PARTICIPATION OF RURAL WOMEN IN HOMESTEAD AGRICULTURAL ACTIVITIES

H. M. SHAMSUR RAHMAN

DEPARTMENT OF AGRICULTURAL EXTENSION AND INFORMATION SYSTEM

SHER-E-BANGLA AGRICULTURAL UNIVERSITY

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BY

H. M. SHAMSUR RAHMAN

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Approved by:

(Professor M. Zahidul Haque)	(Assoc. Professor Md. Sekender Ali)
Supervisor	Co-Supervisor

(Professor M. Zahidul Haque)
Chairman
Examination Committee

শেরে বাংলা কৃষি বিশ্ববিদ্যালয়
Sher-e-Bangla Agricultural University
Sher-e-Bangla Nagar, Dhaka-1207, Bangladesh.

CERTIFICATE

This is to certify that the thesis entitled **"PARTICIPATION OF RURAL WOMEN IN HOMESTEAD AGRICULTURAL ACTIVITIES"** submitted to the Faculty of Agriculture, Sher-e-Bangla Agricultural University, Dhaka, in partial fulfillment of the requirements for the degree of **MASTER OF SCIENCE IN AGRICULTURAL EXTENSION**, embodies the result of a piece of *bonafide* research work carried out by **H. M. SHAMSUR RAHMAN**, Registration No. **00752** under my supervision and guidance. No part of the thesis has been submitted for any other degree or diploma.

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

Dated: **(Professor M. Zahidul Haque)**

Place: Dhaka, Bangladesh **Supervisor**

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The Author

PARTICIPATION OF RURAL WOMEN IN HOMESTEAD AGRICULTURAL ACTIVITIES

ABSTRACT

The main purpose of the study was to determine the extent of participation of the rural women in homestead agricultural activities in Tentulia upazila under Panchagarh district and to explore the relationships between the selected characteristics of the rural women and their participation in homestead agricultural activities. The study was conducted in two villages of Shalbahan union namely, Basantozot and Lohakhachi. Data were collected from 100 rural women by using a pre-tested interview schedule during the period from September 20 to October 20, 2007. Appropriate scales were developed to measure the variables of the study. Correlation(s) test was used to ascertain the relationships between the concerned independent variables and dependent variable of the study. Findings revealed that highest proportion (73 percent) of the rural women had medium participation in homestead agricultural activities compared to 20 and 7 percent having low participation and high participation respectively. Correlation analysis indicated that seven, out of nine independent variables namely, farm size, family income, cosmopoliteness, extension contact, agricultural training, knowledge on homestead agricultural activities and attitude towards homestead agriculture of the rural women had significant positive relationship with their participation in homestead agricultural activities. Other two variables namely, age and education of the rural women had no significant relationship with their participation in homestead agricultural activities. On the basis of descending order of the Problem Confrontation Index (PCI), ‘lack of necessary agricultural land’ ranked first followed by ‘lack of sufficient fertilizers’, ‘lack of necessary knowledge’, ‘lack of necessary capital’, ‘lack of quality seeds’, ‘lack of extension workers’, ‘lack of sufficient insecticides’, ‘lack of marketing opportunities’, and ‘lack of communication facilities’. Lack of cooperation of male ranked last.

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CHAPTER 1

INTRODUCTION

1.1 Background of the Study

The economy of Bangladesh is predominantly agrarian with 21.77 percent of Gross Domestic Product (GDP) in agriculture sector. In the past decade, the agriculture sector contributed about 3 percent per annum to the annual economic growth rate which is 6.51 in 2006-2007 (BBS, 2007). Thought the contribution of agriculture to the national economy and employment may diminish further, it will remain the single largest contributor to income and employment generation and a vital element in the country's challenge to achieve self-sufficiency in food production, reduce rural poverty and foster sustainable economic development. The Government has the responsibility to ensure that necessary conditions exist to enable the country to meet these challenges and for this purpose, it is essential to increase food production by involving women who are about half of the total population of the country.

Women play a key role in conservation of basic life support system such as land, water, flora, fauna (Swaminathan, 1985). They play a significant and crucial role in agricultural development as well as home development. In a developing country like Bangladesh, it can not be denied that under utilized rural female force forms a vast reservoir of human resources. They constitute a large a potential section of its total population. The role of rural women in the socio-economic development of Bangladesh can not be overlooked. They generally involved in crop related activities like-composting, transplanting, sowing, weeding, harvesting, drying, homestead gardening and tree planting. But their enhanced economic role has not

gone in hand with substantial improvement in education, training, health and nutrition and access to production resources and services. Similarly, they remain largely unrepresented in national agenda setting and resources allocating bodies. Their wider participation in village associations, marketing, co-operatives and other community organizations can help reducing the social constraints on the access to productive resources. Rural women generally involve in different enterprises but have not been clearly defined so far, since there is no systematic research investigation in these aspects. It is essential, therefore, that women become a priority target group in agricultural production.

