

HOMESTEAD FARMING KNOWLEDGE OF GARO WOMEN FARMERS

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A thesis

*Submitted to the Department of Agricultural Extension and Information System
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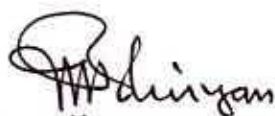
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CERTIFICATE

This is to certify that the thesis entitled “**Homestead Farming Knowledge of Garo Women Farmers**” submitted to the Faculty of Agriculture, Sher-e-Bangla Agricultural University, Dhaka, in partial fulfillment of the requirements for the degree of **Master of Science in Agricultural Extension and Information System**, embodies the result of a piece of bona fide research work carried out by **Md. Abdullah Al Mamun**, Registration No. 09-03724 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: 24. 02. 2013
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**DEDICATED
TO**

MY BELOVED PARENTS

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The Author

HOMESTEAD FARMING KNOWLEDGE OF GARO WOMEN FARMERS

ABSTRACT

The study was conducted in Arankhola union of Modhupur upazila under Tangail district. *Garo* women farmers of Modhupur upazila under Tangail district constituted the population of the study. An update list of 418 *Garo* women farmers who were related to homestead farming activities was prepared with the help of Sub-Assistant Agricultural Officer of these localities. Around one fourth (1/4) of the populations were randomly selected as the sample of the study by using random sampling method. Thus, 105 *Garo* women farmers constituted the sample of the study. A well structured interview schedule was developed based on objectives of the study for collecting information. The researcher himself collected data through personal contact. About half (49.52 percent) of the respondents fell in low knowledge category followed by very low knowledge (27.62 percent) and medium knowledge (22.86 percent) category in homestead farming knowledge. Level of education, homestead farm size, annual family income, organizational participation, cosmopolitaness, contact with extension agent and exposure to mass media agricultural programs had significant positive relationships with homestead farming knowledge of *Garo* women farmers. Age of the *Garo* women farmers had significant negative relationship with homestead farming knowledge. Family size and average family education had positive but no significant relationships with the homestead farming knowledge of *Garo* women farmers.



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CHAPTER I

INTRODUCTION

1.1 General Background

Bangladesh is mainly an agro-based country with an area of 147,570 square kilometers and about 79.9 percent of its population lives in rural areas and 62 percent of the country's total labor forces are engaged in agriculture. Agricultural output at current prices has been found to contribute 23.50 percent to the GDP in which 13.44 percent comes from crops, 1.90 percent from forestry, 2.93 percent from livestock and 5.23 percent from fisheries (BBS, 2009). Bangladesh has become a promising country of the world in its development having a total population is 164,700,000 of which approximately 14 lac are aborigines (Economic Survey, 2010). There are about 29 tribes in Bangladesh among them Chakma, Marma, Tripura, Garo, Hajong, Murang, Sautal, Monipuri are well known in our country. The *Garo* family and society are governed by matriarchal laws, customs and institutions. This means, the wife is the head of the family and the husband is under the wife who works to support the family and administers the property. Most of the *Garo* are converted into Christian. The economic activities of the *Garo* include both agricultural and non-agricultural activities. They produce different crops including rice, vegetables, pulses, oilseeds and spice crops from their lands. Non-agricultural productions like handicraft, cottage industries, small business, tailoring, nursery etc. are also profitably carried out by the *Garo* farmers (Bhuiyan, 1999).

Homestead is the dwelling place and is the centre, where fruits are grown by the household farmers. In Bangladesh, about eighty five percent of the people live in rural areas. According to Ninaz (1986), homestead refers to home and adjoining land occupied by a family for the purpose like small scale agricultural production, home up keeping, sanitation, health and nutrition. Likewise, homestead land is defined as the land owned and occupied by the dwelling unit of the household and adjacent area surrounding the dwelling unit including court yard, pond, walk

space around homesteads, and space for kitchen gardening and the plantation. Moreover, a vast number of rural people are landless and 55 percent of the land owners are small farmers. Landless families possess a small piece of land in the homestead area. The households' owners cultivate different kinds of vegetables, fruits and earn money more than medium and large farm size family (Halim, 1991).

Farming is the main livelihood of *Garos* but homestead farming knowledge of *Garos* women farmers is very little known. It is necessary to have an understanding of the facts that contribute to homestead farming knowledge of *Garos* women farmers. A few research works have been found on farming knowledge of *Garos* women farmers in *Garos* area. So the researcher has become keenly interested to undertake research entitled "Homestead farming knowledge of *Garos* Women Farmers". The present study will help to understand the picture of homestead farming knowledge of *Garos* women farmers of Modhupur area in particular and the findings of the study will particularly be the representation of this locality. However, the findings may also be generally applicable to other areas of the district where the social ecosystem is same to the study area. The findings may also be helpful to the extension workers of different organizations to improve their technique and strategy. Finally there is a great scope for investigation on homestead farming knowledge of *Garos* women farmers because little study was conducted on this so far in greater Mymensingh district.

From the above discussion, we can say that homestead farming activities can play an important role to fight against malnutrition for the household families of *Garos* women farmers and to boost up economic development. Considering the importance of homestead farming both from economic and nutritional point of view the researcher became especially inclined to conduct an investigation of the homestead farming knowledge of *Garos* women farmers.

1.2 Statement of Problem

Garo women farmers due to their ethnic culture involve in homestead farming activities for attaining the benefits both economically and nutritionally. Some non-agricultural activities like handloom, handicrafts, fishing etc. are also accomplished for the total betterment. *Garos* are self reliant tribe, who manage their livelihood by producing different crops including rice, vegetables, pulses, oilseeds and spice crops from their lands. A dynamic change in homestead farming has already been observed in Bangladesh especially among the tribes of Bangladesh. As they live in the forest there are traditional bound and don not follow the modern cultivation practices. They also do not have social interaction with plain land of Bangladesh. But they are not excluded from the extension service. It is difficulties for the agricultural extension officer to understand the homestead farming status of *Garo* women including family knowledge. Moreover, almost no research work was conducted so far to understand their homestead farming knowledge and general cultivation behavior. The researcher undertook the investigation entitled, "homestead farming knowledge of *Garo* women farmers" in the *Garo* villages of Modhupur upazila of Tangail District in order to have an understanding the knowledge of *Garo* women farmers in homestead farming activities. Research information is required which could be helpful to the policy maker, regarding supply of inputs, technological knowledge and problems being encountered on the improvement knowledge of *Garo* women farmers in homestead farming activities. The purpose of the study was to investigate the homestead farming knowledge of *Garo* women farmers and to explore the relationship of the selected personal, economic, social and psychological characteristics with the homestead farming knowledge of *Garo* women farmers. In order to make the study manageable, the following research questions were taken into consideration.

- i) What extent of knowledge of *Garo* women farmers possess about homestead farming?
- ii) What selected characteristics of the *Garo* women farmers affected their homestead farming knowledge?

- iii) Is there any relationship exists between the *Garo* women farmers selected characteristics and their homestead farming knowledge?

For getting clarification of the above questions the researcher selected the following objectives of the study.

1.3 Specific Objectives

The following specific objectives were selected in order to give proper direction of the study.

1. To determine the extent of homestead farming knowledge of *Garo* women farmers.
2. To analyze the selected socio-economic characteristics of *Garo* farmers that affect their homestead farming knowledge. The characteristics are:
 - Age
 - Level of Education
 - Homestead farm size
 - Family size
 - Average family education
 - Annual family income
 - Organizational participation
 - Cosmopolitaness
 - Contact with extension agent
 - Exposure to mass media agricultural programs
3. To explore the relationship between selected characteristics of the *Garo* women farmers and their homestead farming knowledge.

1.4 Statement of Hypothesis

According to Karlinger (1973), a hypothesis is a conjectural statement of the relation between two or more variables. A null hypothesis states that there is no relationship between the concerned variables. The following null hypothesis was undertaken for the present study:

“There is no relationship between the selected characteristics of *Garo* women farmers with their homestead farming knowledge”. The related characteristics are age, level of education, homestead farm size, family size, average family education, annual family income, organizational participation, cosmopolitaness, contact with extension agent and exposure to mass media agricultural programs.

1.5 Assumptions of the Study

An assumption has been defined as the supposition that an apparent fact or principle is true in the light of the available evidence (Goode, 1945). The researcher had the following assumptions in mind while undertaking this study:

- The respondents included in the sample were capable of furnishing proper responses to the questions exerted in the interview schedule.
- Views and opinions furnished by the respondents were the representative views and opinions of the whole population of the study.
- The responses furnished by the respondents were reliable. The researcher was well adjusted to the social environment of the study area. So the respondents gave their opinions without any hesitation.
- All the data concerning the independent and dependent variables were normally and independently distributed with their respective means and standard deviation.
- The findings of the study will have general applications to other parts of the country of tribal areas with similar personal, socio-economic and cultural conditions.

1.6 Limitation and Scope of the Study

Considering the time, money and other necessary resources available to the researcher and to make the study manageable and meaningful it became necessary to impose certain limitations and also to make meaningful and manageable. The limitations were as follows:

- i) The study was confined to *Garó* villages of Modhupur upazila of Tangail District.
- ii) Population for the present study was kept confined within the heads of *Garó* women farmers families in the study area.
- iii) There were many characteristics of the *Garó* women farmers in the study area but only ten of them were selected for investigation.
- iv) For information about the study, the researcher depended on the data furnished by the selected respondents during their interview with him.
- v) Facts and figures collected by the researcher applied to the situation prevailing during the year 2011.

Findings of the study will be particularly applicable in a selected area of *Garó* women farmers. However, the findings may also have applications for other tribal areas of Bangladesh where the physical, socio-economic and cultural condition do not differ much from those of the study area. Thus the findings will be helpful to the researchers, planner, policy makers and extension workers for promoting livelihood of the tribal peoples.



1.7 Definition of Terms

A concept is an abstract of observed thing; events or phenomenon or in other words, it is a short hand representation of variety of. A researcher needs to know the meaning and contents of every term that he uses. It should clarify the issue as well as explain the fact to the investigator and readers. However, for clarity of understanding, a number of key concepts/terms frequently used throughout the study defined are interpreted as follows:

Respondents

Respondents are the people from whom a social research worker usually gets most data required for his research. In this study the respondents were the *Garó* women farmers of *Garó* villages of Modhupur upazila of Tangail District.

Farmers

The persons who were involved in farming activities are called farmers. They participated in different farm and community level activities like crops, livestock, fisheries, other farming activities etc. In this study farmer means *Garó* women farmers.

Variable

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

Dependent variable

Dependent variable is that factor which appears, disappears or varies as the researcher introduces, removes or varies the independent variables.

Independent variable

Independent variable is that factor which is manipulated by the researcher in his attempt to ascertain its relationship to an observed phenomenon.

Assumption

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

Hypothesis

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

Null hypothesis

The hypothesis which we pick for statistical test is null hypothesis (H_0). In this study the null hypothesis is stated that there is no relationship between the concerned variables.

Age

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

Level of Education

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

Homestead farm size

The term related to the hectare of land owned by a *Garo* women farmer in homestead areas on which he carried his homestead farming activities, the area being estimated in terms of full benefit to the *Garo* women farmers in hectare basis.

Family size

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

Average family education

Average family education was measured on the basis of classes a *Garo* women farmers family members has passed from a formal educational institution and divided by their number.

