effectiveness of result demonstration in adoption of BRRI dhan28 / 29.This means that more the knowledge of farmer, the more was the effectiveness of result demonstration.

4.4 Change in adoptions of BRRI dhan-28/29 after observing /conducting result demonstration

For determining the difference in the adoption of BRRI dhan28/29 between before and after observing /conducting result demonstration. Paired 't' test was used. Change of adoption was measured in terms of adoption of BRRI dhan28 /29 between before and after observing / conducting result demonstration. The 't' value was calculated by using the following formula

$$t = \frac{\sum D}{\sqrt{\frac{N\sum D^2 - (\sum D)^2}{N-1}}}$$

Where,

$\sum D$= Sum of difference in the change in adoption of BRRI dhan28 /29 between before and after observing /conducting result demonstration.

$\sum D^2$ = Sum of square of difference in the change in adoption of BRRI dhan28 /29 between before and after observing /conducting result demonstration.

$(\sum D)^2$ = Squared of the sum of different in the change of adoption of BRRI dhan-28 or 29 between before and after observing or conducting result demonstration.

N= Sample Size.

Hence, the value of 't' was shown in table No. 4.11

Table No. 4.11 Value of 't' in adoption of BRRI dhan28/29 between before and after observing or conducting the result demonstration by the farmers.

Number of the respondent	Mean of adoption before conducting/observingresult demonstration	Mean of adoption after observing/conducting result demonstration	T value
80	0.55239	0.63356	+15.063***

***= Highly significant at (0.001) level.

Result showed that the calculated 't' value was greater than the tabulated value of 't' at 0.001 level of probability with 79 degrees of freedom. Therefore, it may conclude that the difference of adoption BRRI dhan28 /29 between before and after observing /conducting result demonstration was highly significant. This implies that farmers had better opportunity to adopt modern BRRI dhan28 /29 after observing/conducting result demonstration. It has been observed that from the past experience that result demonstration proved to a all categories of farmers for adoption of new rice varieties. Through this method ,farmers get the the opportunity to observed the result of innovation in their own situation. Farmers have the opportunity to observed the different stages of development and learn from their own experience. As a result they adopt the new varieties easily

CHAPTER V

SUMMARY CONCLUSION AND RECOMMENDATIONS'

This Chapter deals with the summary, conclusion and recommendations of the study.

5.1 Summary :

5.1.1 General Background

Bangladesh is basically an agricultural country. The development of the country depends mostly upon the development of agriculture. The land of Bangladesh is fertile but the per hectare production of different crops is very low and the country is facing acute food problem every year almost on a regular basis.

Result demonstration method has shown spectacular results in disseminating agricultural information from the sources to the farmers field. Through this method farmers get the opportunity to observe the results of innovations. Moreover, farmers have the opportunity to observe the different stages of innovations in their own situations which may stimulate farmers to try out innovations themselves.

Result demonstration are very important for making people convinced about the attribution of innovations . But unfortunately, there have been practically no study in Bangladesh to verify empirically the effectiveness of result demonstration. Although, the importance and effectiveness of result demonstrations are popularly viewed, these are largely based on theoretic formulations rather than facts. To have an understanding of the importance of result demonstration from research point of view along with its theoretic framework this study was undertaken.

5.1.2 SPECIFIC OBJECTIVES OF THE STUDY

1. To determine the effectiveness of result demonstration in adoption of BRRI dhan 28/29.
2. To determine and describe some of the selected characteristics of BRRI dhan 28/29.

The characteristics are:

1) Age
2) Education
3) Farm Size
4) Family size
5) Annual family income.
6) Extension media contact
7) Organizational participation
8) Knowledge on BRRI dhan 28 / 29 cultivation

3.To explore relationship between the effectiveness of result demonstration in adoption of BRRI dhan 28 / 29 and selected characteristics of the farmers.

5.1.3 Methodology:

Farmers of Birbagber, Baznabo, and Dakshindhuru, villages under Belabo upazila were the population of this study. The total number of farm families of these selected villages were 100. About eighty farmers from this population were selected as a sample for the present study.