At present there are many GOs programme involving rural women, namely goat rearing, poultry rearing, tree plantation programme, literacy programme, etc. Under the Ministry of Agriculture there are some service sector projects, namely SAIP (Smallholder Agriculture Improvement Project), ASIRP (Agricultural Services Innovation and Reform Project), CDP (Crop Diversification Programme), NCDP (North West Diversification Project), Gram AUS etc. All these projects emphasize women participation in farming activities, where GOs are greatly encouraged to work closely together with local and national NGOs.

Rural women - who are half of the rural population of Bangladesh, must be included in development activities specially in homestead agricultural activities. So, when rural women's are involved and included with this development activities and are aware of their rights and claims, there participation in homestead agricultural activities will be increased to a great extent.

1.2 Statements of the Problem

"Participation" generally means one's involvement in an object, thing or situation related to homestead agricultural production. Participation in homestead

agricultural activities is the condition of an individual about the agricultural production in homestead areas. Participation of the rural women in homestead agricultural activities is very vital to agricultural development of Bangladesh, where an overwhelming majority of them live in rural areas and live close to agricultural production system. Women play a very important role in agricultural development of the country and they have been directly involved in agricultural production and productivity. It is therefore, important to have adequate understanding on rural women's participation in agricultural production specially in homestead agricultural activities of the country.

Analyzing the issues from rural women's perspective, this study was designed to find out the following research questions regarding rural women's participation in homestead agricultural activities:

i. What is the extent of participation of the rural women in homestead agricultural activities?

ii. Is participation of the rural women in homestead agricultural activities affected by the selected characteristics?

iii. What extent do the relationships have between selected characteristics of the rural women and their participation in homestead agricultural activities?

1.3 Specific Objectives

In order to proper direction to the research the following specific objectives were formulated:

To assess the extent of participation of rural women in four selected homestead agricultural activities. The activities are: (i) homestead vegetable cultivation, (ii) post-harvest activities, (iii) poultry raising and (iv) goat rearing.

To determine and describe some selected characteristics of the rural women. The selected characteristics are:

i. Age
ii. Education
iii. Farm size
iv. Family income
v. Cosmopoliteness
vi. Extension contact
vii. Agricultural training
viii. Knowledge on homestead agricultural activities, and
ix. Attitude towards homestead agriculture.

To explore relationships between the selected characteristics of rural women and their extent of participation in homestead agricultural activities.

To compare the problems confronted by the rural women in participating homestead agricultural activities.

1.4 Limitations of the Study

The purpose of the study was to have an understanding of the extent of participation of the rural women in homestead agricultural activities and to explore its relationship with their selected characteristics. Considering the time, money and other necessary resources available to the researcher and make the research manageable and meaningful from the practical point of view, it become necessary to impose certain limitations as mentioned below:

i. The study was confined to selected two villages namely, Basantozot and Lohakhachi of Shalbahan union in Tentulia upazila under Panchagarh district.

ii. There were many characteristics of the rural women but only nine of them were selected for this study.

iii. There were many rural women in the study area, but only 100 rural women were considered for this study.

iv. Assessing the extent of participation of the rural women in homestead agricultural activities were very difficult and time consuming task. Therefore, in this study participation of the rural women were measured on the basis of their responses through some selected statements.

v. The respondents for data collection were kept limited within the rural women who were just attached with the homestead agricultural activities only.

vi. For information about the study, the researcher dependent on the data as furnished by the sampled respondents during the interview. As none of the respondents kept records, they furnished information to the different queries by recall.

vii. Major information, facts and figure supplied by the respondents were applicable to the situation prevailing in the locality during the year 2007.

1.5 Scope of the Study

The findings of the study will, in particular, be applicable to selected two villages namely, Basantozot and Lohakhachi of Shalbahan union in Tentulia upazila under Panchagarh district. However, the findings may also be applicable to other areas of Bangladesh where the physical, socio-economic, cultural and geographic conditions do not differ much from those of the study area. Thus, the findings are expected to be useful to the students, researchers, extension specialists and particularly for planners in formulating and redesigning extension programmes. The findings may be a piece of contribution to the body of knowledge in the field of agricultural development.