Annual family income

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

Organizational participation

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

Cosmopolitaness

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

Exposure to mass media agricultural programs

It is referred to the respondents becoming accessible to the influence of different information media related to agricultural programs through different mass media that circulate in different time.

Extension media contact

It is referred to the respondents becoming accessible to the influence of different information media through different extension teaching methods.

Knowledge on homestead farming

It is the extent of basic understanding of the *Garo* women farmers in different aspects of homestead farming like soil, seed, fertilizer, insects and diseases, high yielding variety in different crop species. It includes the basic understanding of the use of different inputs and practices for homestead fruit production.

CHAPTER II

REVIEW OF LITERATURE

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

Section 1: Review of literature related to concept, components, formation and measurement of knowledge

Section 2: Relationship between selected characteristics of the respondents and their knowledge

Section 3: The development of conceptual framework of the study

2.1 Farmers' knowledge

Khan (2005) studied on farmers' knowledge of maize cultivation and found that majority (68 percent) of the farmers had relatively low level of knowledge and 32 percent of the farmers had possessed relatively high level of knowledge.

Sarker (2002) studied on farmers' knowledge on improved banana cultivation practices and showed that majority of the banana growers (83.7 percent) had moderate, 6.1 percent had poor and the rest 10.2 percent had good knowledge.

Sarker (2002) studied on farmers' knowledge of and attitude towards BRRI Dhan 29 variety of rice and show that 60 percent of the farmers held medium knowledge 33 percent high knowledge and 7 percent possessed low knowledge.

Saha (2001) made an attempt on farmers knowledge in improved practices of pineapple cultivation and found that the majority (62 percent) of the farmers possessed good knowledge, 33 percent poor knowledge and only 5 percent possessed excellent knowledge.

Mannan (2001) conducted a study on knowledge about food and nutrition of the farmers under PROSHIKA mung and found that highest proportion (75 percent) respondents fell in the medium knowledge level, while 9 percent of the respondents fell in the low knowledge level and 16 percent in the high knowledge category.

Hussen (2001) in his study found that 84 percent of the farmers had medium, 13 percent had high knowledge and the lowest proportion (3 percent) possessed low knowledge on modern sugarcane cultivation practices.

Hossain (2000) also in his study on farmers' knowledge and perception of Binadhan-6 in the Boro season found that highest proportion (65 percent) of the farmers possessed medium knowledge, 21 percent low knowledge and lowest proportion (14 percent) possessed high knowledge.

Nurzaman (2000) also in his study on knowledge, attitude and practice of FFS and non-FFS farmers in respect of IPM found that 46.67 percent of the FFS farmers had medium, 31.67 percent had high and 21.67 percent had low IPM knowledge while among the non-FFS farmers, 98.33 percent had low and only 1.67 percent had medium IPM knowledge. In the same study he found that 60 percent of the FFS farmers had medium knowledge, 25 percent low and 15 percent had high agricultural knowledge. The majority (55 percent) of the non-FFS farmers had low agricultural knowledge and rest (45 percent) of the non-FFS farmers had medium agricultural knowledge.

Khan (1996) conducted a research on the effectiveness of "A Farmer Primer on Growing Rice" in knowledge change of the farmers in Shakhipur Thana and

found that 67 percent farmers had good knowledge at initial stage, where 21 percent had excellent knowledge and 12 percent had poor knowledge.

Parveen (1995) in her study found that 58 percent of the farm women had moderate knowledge while 35 percent had high and 7 percent had poor knowledge on the use of fertilizers, pesticides and irrigation water.

Rahman *et al.* (1988) conducted a study on health cover practices of poultry and found that 26 percent of the farm women possessed low level of knowledge while 74 percent possessed medium level and none possessed high level of knowledge.

Haque (1986) following a study on a quasi-experiment design, tested rice farming knowledge of field extension agents employed in two provinces Leyte and Sordania of the Philippines. The numbers of agents were 44 selected randomly from each province. Their rice farming knowledge was measured before the intervention (treatment) was initiated. Result showed that 75 percent possessed low knowledge and 25 percent possessed high knowledge by the Leyte agents. The percentage of the knowledge in that level was 70 and 30, respectively. The t-statistics show that there were no differences in rice farming knowledge between the agents in two locations.

Ahmed (1974) ascertained the farmers' knowledge on five aspects of farming. The comprehensive knowledge scores show that 44 percent of the farmers possessed low knowledge, 41 percent medium knowledge and 15 percent high knowledge.

2.2 Relationship between farmers' characteristics and knowledge

2.2.1 Age and knowledge

Bhaskaram and Mahajan (1968) reported that young farmers had gained more information on agricultural technology.

Chandargi (1980) found that there was significant association between age and knowledge gain as a result of training.

Hansara and Chopra (1986) found that there was a significant negative correlation between gain in knowledge about cattle disease and age of the respondents i.e., the more was the age of the respondents, less was their gain in knowledge.

Kashem (1987) in his study on the small farmers' constraints to the adoption modern rice technology found that age of the farmers had significant negative correlation with their agricultural knowledge.

Rayspreddy and Jayarmaiah (1989) revealed that age of the VEOs showed negative relationship with their knowledge level on rice production technologies.

Islam (1993) in his study concluded that age of the BSs had no significant relationship with their knowledge on modern agricultural technology.

Khan (1996) conducted a research on the effectiveness of "A Farmers primer on Growing Rice" in knowledge change of the farmers in Shakhipur thana and found that age of the respondent had no role with the three dependent variables namely initial rice knowledge, final rice knowledge and knowledge gain.

Nandiwal *et al.* (1999) in their study on knowledge and adoption level of the farmers about rice production technology. The research was conducted at Kheda district of Gujarat state. They found that age of the farmers had non significant correlation with their knowledge about rice production;

Hossain (2000) in his study found that age of the farmers had no significant relationship with their knowledge on Binadhan-6 technology.

Saha (2001) made an attempt on farmers' knowledge on improved practices of pineapple cultivation and found that the age of the farmers had no significant relationship with their knowledge on improved practices of pineapple cultivation.

Rahman (2001) conducted a study to determine the knowledge, attitude and adoption of the farmers regarding Alok 6201 hybrid rice. He found that age of the farmers was not related to farmers' knowledge on Alok 6201 hybrid rice.

Sarker (2002) conducted a study on farmers' knowledge of and attitude towards BRRI Dhan29 variety of rice and found that the age of the farmers was not related to farmers' knowledge on BRRI Dhan29.

Akter (2003) found in his study that the age of the farmers had no significant relationship with their knowledge on agricultural activities.

Saha (2003) found no relationship between poultry farmers' age and their knowledge on poultry production.

Rahman (2004) found in his study that age of the farmers had no significant relationship with their knowledge on boro rice cultivation.

Khan (2005) found in his study that age of the farmers was not related to their knowledge of maize cultivation practices.

Sarker (2002) found in his study that age of the farmers had a significant and negative relationship with their knowledge on improved banana cultivation.

2.2.2 Level of education and knowledge

Banerjee (1976) and Chandargi (1980) reported that farmers' education was significantly related with their knowledge.

Rathore and Shaktawat (1990) reported in their study that farmers' education was significantly related with their knowledge.

Hansara and Chopra (1986) found that education and knowledge gain in cattle disease through telecasts have highly significantly positive relationship.

Kashem (1987) in his study revealed that there was no significant relationship between education of the farmers and their agricultural knowledge.

Kumari (1988) from a study on communication effectiveness of selected mass media concluded that there was a significant association between education of the respondents (women) and attitude towards the message and knowledge level.

Islam (1993) found that the general education of the BSs had no significant relationship with their knowledge on modern agricultural technologies. However, the trend of relationship between general education and knowledge on modern agricultural technologies was negative.

Khan (1996) in his study found the formal education was related to both their initial rice knowledge ($r=0.42$) and their final rice knowledge ($r=0.33$) but also found that concerned variable was not related to their knowledge gain ($r=0.02$).

Hazarika *et al.* (1999) conducted a study on relative influence of socio-personal psychological and communicational traits of the farmers on gain in knowledge in plain and hilly areas of Kamrup district of Assam and found that both in hilly and plain areas education of the respondents positively and significantly related to their knowledge gain.

Hossain (2000) found that the education of the respondents had significant positive relationship with their knowledge on Binadhan-6.

Saha (2001) found that the education of the farmers had a positive significant relationship with their knowledge on improved practices of pineapple cultivation.

Sarker (2002) conducted a research on farmers' knowledge of and attitude towards BRRI Dhan29 variety of rice and found that education of the respondents had positive relationship with their knowledge of BRRI Dhan29.

Saha (2003) found, among the six independent variables, only education was positively and significant related at 0.01 level of probability with poultry farming knowledge.

Rahman (2004) found in his study that level of education of the farmers had a significant and positive relationship with their knowledge on boro rice cultivation.

Sarker (2002) found in his study education level of the farmers had significant and positive relationship with their knowledge on improved banana cultivation.

2.2.3 Farm size and knowledge

Ahmed (1974) found that there is a significant relationship between farm size of the farmers and their agricultural knowledge.

Sharma and Sonoria (1983) found that both the contact and non-contact farmers were different in their size of operational holding. However, they found no significant differences in knowledge of both the contact and non-contact farmers with the size of their operational holdings.

Ali (1984) found that farm size of the contact and non-contact farmers had significant positive contribution to their agricultural knowledge.

Khan (1996) in his study indicated that farm size of the respondent was not significantly related to their initial rice knowledge, final rice knowledge and knowledge gain.

Hossain (2000) found that farm size of the farmers had no relationship with their knowledge of Binadhan-6.

Hossain (2001) in his study found that farm size of the farmers was related to farmers' knowledge of crop cultivation.

Sarker (2002) also found that there was a positive relationship between farm size of the farmers and their knowledge of BRI Dhan29.

Akter (2003) found in his study that farm size of the farmers had a significant and positive relationship with their knowledge on agricultural activities.

Rahman (2004) found in his study that farm size of the farmers had a significant and positive relationship with their knowledge on boro rice cultivation practices.

Khan (2005) found in his study that farm size of the respondent had no relationship with their knowledge of maize cultivation

2.2.4 Annual income and knowledge

Ali (1984) also found that income of the contact and non-contact farmers' differed significant positive contribution to both of their agricultural knowledge and adoption of innovations.

Nurzamman (2000) found that incomes of the rural women farmers had no relationship with their knowledge of the FFS and non-FFS farmers.

Hossain (2003) found that income of the rural women farmers had negative relationship with their knowledge of modern Boro rice cultivation.

2.2.5 Cosmopolitanism and knowledge

Ahmed (1974) conducted that there was a relationship between cosmopolitanism of farmers and their agricultural knowledge.

Sharma and Sonoria (1983) in their study found that contact farmers' knowledge varied significantly with social participation while adoption of both contact and non-contact farmers differed significantly with their social participation.

Ali (1984) found that cosmopolitanism of contact and non-contact farmers had significant positive contribution to their agricultural knowledge.

Rahman (1995) in his study found that cosmopolitanism of potato growers had no relationship with their knowledge regarding improved practices of potato cultivation.

Khan (1996) revealed that subjects' organizational participation had insignificant relationship with their initial rice knowledge, final rice knowledge and knowledge gain.

Hazarika (1999) in his study found that social participation of the respondents was significantly associated with their knowledge gain both in plain area and hilly areas of Assam.