An interview schedule was developed for collection of data in accordance with the objectives of the study. Before finalization of the schedule, necessary corrections and modification were made on the basis of pre testing results. Data collection was made by personal interview method. Data were collected during 15 October to 5, December, 2006. Collected data was then analyzed interpreted in accordance with the objectives of the study. Statistical measures such as number and percentage distribution, range and average have been done to describe to the effectiveness of result demonstration method. In order to explore the relationship between the farmers opinion about the effectiveness of result demonstration and their selected characteristics, Pearson's product moment correlation co-efficient (r) was used to analyzed the study and paired't' test was also used to determine the difference in adoption by the farmers between before and after observing conducting result demonstration on BRRI dhan 28 / 29.

5.1.4 Result and Discussion:

The study was concerned with farmer's opinion regarding effectiveness of result demonstration. Findings in this respect are presented below.

5.1.4.1 Selected characteristics of the farmers.

Age

Age of the growers ranged from 20 to 69 years. The average being 48.63 years with a standard deviation of 11.148. The highest proportion (51.25 percent) of the farmers was middle aged, while 17.5 percent were young aged and 31.25 percent were old.

Level of Education

Level of education of the farmers ranged from 0 to 11 years of schooling. The average score being 5.712 and standard deviation was 2.934. The highest proportion (53 percent) of the farmers had secondary education compared to 34 percent having primary education.

Family size

Family size of the farmers ranged from 3 to 9 with average of 6.05 and standard deviation 1.566. The highest proportion (67.5 percent) of the respondents had medium sized family compared to 12.25 percent having small sized family and 16.25 percent having large family size.

Farm size

Farm size of the farmers ranged from 0.12 to 3.02 hectares with an average of 0.958 and the standard deviation was 0.645. The highest proportion (63.75 percent) of the respondents had small sized farm compared to 17.5 percent having medium sized farm and 18.75 percent having marginal farm.

Annual family income

Annual family income scores of the farmers ranged from 24.50 to 140.00 with an avenge of 56.246 and the standard deviation was 26.604. The highest proportion

(81.25 percent) of the farmers had medium income compared to 5 percent low income and 13.75 percent high income.

Organizational Participation:

Organizational Participation score of the farmers ranged from 0 to 11 against a possible ranged of 0 to 21 with average Organizational Participation score was found to be 2.40 with a standard deviation 2.57. The highest proportion (47.5 percent) of the farmers had low Organizational Participation compared to 37.5 percent having medium Organizational Participation and only, 15 percent having high Organizational Participation.

Extension media contact

The extension media contact scores of the farmers ranged from 10 to 30 with average extension media contact score was found to be 20.31 with a standard deviation of 4.283. The highest proportion (62.5 percent) of the respondents had medium extension media contact compared to 20 percent having high and only 17.5 percent low extension media contact.

Knowledge on BRRI dhan 28/29

Agricultural knowledge of the farmer's scores ranged from 35 to 70 with average of 54.95 and standard deviation 6.86. The highest proportion (65 percent) of farmers had medium agricultural knowledge compared to 21.25 percent low agricultural knowledge and 13.75 percent high agricultural knowledge.

5.1.4.2 Effectiveness of result demonstration in adoption of BRRI dhan 28 / 29

The effectiveness score ranged from 0.00 to 20. Based on their adoption scores, the respondents were classified into four categories: no effective (0.00) low effective (up to 0.01-3.3), medium effectives (3.31-12.95) and 'high effectives (above 12.95). Data indicates majority (65percent) of respondents had medium effectives while 12.5 had low effectives and 17.5 percent had high effectives.

5.1.4.3 Relationship of the selected characteristics of the farmers with effectiveness of result demonstration in adoption of BRRI dhan28/29

The effectiveness of result demonstration in adoption of boro rice was the dependent variables of the study. Eight selected characteristics of the rice growers were the independent variables of the study. The co-efficient of correlation analysis showed that level of education. Farm size, annual income, extension media contact and agricultural knowledge of the farmers had significant positive relationship with their effectiveness of result demonstration. The other characteristics such as age, family size, and organizational participation of the farmers showed no significant relationship with their effectiveness of result demonstration.