1.6 Assumptions

An assumption is the supposition that an apparent fact in principle is true in the light of available evidence (Good, 1945). The following assumptions were in mind of the researcher during conducting the study:

i. The respondents included in the sample were capable of furnishing proper responses to the questions included in the interview schedule.

ii. Views and opinions furnished by the respondents were the representative views and opinions of the population of rural women of the study area.

iii. The responses furnished by the respondents were reliable and valid.

iv. The researcher who acted as the interviewer was well adjusted to the social environment of the study area. Hence, the data collected by the researcher were free from bias.

v. The items included in the question of awareness of rural women on agricultural extension activities.

vi. The respondents for the study were competent enough to answer the queries made by the researcher.

1.7 Hypotheses

Nine null hypotheses were formulated to test the relationship between the selected characteristics of the rural women and their extent of participation in homestead agricultural activities. In brief, the null hypotheses were as follows:

“There is no relationship between age, education, farm size, family income, cosmopoliteness, extension contact, agricultural training, knowledge on homestead agricultural activities, attitude towards homestead agriculture and their participation in homestead agricultural activities”.

1.8 Definition of Terms

For clarity of understanding certain the following terms used frequently throughout the study are defined and interpreted in alphabetical order:

Age

Age of a rural woman may be defined as the chronological account of life of a rural woman from her birth to the time of interview**.**

Agricultural Training

It refers to the total number of days attended by the farmers in his/her life to the various agriculture related training courses.

Attitude towards Homestead Agriculture

Attitude of a rural woman towards homestead agriculture may be defined as her mental state of readiness that has dynamic influence upon the individual's response to any social object or situation. The term ‘attitude towards homestead agriculture’ is used to refer beliefs, feelings and action tendencies

of a rural woman towards the production of vegetables, poultry**,** goats etc. and also involvement in post harvest activities and other activities related to agricultural production within the homestead.

Cosmopoliteness

Cosmopoliteness of a rural woman refers to her frequency of movement to a distant place from her village.

Education

Education of a rural woman refers to the development of desirable knowledge, skill and attitude in the individual through reading, writing and other related activities. In this study education was meant for years of schooling of rural women respondents.

Extension Contact

Extension contact of a rural woman refers to her capability of becoming accessible to the influence of extension education through different extension teaching methods.

Family Income

Family income of a rural woman is defined as total earning of a respondent and other members of her family from agriculture and other sources (services, business etc.) during last year.

Farm

A farm of a rural woman refers to a household or unit of holding organized for production of one or more enterprises like crops, livestock, fish, trees etc. for the purpose of satisfying the rural women's goal. A farm may or may not be of commercial venture.

Farm Size

Farm size of a rural woman refers to the area of land owned by a farmer or his wife on which farming activities are carried out. A respondent was considered to have full benefit from cultivated area either owned by her or obtained on borga system. The area was being estimated in terms of full benefit to the respondent. The right of a farmer on the land taken on lease or mortgage from others was regarded as ownership in estimating the farm size.

Homestead

The homestead areas of rural women for this study was defined as the raised lands of five selected villages of the study area under Panchagar district in which the households had entire dwelling including living rooms, kitchen, cattle shed, sheep or goat shed, poultry house, front yard, courtyard, and the area under vegetables, fruit trees, timber trees, backyard bushes, bamboo bunches etc.

Homestead Agricultural Activities

Homestead agricultural activities refer to the works done by the rural women of the households to participate in agricultural activities in their homestead. Homestead agricultural activities of the rural women included post harvest activities such as threshing, winnowing, drying and preserving grains, vegetable and fruit production within the homestead area, poultry raising, goat rearing, cattle farming and such other activities related to agricultural production.

Knowledge on Homestead Agricultural Activities

Knowledge on homestead agricultural activities of a rural woman refers to the rationalistic understanding about different activities related to agricultural production within the homestead. In other words, knowledge referred to the development of consciousness and understanding of the rural women about different aspects of homestead agriculture**.**

Participation in Homestead Agricultural Activities

Participation in homestead agricultural activities of a rural woman was considered to be an active process, meaning that the person took initiatives toward achieving something by performing activities related to agricultural production within the homestead. Here, participation of a rural woman in homestead agricultural activities meant to be involved in selected four items of agricultural activities. The items of those agricultural activities were: (i) homestead vegetable cultivation, (ii) post-harvest activities, (iii) poultry raising and (iv) goat rearing.

Post-harvest Activities

Post-harvest activities of a rural woman refer to operations done after harvest of a crop. The operations included threshing, winnowing, drying, grading and preserving of agricultural produces. These operations are usually performed in the homestead.

