

**PROBLEM CONFRONTATION OF THE FARMERS IN
TUBEROSE CULTIVATION OF JHIKARGACHA UPAZILA
UNDER JESSORE DISTRICT**

BY

MD. ANISUZZAMAN
REGISTRATION NO. 00929



A THESIS

*Submitted to
The Institute of Postgraduate Studies in Agriculture
in partial fulfillment of the requirement
of the degree of*

MASTER OF SCIENCE

IN

AGRICULTURAL EXTENSION AND INFORMATION SYSTEM

SEMESTER: JANUARY - JUNE, 2008

Approved by:

A handwritten signature in purple ink, appearing to read 'Shadat Ulla'.

Prof. Md. Shadat Ulla

Department of
Agricultural Extension and Information System
SAU, Dhaka
Supervisor

A handwritten signature in purple ink, appearing to read 'Ali'.

Dr. Md. Sekender Ali

(Associate Professor)
Department of
Agricultural Extension and Information System
SAU, Dhaka
Co-Supervisor

A handwritten signature in purple ink, appearing to read 'M. Zahidul Haque'.

Prof. M. Zahidul Haque
Chairman
Examination Committee



CERTIFICATE

This is to certify that the thesis entitled **“PROBLEM CONFRONTATION OF THE FARMERS IN TUBEROSE CULTIVATION OF JHIKARCHA UPAZILA UNDER JESSORE DISTRICT”** submitted to the Faculty of AGRICULTURE, Sher-e-Bangla Agricultural University, Dhaka, in partial fulfillment of the requirements for the degree of **MASTER OF SCIENCE in AGRICULTURAL EXTENSION**, embodies the result of a piece of bona fide research work carried out by **MD. ANISUZZAMAN, Registration No. 00929** under my supervision and guidance. No part of the thesis has been submitted for any other degree or diploma.

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

Dated:

Dhaka, Bangladesh

(Professor Md. Shadat Ulla)
Supervisor





*Dedicated to
My
Beloved Parents who laid the
foundation of my success*

ACKNOWLEDGEMENT

All praised and compliments belongs to the almighty Allah for helping the author to accomplish his research study successfully.

A special thanks of all of the farmers, who very kindly gave their valuable time in giving answers to the interview and providing necessary co-operation.

The author wishes to express his heartiest gratitude, sincere appreciation and immense indebtedness to his Supervisor prof. Md. Shadat Ulla, Department of Agricultural extension & Information system, Sher-e-Bangla Agricultural University, Dhaka, for his scholastic guidance, planning, valuable suggestions, continuous encouragements and all kinds of support and help throughout the period of research work and preparation of this manuscript of thesis.

The author extends his profound gratitude sincere appreciation and heartiest indebtedness to the Co-supervisor Associate Prof. Md. Sekender Ali, Department of Agricultural extension & Information system, Sher-e-Bangla Agricultural University, Dhaka, for his valuable advice and factful comments in upgrading the quality of the research work.

The author specially expresses his gratefulness to Prof. Mohammad Hossain Bhuiyan, Department of Agricultural extension & Information system, Sher-e-Bangla Agricultural University, Dhaka, for his cordial help inspiration constructive criticism and all sorts of assistance and guidance not only in research but also in other academic matter while undertaking courses as M.S. Student.

The author also expresses his cordial respect and sincere gratitude to all other benevolent teachers of the Department of Agricultural extension & Information

system, Sher-e-Bangla Agricultural University, Dhaka, for their creative suggestions and encouragement from the very beginning to the end of the study.

The Author is also thankful to Md. Mominur Rahman, Md. Emdadul Haque, Md. Abdul Kader, Md. Mizanur Rahman, Md. Shariful Islam, Md. Ashicul Islam & Mustak for their constant encouragement.

The author expresses his supreme gratitude to his parents, brothers and especially to Md. Shaficul Islam who always blessed him to achieve this cherished goal.

Last but not the least, extensive and cordial thanks to my friends for their good suggestion and technical help in completing the total manuscript of the thesis meticulously.

The Author

TABLE OF CONTENTS

ITEMS	PAGE
ACKNOWLEDGEMENT	i
TABLE OF CONTENTS	iii
LIST OF TABLES	viii
LIST OF FIGURES	x
LIST OF APPENDICES	xi
ABSTRACT	xii
CHAPTER 1 INTRODUCTION	1
1.1 General background	1
1.2 Statement of the problem	3
1.3 Objectives of the study	3
1.4 Scope of the study	4
1.5 Limitations of the study	5
1.6 Assumptions of the study	6
1.7 Definition of the terms	6
CHAPTER 2 REVIEW OF LITERATURE	9
2.1 Problem confrontation of the farmers in different agricultural aspect	9
2.2 Relationship between selected characteristics of the farmers and their problem confrontation	12
2.2.1 Age and problem confrontation	12
2.2.2 Education and problem confrontation	13
2.2.3 Family size and problem confrontation	14
2.2.4 Farm size and problem confrontation	15
2.2.5 Tuberose cultivation area and problem confrontation	16
2.2.6 Annual family income and problem Confrontation	16
2.2.7 Experience in tuberose cultivation and problem confrontation	17
2.2.8 Training exposure and problem confrontation	17
2.2.9 Cosmopoliteness and problem confrontation	18
2.2.10 Media exposure and problem confrontation	18
2.2.11 Fatalism and problem confrontation	20



CONTENTS (Contd.)

2.2.12 Level of aspiration and problem confrontation	20
2.2.13 Knowledge on tuberose cultivation and problem confrontation	20
2.3 The conceptual framework of the study	20
CHAPTER 3 METHODOLOGY	22
3.1 Locale of the study	22
3.2 Population and sample	22
3.3 Instrument for collection of data	26
3.4 Data collection	26
3.5 Data coding and tabulation	26
3.6 Selection of Dependent and independent variables	27
3.7 Measurement of variables	27
3.7.1 Measurement of independent variables	27
3.7.1.1 Age	27
3.7.1.2 Education	28
3.7.1.3 Family size	28
3.7.1.4 Farm size	28
3.7.1.5 Tuberose cultivation area	29
3.7.1.6 Annual family income	29
3.7.1.7 Experience in tuberose cultivation	29
3.7.1.8 Training exposure	29
3.7.1.9 Cosmopoliteness	29
3.7.1.10 Media exposure	30
3.7.1.11 Fatalism	31
3.7.1.12 Level of aspiration	31
3.7.1.13 Knowledge on tuberose cultivation	32
3.7.2 Measurement of dependent variable	32
3.7.3 Comparative problem confrontation	33
3.8 Statement of hypothesis	33
3.9. Data processing and analysis	34
3.9.1 Compilation of data	34
3.9.2 Categorization of data	34
3.9.3 Statistical technique	35

CONTENTS (Contd.)

CHAPTER 4	FINDINGS AND DISCUSSION	36
	4.1 Selected characteristics of the respondents	36
	4.1.1 Age	36
	4.1.2 Education	37
	4.1.3 Family size	38
	4.1.4 Farm size	38
	4.1.5 Tuberose cultivation area	39
	4.1.6 Annual family income	40
	4.1.7 Experience in tuberose cultivation	41
	4.1.8 Training exposure	41
	4.1.9 Cosmopolitaness	42
	4.1.10 Media exposure	43
	4.1.11 Fatalism	43
	4.1.12 Level of aspiration	44
	4.1.13 Knowledge on tuberose cultivation	45
	4.1.14 problem confrontation in tuberose cultivation	45
	4.2 Comparative problem confrontation of the farmers in Tuberose cultivation	46
	4.3 Relationship between the selected characteristics of the farmer with their problem confrontation in	48
	4.3.1. Relationship between age of the farmers and their problem confrontation in Tuberose cultivation	50
	4.3.2 Relationship between education of the farmers their problem confrontation in tuberose cultivation	50
	4.3.3 Relationship between family size of the farmers And their problem confrontation in tuberose cultivation	51
	4.3.4 Relationship between farm size of the farmers and their problem confrontation in tuberose cultivation	52
	4.3.5 Relationship between tuberose cultivation area of the farmers and their problem confrontation in tuberose cultivation	53

CONTENTS (Contd.)

4.3.6 Relationship between annual family income of the farmers and their problem confrontation in tuberose cultivation	53
4.3.7 Relationship between experiences in tuberose cultivation of the farmers and their problem confrontation in tuberose cultivation	54
4.3.8 Relationship between training exposure of the farmers and their problem confrontation in tuberose cultivation	54
4.3.9 Relationship between cosmopolitences of the farmers and their problem confrontation in tuberose cultivation	55
4.3.10 Relationship between Media exposure of the farmers and their problem confrontation in tuberose cultivation	56
4.3.11 Relationship between fatalism of the farmers and their problem confrontation in tuberose cultivation	56
4.3.12 Relationship between level of aspiration of the farmers and their problem confrontation in tuberose cultivation	57
4.3.13 Relationship between knowledge of the farmers and their problem confrontation in tuberose cultivation	58
CHAPTER 5 SUMMARY OF FINDINGS CONCLUSION AND RECOMMENDATIONS	59
5.1 Summary of findings	59
5.1.1 Problem confrontation of the farmers in tuberose cultivation	59
5.1.2 Selected characteristics of the farmers	60

CONTENTS (Contd.)

5.1.3 Relationship between the selected characteristics of the farmers with their problem confrontation in tuberosse cultivation	62
5.2 Conclusion	62
5.3 Recommendations	64
5.4 Recommendations for further study	65
BIBLIOGRAPHY	67
APPENDICES	75
Appendix- A	75
Appendix- B	83

LIST OF TABLES

TABLE		PAGE
3.1	Distribution of tuberose cultivators in the population & sample in six villages of three unions under Jhikargacha upazila Jessore district	23
4.1	Classification of the respondents according to their age level	36
4.2	Classification of the respondents according to their education	37
4.3	Classification of the respondents according to their family size	38
4.4	Classification of the respondents according to their farm size	38
4.5	Classification of the respondents according to their tuberose cultivation area	39
4.6	Classification of the respondents according to their annual family income	40
4.7	Classification of the respondents according to their experience in tuberose cultivation	41
4.8	Classification of the respondents according to their training exposure	42
4.9	Classification of the respondents according to their cosmopoliteness	42
4.10	Classification of the respondents according to their media exposure	43
4.11	Classification of the respondents according to their fatalism	44
4.12	Classification of the respondents according to their level of Aspiration	44
4.13	Classification of the respondents according to their Knowledge on Tuberose cultivation	45

LIST OF TABLES (Contd.)

4.14	Classification of the respondents according to their problem confrontation in tuberosc cultivation	46
4.15	Rank order of the problem confrontation by the farmers in tuberosc cultivation.	47
4.16	Co-efficient of correlation showing Relationship between selected characteristics of the farmers and their problem confrontation in tuberosc cultivation (N=105)	49

LIST OF FIGURES

FIGURE		PAGE
2.1	The conceptual framework of this study	21
3.1	A map of Jessore district showing the Jhikargacha upazila of the study area	24
3.2	A map of Jhikargacha upazila of Jessore district showing the study area	25

LIST OF APPENDICES

Appendix		PAGE
A	An English Version of the Interview Schedule	75
B	Correlation matrix of the dependent and independent variables (N=100)	83

ABSTRACT

The aim of the study was to determine the problem confrontation of the farmers in tuberose cultivation and also to explore the relationships between the selected characteristics of the farmers and their problem confrontation in tuberose cultivation. 15 problems of the farmers in tuberose cultivation were selected. The selected characteristics were: age, education, family size, farm size, tuberose cultivation area, annual family income, experience in tuberose cultivation, training exposure, cosmopolitaness, media exposure, fatalism, level of aspiration and knowledge on tuberose cultivation. The study was conducted in Jhikargacha Upazila under Jessore district. Data were collected from randomly selected 105 farmers using an interview schedule as the sample of the study from a population 450 farmers of Jhikargacha upazila under Jessore district. A structured personal interview schedule was used for collecting data that took 30 days from June 1 to June 30, 2008. Scale score was used to determine farmers' problem in tuberose cultivation while a problem confrontation Index (PCI) was used to make comparison among the 15 selected problems. Pearson's Product Moment Correlation coefficient (r) was used for the statistical analysis. An overwhelming majority (86.7 percent) of the farmers were found confronted high problem while (13.3 percent) of the farmers confronted medium problem in tuberose cultivation. However, no farmer of the study area was found having low problem. The findings also revealed that education, experience in tuberose cultivation, training exposure, cosmopolitaness, media exposure, knowledge on tuberose cultivation had negative significant relationships with their problem confrontation in tuberose cultivation. Rest of the characteristics i.e. age, family size, farm size, annual family income, tuberose cultivation area, fatalism and level of aspiration showed no significant relationship. On the basis of problem confrontation Index (PCI) "Tuberose cultivation cost is high" ranked first which is followed by 'Inadequate credit supply of tuberose cultivation, lack of capital, lack of training opportunity while unavailability of bulbs in time ranked last.

CHAPTER 1

INTRODUCTION

1.1 General Background

Tuberose (*Polianthes tuberosa* L) belonging to the family Amaryllidaceae, produces attractive, elegant and fragrant white flowers. It occupies a very selective and special position to flower loving people because of its prettiness, elegance and sweet pleasant fragrance. It has a great economic potential for cut flower trade and essential oil industry (Sadhu and Bose, 1973).

Tuberose is a native of Mexico from where it spread to the different parts of the world during 16th century. How and when the tuberose found its entrance to India, Ceylon and elsewhere in the orient is probably an unanswerable question (Yadav and Maity, 1989).

The long spikes of tuberose are used as cut flowers in vase decoration and bouquets preparation, while individual floret is used for making veni, garland, button-holes or crown. Tuberose is planted in beds and borders, but can also be grown as potted plant. Tuberose has a delightful fragrance and is the source of tuberose oil. The natural flower oil of tuberose is one of the most expensive raw materials for perfume.

Tuberose is one of the most important floral crops in the world. The long spikes of fragrant flowers are excellent for cut flowers. People like their sweet fragrance. The tuberose likes hot sun, and loose, rich, moist soil. The Tuberose flower is one of the flowers that continue to produce and exhale perfume long after it has been picked. It takes 3,600 kilos of individually handpicked blossoms to produce one kilo of absolute from concrete. No wonder it is so expensive!

Tuberose is a half-hardy, bulbous perennial multiplying itself through the bulblets. Roots are mainly adventitious and shallow. The leaves are long, narrow, linear, grass like, green and arise in rosette. The flowers have a funnel shaped perianth, waxy white in colour and borne in a spike. There are three types of tuberose: Single with one row of corolla segments, semi double bearing flowers with two to three rows of corolla segments and double having more than three rows of corolla segments.