5.2 CONCLUSION

On the basis of the findings of the study the following conclusion are drawn:

1. Effectiveness of result demonstration was conceptualized on the basis of opinion of the farmers. An overwhelming proportion of the farmers in the study area (82.5 percent) opined that result demonstration was medium to high effective method for dissemination of agricultural information to the users. It played an important role in related aspects like transferring information for improved knowledge, developing skill and changing outlook. For transferring information for improved knowledge, it was considered more effective on the basis of this findings it could be concluded that result demonstration is unparallel in creating conviction among the farmers.
2. Most of the rice farmers were either middle aged or old aged, while age of the farmers had no significant relationship with effectiveness of result demonstration. Therefore, it may be concluded that special attention need not be given on any particular group. But as larger portion of the rice farmer were middle aged and old. Hence it may be necessary to give some importance to these categories.
3. Education of the farmers had the positive and significant relationship on the use of result demonstration which leads to the conclusion that in selection of demonstrator's level of literacy should be considered emphatically.
4. The highest proportion (67.5 percent) of the BRRI dhan28/ 29 growers had medium family size. Family size of the rice farmer had no significant relationship with effectiveness of result demonstration. It may therefore be concluded that for diffusion of modern rice in a larger areas, family size of the farmer is not an important factor, but it may be necessary to work with a large number of farmer having medium families.
5. Large proportion (63.75 percent) of the farmers had small size of farm where as 18.75 percent had marginal 17.5 percent had medium farm. There was significant and positive relationship of farm size of the farmers with

their adoption. Therefore, it may be concluded that marginal farm size is not helpful to the farmers to enhance their adoption, while farm size of the growers was an important factor for increasing the effectiveness of result demonstration.

6. The statistical test showed there was highly significant relationship between extension media contact of the farmers and their opinion about effectiveness of result demonstration. It is therefore conclude that a favorable opinion about the effectiveness of result demonstration can be developed and strengthened, if the farmers could be exposed, in a greater degree, to various extension media contact.

7. The value of 'r' test was found to be highly significant indicating strong positive relationship between agricultural knowledge of the farms and their opinion about effectiveness of result demonstration. This means that the more the agricultural knowledge of the farmers the more the favorable opinion about effectiveness of result demonstration. One may draw conclusion on the basis of this fact that the agricultural knowledge of the farmers plays an important role in the formation of favorable opinion of the farmers about the effectiveness of result demonstration.

8. The value of 't" test was found to be highly significant and positive relationship between before and after observing/conducting result demonstration. This means that after observing/conducting result demonstration, the respondents adopt the variety significantly. So, it could be concluded that result demonstration had more effective in the study area.

5.3 RECOMMENDATIONS

On the 'basis of the findings and conclusions following" recommendations were made.

1. The department of Agricultural Extension (DAE) needs more attention to ensure the use of result demonstration to show clear differences between traditional and recommended practices and as such create more confidence among the farmer about new innovations.
2. Comparative effectiveness of result demonstration over other extension methods was observed in different aspects like transfer of information, developing skill and changing outlook. For encouraging adoption of innovations, particularly in the trial and adoption stages result demonstration should be conducted to build confidence of the farmers. It can also show causes of problem and possible solutions with out complicated technical details.
3. Considering that the farmers are fairly distributed among different age groups result demonstration can provide opportunities to develop favorable opinion for all. However, more attention should be given to comparatively older farmers while conducting result demonstration.
4. There is an urgent need for an effective programme of adult education to improve the level of literacy of the farmers. This is required for developing necessary knowledge, skill and favorable attitude of the farmers in respect of improved practices.
5. Besides age, family size and organizational participation characteristics like education, farm size, income, extension media contact, and agricultural knowledge showed positive and significant relationship with effectiveness of result demonstration. Extension agents should select persons considering the aforesaid characteristics as far as possible while conducting demonstration in the farmers.
6. To form favorable attitude towards the adoption of BRRI dhan-28 or 29 varieties at farmer's level, trail of different result demonstration may be conducted for assessing practical field performance. in this connection

multi-location regional field trail can easily be conducted through regional stations of Bangladesh Rice Research institute (BBRI).

7. In the context of available results on the effectiveness of result demonstration, it is recommended that care should be taken to make every demonstration a success. Supply of fertilizers and other necessary inputs should be well organized. It should be remembered that failures in one result demonstration may lead to loss of faith in some subsequent innovations which may take a long time to overcome because of psychological resistance to demonstrations.