Hossain (2000) found no significant relationship between cosmopolitanism of the farmers and their knowledge on Binadhan-6.

Saha (2001) conducted a study and found that cosmopolitanism of the farmers had a significant relationship with their knowledge on improved practices of pineapple cultivation.

Sarker (2002) revealed that cosmopolitanism of the farmers was significantly related with their knowledge of and attitude towards BRRI Dhan29 variety of rice.

Saha (2003) found that organizational participation of the farmers had a significant relationship with their knowledge in shrimp cultivation.

Hossain (2003) in his study found that cosmopolitanism of the farmers had positive and significant relationship with their knowledge on modern Boro rice cultivation practices at 0.01 level of probability.

Khan (2005) in his study found that the cosmopolitanism of the farmers had an insignificant and negative relationship with their knowledge in maize cultivation.

2.2.6 Extension media contact and knowledge

Ahmed (1974) found that there is a significant positive relationship between extension contact of the farmers and their agricultural knowledge.

Ali (1984) found that contact and non-contact farmers differed significantly in respect of their media exposure. He observed that media exposure of the contact

and non-contact farmers had significant contribution towards their agricultural knowledge.

Kaur (1988) found that extension contact and mass media exposure had significant influence upon opinion and level of knowledge on selected program among the rural women.

Islam (1991) in his study found that extension contact was significant related with their agricultural knowledge. Haque (1993) also found a positive relationship between extension contact and adoption of improved practices.

Rahman (1995) studied farmers' knowledge on improved practices on potato cultivation by the farmers of Kajipur upazilla under Sirajganj district. The study indicated a significant relationship between extension contact knowledge of improved practices on potato cultivation.

Khan (1996) found an insignificant relationship between extension contact of the farmers and their initial knowledge, final knowledge and also knowledge gain.

Naddiwal *et al.* (1999) conducted a research on knowledge and adoption level of the farmers about rice production technologies and concluded that extension contact of the farmers had significantly influenced farmers' knowledge.

Hossain (2000) concluded that media exposure of the farmers had a significant relationship with their knowledge of Binadhan-6.

Rahman (2001) found in his research work that media exposure work that media exposure of a farmers had a positive significant relationship with their knowledge of Alope 6201 hybrid rice.

Sarker (2002) in his study found that the media exposure of the farmers was significant related with their knowledge of BRRI Dhan29 variety of rice.

2.2.7 Exposure to mass media and knowledge

Settee (1973) revealed that there was no association between overall knowledge Gramsavaks about extension program planning and exposure to mass media. Similar was the case with specific of various aspects of extension program planning.

Manjunatha (1980) revealed that the more exposure to mass media farmers had higher knowledge level and adoption behavior compared to lower exposure to mass media.

Rayapareddy and Jayarmiah (1989) working on village extension officers (VEOs) knowledge of rice production technology found that exposure to mass media had significant positive relationship with the knowledge level of VEOs.

Karim and Hossain (1995) observed that the farmers differed significantly in their knowledge in sugarcane cultivation based on their exposure to mass media.

Hossain (2001) found that the exposure to mass media of the respondents had positive relationship with their knowledge of crop cultivation.

Mannan (2001) in his study found that the exposure to mass media of the farmers had a positive significant relationship with their knowledge on food and nutrition.

2.3 Conceptual Framework

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

The conceptual framework of Rosenberg and Hovland (1960) was kept in mind while making structural arrangements for the dependent and independent variables. This study is concerned with the homestead farming knowledge of *Garo* women farmers. Thus, the homestead farming knowledge of *Garo* women farmers was the dependent variable and 10 selected characteristics of the *Garo* women farmers were considered as the independent variables. Homestead farming knowledge of *Garo* women farmers of an individual may be affected through interacting forces of many independent variables. It is not possible to deal with all independent variables in a single study. It was therefore, necessary to limit the independent variables, which include age, level of education, homestead farm size, family size, average family education, annual family income, organizational participation, cosmopolitaness, contact with extension agent and exposure to mass media agricultural programs for this study.

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



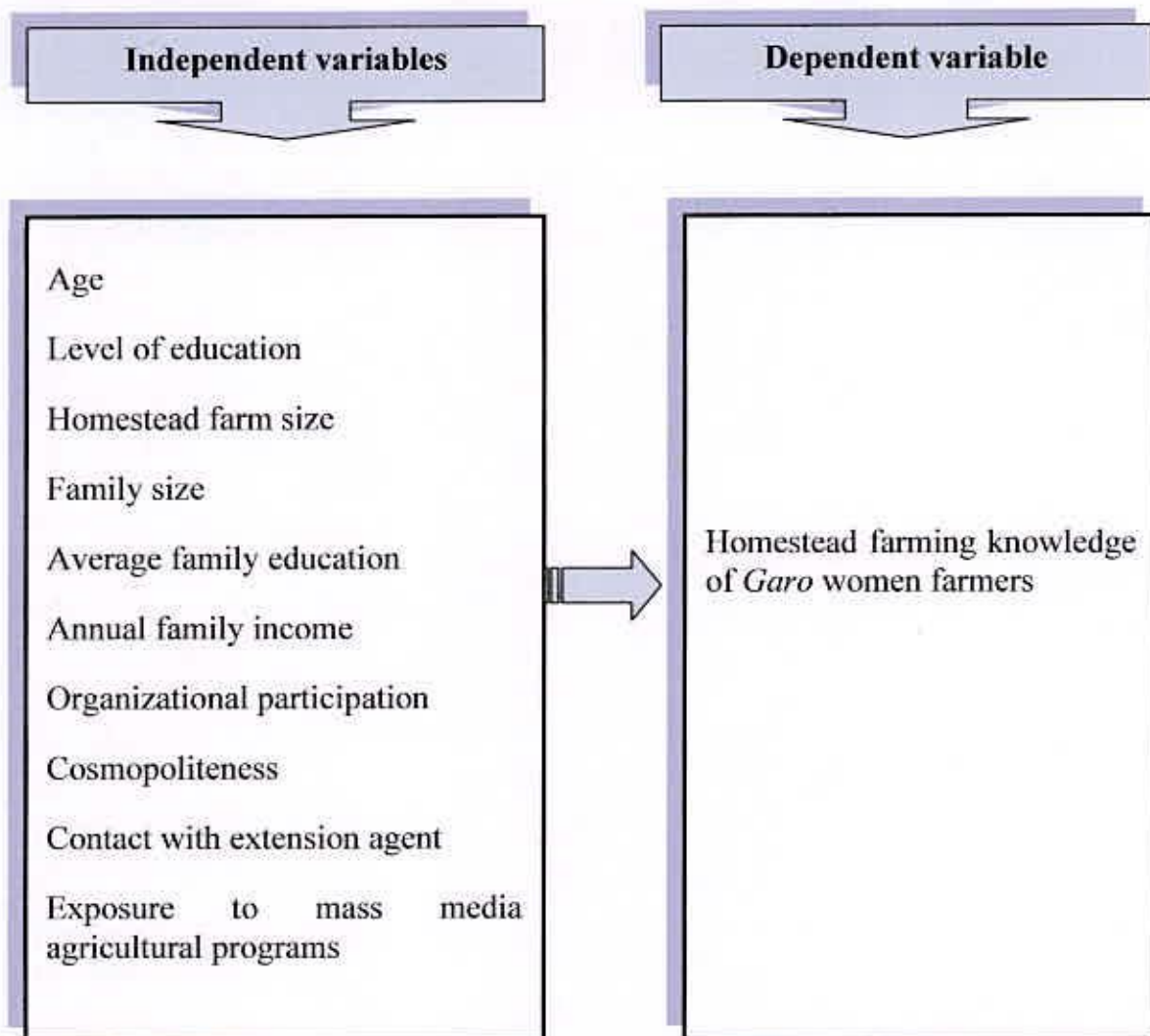


Figure 2.1 The conceptual framework of the study

CHAPTER 3

METHODOLOGY

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

3.1 Locale of the study

The study was conducted in Arankhola union of Modhupur upazila under Tangail district. There are 06 unions in Modhupur upazila viz. Arankhola, Ausnara, Alokdia, Sholakori, Golabari and Mirzabari. Among the unions Arankhola is the union where tribal people especially *Garo* are living with highest number. The *Garo* women farmers of this area grow fruit trees in their small homestead areas. But most of them are unaware about the benefits of fruit production (both cash and nutrient value fruits). So, to bring the area in the light of great concern it was selected as the locale of the study.

3.2 Sample size

Garo women farmers of Arankhola union of Modhupur upazila under Tangail district constituted the population of the study. An update list of 418 *Garo* women farmers who were related to homestead farming activities was prepared with the help of Sub-Assistant Agricultural Officer of the upazila. Around one fourth (1/4) of the populations were randomly selected as the sample of the study by using random sampling method. Thus, 105 *Garo* women farmers constituted the sample of the study. A reserve list of 15 *Garo* women farmers was also prepared by the same method so that the respondents of this list could be used for interview if the respondents included in the original sample were not available at the time of data collection.

3.3 The research instrument

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

The questionnaire was pre-tested with ten *Garó* women farmers in actual situation before making final draft. Necessary corrections, additions, alternations, rearrangements and adjustments were made in the interview schedule based on pretest experience. The questionnaire was then multiplied by printing in its final form. A copy of the interview schedule is presented into Appendix I.

3.4 Measurement of variables

The variable is a characteristic, which can assume varying, or different values in successive individual cases. A research work usually contains at least two important variables viz. independent and dependent variables. An independent variable is that factor which is manipulated by the researcher in his attempt to ascertain its relationship to an observed phenomenon. A dependent variable is that factor which appears, disappears or varies as the researcher introduces, removes or varies the independent variable (Townsend, 1953). In the scientific research, the selection and measurement of variable constitute a significant task. Following this conception, the researcher reviewed literature to widen this understanding about the natures and scopes of the variables relevant to this research. At last he had selected 10 independent variables and one dependent variable. The independent variables were: age, level of education, homestead farm size, family size, average family education, annual family income, organizational participation, cosmopolitaness, contact with extension agent and exposure to mass media agricultural programs. The dependent variable of this study was the homestead farming knowledge of *Garó* women farmers. The methods and procedures in measuring these variables are presented below:

3.5 Measurement of independent variables

The 10 characteristics of the *Garó* women farmers mentioned above constitute the independent variables of this study. The following procedures were followed for measuring the independent variables.

3.5.1 Age

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

3.5.2 Level of education

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

3.5.3 Homestead farm size

Homestead farm size of respondent *Garó* women farmers referred to the area of land on which her family used for homestead farming and received full benefits for her family. It was measured in hectares for each respondent.

3.5.4 Family size

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

3.5.5 Average family education

Average family of education of a respondent was measured by summing up the year of schooling accomplishment by the family members of a respondent and then divided by the total members of the family. Suppose. A *Garó* women farmers has five family members, husband and wife and their three children. These education score was recorded as 0, 4, 10, 8 and 5, respectively. Therefore, the average family education score would be $(0 + 4 + 10 + 6 + 5)/5 = 25/5 = 5$. It means that on an average each family member studied upto class V.

3.5.6 Annual family income

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

3.5.7 Organizational participation

Organizational participation of respondent *Garó* women farmers was measured on the basis of the nature of their participation in seven selected organization. Score was computed by adding all the score secured by a respondents due to participation in different organization out of the selected 7 organizations.