In Bangladesh, its commercial cultivation was introduced during 1980 by some pioneer and innovative farmers at Panishara union of Jhikargacha thana under Jessore district. Tuberose has a high demand in the market and its production is highly profitable (Aditya, 1992). Although tuberose is now grown in the country, very little is known about production technology in Bangladesh condition (Ahmed, 1985).

In Bangladesh, since last few years tuberose has become a popular cut flower for its attractive fragrance and beautiful display in the vase. Now it is one of the most important commercial cut flowers.

Tuberose has long been cherished for aromatic oils extracted from its fragrant white flowers. It is a popular cut flower, not only for use in arrangements, but also for individual florets that can provide fragrance to bouquets and bouttonnières. Among flowers, lily occupies a selective position because of its beauty, elegance and sweet, pleasant fragrance.

Lily blossoms at night and is recognized by its captivating smell. Besides oil extraction, the flowers are also used in making garland bouquets.

It has gained considerable importance among growers of tropical regions of Southeast Asia. It is now-a-days, being commercially grown in big areas. It has great economic potential in the cut flower market and in essential oil industry. It grows in elongated

spikes that produce clusters of white flowers that are 5-6 cm long and have a characteristic bending. The flower spikes are up to two feet in height. Tuberose flowers bloom from the bottom toward the top of the spike. The flowers remain fresh for a long time and are suitable for long distance transportation.

From the above discussion, it is established that tuberose has a high demand in the market and its production is highly profitable. But there is little information about the problems for cultivating tuberose. So, the researchers became interested to take a study entitled to "**Problem confrontation of the farmers in tuberose cultivation.**"

1.2 Statement of the problem

In view of the need for having an understanding of the farmers problem in tuberose cultivation, the investigator, undertook this piece of research entitled "**Problem confrontation of the farmers in tuberose cultivation**" the purpose of this study is to ascertain the extent of problem confrontation in tuberose cultivation.

Considering the nature of study the researcher sought information regarding following research questions:

1. What are the problems being confronted by the farmers in tuberose cultivation?
2. What are characteristics of the tuberose cultivating farmers?
3. What are relationships among the farmers with the problem confrontation by them in tuberose cultivation?

1.3 Objectives of the Study

The specific objectives of this study were as follows:

1. To determine and describe some selected characteristics of the tuberose cultivators. These are:
 - i. Age

- ii. Education
 - iii. Family Size
 - iv. Farm size
 - v. Tuberose cultivation area
 - vi. Annual family income
 - vii. Experience in tuberose cultivation
 - viii. Training exposure
 - ix. Cosmopolitaness
 - x. Media exposure
 - xi. Fatalism
 - xii. Level of Aspiration
 - xiii. Knowledge on tuberose cultivation
2. To determine and describe the extents of problems confronted by the tuberose cultivators.
 3. To explore the relationship between the selected characteristics Of the tuberose cultivators and their problem confrontation.

1.4 Scope of the study

The present study was designed to have an understanding of the problem confrontation of the farmers in tuberose cultivation and to explore its relationship with their selected characteristics.

The findings of this study will be particularly applicable to the farmers of the respective study area. The findings may also have applicability to other areas of the country when the physical, socio-economic and cultural conditions are mostly similar with those of the study area. However, the findings of the study will be helpful for the specialist of different organizations and planners, policy makers and extentionists in removing problem confrontation by the farmers in tuberose cultivation.

The administrators, supervisors, field workers and others who are to work in the field of tuberose may find this study informative. This study could be helpful for commercial tuberose cultivation programme is one hand and motivate to consume more tuberose cultivation and earn more taka for reducing poverty.

1.5. Limitation of the study

The present study was undertaken with a view to have an understanding of the problem confrontation by the farmers in tuberose cultivation. Considering the time, money and other necessary resources available to the researcher and also to make the study meaningful and manageable the researcher had to impose certain limitations as follows:

- i. The study was confined to six villages of Jhikargaca upazilla under Jessore district.
- ii. The study was confined mainly to problem confrontation of the farmers in tuberose cultivation.
- iii. Out of many characteristics of tuberose cultivators only thirteen characteristics of farmers' were selected for investigation in this study.
- iv. For information about the study, the researcher was depended on the data furnished by the selected respondents during data collection.
- v. The respondents for data collection were kept limited within the heads of farm families.
- vi. Only 13 characteristics of the farmers were selected although the characteristics are many and varied.
- vii. Various problems in adopting tuberose cultivation were likely to be confronted by the farmers. However, only 15 problems have been considered for investigation in his study.

1.6 Assumptions of the study:

An assumption is the supposition that an apparent factor or principle is true in the light of the available evidence (Goode, 1945). In this study the researcher has the following assumptions in mind.

1. The farmers selected for this study were capable of furnishing proper response to the questions included in the interview schedule.
2. The researcher was well adjusted to the environment of the study area. Hence, the data collected were free from any bias.
3. The responses furnished by the respondents were reliable. They expressed the truth about their conversations and opinions.
4. Views and opinions furnished by the tuberose cultivators included in the sample were the representatives' views and opinions of the problem.

1.7 Definition of the terms

Age

Age of a farmer is defined as the period of time from his birth to the time of interview of the farmers.

Education

Education referred to the desirable change in knowledge, skill and attitude of an individual, through reading, writing & other related activities. It was measured in terms of years of schooling of an individual.

Family size

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

Farm size

Farm size refers to the cultivated area either owned by a farmer or cultivated on barga, lease or other means. This area was measured on total area owned, leased in leased out and half from barga system. The measuring unit was hectare.

Tuberose cultivation area

It refers to the area owned by the farmer on which he cultivated tuberose during the season of collection of data for this study.

Annual family income

It refers to the total income earned by the farmer himself and the members of his family from agriculture, Livestock, fisheries and other sources (business, service, day labor etc.) during a year. It was expressed in taka.

Training exposure

It referred to the total number of days that a respondent received training in his entire life from different organizations under different training programmes.

Cosmopoliteness

Cosmopoliteness is the degree to which an individual's orientation was external to his own social system, his orientation to the measured village; own union, own upzaila, other upazilas, districts or places of social and agricultural importances.

Media exposure

Media exposure is the degree to which an individual's exposure to or contact with different communication media and sources and personalities being used for dissemination of new technologies among the tuberose cultivators.

Fatalism

Fatalism is the degree to which an individual perceives a lack of ability to control his future (Rogers, 1995). This definition implies that fatalism is a type of attitude.

Level of Aspiration

An aspiration refers to a persons or a group of person orientation towards a goal (Haller, 1968). In this study Aspiration refers to the future desire of the respondents to obtain something.

Knowledge on tuberosc cultivation

Knowledge is the degree to which an individual knows about a subject fact, person etc. knowledge on tuberosc cultivation. It refers to farmers understanding of different aspect of tuberosc cultivation. It refers to farmer's understanding of different aspect of tuberosc cultivation.

Problem confrontation in tuberosc cultivation

Problem confrontation in tuberosc cultivation refers different problem as perceived by the farmers in cultivating tuberosc.

CHAPTER 2

REVIEW OF LITERATURECH

The purpose of this chapter is to review of literatures having relevance of this study. The researcher extensively reviewed the available literature to search out related works in Bangladesh as well as in other countries. No studies were found which dealing with the problem confrontation by the farmers in tuberose cultivation. The collected information through review of literature may not be identical but similar to the present study.

Review of the relevant literature has been placed in three sections. Literatures relating to problem confrontation of the farmers in different agricultural aspects have been presented on the first section. The reviews of past studies in connection with the relationship of independent variables with problem confrontation of the farmers in the second section and concerned with the conceptual framework of the study in the third section.

2.1 Problem confrontation of the farmers in different agricultural aspects

Unfortunately, no studies were found which dealing with the problem confrontation by the farmers in tuberose cultivation in different aspects of agriculture is presented below:

Raha *et. al.* (1986) identified some common problems of cotton cultivation as perceived by the farmers in Bangladesh. Those were: lack of suitable land, lack of irrigation facilities, shortage of labour, shortage of cash money, lack of technical knowledge, lower price of cotton, and non-availability of seed insecticides and fertilizers.

Kashem (1987) found some obstacles that inhibited farmers, rapid adoption of Modern Rice Cultivation. These obstacles were: fertilizer obstacles, plant protection obstacles, irrigation obstacles and other cultural obstacles.

Zinyama (1988) conducted a relative observation to find out the farmers perceptions of the constraints against increased crop production in the subsistence communal farming sector of Zimbabwe. He examined the problems faced by the subsistence farmers in the small-scale communal farming areas of Zimbabwe. During field survey, samples of farming households were asked to indicate what they considered to be the major obstacles hindering them from increasing their crop production. Five of the most frequently cited constrains were: (i) Lack of money with which to purchase seasonal agricultural inputs, particularly fertilizers, (ii) lack of basic farming implements, notably the ox-driven single furrow plough, (iii) lack of draught cattle, (iv) inadequate arable land and (v) inadequate family labour for agricultural work.

Biswas (1992) in his study, identified farmers' faced problems in cotton cultivation. Non availability of quality seed in time, unfavorable and high cost of fertilizer and insecticides, lack of operating capital, not getting fair weight and reasonable price according to grade, affects of cattle in cotton field, lack of technical knowledge. Lack of storage facility, stealing from field at maturity stage, and late buying of raw cotton by cotton Development Board were identified as major problems of cotton farmers in Jessore district.

Freeman and Berth (1994) conducted a study on issues in African Rural Development Study showed several constrains in farming practices such as intensified land use, fallow periods decline and crop cultivation spreads into marginal or ecologically fragile lands. In the absence of appropriate resource management technologies, these practices inevitably lead to degradation of the resource base with important implications for soil productivity, household food security and rural poverty.

Rahman (1995) in this study, identified farmers' faced problems in cotton cultivation. Non-availability of quality seed in time unfavorable and high cost of fertilizer and insecticides, lack of operating capital, not getting fair weight and reasonable price according to grade, affects of cattle in cotton field, lack of technical knowledge, lack of storage facility, stealing from field at maturity stage, and late buying of raw cotton by Cotton Development Board were identified as major problems of cotton farmers in Mymensingh district.

Ismail (2001) conducted a study on farm youth of haor area of Mohangonj upazila. Study revealed that there were six top problems in rank order were (i) no arrangement of loan for the farm youth for fishery cultivation, (ii) lack of government programmes in agriculture for the farm youth, (iii) absence of loan giving agencies for establishing farm in 1-10 daily, (iv) general people face problem for fishery due to government leasing of Jalmohal, lack of government programmes for establishing poultry farm, (vi) lack of agricultural loan for the farm youth.

Halim (2003) conducted a study on constraints faced by the farmers in adopting to their rank order were: (i) lack of storage facilities for products and seeds, (ii) high price of inputs, (iii) non-availability of credit for other crops, (iv) lack of sufficient training programme in different aspects of crop diversification and (v) most of the lands are in low lying areas and not suitable for CDP crops.

Salam (2003) in his study identified constrains in adopting environmentally friendly farming practices. Top six identified constraints according to their rank order were: (i) low production due to limited use of fertilizer (ii) lack of organic matter in soil, (iii) lack of Govt. support for environmentally friendly farming practices, (iv) lack of capital and natural resources for integrated farming practices, (v) lack of knowledge on integrated farm management and (vi) unavailability of pest resistant varieties of crops.

Chander and Singh (2003) in their study identified for aspects of constraints in adoption of MP practices viz. technological constraints, economical constraints services, supply and marketing constraints and transfer of technology constraints. They also opined that economical constraints faced by the farmers at most serious level.

Uddin (2004) in his study identified five aspect of constraints in commercial cultivation of vegetables viz. seed constraints, disease and insect infestation constraints, field management constraints, marketing of vegetable constraints and extension work constraints. Among these aspects of constraints he revealed disease and pest infestation constraints severely faced by the farmers.

2.2 Relationship between selected characteristics of the farmers and their problem Confrontation

2.2.1 Age and problem confrontation

Shahidullah (1987) in his study of production consumption and marketing behaviour of the poultry farmers found negative relationship between age of the farmers and production, consumption and marketing behavior. Similar finding were obtained by Ali (1999), Pramanik (2001), Ahmed (2002), Hossain (2002), Salam (2003) and Halim (2003) in their respective studies.

Bhuiyan (2002) in his study found a positive and significant relationship between age of the farmers and their constraint in banana cultivation. Similar findings were obtained by Rahman (1996) in his respective study.

Rashid (2003) found that age of the rural youth had significant negative relationship with problem confrontation in selected agricultural production activities.

Nahid (2005) conducted a study and found that there was no relationship between age of the sugarcane growers and their problem confrontation in sugarcane production.

Rahman (2006) found that age of the farmers had no significant relationship with their constraints faced in Banana cultivation of Sunargaon Upazilla under Narayanganj district.

Huque (2006) found that age of the farmers had no significant relationship with their problem faced in using integrated plant nutrient management.

Bashar (2006) found that age of the farmers had significant negative relationship with their problem confrontation in mashroom cultivation.

Aziz (2006) found that age of the farmers had no significant relationship with their constraints faced in potato cultivation in Jhikargacha upazilla under Jessore district.

2.2.2 Education and problem confrontation

Kashem (1977) found a significant negative relationship between education of landless labourers and their problem confrontation. Nath (1976), however, found a negative relationship between general education of the union Assistants and their problem confrontation.

Haque (2001) found a significant negative relationship between education and problem confrontation of the FFS farmers in practicing IPM.

The study of Ismail (2001) revealed that there was no significant relationship between education and problem confrontation of farm youth. Similar findings were obtained by Halim (2003) in their respective studies. Thus, it could be concluded that an overwhelming majority of the researches found a negative relationship between these two variables.

Nahid (2005) conducted a study and found that there was very high significant negative relationship between education of the sugarcane growers and their problem confrontation in sugarcane production.

Huque (2006) found that education of the farmers had highly significant negative relationship with their problem faced in using integrated plant nutrient management.

Bashar (2006) found that education of the farmers had significant negative relationship with their problem confrontation in mashroom cultivation.

Aziz (2006) found that education of the farmers had very high significant negative relationship with their constraints faced in potato cultivation in Jhikargacha upazilla under Jessore district

2.2.3 Family size and problem confrontation

Haque (1995) found that there was no significant relationship between family size and problem confrontation of the Mohila Bittahen Samabaya Samittee. Similar findings were obtained by Rashid (1999), Bhuyan (2002), Hossain (2002) and Ahmed (2002) in their respective studies.

Salam (2003) in his study found a positive significant relationship between family size and their constraint in adopting environmental friendly farming practices.

Nahid (2005) conducted a study and found that there was no significant relationship between family size of the sugarcane growers and their problem confrontation in sugarcane production.

Huque (2006) found that family size of the farmers had no significant relationship with their problem faced in using integrated plant nutrient management.