5.3.1 Recommendation for Further Study

1. The study was conducted at Belabo Upazilla of Narsingdi District. To test the validity of results, similar study should be conducted in other upazila in the country.
2. This study investigated the effects of eight characteristics of the farmers on their effectiveness of result demonstration. Therefore, it is recommended that further study should be conducted involving other variables in this regard.
3. On the basis of the characteristics pattern of Bangladesh and its farming population more researches should be conducted to investigate the comparative effectiveness of result demonstration and also for identifying factors influencing the effectiveness of result demonstration.
4. Similar study may also be replicated in future for studying any change of pattern regarding effectiveness of result demonstration among the same population of the present study areas.
5. In the present study age family size and organizational participation had no significant relationship with effectiveness of result demonstrations by the farmers. In these connection, further verification in necessary.

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APPENDIX-1

English Version of t he interview Schedule
Department of Agricultureal Extesnion Educaiton
Sher-e-Bangla Agricultural University
Dhaka-1207.

AN INTERVIEW SCHEDULE FOR THE STUDY "EFFECTIVENESS OF RESULT DEMONSTRATION IN ADOPTION OF BBRI DHAN-28 /29

Date: ..... Respondents No.....

Name of the respondent :

Village: Union :

Upazilla : District:

Please answer the following questions:

1. Age

How old are you?..... years.

2. Level of education

Please mention your level of education

a. Cannot read and write.....

b. Can Sign only.....

c. Studied up to .....Class/ passed

d. Did not go to school but can read and write which would be equivalent to class .....

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

4. Farm Size

Please mention the area of your land according to use.

Sl. No.	**Type of land use**	**Area of land**	
		In local unit	In Hectare
A	Homestead area including garden and pond		
B	Own land under own cultivation		
C	Land taken from others as borga		
D	Land given to other as borga		
E	Land taken from others on lease		
Total farm size = A+B+1/2(C+D)+E			

5. Annual income

Please mention your annual income in taka from each of the following sources for last one year.

Sl. No.	Source of income	Total income (in taka)
Agriculture		
1.	Crop	
	a.Rice	
	b. Wheat	
	c. Jute	
	d. Mustard	
	e. Pulse	
	f. Vegetables	
	g. Fruits	
	h. Others	
2.	Livestock	
	a. Cattle	
	b. Milk	
	c. Cow dung	
	d. *Poultry*	
	e. Chicken	
	f. Duck	
	g. Eggs	
	h. Others	
3.	Fishery	
N 0- Agriculture		
4.	Jdb	
5.	Business	
6.	Day labour/ Daily wage	
	Total annual income	

6. Extension media contact

Please mention your mature of contact with the following extension media

SI. No.	Communication	Nautre / Frequency of Contact			
		Frequently (3)	Occasionally(2)	Rarely (1)	Not at all (0)
a.	Interpersonal communication				
1.	Upazilla Agril. Officer/ Agril. Extension officer	At least 1 time/month	At least 1 time/ two month	1-4 time/year	0 time / year
2.	Sub assistant Agril. Officer/ Block Super VIsor	4 or more times/ month	1- 3 times/ month	3 times / year	0
3.	Upazilla Fisheries/ Livestock officer	At least 1 time/ month	At least 1 time/ two month	1-5 times! year	0
4.	NGO Worker	4 or more time/ month	1- 3 times/ month	At least 1 time/ year	0
5.	Fertilizer, Seed and Pesticide dealer	4 or more times/ month	1- 3 times/ month	3 times / year	0
6.	Neighbours	5 or more times/week	3-4 times/week	1-2 times/ week	0
b.	Group contact				
1.	Group discussion	3 or more time/ year	1-2 time/ year	1 time/ year	0
2.	Field day	3 or more time/ year	1-2 time/ year	1 time/ year	0
3.	Result demonstration	2-3 time/ year	1 time/ year	1 time/ life	0
4.	Farmers field school	4 or more time/ life	2-3 time/life	1 time/ life	0
c.	Mass Contact				
1.	Daily Newspaper	5 or more time/ week	3-4 time/ week	1-2 time/week	0
2.	Listening farm Radio talk	4-7 days/ week	1-3 days/ week	1-3 days/ month	0
3.	Watching Agricultural Program in Television	5 or more time/ month	3-4 times/ month	1-2 time/' month	0
4.	Agricultural fair	1 time/ year	1 time/ 2 year	1 time/ 3 year	0
5.	Reading Agricultural Magazine (Booklet/Leaflet)	5 or more time/ year	3 -4 time/ year	1- 2 time / year	0

7. Organizational Participation

Please indicate the nature and length of your past & present participation in the following organization.