Rural Women

Rural women refer to as a racial group, specially united by language and customs, living as a community under one or more chiefs in the rural occupied areas.

CHAPTER 2

REVIEW OF LITERATURE

This chapter deals with the review of past researches related to this investigation. The reviews are conveniently presented based on the major objectives of the study. In spite of sincere effort adequate numbers of direct related literatures were not readily available for this study. However, the literatures of available studies have been briefly discussed in this chapter**.**

2.1 Participation in Homestead Agricultural Activities

Gopalappa (1997) reported that the respondent women were able to participate in the new cropping pattern for sericulture on the household's land, and hence they no longer had to hire their labour out. It was concluded that their contribution to the household's agriculture was more greatly appreciated.

Karim and Wee (1996) mentioned that women were involved in seed collection, seed storage, fertilizer application, and daily maintenance and harvesting. In case of tribal people, vegetables were growing mostly cared by women.

Ajayi (1995) in his study found that most women take part in planting, weeding, harvesting and post-harvest activities of subsistence crops.

Chakma (1995) in a socio-economic study in a selected area of Khagrachari Hill district found that women and children participation from the landless group was the highest particularly in the case of hiring out the labour**.**
Akanda (1994) in his study revealed that highest proportion of the rural women had high participation in vegetable cultivation while only 15 percent of them had high participation in the cultivation of fruit trees.

Islam and Dham (1994) reported that women member of the co-operator farm families participated in all the operations needed for homestead gardening whatsoever.

Sultana (1993) stated that homestead vegetables and fruits form an integral part of the family diet and a part of them enters the commercial market.

Virdi (1993) mentioned that rural women in Bangladesh have almost always been associated with agriculture.

Vlassak (1993) mentioned that in third world countries, the role of women in agricultural production is extremely important. The tasks in agriculture as well as in food distribution and processing carried out by women show particular pattern. Women like to increase agricultural production, but their activities are being impeded in different ways.

Halim (1990) stated that rural women in Bangladesh were active in productive works in household industry and even in marketing in addition to taking care of children, preparing and serving food to other members of the family.

Gleason (1988) in his report mentioned that women in rural Taiwan often worked with their male counter-parts in almost all aspect of agricultural production. There were tendencies for women to perform certain tasks that men were likely to do and vice versa.

Hossain *et al.* (1988) reported that women constitute about 48% of the total population in Bangladesh. Even then, their role is not adequately reflected in the national census and development activities because of lack of necessary information and documentation on homestead agriculture.

Quddus *et al.* (1985) reported that the kitchen gardening and home level food processing was satisfactory extension work and their participation was highly favourable.

Dey (1985) mentioned in his paper that women in the households are economically active and played important role in post-harvest operations as well as other activities like kitchen gardening and livestock care.

Younus (1984) stated that social attitude to women participation in activities outside the home became more favourable in eighties particularly when women participation was considered as an economic advantage to the family.

Huq (1974) mentioned that women play important role in country's economic growth, especially in agricultural production

2.2 Review of Past Studies Concerning Relationships on the Selected Characteristics of the Respondents with their Participation in Homestead Agricultural Activities

2.2.1 Age and Participation

Akanda (1994), Akhter (1989), Iqbal (1963) and Nair (1963) found that respondents' age had significant positive relationship with their participation in agricultural practices.

Sirohi (1985) reported that there were differences in operations among different age groups. Accordingly threshing and sowing belonged to the age group of 25-40 and less than 15 years respectively.

Huq (1981) stated that 70 percent of women workers of the study belong to the age group of 15-24 i.e. unmarried women spent more time than married women in labour force.

Naher (2000) observed in her study that age of the rural women had no significant relationship with their participation in homestead agriculture.

2.2.2 Education and Participation

Nahar (1996), Akanda (1994) and Kaur (1988) stated that education of respondents had significant positive relationship with their participation in agricultural practices.

Karim (1993) observed a positive trend of association between the farmer's education and their agricultural knowledge in sugarcane cultivation.

Kaur (1988) found that education influenced the opinion of the women about adoption of vegetable gardening, animal husbandry etc.

Arya (1979) in her study on women's role in decision making in farm credit found that family education had no significant relationship with women's participation in decision making.

Hossain (1985) in his study found that there was no relationship between education of the women with their adoption of improved practices.

Naher (2000) observed in her study that education of the rural women had no significant relationship with their participation in homestead agriculture.

2.2.3 Farm Size and Participation

Naher (2000), Akanda (1994), Saugwan *et al.* (1990), Akhter (1989), Bhatnagar and Sexena (1987), Ahsan (1986), Abdullah (1986) and Westernguard (1981) found that farm size of the respondents had significant positive relationship with their participation in agricultural practices.