Following scores were assigned for nature of participation:

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

The organizational participation score of a respondents could be ranged from '0'- '21' where '0' indicated no participation and 21 indicated very high organizational participation.

3.5.8 Cosmopolitaness

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

Extent of visit	Scores
Not at all	0
Rarely	1
Occasionally	2
Often	3
Regularly	4



Scores obtained for visits to each of the selected ten categories of places were added together to get the cosmopolitaness score of a respondent. Cosmopolitaness score of an individual could range from 0 to 40 where 0 indicated no cosmopolitaness and 40 indicated very high cosmopolitaness.

3.5.9 Contact with extension agent

Contact with extension agent by respondent Garo women farmers was measured on the basis of frequency of her visit to the office of UAO, AEO, AAEO, SAAO, NGO worker etc. with a view to gather homestead farming knowledge with five point scale in the last year (Item No. 8; Interview Schedule Appendix I). Hence, the use of each of the nine extension agent first ascertained by computing their using score. A five point scale was used to compute the extension contact. Then the contact with extension agent score of a respondent for the nine extension agent were added together to ascertain her total score in contact with extension agents. In this regard weight was assigned to each of the five types of responses provided by the respondents *Garo* women farmers in the following manner:

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

Thus, the extension media contact score of a respondent could range from '0' to 36 where '0' indicate no extension media contact and 36 indicate very high contact with extension agent regarding homestead farming.

3.5.10 Exposure to mass media agricultural programs

Exposure to mass media agricultural programs of the respondent *Garo* women farmers were measured on the basis of their opinions regarding the exposure to mass media agricultural programs in receiving information on homestead farming during the immediate passed year of interview. Hence, the use of each of the three Exposure to mass media agricultural programs namely farm and radio talks, TV channels and print media first ascertained by computing their using score. A four point scale was used to compute the exposure to mass media agricultural programs. Then the exposure to mass media agricultural programs score of a respondent were added together to ascertain his total score. In this regard weight was assigned to each of the four types of responses provided by the respondents *Garo* women farmers in the following manner:

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

Thus, the exposure to mass media agricultural programs score of a respondent could range from '0' to 45 where '0' indicate no exposure to mass media agricultural programs and 45 indicate very high exposure to mass media agricultural programs.

3.6 Homestead farming knowledge

Homestead farming knowledge referred to the knowledge gained by the respondent farmers in homestead farming. Fifty one questions on different aspect of homestead farming were asked to the respondent *Garo* women farmers to ascertain their knowledge score. The score was assigned as 2 for full correct answer and zero (0) for incorrect or no answer for each question. Partial score 1 was assigned for partial answers. Thus knowledge on homestead farming scores of the respondents could range from '0' to 102 where zero (0) indicated very low and 102 indicated very high knowledge on homestead farming.

3.7 Hypothesis of the study

In the present study the following null hypotheses were formulated:

“There are no relationships between each of 10 selected characteristics of the *Garo* women farmers and their homestead farming knowledge”.

3.8 Data collection procedure

The researcher himself collected the data from the sample respondents through personal contact with the help a pre-tested interview schedule. Whenever any respondent faced difficulty in understanding questions, more attention was taken to explain the same with a view to enabling the farmers to answer properly. No serious problem was faced by the investigator during data collection but obtained cooperation from the respondents. Data collection was started in 23 June, 2011 and completed in 15 July, 2011. The investigator himself collected data on the basis of objectives to test the hypothesis.

3.9 Data processing

For data processing and analysis the following steps followed:

3.9.1 Compilation of data

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

3.9.2 Categorization of respondents

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

3.10 Data analysis

Data collected from the respondents were compiled, coded, tabulated and analyzed in accordance with the objectives of the study. Various statistical measures such as frequency counts, percentage distribution, average, and standard deviation were used in describing data. SPSS (version 11.5) computer program were used for analyzing the data. The categories and tables were used in describing data. The categories and tables were also used in presenting data for better understanding.

For determining the association of the selected characteristics of the respondent farmers with the involvement in homestead fruit production activities Pearson Product Moment Correlation was used. Five percent (0.05) level of probability was used as the basis for rejecting any null hypothesis. In order to find out the relationship between the selected dependent and independent variables correlation co-efficient was done.

CHAPTER 4

RESULTS AND DISCUSSION



In this chapter the findings of the study were presented in accordance with the objectives of the study and possible interpretation of the recorded information. The chapter has three (3) sections. The first section deals with the characteristics of the respondent *Garo* women farmers. The second section deals with the homestead farming knowledge of *Garo* women farmers. The third section deals with the relationship between individual characteristics of the *Garo* women farmers with their homestead farming knowledge.

4.1 Characteristics of the respondents

There are different interrelated characteristics of the respondents *Garo* women farmers that influence their homestead farming knowledge. It was therefore, hypothesized that the characteristics of the respondents under the study would have an effect on the homestead farming knowledge of *Garo* women farmers of Bangladesh. However, the most important features of ten selected characteristics of the *Garo* women farmers such as age, level of education, homestead farm size, family size, average family education, annual family income, organizational participation, cosmopolitaness, contact with extension agent and exposure to mass media agricultural programs are presented and discussed below:

4.1.1 Age

The score of age of the *Garo* women farmers who have involvement in homestead farming ranged from 26 to 68 with a mean and standard deviation of 43.11 and 10.21, respectively. Considering the observed age score of the farmers they were classified into three categories namely 'young (26-35 years)', 'middle aged (36-50 years)' and 'old aged (above 50 years' aged). The distribution and percentage of *Garo* women family according to their age are presented in Table 4.1.

Table 4.1 Distribution of *Garó* women farmers of Bangladesh according to their age

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Young aged (26-35 years)	25	23.81	43.11	10.21
Middle aged (36-50 years)	55	52.38		
Old aged (above 50)	25	23.81		
Total	105	100		

Table 4.1 indicates that the middle aged *Garó* women farmers comprise the major proportion (52.38 percent) followed by young and old aged category (23.81 percent) with same value. Data also indicates that a total 76.19 percent respondents belonged to the young and middle aged group. The young and middle aged *Garó* women farmers were generally tended to involve in homestead farming activities than the older. Probably young and middle aged *Garó* women were more dynamic and basically they were more involved in homestead farming.

4.1.2 Level of education

The level of educational scores of the *Garó* women farmers ranged from 0 to 14 with the mean and standard deviation of 3.01 and 1.89, respectively. Based on educational scores, they were classified into four categories such as 'illiterate' (0 to 'can sign only 0.5)', 'primary education' (1 to 5), 'secondary education' (6 to 10) and above secondary (above 10). The distribution and percentage of the *Garó* women according to their level of education has been presented in Table 4.2.

Table 4.2 Distribution of *Garó* women farmers of Bangladesh according to their education level

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Illiterate (0 to Can sign only-0.5)	63	60.00	3.01	1.89
Primary education (1-5)	24	22.86		
Secondary education (6-10)	13	12.38		
Above secondary (above 10)	5	4.76		
Total	105	100		

Table 4.2 shows that *Garó* women farmers under ‘illiterate’ category constitute the highest proportion (60.00 percent) compared to 22.86 percent ‘primary level category and 12.38 percent secondary level category. On the other hand, the lowest (4.76) constitute above secondary level category. Education broadens the horizon of outlook of *Garó* women farmers and expands their capability to analyze any situation related to homestead farming. An educated *Garó* women farmer is likely to be more responsive to the modern facts, ideas, technology and information of homestead farming. To adjust with the same, illiterate group would be vulnerable to adopt as well as involve with modern cultural, processing and storage facilities of homestead farming products.

4.1.3 Homestead farm size

The score of homestead farm size of the respondent’s *Garó* women farmers ranged from 0.15 hectare to 1.50 hectare with a mean and standard deviation of 0.601 and 0.257, respectively. Based on their farm size, the respondents were classified into three categories. These categories were small size (upto 0.35 ha), medium size (0.36- 0.70 ha) and large size (above 0.70 ha). The distribution of the *Garó* women farmers according to their homestead farm size has been presented in Table 4.4.

Table 4.3 Distribution of *Garó* women farmers of Bangladesh according to their homestead farm size

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Small size (upto 0.35 ha)	32	30.48	0.601	0.257
Medium size (0.36-0.70 ha)	56	53.33		
Large size (above 0.70 ha)	17	16.19		
Total	105	100		

Table 4.3 indicates that the medium homestead farm size constitute the highest proportion 53.33 percent followed by 30.48 percent with small size and the lowest 16.19 percent large size. The findings of the study reveal that majority of the *Garó* women farmers were small to medium homestead farm sized.

4.1.4 Family Size

Family size score of the respondents *Garó* women farmers ranged from 3 to 8 with the mean and standard deviation of 5.27 and 1.10, respectively. According to family size the respondents were classified into three categories viz. 'small family', 'medium family' and 'large family'. The distribution of the respondents according to their family size is presented in Table 4.4.

Table 4.4 Distribution of *Garó* women farmers of Bangladesh according to their family size

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Small family (upto 4)	24	22.86	5.27	1.10
Medium family (5-6)	72	68.57		
Large family (7-8)	9	8.57		
Total	105	100		

Data in Table 4.4 indicate that the medium family constitute the highest proportion (68.57 percent) followed by the small family (22.86 percent). Only 8.57 percent respondents had large family size. Such finding is quite normal as per the situation of Bangladesh. Table 4.4 also showed that average family size of the respondents was lower than that of national average of 5.4.

4.1.5 Average family education level

The average family educational level score of the *Garó* women farmers ranged from 0 to 11.33 with a mean and standard deviation of 3.82 and 3.12, respectively. Based on average family educational scores, they were classified into four categories such as 'illiterate' (0 to 'can sign only-0.5), 'primary education' (1 to 5), 'secondary education' (6 to 10) and above secondary (above 10). The distribution of the *Garó* women farmers according to their average family educational level has been presented in Table 4.5.

Table 4.5 Distribution of *Garó* women farmers of Bangladesh according to their average family education level

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Illiterate (0 to Can sign only-0.5)	25	23.81	3.82	3.12
Primary education (1-5)	47	44.76		
Secondary education (6-10)	30	28.57		
Above secondary (above 10)	3	2.86		
Total	105	100		

Table 4.5 shows that average family educational of *Garó* women farmers under primary category constitutes the highest proportion (44.76 percent) compared to 28.57 percent of 'secondary education level category and 23.81 percent illiterate level category. On the other hand, the lowest 2.86 percent constitute above secondary level category.

4.1.6 Annual family income

Annual family income score of the respondents *Garó* women farmers ranged from 21 to 249 with a mean and standard deviation of 104.29 and 49.77, respectively. On the basis of their annual family income, the *Garó* women farmers were classified into three categories, viz. low, medium and high annual family income. The distribution of the *Garó* women farmers according to the annual family income categories has been presented in Table 4.6.

Table 4.6 Distribution of *Garó* women farmers of Bangladesh according to their annual family income

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Low income (upto 75)	37	35.24	104.29	49.77
Medium income (75 -150)	54	51.43		
High income (above 150)	14	13.33		
Total	105	100		

Data in Table 4.6 revealed that the *Garó* women farmers having medium income constitute the highest proportion (51.43 percent) followed by low annual income (35.24 percent) and high annual income (13.33).