Sl. No.	Name of Organization	Not involved	Nature of Involvement / Years		
			As ordinary member	As Executive member	A Executive officer
1.	Farmers Co-operative society				
2.	Village development committee				
3.	NGO'S Committee				
4.	School Committee				
5.	Mosque Committee				
6.	Madrashah Committee				
7.	Bazar Committee				
8.	Other				

8. Knowledge about modern Boro-rice Production technology

Please answer the following questions.

8.1 Seed, Variety and seedlings of Boro-rice (BRRI dhan-28,29)

Sl. No.	Question	Total Score	Obtained Score
1.	Name two HYV varieties of bora rice	5	
2.	What are the benefit of HYV variety of rice?	5	
3.	What do you mean by good seed?	5	
4.	How do you' rise good seedling?	5	

8.2 Planting time and spacing

Sl. No.	Question	Total Score	Obtained Score
1.	What is the suitable time for bora rice planting?	5	
2.	What is the appropriate spacing for bora rice cultivation?	5	
3.	How do you transplant boro rice seedling?	5	
4.	What are the advantages of line transplanting?	5	

8.3 Fertilizer management

Sl. No.	Question	Total Score	Obtained Score
1.	Name four fertilizer that are available in market.	5	
2.	Which fertilizer should be applied to remove Potassium (K) deficiency in the rice field?	5	
3.	What do you mean by balance fertilizer?	5	
4.	Name the dose of fertilizer application and when you apply in the rice field.	5	

8.4 Weeds, insects and disease control

Sl. No.	Question	Total Score	Obtained Score
5.	Name two harmful insects of boro rice.	5	
6.	Name two disease symptoms of boro rice.	5	
7.	What are the disadvantages of weed in rice field?	5	
8.	Which control measure should be used to prevent insect infestation and disease in rice cultivation?	5	

8.5 Harvesting, Threshing, Drying and storing

Sl. No.	Question	Total Score	Obtained Score
1.	Name two rice threshing and two seed preservative instruments.	5	
2.	How do you harvest rice?	5	
3.	What is the necessity of drying seeds before storing and how do you justify the moisture of seeds?	5	
4.	How do you prevent the damage of stored Seeds caused by insects?	5	

9) Did you observe/conduct result demonstration of BRRI Dhan-28/29 (Boro rice) Cultivation?

.....Yes.....No

10. Please mention your Boro Rice cultivation area before and after observing a result demonstration of Boro Rice.

	Before observed result demonstration				After observed result demonstration		
81. No.	Varieties	Total Rice Cultivable Area (P)	Total Rice Cultivated Area (E)	E/P	Total Rice Cultivable Area (P)	Total Rice Cultivated Area (E)	E/P
1.	BRRI dhan-28						
2.	BRRI dhan-29						
Total							

Thank you for-your kind co-operation in data collection.

Signature of the interviewer

Date:----------

APPENDIX-2

Correlation Matrix of the Dependent and Independent Variables.

Variables	V_1	V_2	V_3	V_4	V_5	V_6	V_7	V_8	V_9
V_1	1.00								
V_2	-.487**	1.00							
V_3	0.491**	-.121	1.00						
V_4	-.150	.226*	.032	1.00					
V_5	-.044	-.011	.140	.413**	1.00				
V_6	.078	-.022	.096	.279*	.281*	1.00			
V_7	.050	.071	.111	.494**	.419**	.204	1		
V_8	.192	-.072	.154	-.020	.213	.164	.101	1	
V_9	-.076	.224*	.167	.233*	.310**	.301**	.116	2.93**	1

* Correlation is signification at the 0.05 level

** Correlations is significant at the 0.01 level

Where,

V_1 = Age,

V_2 = Education

V_3 = Family Size

V_4 = Farm Size

V_5 = Annual Income

V_6 = Extension Media Contact

V_7 = Organizational Participation

V_8 = Knowledge About BRRI dhan-28 / 29 cultivation

V9 = Effectiveness of result Demonstration