Rahman (2006) found that family size of the farmers had no significant relationship with their constraints faced in Banana cultivation of Sunargaon Upazilla under Narayangonj distret.

Bashar (2006) found that family size of the farmers had no significant relationship with their problem confrontation in mushroom cultivation.

Aziz (2006) found that family size of the farmers had very high significant negative relationship with their constraints faced in potato cultivation in Jhikargacha upazilla under Jessore district.

2.2.4 Farm size and problem confrontation

Rahman (1995) found that farm size of the farmer's had a significant negative relationship with their problem confrontation in cotton cultivation. Similar findings were obtained by Hossain (1985), Islam (1987), Mansur (1989), Rahman (1996), Ismail (2001) and Ahmed (2002) in their respective studies.

Ali (1999) found that family farm size of the rural youth had no relationship with their anticipated problem confrontation in self employment by under taking selected agricultural income-generating activities. Saha (1997), Rashid (1999), Hossain (2002), Bhuyan (2002) and Salam (2003), similar finding in their respective studies.

Rashid (2003) revealed that significant positive relationship between farm sizes of the rural youth had no relationship with problem confrontation in selected agricultural production activities.

Nahid (2005) conducted a study and found that there was a high significant negative relationship between total farm size of the sugarcane growers and their problem confrontation in sugarcane production.

Huque (2006) found that farm size of the farmers had no significant relationship with their problem faced in using integrated plant nutrient management.

Rahman (2006) found that farm size of the farmers had no significant relationship with their constraints faced in Banana cultivation of Sunargaon Upazilla under Narayanganj district.

Bashar (2006) found that farm size of the farmers had significant negative relationship with their problem confrontation in mushroom cultivation.

Aziz (2006) found that farm size of the farmers had very high significant negative relationship with their constraints faced in potato cultivation in Jhikargacha upazilla under Jessore district.

2.2.5 Tuberose cultivation area and problem confrontation

No literature was found related to relationship between tuberose cultivation area and problem confrontation by the farmers.

2.2.6 Annual family income and problem confrontation

Hossain (1989) in his study found a significant positive relationship between income and constraints faced by the landless labourers.

Mansur (1989) in his study found that the relationship between income of the farmers and their constraints faced in feed and feeding cattle was significant but showed a negative trend.

Rahman (1995) found that a negative and substantially significant relationship between annual income of the farmers and their faced constraints in cotton cultivation.

Nahid (2005) conducted a study and found that there was a very high significant negative relationship between annual income of the sugarcane growers and their problem confrontation in sugarcane production.

Haque (2001) found in his study that annual income of FFS farmers had a positive significant effect on their problem confrontation.

Huque (2006) found that annual family income of the farmers had no significant relationship with their problem faced in using integrated plant nutrient management.

Rahman (2006) found that annual family income of the farmers had very high negative significant relationship with their constraints faced in Banana cultivation of Sunargaon Upazilla under Narayangonj district. Aziz (2006) found the same.

Bashar (2006) found that annual family income high significant negative relationship with problem confrontation in mushroom cultivation.

2.2.7 Experience in tuberose cultivation and problem confrontation

No literature was found related to relationship between experience in tuberose cultivation and problem confrontation by the farmers.

2.2.8 Training exposure and problem confrontation

Anwar (2005) found that rural faced various problems in training and the top three problems in rank order were: i) no arrangement of training on rural and agricultural development of the upazila. ii) no scope to have training on improved practices. iii) no arrangement for vocational training in the upazila.

Saha (1997) found that training experience of the youth had no relationship with their problem confrontation.

Ahmed (2002) showed that training experience of the farmers had a significant negative relationship with their problem confrontation in jute seed production.

Nahid (2005) conducted a study and found that there was no significant relationship between training exposure of the sugarcane growers and their problem confrontation in sugarcane production.

Bashar (2006) found that training exposure of the farmers had high significant negative relationship with their problem confrontation in mushroom cultivation.

2.2.9 Cosmopolitaness and problem confrontation

Kashem (1977) found that there was a negative relationship between cosmopolitaness of the landless labours and their constraints faced. There was however, a negative trend between the two variables.

Hoque (1995) in his study revealed a strong positive relationship between cosmopolitaness of the cane growers and their constraint in sugarcane cultivation. Similar findings were obtained by Islam (1993), Khan (1993) and Parveen (1993) in their respective studies.

Rashid (1999) in his study revealed that the cosmopolitaness of the rural youth had no relationship with their willingness for undertaking selected agricultural entrepreneurships in their self-employment and their problem perceived for undertaking selected agricultural entrepreneurships in their self-employment. Similar finding was obtained by Hossain (1989) in his respective study.

Bashar (2006) found that cosmopolitaness of the farmers had significant negative relationship with their problem confrontation in mushroom cultivation.

2.2.10 Media exposure and problem confrontation

Ali (1984) found that contact and non-contact farmers differed significantly in respect of their extension contact. He observed that extension contact of the contact and non-contact farmers had significant contribution toward their agricultural knowledge.

Rahman(1995) in his study conducted that extension contact of the farmers had significant negative relationship with their faced constraints in cotton cultivation. Similar findings were obtained by Rahman (1996), Faroque (1997), Pramanik (2001), Hossain (2002), Bhuyian (2002), Ahmed (2002), Salam (2003) and Halim (2003) in their respective studies.

The study of Ismail (2001) revealed that there was not significant relationship between farm youths extension contact and their agricultural problem confrontation. Similar findings were obtained by Raha (1989) and Hoque (2001) in their respective studies.

Nahid (2005) conducted a study and found that there was a very high significant negative relationship between extension media contact of the sugarcane growers and their problem confrontation in sugarcane production.

Huque (2006) found that extension media contact of the farmers had high significant negative relationship with their problem faced in using integrated plant nutrient management.

Rahman (2006) found that extension media contact of the farmers had no significant relationship with their constraints faced in Banana cultivation of Sunargaon Upazilla under Narayangonj district.

Bashar (2006) found that extension media contact of the farmers had significant negative relationship with their problem confrontation in mushroom cultivation.

Aziz (2006) found that extension media contact of the farmers had very high significant negative relationship with their constraints faced in potato cultivation in Jhikargacha upazilla under Jessore district.

2.2.11 Fatalism and Problem confrontation

Kashem (1977) found that there was a negative relationship between fatalism and problem confrontation of landless labours.

Rashid (1975) observed no significant relationship between their agricultural problem confrontations.

Haque (1995) found that there was no significant relationship between fatalism and problem confrontation of the mohila Bittahen samabaya committee.

2.2.12 Level of Aspiration and problem confrontation

No literature was found involving relationship between level of aspiration and problem confrontation of the farmers.

2.2.13 Knowledge on tuberose cultivation and problem confrontation

No literature was found involving relationship between knowledge on tuberose cultivation and problem confrontation of the farmers.

2.3 The conceptual framework of the study

It is evident from the past studies that every occurrence or phenomenon is the outcome of a number of variables, which may or may not be interdependent or interrelated with each other. In other words, no single variable can contribute wholly to a phenomenon. Variables together are the cause and the phenomenon is effect and thus, there is cause-effect relationship every where in the universe.

The conceptual framework of Rosenberg and Holland (1960) was kept in mind while framing the structural arrangement for the dependent and independent variables. The present study was concerned with the problem confrontation by the farmers in tuberose cultivation. Thus the problem confrontation was the main focus of the study and constituted the dependent variable. The characteristics of the farmers were considered

as the independent variables. It is not possible to deal with the characteristics in a single study. It was therefore, necessary to limit the characteristics, which include age, education, family size, farm size, tuberose cultivation area, experience in tuberose cultivation, annual income, training exposure, cosmopolitaness, media exposure, fatalism, level of aspiration and knowledge on tuberose cultivation.

Based on this discussion and review of literature the conceptual model of this study has been formulated and shown in the Figure 2.1

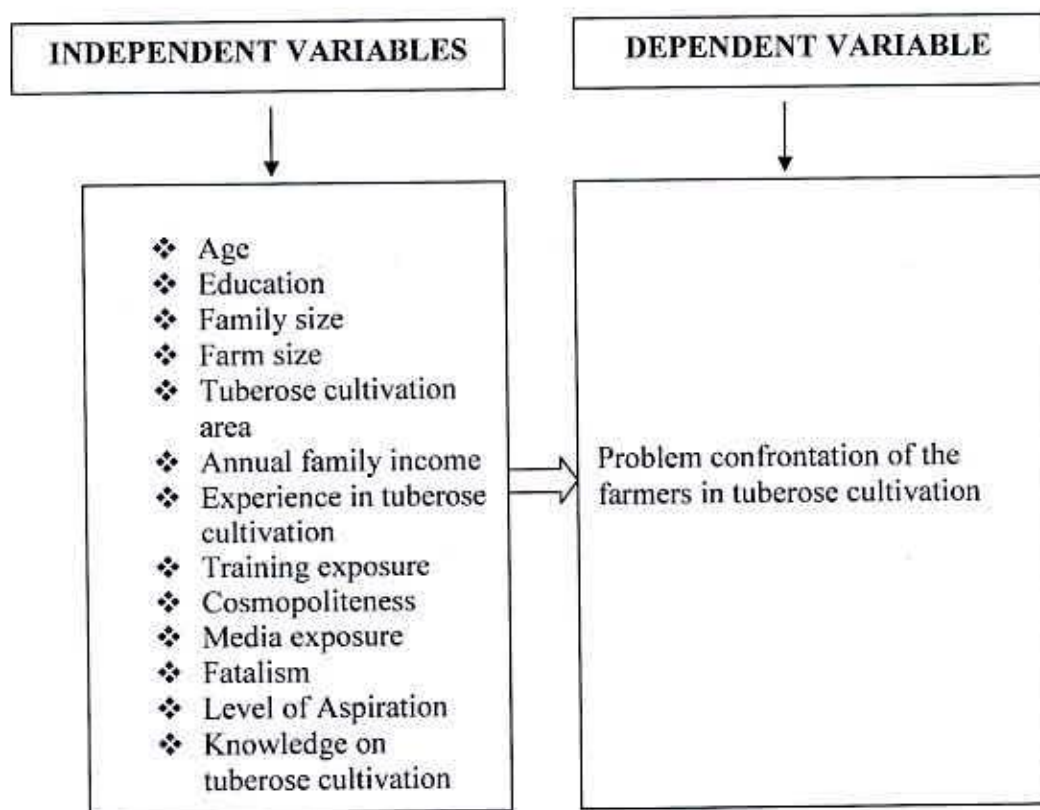


Fig: 2.1 A Conceptual Framework of the Study

CHAPTER 3

METHODOLOGY

Research is a systemic investigation for some pertinent information on a specific topic. Importance of methods and procedures in conducting any research can hardly be over emphasized. Keeping this in mind the researcher took utmost care for using proper methods in all aspects of this investigation. The methods and procedures used in conducting this research are presented below:

3.1 Locale of the study

Jhikargacha upazila under Jessore district was selected for conducting this investigation because it was an intensive tuberose production area. The study was conducted in six villages (Krisnochandpur, Ashingri, Kanairali, kulia, Narangali, Gadkhali under Jhikargacha upazila of Jessore district. These six villages are the locale of the study. Two villages were selected from each of the three unions namely Panisara, Gadkhali and Nirbashkhola. Three unions were closely situated together. Therefore, tuberose cultivators are closely populated in these unions of Jhikargacha upazila under Jessore district. This is why, Jhikargacha upazila was selected as the locale of the study.

3.2 Population and sample

Jhikargacha upazila was selected purposively for this study. This upazila consists of 11 unions. Among these three unions namely panisara, Gadkhali and Nirbashkhola were selected purposively. From the three unions six villages were selected randomly. There are 420 tuberose cultivators in the six villages. An up-to-date list of tuberose farmer of the selected villages was prepared with the help of Block supervisors, Gadkhali flowers farmers committee etc. The 420 farmers of village these listed constituted the population of the study. From the population 105 farmers were selected randomly. For

representation from each village twenty five percent of the tuberose cultivators were selected from each village by using a table of random number.

One hundred and five farmers were selected to constitute the sample for this study. However, a reserve list of 25 farmers was also prepared. The distribution of the sample farmers and reserve list are shown in Table-1.

Table 3.1 Distribution of tuberose cultivators in the population & sample in six villages of three unions

SL No.	Villages	Population	Sample	Reserve list
1.	Krishnochandapur	100	25	6
2.	Ashingri	90	20	5
3.	Kulia	40	10	3
4.	Kanairali	50	10	3
5.	Gadkhali	40	15	3
6.	Narangali	100	25	5
Total		420	105	25

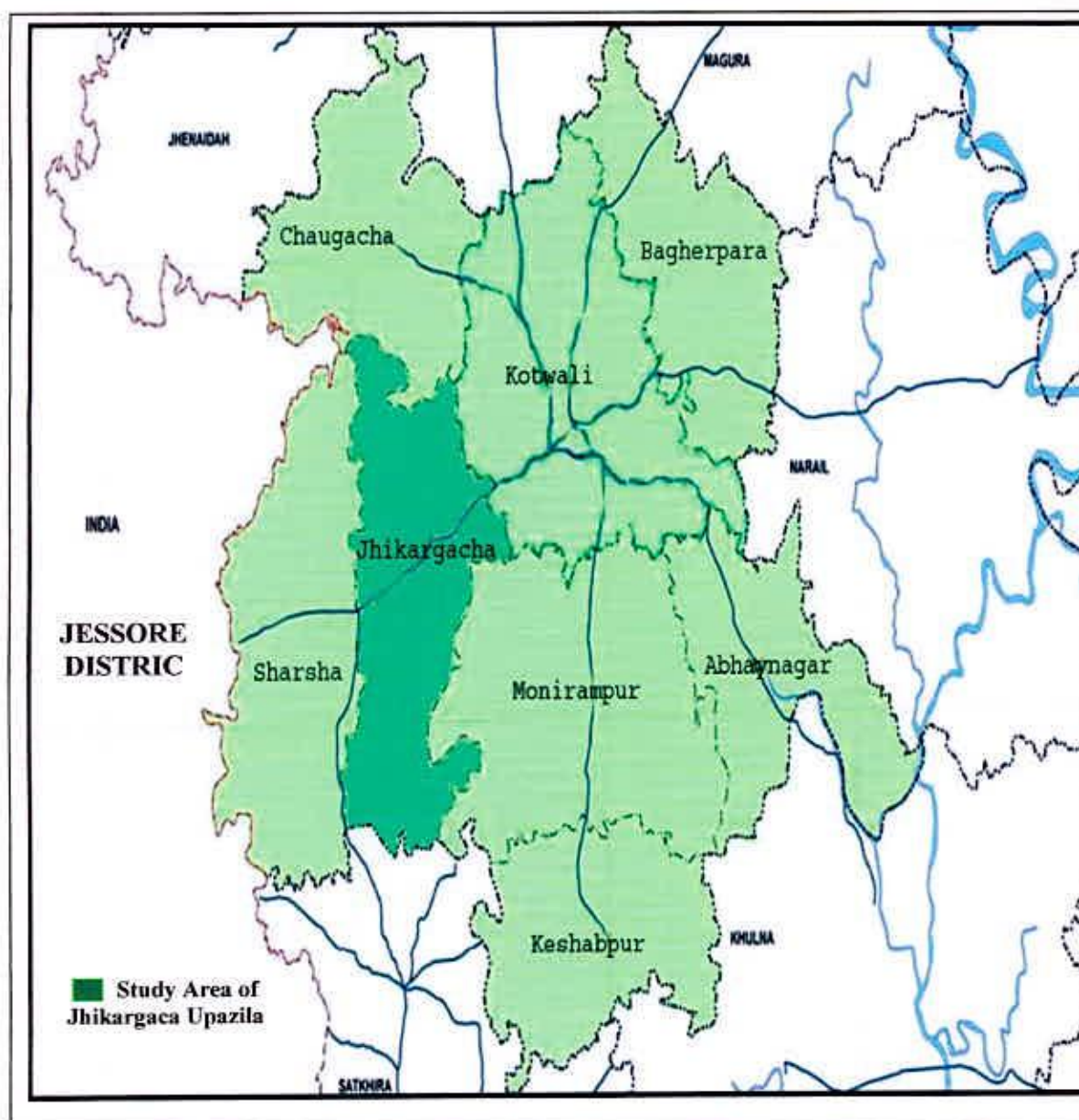


Figure 3.1 A Map of Jessore District Showing the Jhikargacha Upazila of the study Area