Halim (1991) and Dixon (1988) mentioned from his research findings that women's work is positively associated with small size of land. Their participation falls with the emergence of commercialized relation in agriculture.

Islam and Ahmed (1987) observed that landless and small farm households are involved primarily in vegetable and spices cultivation while large and medium households more often cultivate fruits and trees.

2.2.4 Family Income and Participation

Akanda (1994), Akhter (1989), World Bank (1988) and Sattar (1979) observed that family income had significant positive relationship with their participation in agricultural practices.

Naher (2000) observed in her study that family income of the rural women had no significant relationship with their participation in homestead agriculture.

Ahmed (1977) found that income of the rural women had significant relationship with the use of information sources in the adoption of plant protection measures.

2.2.5 Cosmopoliteness and Participation

Akanda (1994) found that non-localite behaviour or cosmopoliteness of rural women was negatively correlated with their participation in homestead vegetable cultivation, cultivation of fruit trees and non-farm household activities.

Ahmed (1977) found no relationship between cosmopoliteness of the rural women and each of the adoption of recommended variety of jute, recommended dose of fertilizers and plant protection measure in jute cultivation.

Naher (2000) observed in her study that cosmopoliteness of the rural women had no significant relationship with their participation in homestead agriculture.

Latif (1974) in his study found that there was a positive relationship between cosmopoliteness of the rural women and their communication exposure.

Karim (1973) found a significant positive relationship between cosmopoliteness of the transplanted Aman rice growers and their adoption of fertilizers.

2.2.6 Extension Contact and Participation

Naher (2000), Nahar (1996), Karim (1993), Islam (1991) and Kaur (1988) in a study observed that extension contact and mass media exposure had positively significant relationship with their participation in agricultural practices.

2.2.7 Agricultural Training and Participation

Haque (2003) found that training received of the respondent had positive significant relationship with their adoption of modern maize cultivation technologies.

Islam (2002) conducted a study on farmers' knowledge and adoption of ecological agricultural practices under the supervision of proshika. He found that agricultural training exposure of the farmers had no significant relationship with their adoption of ecological agricultural practices.

Verma *et al.* (1989) found there was significant change in attitude of rural women before training to after training in improved home making tasks. They said that due to gain in knowledge the attitude became more favourable.

Hossain (1981) showed that proper training could raise the knowledge and skill level of participants significantly.

2.2.8 Knowledge and Participation

Naher (2000) observed in her study that knowledge on homestead agriculture of the rural women had significant positive relationship with their participation in homestead agriculture.

Akanda (1994) in his study found that agricultural knowledge of the rural women had positive relationship with their participation in the cultivation of fruit trees.

Ali (1995), Parveen (1993) and Verma *et al.* (1988) stated that agricultural knowledge of the respondents had significant positive relationship with their attitude towards the participation of respective activities.

2.2.9 Attitude and Participation

Naher (2000) observed in her study that attitude towards homestead agriculture of the rural women had significant positive relationship with their participation in homestead agriculture.

Ali (1995) mentioned that agricultural knowledge of the rural women had significant positive relationship with their attitude towards working in group in agricultural activities.

Fatema (1995) in her study found that the correlation between problem confrontation and attitude of the farm women towards agricultural income generating activities was negatively significant i.e. women who had more favourable attitude towards agricultural income generating activities face less problem.

Islam (1991) conducted a study on attitude of the rural women towards technology and found that contact and non-contact rural women differed significantly regarding their attitude towards technology.

2.3 The Conceptual Framework of the Study

In scientific research, selection and measurement of variables constitute an important task. The hypothesis of a research while constructed properly contains at least two important elements i.e. "a dependent variable" and "an independent variable". A dependent variable is that factor which appears, disappears or varies as the research introduces, removes or varies the independent variable (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. In view of prime findings of review of literature, the researcher constructed a self-explanatory conceptual model of the study which is presented in Figure 2.1.