4.1.7 Organizational participation

Organizational participation score of the respondent *Garó* women farmers ranged from 0 to 6 against the possible range of '0-21' with a mean and standard deviation of 1.77 and 1.51, respectively. According to organizational participation the respondents were classified into three categories viz. 'no participation', 'very low participation' and 'low participation' on the basis of their observed scores. The distribution of the *Garó* women farmers according to organizational participation has been presented in Table 4.7.

Table 4.7 Distribution of *Garó* women farmers of Bangladesh according to their organizational participation

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
No participation (0)	18	17.14	1.77	1.51
Very low participation (1-3)	72	68.57		
Low participation (4-6)	15	14.29		
Total	105	100		

Data in Table 4.7 indicate that the very low levels organizational participation constitutes the highest proportion (68.57 percent) followed by no participation (17.14 percent) and 14.29 percent have low level participation. Table 4.7 showed that the maximum percentage of respondents is the category of the group of no to low level organizational participation (85.71 percent). Highest no to very low organizational participation reveals that the *Garó* women farmers of this area have very lower level organizational participation within their locality. But more organizational participation could create opportunity for increasing homestead farming knowledge in homestead production activities.

4.1.8 Cosmopolitaness

Cosmopolitaness score of the respondent *Garó* women farmers ranged from 0 to 29 against the possible range of '0-40' with a mean and standard deviation of 11.69 and 6.91, respectively. According to cosmopolitaness score the respondents *Garó* women farmers were classified into three categories viz. 'low

cosmopolitaness', 'medium cosmopolitaness' and 'high cosmopolitaness'. The distribution of the *Garo* women farmers according to their cosmopolitaness has been presented in Table 4.8.

Table 4.8 Distribution of *Garo* women farmers of Bangladesh according to their cosmopolitaness

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Low cosmopolitaness (up to10)	52	49.52	11.69	6.91
Medium cosmopolitaness (11-20)	41	39.05		
High cosmopolitaness (above 20)	12	11.43		
Total	105	100		

Data in Table 4.8 indicate that the low cosmopolitaness constitutes the highest proportion (49.52 percent) followed by medium cosmopolitaness (39.05 percent) and high cosmopolitaness (11.43 percent). Table 4.8 showed that the maximum percentage of respondents is the category of the group of low to medium cosmopolitaness (88.57 percent).

4.1.9 Contact with extension agent

Contact with extension agent of the respondent's *Garo* women farmers ranged from 0 to 13 with a mean and standard deviation of 5.46 and 2.18, respectively. Based on their contact with extension agent, the respondents were classified into three categories. These categories were very low, low and medium contact with extension agent. The distribution of the respondents *Garo* women farmers according to their contact with extension agent score presented in Table 4.9.

Table 4.9 Distribution of *Garo* women farmers of Bangladesh according to their contact with extension agent

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Very low contact (upto 4)	37	35.24	5.46	2.18
Low contact (5-9)	63	60.00		
Medium contact (10-13)	5	4.76		
Total	105	100		

Table 4.9 indicates that the *Garó* women farmers have low contact with extension agent constitute the highest proportion (60.00 percent) followed by very low contact (35.24 percent) and medium contact category (4.76 percent). Lowest contact with extension agent of the *Garó* women farmers indicates that the respondents received very poor technological information from extension agent. Table 4.9 showed that the maximum percentage (95.24 percent) is the category of the group of very to low contact with extension agent.

4.1.10 Exposure to mass media agricultural programs

Exposure to mass media agricultural programs of the respondent's *Garó* women farmers ranged from 0 to 11 with a mean and standard deviation of 1.58 and 1.34, respectively. Based on exposure to mass media agricultural programs, the respondents were classified into three categories. These categories were very low, low and medium exposure to mass media agricultural programs. The distribution of the respondents *Garó* women farmers according to their exposure to mass media agricultural programs score presented in Table 4.10.

Table 4.10 Distribution of *Garó* women farmers of Bangladesh according to their exposure to mass media agricultural programs

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Very low (upto 2)	86	81.90	1.58	1.34
Low (3-7)	15	14.29		
Medium (8-11)	4	3.81		
Total	105	100		

Table 4.10 indicates that the *Garó* women farmers have very low exposure to mass media agricultural programs constitute the highest proportion (81.90 percent) followed by low (14.29 percent) and medium category (3.81 percent). Lowest exposure to mass media agricultural programs of the *Garó* women farmers indicates that the respondents have lowest exposure. Table 4.10 showed that the maximum percentage (96.19 percent) is the category of the group of very to low exposure to mass media agricultural programs.

4.2 Homestead farming knowledge

Homestead farming knowledge of respondent *Garo* women farmers could range from 11 to 36 against the possible range of 0-102 with the mean and standard deviation of 23.81 and 5.74, respectively. On the basis of homestead farming knowledge scores, the respondents were classified into three categories namely, 'very low knowledge', 'low knowledge' and 'medium knowledge'. The distribution of the respondents *Garo* women farmers according to their homestead farming knowledge is given in Table 4.11.

Table 4.11 Distribution of *Garo* women farmers of Bangladesh according to their homestead farming knowledge

Categories	Respondents		Mean	Standard deviation
	Number	Percent		
Very low (11-19)	29	27.62	23.81	5.74
Low (20-28)	52	49.52		
Medium (above 28)	24	22.86		
Total	105	100		

Data of Table 4.11 reveal that majority (49.52 percent) of the respondents felt in low knowledge category followed by 27.62 percent in very low knowledge category in homestead farming knowledge and only 22.86 percent in medium knowledge category. Knowledge is to be considered as vision of an explanation in any aspect of the situation regarding homestead farming. It is act or state of understanding, clear perception of fact or truth that helps an individual to foresee the consequence she may have to face in future. It makes individuals to become rational and conscious about related field. To perform optimum production, farmers should have adequate knowledge on different aspects of the concern homestead farming areas. The findings of the present study revealed that 77.14 percent of the *Garo* women farmers in the study area had very low and low knowledge on homestead farming activities.



Most of the *Garó* women involved in rice cultivation and they have clear idea on rice cultivation. With the discussion of them it was clear that they involved in rice cultivation and they perform seedling raising, transplanting, weeding, irrigation activities and harvesting and post-harvesting operation in rice cultivation. They have clear idea on high yielding varieties, planting method of rice, seedling age, different insect and pests and many other aspects of rice cultivation. In maize cultivation, they have clear idea on varieties, sowing time, fertilizer and manure, insect and pests and also their control method. They have an involvement in seed sowing, weeding and harvest & post harvest operation in maize cultivation. In pulse cultivation, they know the different type of pulse with sowing time, method of cultivation, insects & pests and their control measures, cultivation of pulse with zero tillage etc.

In case of vegetable, they know the time of planting in different vegetable with appropriate management procedure. They have clear idea on varieties, sowing time, fertilizer and manure, insect and pests and also their control method for vegetable cultivation

In fruit cultivation, they have an idea for placement of different fruits in different area based on their light requirements and they knew it from their past experiences. They have an idea on the propagating materials of different fruits and physical and cultural management for different fruit cultivation.

4.3 Relationship of the selected characteristics of *Garó* women farmers with their homestead farming knowledge

Pearson Product Moment Correlation Co-efficient was computed in order to find out the extent of relationship between the dependent variable and independent variables. To reject or accept the null hypothesis at 0.05 and 0.01 level of probability was used. Results of correlation have been shown in Table 4.12.

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

Dependent variable	Independent variables	Tabulated value		Value of co-efficient of correlation
		0.05 level	0.01 level	
Homestead farming knowledge of <i>Garo</i> women	Age	0.196	0.252	-0.349**
	Level of education			0.452**
	Homestead farm size			0.250*
	Family size			0.086 ^{NS}
	Average family education			0.092 ^{NS}
	Annual family income			0.378**
	Organizational participation			0.506**
	Cosmopolitaness			0.546**
	Contact with extension agent			0.692**
	Exposure to mass media agricultural programs			0.606**

*: Correlation is significant at the 0.05 level;

** : Correlation is significant at the 0.01 level;

4.3.1 Age and homestead farming knowledge of *Garó* women farmers

Relationship between age and homestead farming knowledge of *Garó* women farmers was determined by Pearson product moment correlation coefficient.

The coefficient of correlation between age and homestead farming knowledge of *Garó* women farmers is presented in Table 4.12. The coefficient of correlation between the concerned variables was found -0.349. The following observations were made on the basis of the value of correlation coefficient between the two concerned variables of the study under consideration.

- a. The observed value between the concerned variables “r” (-0.349) was found to be greater than the tabulated value ($r = 0.252$) with 103 degrees of freedom at 0.01 level of probability.*
- b. The null hypothesis could be rejected.*
- c. The relationship between the concerned variables was statistically significant at 0.01 level of probability.*
- d. The relationship showed a negative trend between the concerned variables.*

Based on the above findings it was concluded that age of the *Garó* women farmers had significant negative relationships with the homestead farming knowledge. This represent that age of the respondent *Garó* women farmers was an important factor in homestead farming activities and with the increases of age of the respondent’s homestead farming knowledge also decreased.

4.3.2 Level of education and homestead farming knowledge of *Garó* women farmers

Relationship between level of education and homestead farming knowledge of *Garó* women farmers was determined by Pearson product moment correlation coefficient.

The coefficient of correlation between level of education and homestead farming knowledge of *Garó* women farmers is presented in Table 4.12. The coefficient of

correlation between the concerned variables was found 0.452. The following observations were made on the basis of the value of correlation coefficient between the two concerned variables of the study under consideration.

- a. *The observed value between the concerned variables "r" (0.452) was found to be greater than the tabulated value ($r = 0.252$) with 103 degrees of freedom at 0.01 level of probability.*
- b. *The null hypothesis could be rejected.*
- c. *The relationship between the concerned variables was statistically significant at 0.01 level of probability.*
- d. *The relationship showed a positive trend between the concerned variables.*

Based on the above findings it was concluded that level of education of the *Garó* women farmers had significant positive relationships with the homestead farming knowledge. This represent that level of education of the respondent *Garó* women farmers was an important factor in homestead farming activities and with the increases of level of education of the respondent's homestead farming knowledge also increased.

4.3.3 Homestead farm size and homestead farming knowledge of *Garó* women farmers

Relationship between homestead farm size and homestead farming knowledge of *Garó* women farmers was determined by Pearson product moment correlation coefficient.

The coefficient of correlation between homestead farm size and homestead farming knowledge of *Garó* women farmers is presented in Table 4.12. The coefficient of correlation between the concerned variables was found 0.250. The following observations were made on the basis of the value of correlation coefficient between the two concerned variables of the study under consideration.

- a. *The observed value between the concerned variables "r" (0.250) was found to be greater than the tabulated value ($r = 0.252$) with 103 degrees of freedom at 0.01 level of probability.*
- b. *The null hypothesis could be rejected.*
- c. *The relationship between the concerned variables was statistically significant at 0.01 level of probability.*
- d. *The relationship showed a positive trend between the concerned variables.*

Based on the above findings it was concluded that homestead farm size of the *Garo* women farmers had significant positive relationships with the homestead farming knowledge. This represent that homestead farm size of the respondent *Garo* women farmers was an important factor in homestead farming activities and with the increases of homestead farm size of the respondent's homestead farming knowledge also increased.

4.3.4 Family size and homestead farming knowledge of *Garo* women farmers

Relationship between family size and homestead farming knowledge of *Garo* women farmers was determined by Pearson product moment correlation coefficient.