62(07) 11/01/10

37495

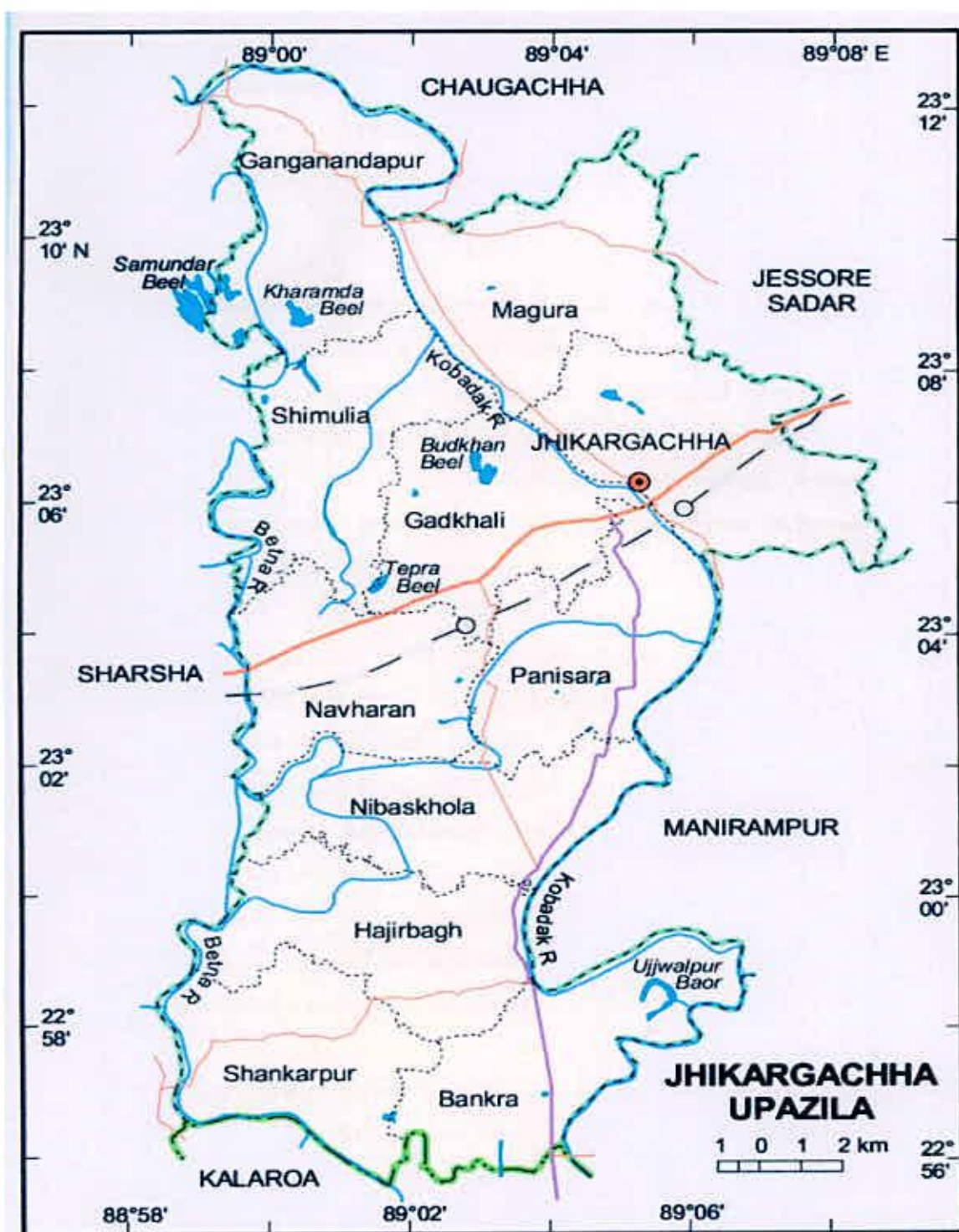


Fig 3.2 A map of Jhikargacha Upazila of Jessore District showing the study area

3.3 Instrument for collection of Data

An interview schedule was prepared for collection of data in accordance with the objectives of the study. The interview schedule contained both open and closed form of questions to obtain information regarding the problem confrontation by the farmers in tuberosc cultivation. The questions were arranged systematically to understand easily by the farmers.

The draft interview schedule was prepared in English version and it was pretested among 20 farmers in the sample villages before preparing the final version for collecting the data for the main study. The pretest was helpful in identifying faulty questions and statements in the draft schedule. Necessary corrections, additions, alternations and rearrangements were made in the schedule on the basis of experience of the pre-test. The interview schedule was then finalized for collection of data. An English version of the interview schedule enclosed in Appendix-A.

3.4 Data collection

Data were collected by the researcher himself. Interviews were conducted with the respondents in their homes during their ensured period. While starting interview with any respondents the researcher took all possible care to establish rapport with him so that he didn't feel hesitant or hostile to provide responses to the questions and statement in the schedule. Necessary steps were taken to explain the purpose of the study to the respondents and their answers were recorded sincerely. The questions were explained whenever any farmer felt difficulty in under standing them properly. The researcher in collecting data faced in serious problem. The total period of data collection took 30 days from June 1 to June 30, 2008.

3.5 Data coding and tabulation

A detail coding plan was prepared. Data were then coded into a coding sheet. These were then complained analyzed in accordance with the objectives of the study

qualitative data were converted into quantitative form by means of suitable scoring whenever needed.

3.6 Selection of Dependent and Independent variables

Problem confrontation by the farmers in tuberose cultivation was the main focus of this study and it was considered as the dependent variables. The researcher selected thirteen independent variables. These 13 independent variables were selected characteristics of the farmers namely age, education, family size, farm size, tuberose cultivation area, experience in tuberose cultivation, annual family income, training exposure, cosmopolitaness, media exposure, fatalism, level of aspiration and knowledge on tuberose cultivation.

The selection and measurement of variables constitute a significant task in the scientific research. In this connection the researcher went through the past related literature as far as available. He also discussed with the departmental teachers and concerned researchers of the relevant fields. He also carefully noticed the various characteristics of the farmers of the study. Availability of time, money community under study area and other resources were also kept in view in selecting the variables.

3.7 Measurement of variables

3.7.1 Measurement of independent variables

The procedures followed in measuring the independent characteristics are briefly discussed below:

3.7.1.1 Age

Age of the farmers in this study was measured in terms of actual years given by the respondents. One score was assigned for each and every complete year of a farmer's age.

3.7.1.2 Education

Education was measured in terms of years of schooling completed by an individual in educational institutions. One score was assigned for each class passed by a farmer. The person who does not read and write was scored 0. If a respondent passed the final examination of class IX in the school, his education score was taken as 9; if a respondent had education outside the school and if the level of education was thought to be equivalent to that of class four, then his education score was taken as 4.

3.7.1.3 Family size

Family size was measured on the basis of number of individuals in respondent family including himself, his wife, children and other dependents on him. The total members of the family members were considered as the family size score of the respondents.

3.7.1.4 Farm size

Farm size of a respondent was measured in terms of hectares by using the following formula:

$$\text{Farm size} = A_1 + A_2 + \frac{1}{2}(A_3 + A_4) + A_5 + A_6$$

Where,

A_1 = Area under homestead

A_2 = Area under own cultivation

A_3 = Area given to others on barga

A_4 = Area taken from others on barga

A_5 = Area taken from others on lease

A_6 = Others

3.7.1.5 Tuberose cultivation area

Area under tuberose cultivation of a respondent was measured in terms of percentage of total cultivated land. The respondent has given information about their land of tuberose cultivation in local unit. Finally, it was converted into hectare.

3.7.1.6 Annual family income

Yearly income of a farmer was determined on the basis of his total earnings from tuberose cultivation, others agriculture, livestock, poultry, fisheries, business, services, labour and other sources of his family income during 2007-2008 session. The annual family income was expressed in thousand taka.

3.7.1.7 Experience in tuberose cultivation

Experience in tuberose cultivation was measured on the basis of years, the respondent involved in tuberose cultivation. One score was assigned for each year of experience.

3.7.1.8 Training exposure

Training exposure was measured by the total number of days a respondent received training in his entire life under different agricultural training programs. Score one was given for each day of training received.

3.7.1.9 Cosmopolitaness

The researcher considered seven categories of places to determine the cosmopolitaness of a responded. It was measured on the basis of frequency of visits outside of his house.

The following scoring system was used for computing the cosmopolitaness score of the respondents.

Place of visit	Nature of visit	Score assigned
i. Visit to own union	Not at all	0
ii. Visit to others union	Rarely	1
iii. Visit to own Upazila	Occasionally	2
iv. Visit to others Upazila	Frequently	3
v. Visit to own district		
vi. Visit to others district		
vii. Visit to capital city		

Scores obtained by a farmer for visits to the selected seven categories of places were added together to get his cosmopolitaness score. Thus, the score of cosmopolitaness could range from 0 to 21, where 0 indicated no cosmopolitaness and 21 indicated very high cosmopoliness.

3.7.1.10 Media exposure

The researcher considered nine media to measure the information media contact of a respondent. The media exposure was determined on the nature of contact. There were regularly, frequently, occasionally, rarely and not at all.

The weightage of media exposure are given below:

Nature of contact	Score assigned
Not at all	0
Rarely	1
Occasionally	2
Oftenly	3
Regularly	4

Media exposure of a respondent was determined by adding his scores for contact all the 9 selected media according. Thus, the media exposure of a respondent could range from 0 to 36, where 0 indicated no media exposure and 36 indicated very high media exposure.

3.7.1.11 Fatalism

Fatalism is the degree to which an individual perceives a lack of ability to control his future (Rogers, 1995). This definition implies that fatalism is a type of attitude. To measure the fatalism twelve statements were collected from the scale developed by Ali (1995) were considered for this study. The fatalism measured in the study by the scale of responses against the each statement. These were strongly agree, agree, Undecided, disagree and strongly disagree. The weightage of these responses are given below:

Responses	Score assigned
Strongly agree	4
Agree	3
Undecided	2
Disagree	1
Strongly disagree	0

Fatalism score of a respondent farmer was determined by adding the scores for his responses to all the twelve statements in the scale. Thus, fatalism score of a respondent farmer could range from 0 to 48, where 0 indicated no fatalism and 48 indicated very high fatalism.

3.7.1.12 level of Aspiration

An aspiration usually refers to a persons or a group of a person orientation towards a goal (Haller, 1968). Goals can vary in kind and are usually described with reference to a particular social status or attribute. To measure the aspiration level eight orientations were considered. The orientation were educational aspiration, occupational aspiration,

aspiration for land, aspiration for farm produce, aspiration for purchase of agricultural implement, aspiration for increasing annual income, aspiration for house alteration or construction and aspiration for general contentment in life.

To measure the aspiration level of these orientations, eight statements were collected from Islam (2000) scale. A respondent was asked to indicate his responses on the five point scale. The weightage were assigned for each response 0 to 4 indicating 0 for no aspiration for the particular orientation and 4 indicating highest aspiration for that orientation. The aspiration score for a respondent was calculated by adding the scores obtained for eight statements. Thus, the possible score could range from 0 to 32, where 0 indicated no aspiration and 32 indicated very high aspiration.

3.7.1.13 Knowledge on tuberose cultivation

Agriculture knowledge referred to the knowledge gained by the farmers from different sources and also through their experience of farming. A total of 12 questions on various aspects of tuberose cultivation were asked to the farmers.

A farmer could obtain full marks (2) for correct answer of a question; similarly he could obtain 0 for making wrong or no answer of a question. Partial score was assigned for partially correct answer. The total assigned score on all the questions was 24. The score obtained by a respondent for the 12 questions were added together and the total score obtained by a respondent was his knowledge score of the respondents on tuberose cultivation. Thus, the total score of a respondent could range from 0 to 24, while 0 indicating no knowledge and 24 indicating highest knowledge of tuberose cultivation.

3.7.2 Measurement of dependent variable

Problem confronted by the farmers in tuberose cultivation was the dependent variable of the study. For measuring problem confrontation in tuberose cultivation by the farmers 15 problems were selected after consultation with the relevant experts,

researches and from other available sources. The nature of responses of the respondents to each of the 15 problems were high problem, medium problem, low problem and no problem at all, and scores were assigned as 3, 2, 1 and 0 respectively. Finally problem confrontation in tuberose cultivation score of the farmers was measured by adding up all the scores of all the responses to all the 15 problems of that respondent. Thus the possible score of the problem confrontation in tuberose cultivation of a respondent could range from 0 to 45 while 0 indicating no problem and 45 indicating very high problem confrontation in tuberose cultivation.

3.7.3 Comparative problem confrontation

To compare the severity among the problems, Problem Confrontation Index (PCI) was measured for each problem-item with help of the following formula:

$$PCI = P_h \times 3 + P_m \times 2 + P_l \times 1 + P_n \times 0$$

Where,

PCI = Problem Confrontation Index

P_h = No. of respondents confronted high problem

P_m = No. of respondents confronted medium problem

P_l = No. of respondents confronted low problem

P_n = No. of respondents confronted no problem

Thus, PCI of the problems could range from 0-315, where 0 indicated no problem and 315 indicated serious problem. Rank order also made with the descending order of the PCI of the problem-items.