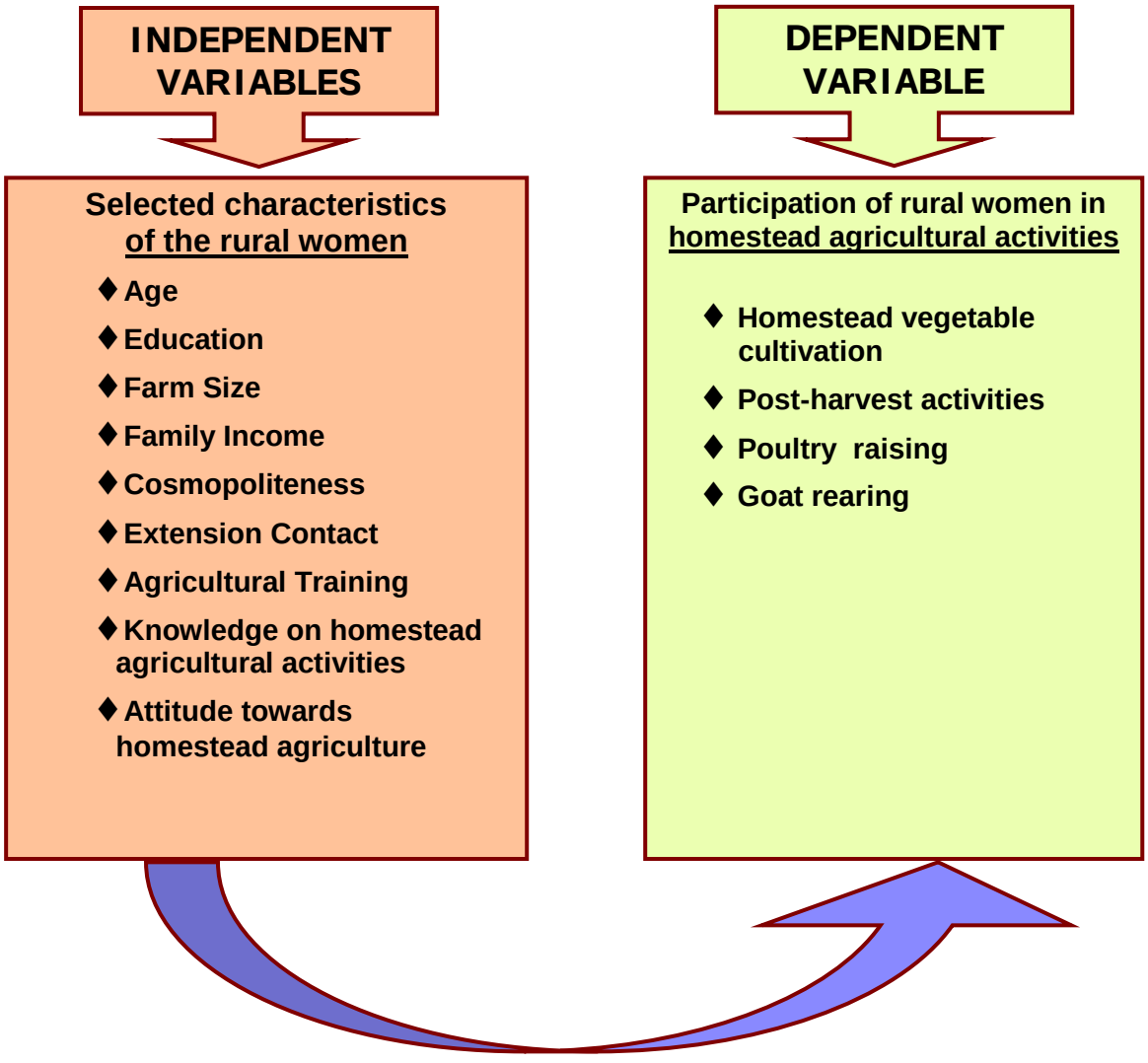

Figure 2.1 The conceptual framework of the study

CHAPTER 3

METHODOLOGY

In any scientific research, methodology plays an important role. Appropriate methodology helps the researcher to collect valid and reliable information and analyze the information properly in order to arrive at correct conclusions. The methods and procedures followed in conducting the study have been descried below step by step:

3.1 Locale of the Study

Rural women i.e. housewives of male-headed households are available in all unions of Tentulia upazila under Panchagarh district. Therefore, Salbahan union was purposively selected as the study area from 7 (seven) union of Tentulia upazila covering two villages by random sampling method. The villages were Basantozot and Lohakhachi. A map of Panchagarh district and another map of Tentulia upazila showing locale of the study appear in Figure 3.1 and Figure 3.2.

3.2 Population and Sample Size

Two villages were selected randomly from the study area. There were 2048 rural households in these two villages. Therefore, 2048 housewives (rural women) of these households constituted the population of the study. Among them one hundred rural women were selected randomly as sample of the study using a by using random selection method taking 5% of the population. Data were collected from the sample using a pre-tested interview schedule. Besides, 10 percent of the samples i.e. 10 rural women were selected from the population as reserves who were supposed to be interviewed only when respondents in the original list found unavailable during data collection. The distribution of the populations and the samples as well as a reserve list of the rural women is shown in Table 3.1.