The coefficient of correlation between family size and homestead farming knowledge of *Garo* women farmers is presented in Table 4.12. The coefficient of correlation between the concerned variables was found 0.086. The following observations were made on the basis of the value of correlation coefficient between the two concerned variables of the study under consideration.

- a. *The observed value between the concerned variables "r" (0.086) was found to be smaller than the tabulated value ($r = 0.196$) with 103 degrees of freedom at 0.05 level of probability.*
- b. *The null hypothesis could not be rejected.*

c. The relationship between the concerned variables was statistically non significant at 0.05 level of probability.

d. The relationship showed a positive trend between the concerned variables.

Based on the above findings it was concluded that family size of the *Garó* women farmers had no significant positive relationships with the homestead farming knowledge. This represent that family size of the respondent *Garó* women farmers was not an important factor in homestead farming activities, but with the increases of family size of the respondent's homestead farming knowledge also increased.

4.3.5 Average family education and homestead farming knowledge of *Garó* women farmers

Relationship between average family education and homestead farming knowledge of *Garó* women farmers was determined by Pearson product moment correlation coefficient.

The coefficient of correlation between average family education and homestead farming knowledge of *Garó* women farmers is presented in Table 4.12. The coefficient of correlation between the concerned variables was found 0.092. The following observations were made on the basis of the value of correlation coefficient between the two concerned variables of the study under consideration.

a. The observed value between the concerned variables "r" (0.092) was found to be smaller than the tabulated value ($r = 0.196$) with 103 degrees of freedom at 0.05 level of probability.

b. The null hypothesis could not be rejected.

c. The relationship between the concerned variables was statistically non significant at 0.05 level of probability.

d. The relationship showed a positive trend between the concerned variables.

Based on the above findings it was concluded that average family education of the *Garó* women farmers had no significant positive relationships with the homestead

farming knowledge. This represent that average family education of the respondent *Garó* women farmers was not an important factor in homestead farming activities, but with the increases of average family education of the respondent's homestead farming knowledge also increased.

4.3.6 Annual family income and homestead farming knowledge of *Garó* women farmers

Relationship between annual family income and homestead farming knowledge of *Garó* women farmers was determined by Pearson product moment correlation coefficient.

The coefficient of correlation between annual family income and homestead farming knowledge of *Garó* women farmers is presented in Table 4.12. The coefficient of correlation between the concerned variables was found 0.378. The following observations were made on the basis of the value of correlation coefficient between the two concerned variables of the study under consideration.

- a. The observed value between the concerned variables "r" (0.378) was found to be greater than the tabulated value ($r = 0.252$) with 103 degrees of freedom at 0.01 level of probability.*
- b. The null hypothesis could be rejected.*
- c. The relationship between the concerned variables was statistically significant at 0.01 level of probability.*
- d. The relationship showed a positive trend between the concerned variables.*

Based on the above findings it was concluded that annual family income of the *Garó* women farmers had significant positive relationships with the homestead farming knowledge. This represent that annual family income of the respondent *Garó* women farmers was an important factor in homestead farming activities and with the increases of annual family income of the respondent's homestead farming knowledge also increased.

4.3.7 Organizational participation and homestead farming knowledge of Garo women farmers

Relationship between organizational participation and homestead farming knowledge of *Garo* women farmers was determined by Pearson product moment correlation coefficient.

The coefficient of correlation between organizational participation and homestead farming knowledge of *Garo* women farmers is presented in Table 4.12. The coefficient of correlation between the concerned variables was found 0.506. The following observations were made on the basis of the value of correlation coefficient between the two concerned variables of the study under consideration.

- e. The observed value between the concerned variables "r" (0.506) was found to be greater than the tabulated value ($r = 0.252$) with 103 degrees of freedom at 0.01 level of probability.*
- f. The null hypothesis could be rejected.*
- g. The relationship between the concerned variables was statistically significant at 0.01 level of probability.*
- h. The relationship showed a positive trend between the concerned variables.*

Based on the above findings it was concluded that organizational participation of the *Garo* women farmers had significant positive relationships with the homestead farming knowledge. This represent that organizational participation of the respondent *Garo* women farmers was an important factor in homestead farming activities and with the increases of organizational participation of the respondent's homestead farming knowledge also increased.

4.3.8 Cosmopoliteness and homestead farming knowledge of Garo women farmers

Relationship between cosmopoliteness and homestead farming knowledge of *Garo* women farmers was determined by Pearson product moment correlation coefficient.

The coefficient of correlation between cosmopolitanism and homestead farming knowledge of *Garo* women farmers is presented in Table 4.12. The coefficient of correlation between the concerned variables was found 0.546. The following observations were made on the basis of the value of correlation coefficient between the two concerned variables of the study under consideration.

- a. *The observed value between the concerned variables "r" (0.546) was found to be greater than the tabulated value ($r = 0.252$) with 103 degrees of freedom at 0.01 level of probability.*
- b. *The null hypothesis could be rejected.*
- c. *The relationship between the concerned variables was statistically significant at 0.01 level of probability.*
- d. *The relationship showed a positive trend between the concerned variables.*

Based on the above findings it was concluded that cosmopolitanism of the *Garo* women farmers had significant positive relationships with the homestead farming knowledge. This represent that cosmopolitanism of the respondent *Garo* women farmers was an important factor in homestead farming activities and with the increases of cosmopolitanism of the respondent's homestead farming knowledge also increased.

4.3.9 Contact with extension agent and homestead farming knowledge of *Garo* women farmers

Relationship between contact with extension agent and homestead farming knowledge of *Garo* women farmers was determined by Pearson product moment correlation coefficient.

The coefficient of correlation between contact with extension agent and homestead farming knowledge of *Garo* women farmers is presented in Table 4.12. The coefficient of correlation between the concerned variables was found 0.692. The following observations were made on the basis of the value of

correlation coefficient between the two concerned variables of the study under consideration.

- a. *The observed value between the concerned variables "r" (0.692) was found to be greater than the tabulated value ($r = 0.252$) with 103 degrees of freedom at 0.01 level of probability.*
- b. *The null hypothesis could be rejected.*
- c. *The relationship between the concerned variables was statistically significant at 0.01 level of probability.*
- d. *The relationship showed a positive trend between the concerned variables.*

Based on the above findings it was concluded that contact with extension agent of the *Garó* women farmers had significant positive relationships with the homestead farming knowledge. This represent that contact with extension agent of the respondent *Garó* women farmers was an important factor in homestead farming activities and with the increase of contact with extension agent respondents' homestead farming knowledge also increased.

4.3.10 Exposure to mass media agricultural programs and homestead farming knowledge of *Garó* women farmers

Relationship between exposure to mass media agricultural programs and homestead farming knowledge of *Garó* women farmers was determined by Pearson product moment correlation coefficient.

The coefficient of correlation between exposure to mass media agricultural programs and homestead farming knowledge of *Garó* women farmers is presented in Table 4.12. The coefficient of correlation between the concerned variables was found 0.606. The following observations were made on the basis of the value of correlation coefficient between the two concerned variables of the study under consideration.

- a. *The observed value between the concerned variables "r" (0.606) was found to be greater than the tabulated value ($r = 0.252$) with 103 degrees of freedom at 0.01 level of probability.*
- b. *The null hypothesis could be rejected.*
- c. *The relationship between the concerned variables was statistically significant at 0.01 level of probability.*
- d. *The relationship showed a positive trend between the concerned variables.*

Based on the above findings it was concluded that exposure to mass media agricultural programs of the *Garó* women farmers had significant positive relationships with the homestead farming knowledge. This represent that exposure to mass media agricultural programs of the respondent *Garó* women farmers was an important factor in homestead farming activities and with the increases of exposure to mass media agricultural programs of the respondent's homestead farming knowledge also increased.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The study was conducted in the Modhupur upazila under Tangail district. *Garo* women farmers of Modhupur upazila under Tangail district constituted the population of the study. An update list of 418 *Garo* women farmers who were related to homestead farming activities was prepared with the help of Sub-Assistant Agricultural Officer of these localities. Around one forth (1/4) of the populations were randomly selected as the sample of the study by using random sampling method. Thus, 105 *Garo* women farmers constituted the sample of the study. A well structured interview schedule was developed based on objectives of the study for collecting information. The researcher himself collected data through personal contact. The independent variables were: age, level of education, homestead farm size, family size, average family education, annual family income, organizational participation, cosmopolitaness, contact with extension agent and exposure to mass media agricultural programs. The dependent variable of this study was the homestead farming knowledge of *Garo* women farmers of Bangladesh. Data collection was started in 23 June, 2011 and completed in 15 July, 2011. Various statistical measures such as frequency counts, percentage distribution, average, and standard deviation were used in describing data. Co-efficient of correlation test was used to explore relationship between the concerned variables. The major findings of the study are summarized below:

5.1 Major Findings

5.1.1 Selected characteristics of the *Garo* women farmers

Age: The middle aged *Garo* women farmers comprise the highest proportion (52.38 percent) followed by young and old aged category (23.81 percent).

Level of education: *Garo* women farmers under 'illiterate' category constitute the highest proportion (60.00 percent) compared to 22.86 percent 'primary level category

and 12.38 percent secondary level category, while the lowest 4.76 percent constitute above secondary level category.

Homestead farm size: The medium homestead farm size constitutes the highest proportion 53.33 percent followed by 30.48 percent with small size and the lowest 16.19 percent large size.

Family size: The medium family constitute the highest proportion (68.57 percent) followed by the small family (22.86 percent). Only 8.57 percent respondents had large family size.

Average family education level: Average family educational of *Garo* women farmers under primary category constitutes the highest proportion (44.76 percent) compared to 28.57 percent of 'secondary education level category and 23.81 percent illiterate level category, while the lowest 2.86 percent constitute above secondary level category.

Annual family income: The *Garo* women farmers having medium income constitute the highest proportion (51.43 percent) followed by low annual income (35.24 percent) and high annual income (13.33 percent).

Organizational participation: The very low levels organizational participation constitutes the highest proportion (68.57 percent) followed by no participation (17.14 percent) and low level participation (14.29 percent).

Cosmopolitaness: The low cosmopolitaness constitutes the highest proportion (49.52 percent) followed by medium cosmopolitaness (39.05 percent) and high cosmopolitaness (11.43 percent).

Contact with extension agent: The *Garó* women farmers have low contact with extension agent constitute the highest proportion (60.00 percent) followed by very low contact (35.24 percent) and medium contact category (4.76 percent).

Exposure to mass media agricultural programs: The *Garó* women farmers have very low exposure to mass media agricultural programs constitute the highest proportion (81.90 percent) followed by low (14.29 percent) and medium category (3.81 percent).

5.1.2 Homestead farming knowledge

Majority (49.52 percent) of the respondents felt in low knowledge category followed by 27.62 percent in very low knowledge category in homestead farming knowledge and only 22.86 percent in medium knowledge category.

5.1.3 Relationship of the selected characteristics of *Garó* women farmers with their homestead farming knowledge

Level of education, homestead farm size, annual family income, organizational participation, cosmopolitaness, contact with extension agent and exposure to mass media agricultural programs had significant positive relationships with homestead farming knowledge of *Garó* women farmers. Age of the *Garó* women farmers had significant negative relationship with homestead farming knowledge. Family size and average family education had no significant relationships with their homestead farming knowledge of *Garó* women farmers.