3.8 Statement of Hypothesis

In order to guide relevant data correlation, analysis and interpretation of data a set of hypothesis was formulated for empirical testing. As defined by Goode and Hatt (1952) "a hypothesis is a proposition, which can be put to a test to determine its validity"

In seeding relationship between variables, the following null hypotheses were developed to explore the nature of relationship between the dependent and independent variables.

There are no relationships between the problem confrontation of the farmers in cultivation of tuberose and the selected characteristics of the farmers. The selected characteristics are: age, education, family size, farm size, tuberose cultivation area, annual family income, experience in tuberose cultivation, training exposure, cosmopolitaness, media exposure, fatalism, level of aspiration and knowledge on tuberose cultivation

3.9 Data processing and Analysis

3.9.1 Compilation of Data

Collected data from the farmers were compiled, coded tabulated and analyzed in accordance with the objectives of the study. In this process, all the response in the interview schedule was given numerical coded values. Local units were converted into standard units and qualitative data were converted into quantitative ones by means of suitable scoring whenever necessary. The response to the questions in the interview schedule was transferred to a master sheet to facilitate tabulation.

3.9.2 Categorization of data

For describing the different characteristics and their problem confrontation, the respondents were classified into several categories. These categories were developed by considering the nature of distribution of data, general understanding prevailing in the social system and possible observed scoring system. The procedure for categorization of data in respect of different variable is elaborately being discussed while describing those variables in chapter -4.

3.9.3 Statistical technique

The analysis was preformed using SPSS (Statistical Package for Social Sciences) computer package. Descriptive analysis such as range, number, percentage, mean, standard deviation and rank order were used whenever possible. Pearson's product Moment Co-efficient of Correlation (r) was used in order to explore the relationship between the concerned variables. Throughout the study, at least five-percent (0.05) level of probability was used as basis of rejecting a null hypothesis.

CHAPTER 4

FINDINGS AND DISCUSSION

In this chapter the findings of this study are presented Results have been discussed in relation to the present findings and also to those found in other studies. The study investigated the problem confrontation by the farmers in tuberose cultivation of Jhikargacha Upazila under Jessore District and related matters. In accordance with the objectives of the study, presentation of the findings has been made in three sections of this chapter.

Section 1: Selected characteristics of the farmers

Section 2: Problem confrontation of the farmers in tuberose cultivation.

Section 3: Relationship between the selected characteristics of the farmers and their problem confrontation in tuberose cultivation

4.1.1. Age

Age of the respondents ranged from 19 to 67 years and the average was 39 with a standard deviation of 10.30. On the basis of their age, the respondents were classified into three categories as presented in Table 4.1

Table 4.1 Classification of the respondents according to their age

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Young (up to 35)	43	41	39.00	10.00
Middle aged (36-50)	50	47.6		
Old (>50)	12	11.4		
Total	105	100		

Data presented in the table 4.1 show that the highest proportion (47.6 percent) were middle aged while 41 percent of respondents were in the young aged category. It

shows that 88.6 percent of the respondents belonged to the young and middle aged categories. Young and middle aged are generally more receptive to new ideas, practices and technology. In the study area the middle aged and younger farmers are generally energetic. Thus farmers belonging to this age group might confrontation less problems compared to the old farmers regarding tuberoses cultivation.

4.1.2 Education

Education of the respondents ranged from 0 to 14 years schooling years and the average was 8.10 with a standard deviation of 2.84. On the basis of their general education the respondent were classified into four categories.

Table 4.2 Classification of the respondents according to their education

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Illiterate (0)	5	4.8	8.10	2.84
Primary level (1-5)	9	8.5		
Secondary level (6-10)	82	78.1		
Higher level (above 10)	9	8.6		
Total	105	100		

Data contained in Table 4.2 show that majority (78.1 percent) of the farmers had secondary level of education, while 8.6 percent had above secondary level education. Further, 8.5 percent of the respondents had possessed primary level education, While 4.8 percent were illiterate. Thus, 95.2 percent of the respondents were educated varied from primary to higher secondary and above. The literacy percentage of the study areas is above national average. Because the study area is situated very near to the Jessore district. More over many NGO have working in the area on literacy programme.

4.1.3 Family size

Family size of the respondents ranged from 3 to 12 with a mean and standard deviation 1.45 and 6.01 respectively. Categories and distribution of the respondents on the basis of their family size is shown in Table 4.3

Table 4.3 Classification of the respondents according to their family size

Categories	Respondents		Mean	Standard Deviation
	Number	Percent		
Small family (Up to 4)	14	13.3	6.01	1.45
Medium family (5-6)	80	76.2		
Large family (above 6)	11	10.5		
Total	105	100		

Data presented in Table indicate that majority (76 percent) of the respondents had medium family size compared to 13.3 percent having small and 10.5 percent having large family size. From the tabulated data it is clear that in the study area people like to live together in joint family. In joint family people feel more secured and one can get benefit from others in time of needs. Of course, with the modernization of the day joint families are breaking down into nucleus family.

4.1.4 Farm size

The farm size of the respondents ranged from .178 to 2.448 hectare. The mean farm size of the respondents was 1.08 ha and standard deviation was 0.415. On the basis of their farm size the farmers were classified into two categories as shown in Table 4.4

Table 4.4 Classification of the respondents according to their farm size

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Small (Up to .99 ha)	48	45.7	1.08	0.415
Medium farm (1.00-2.99 ha)	57	54.3		
Total	105	100		

Data shown in the Table that 45.7 percent of the farmers had small farm size while 54.3 percent were medium farm size. Data revealed that an overwhelming majority (100 percent) of farmers has small to medium farm size. The information indicates that majority of the respondents were in small and medium farm category. But there were no large farmer among the respondents of the study area. The average farm size of the respondents was 0.74 hectare which is smaller than national average (0.81 hectare).

4.1.5 Tuberose cultivation area

Tuberose cultivation area of the respondents ranged from 0.053 to 0.665 hectares with a mean 0.121 and standard deviation of 0.077. On the basis of their tuberose cultivation area the respondents were classified into three categories as shown in Table 4.5

Table 4.5 Classification of the respondents according to their tuberose cultivation area

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Small (Up to .10 ha)	60	57.1	0.121	0.077
Medium (.11-.3 ha)	43	41		
Large (above .3 ha)	2	1.9		
Total	105	100		

Data presented in Table indicate that 41 percent of the farmers have medium tuberose cultivation area, while 57.1 percent farmers had small area and only 1.9 percent

farmers had large area for tuberose cultivation. Data revealed that majority (98.1 percent) of the farmers had small to medium area for tuberose cultivation. So it could be concluded that the respondents of the study area were very much adaptive for tuberose cultivation.

4.1.6 Annual family income

The annual family income score of the respondents ranged from 113 to 622. This score was expressed in thousand taka. The mean annual family income of the respondents was 309.47 and standard deviation was 97.66. On the basis of annual family income the respondents were classified into three categories as shown in Table 4.6

Table 4.6 Classification of the respondents according to their annual family income

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Low income (up to 200)	2	11.4	309.47	97.66
Medium income (200-400)	75	71.5		
High income (above 400)	18	17.1		
Total	105	100		

Data presented in Table show that (11.4 percent) of the farmers had low annual family income, while (71.5 percent) of the farmers having medium and (17.1 percent) of the farmers having high annual family income respectively. Thus, a large proportion of the farmers had low to medium annual family income.

Annual family income of the farmers is a vital factor for farming enterprise. Individuals in the society respect the farmer who has higher income. He also can invest more money in his farming activity; can take risk in adopting new technology. This means that the farmers in this study having higher income probably possessed more positive benefit from using improved tuberose production technology.

4.1.7 Experience in Tuberose cultivation

Experience in Tuberose cultivation of the respondents ranged from 0 to 16 years with a mean and standard deviation of 15.37 and 31.89 respectively. On the basis of experience in tuberose cultivation, the respondents were classified into four categories as shown in Table 4.7

Table 4.7 Classification of the respondents according to their experience in Tuberose cultivation

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
No (o)	14	13.3	15.37	31.89
Low (1-5)	36	34.3		
Medium (6-10)	36	34.3		
High (>10)	19	18.1		
Total	105	100		

Data contained in Table 4.7 indicate that 13.3 percent of the respondents had no experience in tuberose cultivation, while 34.3 percent of the respondents had low experience, 34.3 percent of the respondents had medium experience in tuberose cultivation and 18.1 percent had high experience in tuberose cultivation. Data revealed that 68.6 percent of the respondents had low experience in tuberose cultivation to medium experience in tuberose cultivation.

4.1.8 Training exposure

Training exposure scores of the respondents ranged from 0 to 90 days. The mean of the respondents was 6.52 and standard deviation was 4.57 respectively. On the basis on their training exposure, the respondents were classified into four categories as shown in Table 4.8



Table 4.8 Classification of the respondents according to their training exposure

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
No(0)	49	46.7	6.52	4.57
Low(1-5)	27	25.7		
Medium(6-10)	13	12.4		
High(>10)	16	15.2		
Total	105	100		

Data presented in Table 4.8 shows that majority (46.7 percent) of the farmers had no duration training; while 25.7 percent had low duration training, 12.4 percent had medium duration training and 15.2 percent had high duration training.

4.1.9 Cosmopoliteness

Cosmopoliteness of the respondents ranged from 7 to 17 against the possible range of 0 to 21. The average was 11.29 and standard deviation was 1.54. Based on the cosmopoliteness score of the farmers were classified into categories as shown in table 4.9

Table 4.9 Classification of the respondents according to their cosmopoliteness

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Low cosmopoliteness (up to 7)	1	.95	11.29	1.54
Medium cosmopoliteness (8-16)	102	97.15		
High cosmopoliteness (> 16)	2	1.90		
Total	105	100		

Data presented in the Table 4.9 shows that the highest proportion (97.5 percent) of the respondents had medium cosmopolitaness as compared to .95 percent having low cosmopolitaness and 1.90 percent having high cosmopolitaness. Cosmopolite people always have more use of communication media and more ability in any problems of tuberosse cultivation. Majority of the farmers were medium cosmopolite. Medium cosmopolite persons adequate opportunity to come in contact with new people, new things and new ideas. Such persons are generally solving the problems in cultivating tuberosse.

4.1.10 Media exposure

Media exposure score of the respondents ranged from 14 to 29 against the possible range of 0 to 36. The average and standard deviation were 19.07 and 3.31. On the basis of their media exposure scores, the respondents were classified into two categories.

Table 4.10 Classification of the respondents according to their media exposure

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Medium (13-24)	97	92.4	19.07	3.31
High (above 30)	8	7.6		
Total	105	100		

Data presented in Table 4.10 shows that majority (92.4 percent) of the respondents had medium media exposure, while 7.6 percent of the respondents were in high media exposure. The area is very progressive, so there is no low category.

4.1.11 Fatalism

The fatalism of the respondent ranged from 13 to 25. The mean fatalism of the respondents was 18.99 and standard deviation was 2.28. On the basis of their fatalism the farmers were classified into two categories as shown in Table 4.11

Table 4.11 Classification of the respondents according to their fatalism

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Low (<16)	14	13.3	18.99	2.28
Medium (17-32)	91	86.7		
Total	105	100		

Data presented in the Table that 86.7 percent of the farmers had medium fatalistic, while 13.3 percent farmers were small fatalistic. But there was no high fatalistic category.

4.1.12 Level of Aspiration

The level of Aspiration of the respondents ranged from 15 to 26. The mean aspiration of the respondents was 19.94 and the standard deviation was 2.53. On the basis of their aspiration of the farmers were classified in to two categories as shown in Table 4.12

Table 4.12 Classification of the respondents according to their level of Aspiration

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Medium (13-24)	100	95.2	19.94	2.53
High (> 25)	5	4.8		
Total	105	100		

Data shown in the Table that 95.2 percent of the farmers had medium aspiration while 4.8 percent of the farmers had high aspiration. Data revealed that an overwhelming majority (100 percent) of the farmers had medium to high aspiration. For the data it is observed that everyone has aspiration to some extent.

4.1.13 Knowledge on Tuberose cultivation

Tuberose cultivation knowledge scores of the farmers 17 to 24 against the possible range of 0 to 24. The average and the standard deviation were 20.79 and 2.41. On the basis of their tuberose cultivation knowledge scores, the respondents were classified into two categories as shown in Table 4.13

Table 4.13 Classification of the respondents according to their knowledge on Tuberose cultivation

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Moderate knowledge (up to 20)	54	51.4	20.79	1.38
High knowledge (21-24)	51	48.6		
Total	105	100		

Data presented in the Table 4.13 indicate that 51.4 percent of the respondents had medium knowledge on tuberose cultivation and 48.6 percent had high knowledge on tuberose cultivation. Thus an overwhelming majority (100 percent) of the respondents had medium to high knowledge on tuberose cultivation.

In the study area the farmers were very progressive. The modern knowledge gained by the tuberose cultivators from the neighbours, friends, relatives, radio, TV, progressive farmers and result demonstration etc. These will be helpful for selection of variety, fertilizer and plant protection measure of tuberose cultivation. So, there was no low knowledge category.

4.1.14 Problem confrontation in tuberose cultivation

The observed scores of problem confrontation ranged from 26 to 37 against the possible score of 0 to 45 while the mean score was 33.18 and the standard deviation

was 2.41. On the basis of their overall problem confrontation scores, the farmers were classified into two categories as shown in Table 4.1

4.14 Classification of the respondents according to their problem confrontation in tuberosc cultivation

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Medium (16-30)	14	13.3	33.18	2.41
High (>31)	91	86.7		
Total	105	100		

Data presented in the Table 4.14 indicate that majority (86.7 percent) of the farmers confronted high problem while 13.3 percent of the farmers confronted medium problem. Thus a great majority (100 percent) of the farmers had medium to high problem confrontation.

It is a common observation that greater is the problem confrontation by any individual in any work the lesser is his progress in that work. It is therefore, likely that the farmers problem confrontation in tuberosc cultivation will have adverse effect on their progress in commercial tuberosc cultivation as well as agricultural production. The findings of this study indicate that no farmer confronted low problem in tuberosc cultivation. These facts indicate that the desired level of tuberosc production will not be achieved if the different problem confrontation by the farmers were not solved by the concern authority.

4.2 Comparative problem confrontation of the farmers in Tuberosc cultivation

The observed problem confrontation index of the problems ranged from 15 to 312 against the possible range of 0 to 315. Problem Confrontation Index (PCI) are shown in Table 4.16

On the basis of problem confrontation Index (PCI). " cultivation cost is high of tuberose cultivation " ranked first which is following by ' In adequate credit supply of tuberose cultivation', lack of capital, lack of training opportunity while unavailability of bulbs in time ranked last.

Table 4.15 Rank order of the problem confrontation by the farmers in tuberose Cultivation

SL. No	Problem items	PCI	Rank order
1	Cultivation cost is high	312	1
2	In adequate credit supply of tuberose cultivation	311	2
3	Lack of capital	308	3.5
4	Lack of training opportunity	308	3.5
5	Lack of storage to preserve of tuberose	307	5
6	Proper contact with extension staff	294	6.5
7	Boundness of the farmers to supply commodities to middle man in low price	294	6.5
8	Pest attack of tuberose	261	8
9	Insect attack of tuberose	190	9
10	Low demand in the local market	175	10
11	Lack of knowledge on balanced fertilizer for tuberose cultivation	171	11
12	Lack of quality bulbs	162	12
13	Lack of skill labour	145	13
14	Shortage on organic manure for tuberose cultivation	114	14
15	Unavailability of bulbs in time	91	15

4.3 Relationship between the selected characteristics of the farmers and their

Problem confrontation in tuberose cultivation

The purpose of this section is to examine the relationship of 13 selected characteristics of the farmers with their problem confrontation in tuberose cultivation. The 13 characteristics of the farmers included: age, education, family size, farm size, tuberose, cultivation area, annual family income, experience in tuberose cultivation, training exposure, cosmopolitaness, media exposure, fatalism, level of aspiration, knowledge on tuberose cultivation each of the characteristics constituted the independent variables, while problem confrontation in tuberose cultivation was the dependent variable. To explore the relationship between the selected individual characteristics of the farmers and their problem confrontation in tuberose cultivation, Pearson's product moment co-efficient of correlation (r) has been used. Five percent level of probability was used as the basis for rejection of a null hypothesis. The computed values of ' r ' were compared with relevant tabulated values for 103 degrees of freedom at the designated level of probability in order to determine whether the relationships between the concerned variables were significant or not.

The summary of the results of the correlation analysis has been presented in table 4.17 showing the relationship between 13 characteristics of the farmers and their problem confrontation in tuberose cultivation.

Table 4.16 Co-efficient of correlation showing Relationship between selected characteristics of the farmers and their problem confrontation in tuberose cultivation (N=105)

Dependent variable	Independent variable	Computed value "r"	Tabulated value of "r"	
			at 0.05 level	at 0.01 level
Problem confrontation in tuberose cultivation	Age	-0.111 ^{NS}	0.192	0.251
	Education	-0.214 [*]		
	Family size	0.090 ^{NS}		
	Farm size	0.159 ^{NS}		
	Tuberose cultivation area	-0.108 ^{NS}		
	Annual family income	0.172 ^{NS}		
	Experience in tuberose cultivation	-0.307 ^{**}		
	Training exposure	-0.192 [*]		
	Cosmopoliteness	-0.244 [*]		
	Media exposure	-0.279 ^{**}		
	Fatalism	0.122 ^{NS}		
	Level of aspiration	-0.050 ^{NS}		
	Knowledge on tuberose cultivation	-0.227 [*]		

NS= Not significant

* = Significant at 0.05 level of probability

** = Significant at 0.01 level of probability

4.3.1 Relationship between age of the farmers and their problem confrontation in

Tuberose cultivation

The relationship between age of the farmers and their problem confrontation in tuberose cultivation was examined by using the following null hypothesis: "There was no relationship between age of the farmers and their problem confrontation in tuberose cultivation."

The computed value of the co-efficient of correlation between the concerned variables was found to be -.111 as shown in table 4.4. The following observations are made regarding the relationship.

- a) The relationship showed a tendency in the negative direction.
- b) The computed value of 'r' (-0.111) was found to be smaller than the tabulated value ($r = 0.192$) with 103 degrees of freedom at 0.05 level of probability.
- c) An insignificant relationship was found between the two variables.

Based on the above findings the null hypothesis could not be rejected and hence, it was concluded that age of the farmers had no relationship with their problem confrontation in tuberose cultivation.

4.3.2 Relationship between education of the farmers and their problem confrontation in tuberose cultivation

The relationship between education of the farmers and their problem confrontation in tuberose cultivation was examined by using the following null hypothesis: "There was no relationship between education of the farmers and their problem confrontation in tuberose cultivation."

The computed value of the co-efficient of correlation between the concerned variables was found to be -0.214 as shown in table 4.4. The following observations are made regarding the relationship.

- a) The relationship showed a tendency in the negative direction.
- b) The computed value of r (-.214) was found to be larger than the table value ($r = 0.192$) with 103 degrees of freedom at 0.05 level of probability.
- c) A significant relationship was found between two variables.

Based on the above findings, the null hypothesis was rejected and hence, it was concluded that education of the farmers had significant relationship with their problem confrontation in tuberose cultivation.

4.3.3 Relationship between family size of the farmers and their problem confrontation in tuberose cultivation

The relationship between family size of the farmers and their problem confrontation in tuberose cultivation was examined by using the following null hypothesis: "There was no relationship between family size of the farmers and their problem confrontation in tuberose cultivation."

The computed value of the co-efficient of correlation between the concerned variables was found to be 0.90 was shown in table 4.4. The following observations are made regarding the relationship.

- a) The relationship showed a tendency in the positive direction.
- b) The computed value of r (0.090) was found to be smaller than the table value ($r = 0.192$) with 103 degrees of freedom at 0.05 level of probability.
- c) An insignificant relationship was found between two variables.

Based on the above findings the null hypothesis was could not be rejected and hence, it was concluded that family size of the farmers had no relationship with their problem confrontation in tuberose cultivation.

4.3.4 Relationship between farm size of the farmers and their problem confrontation in tuberose cultivation

The relationship between farm size of the farmers and their problem confrontation in tuberose cultivation was examined by using the following null hypothesis: "There was no relationship between farm size of the farmers and their problem confrontation in tuberose cultivation."

The computed value of the co-efficient of correlation between the concerned variables was found to be .159 as shown in table 4.4. The following observations are made regarding the relationship:

- a) The relationship showed a tendency in the positive direction.
- b) The computed value of r (0.159) was found to be smaller than the table value ($r = 0.192$) with 103 degrees of freedom at 0.05 level of probability.
- c) An insignificant relationship was found between the two variables.

Based on the above findings, the null hypothesis could not be rejected and hence, it was concluded that farm size of the farmers had no relationship with their problem confrontation in tuberose cultivation.

4.3.5 Relationship between tuberose cultivation area of the farmers and their problem confrontation in tuberose cultivation

The relationship between tuberose cultivation area of the farmers and their problem confrontation in tuberose cultivation was examined by using the following null hypothesis: "There was no relationship between tuberose cultivation area of the farmers and their problem confrontation in tuberose cultivation."

The computed value of the co-efficient of correlation between the concerned variables was found to be $-.108$ as shown in table 4.4. The following observations are made regarding the relationship:

- a) The relationship showed a tendency in the negative direction.
- b) The computed value of " r " (-0.108) was found to be smaller than the table value (" r " = $.192$) with 103 degrees of freedom at 0.05 level of probability.
- c) An insignificant relation ship was found between two variables.

Based on the above finding the null hypotheses was could not be rejected and hence, it was consulted that tuberosc cultivation area of the farmers had no relationship with their problem confrontation in tuberosc cultivation.

4.3.6 Relationship between annual family income of the farmers and their problem confrontation in tuberosc cultivation

The relationship between annual family income of the farmers and their problem confrontation in tuberosc cultivation was examined by using the following null hypothesis: "There was no relationship between annual family income of the farmers and their problem confrontation in tuberosc cultivation."

The computed value of the co-efficient of correlation between the concerned variables was found to be $.172$ as shown in table 4.4. The following observations are made regarding the relationship.

- a) The relationship showed a tendency in the positive direction.
- b) The computed value of " r " (0.172) was found to be smaller than the table value (" r " = $.192$) with 103 degrees of freedom at 0.05 level of probability.
- c) An insignificant relationship was found between two variables.

Based on above findings, the null hypothesis was could not be rejected and hence, it was concluded that annual family income of the farmers had no relationship with their problem confrontation in tuberosc cultivation.

4.3.7 Relationship between experience in tuberose cultivation of the farmers and their problem confrontation in tuberose cultivation

The relationship between experience in tuberose cultivation of the farmers and their problem confrontation in tuberose cultivation was examined by using the following null hypothesis: "There was no relationship between experiences in tuberose cultivation of the farmers and their problem confrontation in tuberose cultivation."

The computed value of the co-efficient of correlation between the concerned variables was found to be -0.307 as shown in table 4.4. The following observations are made regarding the relationship:

- a) The relationship showed a tendency in the negative direction.
- b) The computed value of " r " (-0.307) was found to be larger than the table value ($r' = -0.0251$) with 103 degrees of freedom at 0.01 level of probability.
- c) A significant relationship was found between two variables.

Based on the above findings, the null hypothesis was rejected and hence, it was concluded that experience in tuberose cultivation had significant relationship with their problem confrontation in tuberose cultivation.

4.3.8 Relationship between training exposure of the farmers and their problem confrontation in tuberose cultivation

The relationship between training exposure of the farmers and their problem confrontation in tuberose cultivation was examined by using the following null hypothesis: "There was no relationship between training exposure of the farmers and their problem confrontation in tuberose cultivation."

The computed value of the co-efficient of correlation between the concerned variables was found to be -0.192 as shown in table 4.4. The following observations are made regarding the relationship.

- a) The relationship showed a tendency in the negative direction.

- b) The computed value of "r" (-.192) was found to be larger than the table value ("r"=.191) with 103 degrees of freedom at 0.05 level of probability.
- c) A significant relationship was found between two variables.

Based on the above findings the null hypothesis was rejected and hence it was concluded that training exposure of the farmers had significant relationship with their problem confrontation in tuberose cultivation.

4.3.9 Relationship between cosmopoliteness of the farmers and their problem confrontation in tuberose cultivation

The relationship between cosmopoliteness of the farmers and their problem confrontation in tuberose cultivation was examined by using the following null hypothesis: "There was no relationship between cosmopoliteness of the farmers and their problem confrontation in tuberose cultivation."

The computed value of the co-efficient of correlation between the concerned variables was found to be -.244 as shown in table 4.4. The following observation is made regarding the relationship.

- a) The relationship showed a tendency in the negative direction.
- b) The computed value "r" (-.244) was found to be larger than the table value ("r" = .192) with 103 degrees of freedom at 0.05 level of probability.
- c) A significant relationship was found between two variables.

Based on above findings, the null hypothesis was rejected and hence, it was concluded that cosmopoliteness of the farmers had significant relationship with their problem confrontation in tuberose cultivation.

4.3.10 Relationship between Media exposure of the farmers and their problem confrontation in tuberos cultivation

The relationship between media exposure of the farmers and their problem confrontation in tuberos cultivation was examined by using the following null hypothesis: "There was no relationship between media exposure of the farmers and their problem confrontation in tuberos cultivation."

The computed value of the co-efficient of correlation between the concerned variables was found to be -.279 as shown in table 4.4. The following observations are made regarding the relationship.

- a) The relationship showed a tendency in the positives direction.
- b) The computed value of "r" (-0.279) was found to be larger than the table value ("r"=-0.251) with 103 degrees of freedom at 0.01 level of probability.
- c) A significant relation ship was found between two variables.

Based on above findings, the null hypothesis was could not be rejected and hence, it was concluded that fatalism of the farmers had significant relationship with their problem confrontation in tuberos cultivation.

4.3.11 Relationship between fatalism of the farmers and their problem in tuberos cultivation

The relationship between fatalism of the farmers and their problem confrontation in tuberos cultivation was examined by using the following null hypothesis: "There was no relationship between fatalism of the farmers and their problem confrontation in tuberos

The computed value of the co-efficient of correlation between the concerned variables was found to the be.122 as shown in table 4.4. The following observations are made regarding the relationship.

- a) The relationship showed a tendency in the positive direction.
- b) The computed value of "r" (0.122) was found to be smaller than the table value ("r" $\approx$ 0.192) with 103 degrees of freedom at 0.05 level of probability.
- c) An insignificant relationship was found between two variables.

Based on above findings the null hypothesis was could not be rejected and hence, it was concluded that fatalism of the farmers had no relationship with their problem confrontation in tuberose cultivation.

4.3.11 Relationship between level of aspiration of the farmers and their problem confrontation in tuberose cultivation

The relationship between level of aspiration of the farmers and their problem Confrontation in tuberose cultivation was examined by using the following null hypothesis: "There was no relationship between level of aspiration of the farmers and their problem confrontation in tuberose cultivation."

The computed value of the co-efficient of correlation between the concerned variables was found to -0.05 as shows in table 4.4. The following observation is made regarding the relationship.

- a) The relationship showed a tendency in the negative direction.
- b) The computed value of "r" (-0.05) was found to be smaller than the table value ("r" $\approx$.192) with 103 degrees of freedom at 0.01 level of probability.
- c) An insignificant relationship was found between two variables.

Based on the above findings, the null hypothesis was could not be rejected and hence, it was concluded that level of aspiration of the farmers had no relationship with their problem confrontation in tuberose cultivation.



4.3.13 Relationship between knowledge of the farmers and their problem confrontation in tuberose cultivation

The relationship between knowledge of the farmers and their problem confrontation in tuberose cultivation was examined by using the following null hypothesis: "There was no relationship between knowledge of the farmers and their problem confrontation in tuberose."

The computed value to the co-efficient of correlation between the concerned variables was found to be -.227 as shown in Table 4.4. The following observation is made regarding the relationship.

- a) The relationship showed a tendency in the negative direction.
- b) The computed value of "r" (-.227) was found to be larger than the table value ("r" = .192) with 103 degrees of freedom at 0.05 level of probability.
- c) A significant relationship was found between two variables.

Based on the above findings, the null hypothesis was rejected and hence, it was concluded that knowledge of the farmers had significant relationship with their problem confrontation in tuberose cultivation.

CHAPTER 5

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

Data were collected from 105 randomly selected respondents of six selected villages under Jhikargacha Upazila Jessore district. Data were collected by using an interview schedule from the farmers during June 1, to June 30, 2008. Co-efficient of correlation test was used to explore the relationship between concerned variables. The major findings of the study are summarized below:

5.1.1 Problem confrontation of the farmers in Tuberose cultivation

The observed problem confrontation scores of the farmers in tuberose cultivation ranged from 26 to 37 against the possible range of 0 to 45. The mean score was 33.18 and the standard deviation was 2.14. The highest proportion (86.7 percent) of the farmers had high problem confrontation while 13.3 percent had medium problem confrontation on tuberose cultivation. This mean that majority (100 percent) of the farmers had medium to high problem confrontation in tuberose cultivation.