5.2 Conclusions

1. The findings indicate that among the respondents around 77 percent *Garó* women farmers had very low and low knowledge on homestead farming activities. This fact leads to the conclusion that it is necessary to increase the knowledge on homestead farming activities *Garó* women farmers.

2. Level of education of the *Garó* women farmers had significant positive relationships with their knowledge on homestead farming activities. Among the respondents, under 'illiterate' category constitute the highest proportion (60.00 percent) and this facts lead to the conclusion that higher the level of education is necessary of the respondents for higher homestead farming knowledge.
3. Homestead farm size of the *Garó* women farmers had significant positive relationships with their knowledge on homestead farming activities. Among the respondents, the highest proportion 75.24 percent have small homestead farm size and this facts lead to the conclusion that highest homestead farm size is necessary for higher homestead farming knowledge.
4. Annual family income, organizational participation, cosmopolitaness, contact with extension agent and exposure to mass media agricultural programs had significant positive relationships with homestead farming knowledge of *Garó* women farmers. Among the respondents, low income constitute the highest proportion (59.05 percent), low levels organizational participation constitutes the highest proportion (68.57 percent), low cosmopolitaness constitutes the highest proportion (69.52 percent), low contact with extension agent constitute the highest proportion (60.00 percent) and very low exposure to mass media agricultural programs constitute the highest proportion (81.90 percent). These facts lead to the conclusion that highest annual family income, organizational participation, cosmopolitaness, contact with extension agent and exposure to mass media agricultural programs is necessary for higher homestead farming knowledge.
5. Age of the *Garó* women farmers had significant negative relationships with their knowledge on homestead farming activities. Among the respondents, the highest middle aged *Garó* women farmers comprise the highest proportion (52.38 percent) and this facts lead to the conclusion that with the increasing of age homestead farming knowledge also decreases.

5.3 Recommendations

5.3.1 Recommendations for policy implications

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

1. Among the respondents, about 77 percent *Garo* women farmers had very low and low knowledge on homestead farming activities. In order to increase their knowledge the DAE may arrange training for the *Garo* women farmers for increasing their knowledge on homestead farming activities.
2. Among the respondent about 60 percent falls in the group of 'illiterate' category level education. So it is necessary to increase the education level of *Garo* women farmers through ensuring access to educational facilities.
3. About 75.24 percent have small homestead farm size. Highest homestead farm size necessary for higher homestead farming knowledge. DAE can organize training for the *Garo* women farmers regarding increasing their homestead area.
4. Annual family income, organizational participation, cosmopolitaness, contact with extension agent and exposure to mass media agricultural programs had significant positive relationships with homestead farming knowledge of *Garo* women farmers. So, more motivational program is needed which may be chalked out by DAE to increase their annual family income, organizational participation, cosmopolitaness, contact with extension agent and exposure to mass media agricultural programs.

5.3.2 Recommendations for further study

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

1. Other factors might have influence over the knowledge on homestead farming activities of the *Garo* women farmers, which need to be identified through further study.
2. This study was conducted in *Garo* women farmers of Modhupur upazila under Tangail district. Similar studies are required to be conducted in other areas of Bangladesh where similar environmental, socio-economic and physical conditions exist to compare the findings.
3. Future studies should be conducted to explore the direct and indirect effects of all the variables under investigation.



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Appendix I A. English Version of the Interview Schedule

Department of Agricultural Extension and Information System
Sher-e-Bangla Agricultural University
Dhaka-1207

Interview schedule for data collection for the research on

“Homestead Farming Knowledge of Garo Women Farmers”

(The interview schedule is entitled for a research study)

Serial No :
Name of the respondent :
Village :
Upazilla :
Zilla :
Occupation :

(Please answer the following questions. Secrecy will be strictly maintained.)

1. Age: How old are you? Age.....years

2. Education: Please mention your educational status

- (a) Can not read and write.....
- (b) Can sign only.....
- (c) Read up to class
- (d) Others (specify)

3. Homestead Farm size: Please mention your land area



Sl.No	Type of land	Area(bigha)	Area(hector)
1.	Own homestead		
2.	Own land under own cultivation		
3.	Garden		
4.	Own land given on barga to others		
5.	Land taken on barga form others		
6.	Land taken on lease form others		
7.	Others		
Total area =			

4. **Family size and education:** Please mention your family education according to table,

SL No.	Members	Year of Schooling	Number	Age
1	Husband/wife			
2	Son			
3	Daughter			
4	Parents a) Father b) Mother			
5	Brothers			
6	Sisters			

5. **Annual family income:** Please mention the annual income of your family

Sl. No.	Source of income	Income (TK)
1.	Agronomic crops a) Rice b) Wheat c) Maize d) Pulse e) Others	
2.	Horticultural crops a) Vegetables b) Pineapple c) Papaya d) Banana e) Guava f) Jackfruit g) Mango h) Ginger/Turmeric i) Others	
3.	Poultry	
4.	Cattle	
5.	Fisheries	
6.	Service	
7.	Business	
8.	Others(Please mention)	
Total income =		

6. Organizational participation: Please mention your participation in the following organization

Sl. No.	Name of the organization	Nature of participation (years)			
		No participation	Ordinary member	Executive member	President/ Secretary
1.	Temple/Puja Committee				
2.	School Committee				
3.	Sports club				
4.	Bazar Committee				
5.	Co-operative society				
6.	NGO organized society				
7.	Farmers Association				

7. Cosmopolitaness: Please indicate how frequently you visit the following place within a specific period

Sl. No.	Place of visit	Nature of the visit				
		Regularly	Often	Occasionally	Rarely	Not at all
1.	Other Garo villages	More than 3 times/ week	3 times /week	2 times /week	1 time /week	0 time/ week
2.	Local market	More than 6 times/ month	5-6 times/ month	3-4 times / month	1-2 times / month	0 time/ month
3.	Visit to other union	More than 3 times/ month	3 times / month	2 times / month	1 time / month	0 time/ month
4.	Upazilla DAE office	More than 6 times/ year	5-6 times / year	3-4 times / year	1-2 times / year	0 time/ year
5.	Other upazilla sadar	More than 6 times/ year	5-6 times / year	3-4 times / year	1-2 time / year	0 time/ year
6.	District DAE office	More than 3 times/ year	3 times / year	2 times / year	1 time / year	0 time/ year
7.	Other district sadar	More than 3 times/ year	3 times/ year	2 times/ year	1 time/ year	0 time/ year
8.	Visit to big cities	More than 3times/ year	3 times / year	2 times / year	1 time / year	0 time/ year
9.	Village fair/Exhibition	More than 3 times/ year	3 times/ year	2 times/ year	1 time/ year	0 time/ year
10.	Distant market	More than 3 times/ year	3 times/ year	2 times/ year	1 time/ year	0 time/ year

8. Contact with Extension Agent: Please indicate your extent of contact with the following agent

Sl. No.	Communication media	Extent of contact				
		Regularly	Often	Occasionally	Rarely	Not at all/Never
1.	Upazilla Agriculture officer(UAO)	More than 6 times/year	5-6 times/year	3-4 times/yea	1-2 times/year	0 time/year
2	Agricultural extension officer (AEO)	More than 6times/year	5-6 times/year	3-4 times/year	1 time/month	0 time/month
3	Assistant agricultural Extension Officer (AAEO)	More than 6times/year	5-6 times/year	3-4 times/year	1-2 times/year	0 time/year
4.	Sub Assistant Argil. Officer (SAAO)	More than 3 times/month	3times/month	2 times/month	1 time/month	0 time/month
5.	Other extension officer (livestock, fisheries officer)	More than 6 times/year	5-6 times/year	3-4 times/year	1-2 times/year	0 time/year
6.	Field worker of NGO	More than 3 times/month	3times/month	2 times/month	1 time/month	0 time/month
7.	Dealer of Agril. Commodities	More than 3 times/month	3times/month	2 times/month	1 time/month	0 time/month
8.	Progressive farmers	More than 3 times/month	3times/month	2 times/month	1 time/month	0 time/month
9	Neighbors	More than 6 times/month	5-6 times/month	3-4 times / month	1-2 times / month	0 time/month

9. Exposure to mass media agricultural programs: Please mention the extent of your contact with the following agriculture information media (Tick the right answer)

A) Farm radio talks

SL No	Media	Extent of use			
		Regularly (10-12 times/month)	Frequently (8-10 times/month)	Occasionally(6-8 times/month)	Never/Not at all
	Bangladesh Radio				
1	Sonali fasol				
2	Khate khamare				
3	Regular news				
4	Others				

B) TV channels

SL No	Media	Extent of use			
		Regularly(8-10 times/month)	Frequently(4-6 times/month)	Occasionally (2-3 times/month)	Never/Not at all
	Bangladesh TV				
1	Mati-o-manus				
2	Krishi dibanishi				
3	Regular news				
4	Others				

C) Print Media

SL No	Media	Extent of use			
		Regularly (10-12 times/month)	Frequently (8-10 times/month)	Occasionally (6-8 times/month)	Never/Not at all)
	Print Media				
1	Daily news papers				
2	Krishi barta				
3	Krishi kotha				
4	Poster				
5	Leaflets				
6	Booklet				
7	Others				

10. Homestead farming Knowledge: Please answer the following questions about homestead farming

A. Agricultural farming:

Sl.	Questions	Full Score	Score obtained
	Rice cultivation		
1	Mention the name of two modern Boro rice varieties.	2	
2	Mention the name of two modern Amon rice varieties.	2	
3	How do you make seedbed for raising seedlings?	2	
4	Mention the seed rate of rice.	2	
5	What distance do you follow from plant to plant and row to row?	2	
6	What age of seedlings do you maintain for Amon and Boro cultivation?	2	
7	What fertilizers do you use in rice cultivation and at what rate?	2	
8	Mention the name of two diseases of rice.	2	
9	Mention the name of two harmful insects of rice.	2	
10	How do you control harmful insects?	2	
	Sub-Total	20	
	Maize cultivation		
1	Mention the name of modern maize varieties.	2	
2	Mention the seed rate of maize.	2	
3	In what seasons maize is cultivated?	2	
4	What planting methods do you follow?	2	
5	What fertilizers do you use and at what rate?	2	
6	What are the symptoms of deficiency of N_2 , P_2O_5 and K_2O ?	2	
7	What types of insects infest your maize crops?	2	
8	What control measures do you follow?	2	
	Sub-Total	16	
	Pulse cultivation		
1	What varieties of Masur, Mug and Khesari do you cultivate?	2	
2	Mention the seed rate of Masur, Mug and Khesari.	2	
3	How do you prepare land for pulse cultivation?	2	
4	How do you treat your seed?	2	
5	What fertilizers do you use and at what rate?	2	
6	What types of insects infest your pulse crops?	2	
7	What control measure do you follow?	2	
	Sub-Total	14	

B) Vegetables farming

Sl.	Questions	Full Score	Score obtained
1	What varieties of cabbage, tomato and brinjal do you cultivate?	2	
2	Mention the seed/seedling rate of cauliflower, cabbage, tomato and brinjal	2	
3	What fertilizers do you use and at what rate of cauliflower, cabbage, tomato and brinjal?	2	
4	Mention the diseases of cauliflower, cabbage, tomato and brinjal	2	
5	What types of insects infest of cauliflower, cabbage, tomato and brinjal?	2	
6	What control measure do you follow for cauliflower, cabbage, tomato and brinjal ?	2	
7	How do you market of cauliflower, cabbage, tomato and brinjal ?	2	
8	What is the harmful side effect of chemical insecticides of cauliflower, cabbage, tomato and brinjal ?	2	
Sub-Total		16	

C. Fruit

Sl.	Questions	Full Score	Score obtained
1	What varieties of Guava, Banana and Pineapple do you cultivate?	2	
2	Mention the seedling/sucker rate of Guava, Banana and Pineapple.	2	
3	At what times of a year Guava, Banana and Pineapple can be cultivated?	2	
4	Mention the planting distance of Banana, Guava and pineapple.	2	
5	Which types of Banana sucker is recommended?	2	
6	Which types of Pineapple sucker is recommended?	2	
7	Mention the name of two diseases of Banana, Guava and Pineapple.	2	
8	What fertilizer doses do you use for Guava, Banana and Pineapple?	2	
9	What types of insects infest your fruit plants?	2	
10	What control measure do you follow?	2	
Sub-Total		20	

D) Livestock

Sl.	Questions	Full Score	Score obtained
1	Mention the name of goat, poultry, duck and cow varieties that you have.	2	
2	What is the area require for every goat, poultry, duck and cow?	2	
3	What are the foods require for goat, poultry duck and cow?	2	
4	Name two diseases of goat, poultry, duck and cow.	2	
5	What treatment do you follow for goat, poultry duck and cow?	2	
6	What is the main source of medicine for treatment of animals?	2	
7	From where you get advice when your animals become diseased?	2	
8	What preventive measure do you take in livestock farming?	2	
Sub-Total		16	
Grand Total			

Thank you for kind co-operation.