The problem confrontation Index (PCI) ranged from 26 to 37 against the possible range of 0 to 45. According to PCI, cultivation cost is high, ranked first followed by in adequate credit supply of tuberose cultivation, lack of capital, lack of training opportunity, lack of storage to preserve of tuberose, proper contact with extension staff, boundness of the farmers to supply commodities to middle man in low price, insect pest attack of tuberose, low demand in the local market, lack of knowledge on balanced fertilizer for tuberose cultivation, lack of quality bulbs, lack of skill labour, shortage of organic manure for tuberose cultivation, unavailability of bulbs in time.



5.1.2 Selected characteristics of the farmers

Findings in respect of the 13 selected characteristics of the farmers are summarized below:

Age: The age of the farmers ranged from 19 to 67 years with an average 39.00 years. Highest proportion (47.6 percent) of the farmers was in the middle aged category followed by 43 percent in the young and 12 percent being old.

Education: The level of education of the farmers ranged from 0 to 14 and the average score was 8.10. Highest proportion (78.1 percent) of the farmers had secondary level education followed by 8.5 percent who had primary level of education, 8.6 percent had higher level education and 4.8 percent had no education.

Family size: The family size of the farmers ranged from 3 to 12 and average was 6.01. Most of the farmers (76.2 percent) had medium family size followed by 10.5 percent had large family size and 13.3 percent had small family size.

Farm size: The farm size of the farmers ranged from .178 to 2.440 hectare and average was 1.08 ha. It was found that 54.3 percent of the farmers had medium farm and 45.7 percent of the farmers had small farm.

Tuberose cultivation area: The tuberose cultivation area of the farmers ranged from .053 to .665 hectare with an average of .121. It was found that 41 percent of the farmers had medium tuberose cultivation area, while 57.1 percent of the farmers had small tuberose cultivation area and only 19 percent of the farmers had large area for tuberose cultivation.

Annual family income: The annual income of the farmers ranged from 113 to 622 thousand taka and the average was 309.47. Most of the farmers (71.5 percent) who had medium annual income followed by 11.4 percent who had low and 17.1 percent who had high annual income.

Experience in tuberose cultivation: The experience in tuberose cultivation of the farmers ranged from 0 to 16 and the average score was 15.37. It was found 34.3 percent of the farmers who had low and 34.3 percent of the farmers who had medium experience in tuberose cultivation followed by 13.3 percent who had no and 18.1 percent who had high experience in tuberose cultivation.

Training exposure: The training exposure of the farmers ranged from 0 to 90 days and the average was 15.37. Most of the farmers (46.7percent) who had no training exposure of the agricultural level followed by 25.7 percent of the farmers who had low, 12.4 percent of the farmers who had medium and 15.2 percent of the farmers who had high training exposure.

Cosmopoliteness: The observed cosmopoliteness of the farmers ranged from 7 to 17 against the possible range of 0 to 21 and the average score was 11.29. It was found that 97.15 percent of the farmers who had medium cosmopoliteness followed by .95 percent who had low and 1.90 percent who had high cosmopoliteness.

Media exposure: The media exposure of the farmers ranged from 14 to 29 against the possible range to 0 to 36 and the average score was 19.07. It was found that 92.4 percent of the farmers who had medium exposure and 7.6 percent who had high media exposure.

Fatalism: The observed fatalism of the farmers ranged from 13 to 25 against the possible range of 0 to 48 and the average was 18.99. Most of the farmers (86.7) percent who had medium fatalistic and 13.3 percent who had small fatalistic.

Level of aspiration: The observed level of aspiration of the farmers ranged from 15 to 26 against the possible range of 0 to 36 and the average was 19.94. Most of the farmers (95.2 percent) who had medium aspiration and 4.8 percent who had high aspiration.



Knowledge on tuberose cultivation: The observed tuberose cultivation knowledge of the farmers ranged from 17 to 24 against the possible range of 0 to 24 and the average was 20.79. It was found that 51.4 percent of the farmers who had moderate knowledge and 48.6 percent who had high knowledge in tuberose cultivation.

5.1.3 Relationship between the selected characteristics of the farmers with their problem confrontation in tuberose cultivation

The Pearson product moment correlation (r) showed that education, experience in tuberose cultivation, training exposure, cosmopolitaness, media exposure and knowledge on tuberose cultivation had negative significant relationship with their problem confrontation. However, age, family size, farm size, annual income, tuberose cultivation area, fatalism and level of aspiration of the farmers had no significant relationship with their problem confrontation.

5.2 Conclusion

Conclusions were drawn on the basis of findings of this study and their logical interpretation of findings and other relevant facts were stated below:

1. The highest proportion (86.7 percent) of the farmers had high problem confrontation in tuberose cultivation. So, it may be concluded that in the study area, the farmers' confrontation higher problem in tuberose cultivation.
2. About 41 percent of the farmers were young aged compared to 37.6 percent middle aged and 11.4 percent old aged. It may be concluded that to increase tuberose cultivation younger and middle aged farmers should be given more priority.
3. The characteristics of the farmers such as education, experience in tuberose cultivation, training exposure, cosmopolitaness, media exposure knowledge in tuberose cultivation all showed negative significant relationships with their

problem confrontation in tuberose cultivation. Therefore, it is concluded that higher is the education, experience in tuberose cultivation, training exposure, cosmopolitaness, media exposure knowledge in tuberose cultivation, and lower is the problem.

4. The characteristics of the farmers such as age, family size, farm size, tuberose cultivation area, annual income, fatalism and level of aspiration showed no significant relationship with their problem confrontation in tuberose cultivation. It is concluded that age, family size, farm size tuberose cultivation area, annual income, fatalism and level of aspiration do not have any effect on tuberose cultivation problem.
5. The findings revealed that agricultural knowledge of the farmers had negative significant relationship with their problem confrontation in tuberose cultivation. Therefore, it is concluded higher is the agricultural knowledge of the farmers lower is the problem.
6. The study revealed that training exposure of the farmers had negative significant relationship with their problem confrontation in tuberose cultivation. Therefore, it is concluded the training exposure of the farmers reduces the problem confrontation of tuberose cultivation.
7. The findings indicate that media exposure of the farmers had negative significant relationship with their problem confrontation in tuberose cultivation. This indicates that farmers having higher media exposure the lower are the problem. It also indicates that increasing media exposure will give the farmers goods opportunities to over come their different problem in tuberose cultivation.
8. The findings indicate that majority (86.7 percent) of the farmers confronted high and only (13.3 percent) of the farmers confronted low problem in tuberose

cultivation. From this fact, it is concluded that until the tuberose farmers are free from different problems in tuberose production they will not be in a position to adopt improved technology.

5.3 Recommendations

Recommendations based on the findings and conclusions of the study are presented below:

1. Tuberose is one of the most popular cut flower in the world. In Bangladesh, since last few years tuberose has become a popular cut flower for its attractive fragrance and beautiful display in vase. Tuberose has a high demand in the market and its production is highly profitable. The farmers in the study area confronted higher problem in tuberose cultivation. So, concern GOs and NGOs should take necessary steps to minimize the problem confrontation of the farmers in tuberose cultivation.
2. The education of the farmers is essential for any development programme. It is necessary for creating awareness about any improved production technologies. No development work will be effective if the farmers remain illiterate. So, we have to overcome illiteracy problem as soon as possible.
3. To increase the annual income of the farmers, they need to invest money to use quality bulbs, fertilizer, irrigation, preservation of tuberose etc. in time. So, it may be recommended that GOs, NGOs and Concern authority should supply credit so that they can overcome the problems. 4
4. Farmers confronted serious problems in extension work. So, proper contact with extension staff is necessary for reducing problem in tuberose cultivation. The DAE and their non-government organizations should strengthen their extension

service to the farmers to overcome their problem confrontation in tuberose cultivation.

5. Establishment of preservation and storage facilities at the tuberose growing area during peak period is utmost necessity. Government should encourage private entrepreneurs in this direction.
6. The agriculture officers, SAAO should also help the farmers for better cultivation and in acquire information so that the farmers could increase their cultivation and sell their products at a higher price.
7. Training exposure of the farmers in tuberose cultivation seems to minimize their problem confrontation. So, it recommended that the Govt. and other NGOs should take steps that farmers can get more opportunity to receive training and tuberose cultivation and other agriculture practices.
8. For increasing production of tuberose fertilizers and insecticides should made available supply to the farmers in time. The extension staff should make better plan and work in accordance with the related farmers in this villages.

5.4 Recommendations for further study

The present study investigated problem confrontation by the farmers in tuberose cultivation. The following future studies should be undertaken covering more dimensions in related matters.

1. This study was conducted on the population of farmers of six villages of Jhikargacha upazila under Jessore district. Similar, studies may be undertaken in other parts of the country to verify the findings of the present study.
2. The study investigated relationship of the farmers with their problem confrontation in tuberose cultivation. Further research should be under taken for exploring relationship of other characteristics of the farmers with their problem confrontation in tuberose cultivation.

3. The relationship of thirteen characteristics of the farmers with their problem confrontation in tuberose cultivation was investigated. Further research should be undertaken for exploring relationships of other characteristics of the farmers with their problem confrontation in tuberose cultivation.
4. The study investigated fifteen problems of tuberose cultivation. But it is required to investigate other problems of tuberose cultivation. Such as unavailability of bulbs in time, lack of quality bulbs, cultivation cost is high, lack of training opportunity etc.
5. In addition to problem confrontation in tuberose cultivation the farmers also face other problems such as personal, social, economic, sanitation, situation and management. All these problems affect the performance of the farmers. There is need for undertaking research on the various problems of the farmers which affect their performance.
6. Research should be undertaken that the effectiveness of agriculture extension service and other related organizations in helping farmers to solve their problem confrontation in tuberose cultivation.

BIBLIOGRAPHY

- Aditya, D. K. 1992. Floriculture in National Economy in Sharfuddin M. M. G. Rabbani and D. K. Aditya (eds) Horticulture in National Development. Proc.Sixth Nat. Hort. Con.Symp. Bangladesh Soc. Hort. Sci. Bangladesh 184p.
- Ahmed, F. 1985 Effect of Spacing on Growth, bulb and flower production of Tuberose (*Polianthes tuberosa* L.). *M.Sc. (Ag.) thesis*, Dept. of Hort., BAU, Mymensingh.3p.
- Ahmed, S. 2002. Problem Confrontation of the Contact Growers of BADC in Jute Seed Production.*M.S (Ag. Ext. Ed) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Ali, M. A. 1978. Cattle Problems of the Farmers in Tarakanda Union of Fulpur Thana under Mymensingh District. *M.S. (Ag. Ext. Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Ali, M. A. 1999. Opinion of Unemployed Rural Youth on Self Employment by Undertaking Selected Income Generating Activities. *M.S. (Ag. Ext. Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Ali, M. S. 1995. Training Needs in Ecological Agriculture of Selected Groups of Landless and Marginal Farmers Organized by Proshika Manobik Unnayan Kendra. *M.S. (Ag. Ext. Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.

Anwar, A. B. M. N. 1994. Study for Involving Rural Youth Activities in Three selected Villages of Mymensingh District, unpublished *Ph.D. (Ag. Ext. Ed) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.

Aziz, M. A. 2006. Constraints Faced by the Farmers in Potato Cultivation in Jhikargacha Upazilla Under Jessore District. *M.S. (Ag. Ext. Ed.) Thesis*, Department of Agricultural Extension and Information System, Sher-e-Bangla Agricultural University, Dhaka.

Bashar, M. A. 2006. Problem Confrontation of the Farmers in Mushroom Cultivation. *M.S. (Ag. Ext. Ed.) Thesis*, Department of Agricultural Extension and Information System, Sher-e-Bangla Agricultural University, Dhaka.

BBS, 2001. Bangladesh Population Census. Bangladesh Bureau of Statistics, Ministry of Planning, Government of the People's Republic of Bangladesh, Dhaka.

Bhuayan, M. A. S. 2002. Constraints Faced by the Farmers in Banana in Cultivation in Kuliarchar upazila under Kishoreganj District. *M.S. (Ag. Ext. Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.

Biswas, P. B. 1992. An Economic Analysis of Cotton Production in Some Selected Areas of Jessore District. *M.Sc. (Agril. Econ.) Thesis*, Submitted to Department of Agricultural Economics, Bangladesh Agricultural University, Mymensingh.

Bose, T. K. and L. P. Yadav. 1989. Commercial Flowers. Naya Prakash, Calutta, India.

- Faroque, M. G. 1997. Participation of Female Rural Youth in Selected Homestead Activities in Two Selected Villages of Bhaluka Upazilla Under Mymensingh District. *M.S. (Ag. Ext. Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Freeman, H. A. and S. A. Breth, 1994. Population pressure land use and the productivity of Agricultural systems in the West African Savanna, *Issues in African Rural Development* : 103-114.
- Goode, C. V. 1945. *Dictionary of Education*. New York: Mc Graw Hill Book Company, Inc.
- Goode, W. J. and P. K. Hatt. 1952. *Methods of Social Research*, New York: Mc Graw-Hill Book Company, Inc.
- Haller, A. O. 1968. On the Concept of Aspiration Rural Sociology, 33(4):484-487.
- Halim, M. A. 2003. Constraints faced by the farmers in adopting crop Diversification. *M.S. (Ag. Ext. Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Haque, M. A. 1995. Problem Confrontation of the Members of Mohila Bittahen Samabaya Samittee working under the Bangladesh Rural Development Board. *M.S. (Ag. Ext. Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.



- Huque, M. A. S. 2006. Problem Faced by the Farmers in Using Integrated Plant Nutrient Management. *M.S. (Ag. Ext. Ed.) Thesis*, Department of Agricultural Extension and Information System, Sher-e-Bangla Agricultural University, Dhaka.
- Hossain, A. 1989. Problems Faced by the Researchers and Extension Personnel in Technology Generation and Transfer. *M.S. (Ag. Ext. Ed.) Thesis*, Department of Agricultural Extension Education and Teacher's Training, Bangladesh Agricultural University, Mymensingh.
- Islam, M. S. 2000. Farmers Perception of the Harmful Effects of Using Agrochemicals in Crop Production with Regard to Environmental Pollution. *Ph.D. (Ag. Ext. Ed) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Ismail, S. M. 2001. Agricultural Problem confrontation of the Farm Youth in a Selected Block of Haor Area of Mohanganj Upazila Under Netrokona District. *M.S. (Ag. Ext. Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Kashem, M. A. 1977. A study of the Landless Farmers of Barakhata Union Under Rangpur District. *M.S. (Ag. Ext. Ed.) Thesis*, Department of Agricultural Extension Education and Teacher's Training, Bangladesh Agricultural University, Mymensingh.
- Kashem, M. A. 1987. Small Farmers Constraints to the Adoption of Modern Rice Technology. *The Bangladesh Development Studies*, XV(4) : 119-130.

- Kashem, M. A. 2004. Fundamentals of Extension Education. Mymensingh: Lima printing Press.
- Khan, M. H. 1993. Adoption of Insecticides and Related Issue in the Villages of Pachon Union Under Madaripur District. *M.S. (Ag. Ext. Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Mansur, M. A. A. 1980. Farmers Problem Confrontation in Feeds and Feeding Cattle in Sonapur Union of Raipur Upazila Under Lashmipur District. *M.S.(Ag.Ext.Ed.) Thesis*, Department of Agricultural Extension Education and Teacher's Training, Bangladesh Agricultural University, Mymensingh.
- Marothia, D. K. 1983. Constrains Analysis of Farm Level Adption of Paddy technology in Raipur District, Madhya Pardesh. Rural Development Abstracts, 8 (2) :132.
- Nahid, M. M. H. 2005. Problem Confrontation of the Sugarcane Growers in Sugarcane Production. *M.S. (Ag. Ext. Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Parveen, S. 1993 Attitude of Rural Woman Towards Homestead Agricultural Production. *M.Sc. (Ag. Ext. Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Pramanik, N. K. 2001. Crop Cultivation Problems of the Farm Youth in A selected Block of Muktagacha Upazila Under Mymensingh District. *M.S. (Ag. Ext. Ed) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.



- Raha, A. K. 1989. Deep Tubewell Irrigation Problems of The Farmers in the Cultivation of Boro Paddy in Two Selected Blocks of Muktagacha Upazila Under Mymensingh District. *M.Sc. (Ag. Ext. Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Raha, S. K., R. K. Talukder and M. H. Rahman. 1986. Relative profitability of Cotton and its Competing Crops in Bangladesh. *Bangladesh Journal of Agricultural Economics*. **9** (1): 74-82. Department of Agricultural Extension & Teachers' Training, Bangladesh Agricultural University, Mymensingh.
- Rahman, M. H. 2006. Contraints Faced by the Banana Growers of Sonargaon Upazilla Under Narayanganj District. *M.S. (Ag. Ext. Ed.) Thesis*, Department of Agricultural Extension and Information System, Sher-e-Bangla Agricultural University, Dhaka.
- Rahman, M. H. 1985. Contrains Faced by the Farmers in Cotton Cultivation. *M.S. (Ag. Ext. Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Rahman, M. S. 1996. Farmers Problems in Potato Cultivation Saltia Union Under Gafforgaon Thana of Mymensingh District. *M.Sc. (Ag. Ext. Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Rashid, M. M. 1999. Willingness of Dropout Rurla Youth of undertaking Selected Agricultural Entrepreneurship in their Self-Employment. *M.S. (Ag. Ext. Ed.) Thesis*. Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.

- Rashid, M. Z. 2003, Participation of School Dropout Rural Youth in Selected Agricultural Activities in Two Villages of Mymensingh District. *M.S. (Ag. Ext. Ed.) Thesis*, Department of Agricultural Extension Education. Bangladesh Agricultural University, Mymensingh .
- Ray, G. L., P. Chatterjee, and S. N. Banerjee, 1995. Technology gap and constraints in Agricultural Technology Transfer. First edn. Kolkata: Naya Prokash.
- Rosers, E. M. 1995. Diffusion of Innovation. New York: The Free Press.
- Rosenburg, M. and C. I. Hovland, 1960. Research and Communication and Attitude Coated in Triandis, H. C. 1971. Attitude and Attitude Change. John Wiley Publisher, New Work.
- Sadhu, M. K. and T. K. Bose. 1973. Tuberose for most artistic garland. *Indian Hort.*, **18.**, 17-21.
- Salam, M. A. 2003. Constraints Faced by the Farmers in Adopting Environmentally Friendly Farming Practices. *M.S. (Ag. Ext. Ed.) Thesis*, Extension Education, Bangladesh Agricultural University, Mymensingh.
- Shahidullah, M. 1987. The Production and Marketing Behavior of the Poultry Farmers in Boilor Union of Mymensingh district. *M.Sc. (Ag. Ext. Ed.) Thesis*, Bangladesh Agricultural University, Mymensingh.
- Shander, S. and S. P. Singh 2003. Constraints in Adoption of Integrated Pest Management in control. *Indian Journal Extension Education*. XXXIX(1&2) : 41-50.



- Uddin, M. J. 2004. Constraints Faced by the farmers in Commercial Cultivation of Vegetables. *M.S. (Ag. Ext. Ed.) Thesis*, Department of Agricultural Extension Education, Bangladesh Agricultural University, Mymensingh.
- Yadav, L. P. and R. G. Maity. 1989. Tuberose. (In.commerical flowered. Bose, T. K.and Yadav, L. P. Naya Prakash, Bidhan sarani, calcutta, India). pp.518-544.
- Zinyama, L. M. 1988. Farmers' Perceptions of the Constraints against Increased Crop Production in the Subsistence Communal Farming Sector of Zimbabwe. *Agricultural Administration and Extension*. 29 (2): 97-109. In: *Rural Development Abstracts*.

An English version of Interview Schedule
Department of Agricultural Extension & Information System
Sher-e-Bangla Agricultural University
Dhaka-1207

An Interview Schedule for a Research Study entitled:

PROBLEM CONFRONTATION OF THE FARMERS IN TUBEROSE CULTIVATION OF
JHIKARGACHA UPAZILA UNDER JESSORE DISTRICT

Serial No.....

Name of the respondent:

Village Union

Upazila District

(Please answer the following questions .put tick wherever necessary)

1. Age

How old are you?years

2. Education: please mention your educational status

(a) I can not read or write -----

(b) I can sign only -----

(c) I read up to class -----

(d) Others (specify) -----

3. Family size:

How many members are there in your family?

4. Farm size: Please indicate the area of land owned and homestead area by your family

Sl No	Type of land use	Local unit	hectare
(a)	Area under homestead		
(b)	Area under own cultivation		
(c)	Area given to others on barga		
(d)	Area taken from others on barga		
(e)	Area taken from others on lease		
(f)	Others (if any)		
Total farm size			

5. Tuberose cultivation area:

Please mention your tuberose cultivation area.....hectare

6. Annual income:

Please indicate your annual income (TK) from the following different sources (last year)

SL. NO.	Sources of Income	Total price (Tk)
1.	Tuberose	
2.	Others agriculture	
3.	Livestock	
4.	Poultry	
5.	Fisheries	
6.	Business	
7.	Service	
8.	Labour	
9.	Others (If any)	

7. Experience in tuberose cultivation

How many years you are involved in tuberose cultivation (.....)

8. Training Exposure

Mention your training exposure

SL.NO.	Name of training	Duration (days)	Organized by	Year
1				
2				
3				
Total				

9. Cosmopolitaness:

Please indicate the nature of your visit out side your society.

SL. NO.	Place of visit	Nature of visit			
		Frequently	Occasionally	Rarely	Not at all
1.	Own union				
2.	Others union				
3.	Own Upazilla				
4.	Others Upazilla				
5.	Own district				
6.	Others district				
7.	Capital city				

10. Media exposure:

Please indicate the nature of your contact with the following information media.

SL.NO.	Media/ Sources	Extent of exposure				
		Regularly	Often	Occasionally	Rarely	Not at all
1.	Experience Tuberose cultivated farmers					
2.	Dealers (fertilizer, pesticide)					
3.	Sub- Assistant Agriculture extension officer					
4.	Agriculture extension officer					
5.	Group discussion					
6.	Result demonstration					
7.	News paper					
8.	Radio					
9.	Television					



11. Fatalism:

Please mention the degree of your agreement with the following statements

SL. NO.	Statements	Strongly agree	Agree	Undecided	Disagree	Strongly disagree
1	Sometimes water deficiency occurs towards the end of cultivation in aman rice. For this, it is necessary to irrigate by power pump or other means. No body should wait for rains.					
2	There is no need to use balanced fertilizer in the field. If fate is favorable, production will be high without fertilizer.					
3	There is no need to take any measure to control insect pests. If fate is favorable, insects will not attack in the field.					
4	Fate is nothing. If one works carefully, success is sure to come.					
5	There is no need to vaccinate cattle, goat and poultry for prevention from disease. Because if fate is not favorable those will be diseased even if they are vaccinated.					
6	Family planning is a must to make small family. It is not wise to depend fully on fate.					
7	Many men think that prosperity in life depends on fate, but this is wrong. If a man works honestly and intelligently, he can prosper in life from lower level.					
8	It is meaningless to vaccinate for pox because one may be attacked with this even after vaccination if the luck is bad.					
9	If fate is not favorable, the children can not prosper in life though they are educated.					
10	It is learnt that by eating fish, meat and vegetables the health becomes good. But I do not believe in it. If fate is favourable the health becomes good even without those.					
11	If fate is bad, the production will not be good by using balanced fertilizers. So I do not advise my friends to use balanced fertilizers.					
12	The importance of knowledge, skills and abilities of men is much more important than fate.					

12. Level of aspiration:

Please indicate your level of aspiration with respect to the following statements

A. Educational aspiration:

Questions	No education (0)	Primary (1)	Secondary (2)	Higher secondary (3)	Graduation or post Graduation (4)
What level you expect your sons to reach in their education?					

B. Occupational aspiration:

Question	Farm labour/day labour (0)	Traditional cultivation/ caste occupation (1)	Improv ed cultivati on (2)	Business (3)	Government service/respe ctable job (4)
What level you expect your sons to reach in their occupation?					

C. Aspiration for land:

Question	None (0)	Less than 25% (1)	25 to 50% (2)	51 to 75% (3)	More than 75% (4)
What is your aspiration in respect to increasing your land in the next three years?					

D. Aspiration for farm produce:

Question	None (0)	Leas than 25% (1)	25 to 50% (2)	51 to 75% (3)	More than 75% (4)
What is your aspiration in respect to increasing your land in the next three years?					

E. Aspiration for purchase of agricultural Implement:

Question	None (0)	Rice weeder (1)	Hand sprayer (2)	Shallow Tubewel (3)	Power Tiller (4)
What is your expectation with regard to purchase of Agricultural implements/ machines in the next three years?					

F. Aspiration for increasing Annual Income:

Question	None (0)	Less than 25% (1)	25 to 50% (2)	51 to 75% (3)	More than 75% (4)
What is your aspiration in respect of increasing income in the next three years?					

G. Aspiration for house alteration or construction:

Question	None (0)	Minor repairing the existing house (1)	Construction of one tin house (2)	Constructi on of one pucca house (3)	Constructi on of two or more house (4)
What is your aspiration with regard to house alteration or construction in the next three years?					

H. Aspiration for general contentment in life:

Question	None (0)	Somewhat better (1)	Better (2)	More than better (3)	Certainly better (4)
What level you expect your general contentment to reach in the next three years?					

13. Knowledge on Tuberose Cultivation:

Please answer the following questions.

SL. No.	Questions	Total marks	Marks obtained
1.	Which soil is suitable for tuberose cultivation? ✓	2	
2.	Mention the suitable time for tuberose cultivation.	2	
3.	What are the procedures of preparing the tuberose bulbs?	2	
4.	What elements are needed in tuberose cultivation?	2	
5.	What type of temperature needed in tuberose cultivation?	2	
6.	Mention two main uses of tuberose.	2	
7.	What intercultural operations are practiced in tuberose cultivation?	2	
8.	What types of moisture are needed in tuberose cultivation?	2	
9.	Name two disease of tuberose. ✓	2	
10.	Name two harmful insects of tuberose.	2	
11.	What type of irrigation needed in tuberose cultivation?	2	
12.	Name one control measure of disease in tuberose cultivation?	2	
Total		24	

14. Problem confrontation in tuberose cultivation:

Please mention the extent of problem confronted by you in tuberose cultivation.

SL. No.	Problems	Extent of problem confrontation			
		High	Medium	Low	Not at all
1.	Unavailability of bulbs in time				
2.	Lack of quality bulbs				
3.	Cultivation cost is high				
4.	Lack of training opportunity				
5.	Shortage of organic manure for tuberose cultivation				
6.	Lack of knowledge on balanced fertilizer for tuberose cultivation				
7.	Proper contact with extension staff				
8.	Insect attack of tuberose				
9.	Pest attack of tuberose				
10.	Lack of capital				
11.	Inadequate credit supply of tuberose cultivation				
12.	Lack of storage to preserve of tuberose				
13.	Low demand in the local market				
14.	Boundness of the farmers to supply commodities to middle man in low price				
15.	Lack of skill labour				

Thank you for your kind co-operation in data collection

Date.....

.....
Signature of the interviewer

APPENDIX- B

Correlation matrix showing the interrelationships among the entire variable

	X ₁	X ₂	X ₃	X ₄	X ₅	X ₆	X ₇	X ₈	X ₉	X ₁₀	X ₁₁	X ₁₂	X ₁₃	a
X ₁	1													
X ₂	-.383**	1												
X ₃	.353**	-.191	1											
X ₄	.173	-.140	.587**	1										
X ₅	.011	-.095	.073	.172	1									
X ₆	.173	-.169	.614**	.916**	.268**	1								
X ₇	.712**	-.224*	.280**	.090	.084	.091	1							
X ₈	.092	.217*	.059	-.050	-.017	-.043	.020	1						
X ₉	-.046	.204*	-.036	-.134	.105	-.078	.060	.123	1					
X ₁₀	-.019	.393**	-.038	-.113	.073	-.186	.098	.292**	.135	1				
X ₁₁	.094	-.151	.160	.085	-.088	.041	.043	-.084	-.016	-.081	1			
X ₁₂	-.080	.179	.008	.132	.014	-.022	-.111	.162	-.048	.381**	-.163	1		
X ₁₃	-.005	.354**	-.090	-.103	-.091	-.094	.119	.187	.078	.227*	-.186	.046	1	
a	-.111	-.214*	.090	.159	-.108	.172	-.307**	-.192*	-.244*	-.279**	.122	-.050	-.227*	1

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

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

X₁ = Age
X₂ = Education
X₃ = Family Size
X₄ = Farm Size
X₅ = Tuberose Cultivation Area
X₆ = Annual Income
X₇ = Experience in Tuberose Cultivation

X₈ = Training Exposure
X₉ = Cosmopolitnness
X₁₀ = Media Exposure
X₁₁ = Fatalism
X₁₂ = Level of Aspiration
X₁₃ = Knowledge on Tuberose Cultivation

a = Problem Confrontation in Tuberose Cultivation

Shree-Bangla Agricultural University
Library
Accession No. 37495
Date 20/01/14

সেচকালক ধর্ম বিশ্ববিদ্যালয়
সংস্করণ নং 62 (A) Ag Ext.
তারিখ 11/01/14