Date: / /2011

Md. Abdullah Al Mamun

 (Signature of the interviewer)

Appendix I B. Bengali Version of the Interview Schedule

কৃষি সম্প্রসারণ ও ইনফরমেশন সিস্টেম বিভাগ
শেরে বাংলা কৃষি বিশ্ববিদ্যালয়
শেরে বাংলা নগর, ঢাকা।

Homestead Farming Knowledge of Garo Women Farmers”

শীর্ষক গবেষণা সম্পর্কিত সাক্ষাৎকার অনুসূচী:

ক্রমিক নং :
উত্তরদাতার নাম :
গ্রাম :
উপজেলা :
জেলা :
পেশা :

(অনুগ্রহপূর্বক তথ্যগুলো সরবরাহ করুন। আপনার দেয়া তথ্য সর্বাত্মকভাবে গোপন রাখা হবে)

১। বয়স : আপনার বয়স কত?..... বছর।

২। শিক্ষা : আপনি কতদূর পর্যন্ত পড়েছেন? (নির্দিষ্ট স্থানে টিক (✓) চিহ্ন দিন)

ক. লিখতে ও পড়তে পারি না ()

খ. শুধুমাত্র স্বাক্ষর করতে পারি ()

গ. শ্রেণী পাস করেছি।

ঘ. অন্যান্য (সুনির্দিষ্টভাবে উল্লেখ করতে হবে)

৩। আপনার বসতবাড়ীর জমির পরিমাণ উল্লেখ করুন।



#	জমির ধরণ	জমির পরিমাণ (বিঘা)	জমির পরিমাণ (হেক্টর)
১.	নিজস্ব বসতবাড়ী		
২.	নিজস্ব চাষযোগ্য জমি যা নিজে চাষ করে		
৩.	বাগান		
৪.	চাষযোগ্য অন্যকে বর্ণা দেওয়া জমি		
৫.	চাষযোগ্য অন্যের কাছ থেকে বর্ণা নেয়া জমি		
৬.	চাষযোগ্য অন্যের কাছ থেকে বন্ধক নেয়া জমি		
৭.	অন্যান্য		
মোট			

8.	ଅନ୍ୟାନ୍ୟ				
9.	ନିର୍ମାଣ କାର୍ଯ୍ୟ				
2.	କାର୍ଯ୍ୟ				
1.	ସାମାଜିକ ସେବା				
#	ମୋଟ	କାର୍ଯ୍ୟ (୧-୧)	କାର୍ଯ୍ୟ (୧-୧)	କାର୍ଯ୍ୟ (୧-୧)	କାର୍ଯ୍ୟ (୧-୧)
ମୋଟ					

୧. ନିମ୍ନ ଲିଖିତ କାର୍ଯ୍ୟ

8.	ଅନ୍ୟାନ୍ୟ				
9.	ନିର୍ମାଣ କାର୍ଯ୍ୟ				
2.	କାର୍ଯ୍ୟ				
1.	ସାମାଜିକ ସେବା				
#	ମୋଟ	କାର୍ଯ୍ୟ (୧-୧)	କାର୍ଯ୍ୟ (୧-୧)	କାର୍ଯ୍ୟ (୧-୧)	କାର୍ଯ୍ୟ (୧-୧)
ମୋଟ					

କ. ନିମ୍ନ ଲିଖିତ କାର୍ଯ୍ୟ

୩. ନିମ୍ନ ଲିଖିତ କାର୍ଯ୍ୟର ବିବରଣୀ: ନିମ୍ନ ଲିଖିତ କାର୍ଯ୍ୟର ବିବରଣୀ ନିମ୍ନ ଲିଖିତ କାର୍ଯ୍ୟର ବିବରଣୀ ନିମ୍ନ ଲିଖିତ କାର୍ଯ୍ୟର ବିବରଣୀ

8.	ଅନ୍ୟାନ୍ୟ				
9.	ନିର୍ମାଣ କାର୍ଯ୍ୟ				
2.	କାର୍ଯ୍ୟ				
1.	ସାମାଜିକ ସେବା				
#	ମୋଟ	କାର୍ଯ୍ୟ (୧-୧)	କାର୍ଯ୍ୟ (୧-୧)	କାର୍ଯ୍ୟ (୧-୧)	କାର୍ଯ୍ୟ (୧-୧)
ମୋଟ					

୫. ନିମ୍ନ ଲିଖିତ କାର୍ଯ୍ୟର ବିବରଣୀ: ନିମ୍ନ ଲିଖିତ କାର୍ଯ୍ୟର ବିବରଣୀ ନିମ୍ନ ଲିଖିତ କାର୍ଯ୍ୟର ବିବରଣୀ

#	ଅଣ୍ଡ	ପାଠି ଓକାର	ଆକାର ଓକାର
୧	୧୪	୧୪	୧୪
୨	୧୪	୧୪	୧୪
୩	୧୪	୧୪	୧୪
୪	୧୪	୧୪	୧୪
୫	୧୪	୧୪	୧୪
୬	୧୪	୧୪	୧୪
୭	୧୪	୧୪	୧୪
୮	୧୪	୧୪	୧୪
୯	୧୪	୧୪	୧୪
୧୦	୧୪	୧୪	୧୪
୧୧	୧୪	୧୪	୧୪
୧୨	୧୪	୧୪	୧୪
୧୩	୧୪	୧୪	୧୪
୧୪	୧୪	୧୪	୧୪
୧୫	୧୪	୧୪	୧୪
୧୬	୧୪	୧୪	୧୪
୧୭	୧୪	୧୪	୧୪
୧୮	୧୪	୧୪	୧୪
୧୯	୧୪	୧୪	୧୪
୨୦	୧୪	୧୪	୧୪
୨୧	୧୪	୧୪	୧୪
୨୨	୧୪	୧୪	୧୪
୨୩	୧୪	୧୪	୧୪
୨୪	୧୪	୧୪	୧୪
୨୫	୧୪	୧୪	୧୪
୨୬	୧୪	୧୪	୧୪
୨୭	୧୪	୧୪	୧୪
୨୮	୧୪	୧୪	୧୪
୨୯	୧୪	୧୪	୧୪
୩୦	୧୪	୧୪	୧୪
୩୧	୧୪	୧୪	୧୪
୩୨	୧୪	୧୪	୧୪
୩୩	୧୪	୧୪	୧୪
୩୪	୧୪	୧୪	୧୪
୩୫	୧୪	୧୪	୧୪
୩୬	୧୪	୧୪	୧୪
୩୭	୧୪	୧୪	୧୪
୩୮	୧୪	୧୪	୧୪
୩୯	୧୪	୧୪	୧୪
୪୦	୧୪	୧୪	୧୪
୪୧	୧୪	୧୪	୧୪
୪୨	୧୪	୧୪	୧୪
୪୩	୧୪	୧୪	୧୪
୪୪	୧୪	୧୪	୧୪
୪୫	୧୪	୧୪	୧୪
୪୬	୧୪	୧୪	୧୪
୪୭	୧୪	୧୪	୧୪
୪୮	୧୪	୧୪	୧୪
୪୯	୧୪	୧୪	୧୪
୫୦	୧୪	୧୪	୧୪

କ. Agricultural Farming

୧୦. ସମ୍ଭାଷଣରେ ପ୍ରସ୍ତୁତ କରାଯାଇଥିବା କାର୍ଯ୍ୟକ୍ରମର ବିବରଣୀ ନିମ୍ନଲିଖିତ ଭାବରେ ଦିଆଯାଇଛି।

#	ସମ୍ଭାଷଣ	ନିର୍ବାହୀଙ୍କ ନାମ	ବିଷୟ	ଅବଧି	ମାସ/ବର୍ଷ	ମାସ/ବର୍ଷ	ମାସ/ବର୍ଷ	ମାସ/ବର୍ଷ
୧	୧	୧	୧	୧	୧	୧	୧	୧
୨	୨	୨	୨	୨	୨	୨	୨	୨
୩	୩	୩	୩	୩	୩	୩	୩	୩
୪	୪	୪	୪	୪	୪	୪	୪	୪
୫	୫	୫	୫	୫	୫	୫	୫	୫
୬	୬	୬	୬	୬	୬	୬	୬	୬
୭	୭	୭	୭	୭	୭	୭	୭	୭
୮	୮	୮	୮	୮	୮	୮	୮	୮
୯	୯	୯	୯	୯	୯	୯	୯	୯
୧୦	୧୦	୧୦	୧୦	୧୦	୧୦	୧୦	୧୦	୧୦

Appendix II. Correlation Matrix

Characters	A	B	C	D	E	F	G	H	I	J	K
A	1.00										
B	-0.476**	1.00									
C	0.025	0.336**	1.00								
D	0.489**	-0.216*	0.024	1.00							
E	0.469**	-0.224*	0.185	0.248*	1.00						
F	-0.015	0.329**	0.452**	-0.001	0.178	1.00					
G	-0.278**	0.578**	0.538**	-0.050	0.021	0.436**	1.00				
H	-0.585**	0.423**	-0.040	-0.147	-0.244*	0.297**	0.440**	1.00			
I	-0.459**	0.507**	0.048	-0.115	-0.011	0.426**	0.457**	0.663**	1.00		
J	-0.453**	0.755**	0.159	-0.016	-0.207*	0.403**	0.487**	0.641**	0.638**	1.00	
K	-0.349**	0.452**	0.250*	0.086	0.092	0.378**	0.506**	0.546**	0.692**	0.606**	1.00

** Correlation is significant at the 0.01 level

* Correlation is significant at the 0.05 level

A: Age

B: level of education

C: Homestead farm size

D: Family size

E: Average family education

F: Annual family income

G: Organizational participation

H: Cosmopolitaness

I: Contact with extension agent

J: Exposure to mass media agricultural programs

K: Homestead farming knowledge of *Garo* women farmers of Bangladesh

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