Table 3.1 Distribution of Population and Samples with Reserve List

Name of Union	Name of Villages	Total Population	Sample Size	Reserve List Size
Salbahan	Basantozot	1059	52	6
	Lohakhachi	989	48	4
Total =		2048	100	10

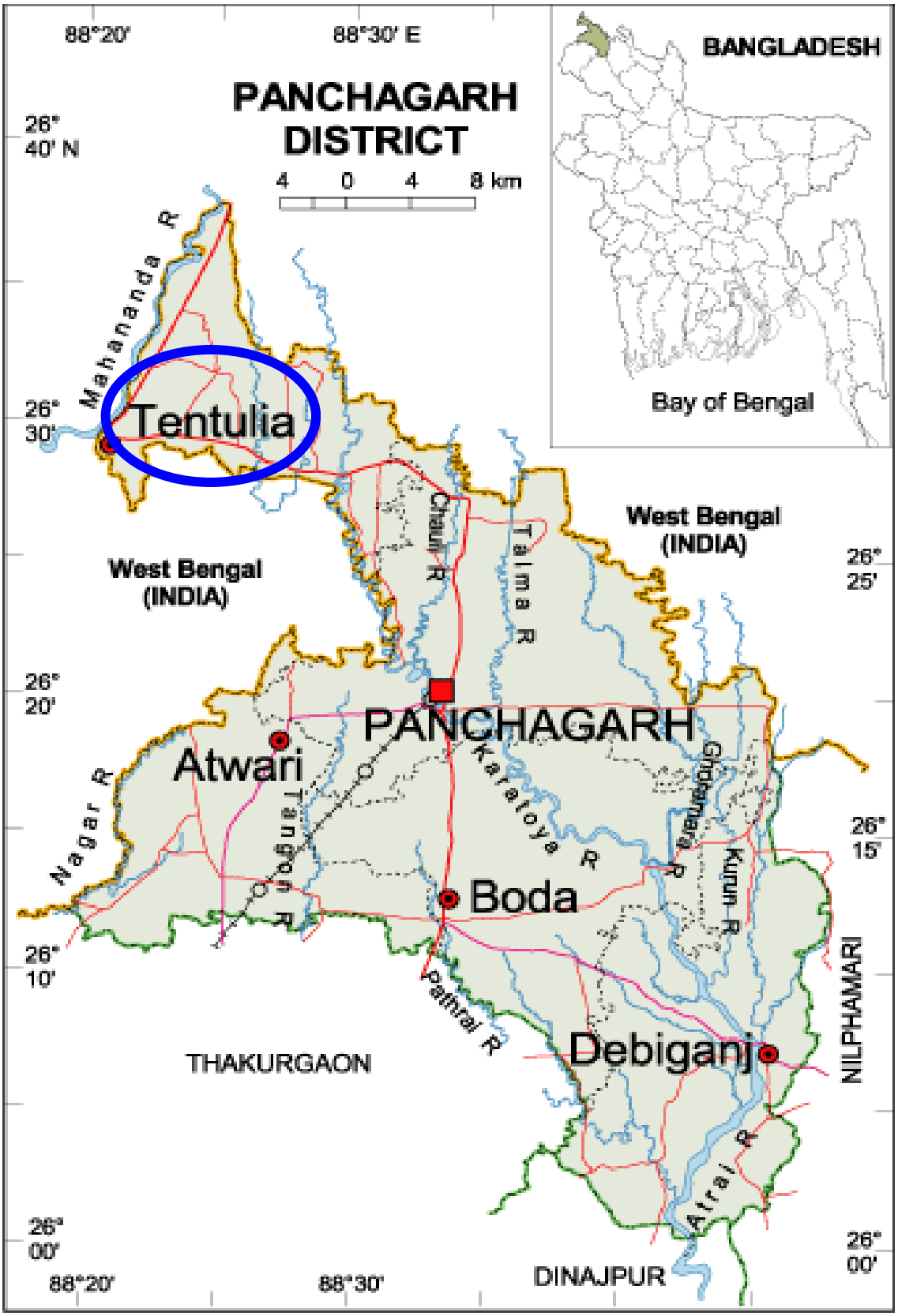

Figure 3.1 A map of Panchagarh district showing the Tentulia upazila

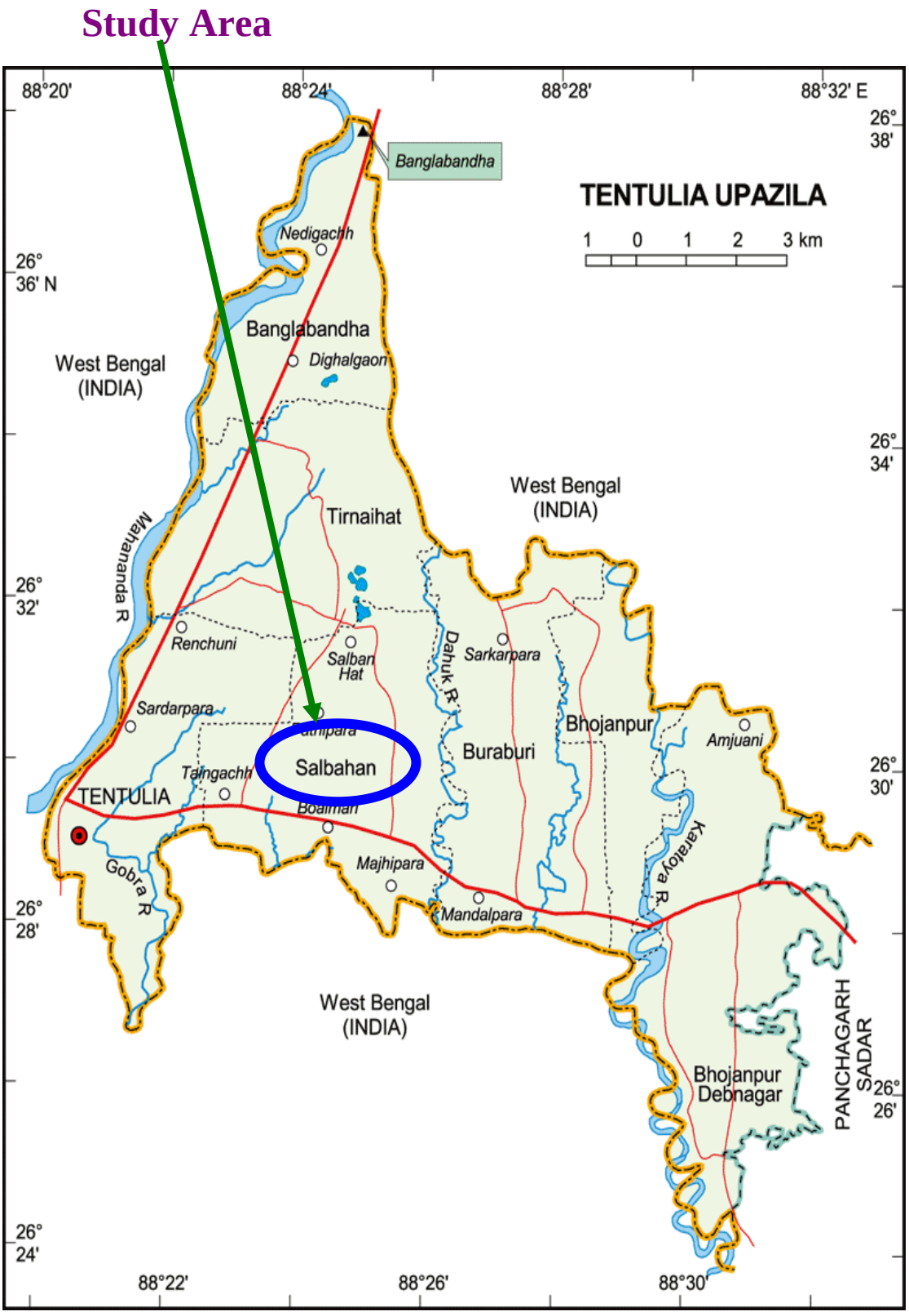

Figure 3.2 A map of Tentulia upazila showing the study union

3.3 Selection of Variables

There are ten variables in this study. Nine of these are independent variables and one is dependent variable.

The independent variables are:

i. Age,
ii. Level of Education,
iii. Farm Size,
iv. Annual Family Income,
v. Cosmopoliteness,
vi. Extension Contact,
vii. Agricultural Training,
viii. Knowledge on Homestead Agricultural Activities and
ix. Attitude towards Homestead Agricultural Activities.

The dependent variable of the study was "Participation of rural women in homestead agricultural activities". It had four components namely, homestead vegetable cultivation, post-harvest activities, poultry raising, and goat rearing.

3.4 Measurement of Variables

3.4.1 Measurement of Independent Variables

In this study selected personal, economic, social and psychological characteristics of the rural women were considered as independent variables. These characteristics are as follows:

3.4.1.1 Age

Age of the rural woman refers to the period of time from her birth to the time of interview. It was measured in terms of actual years on the basis of her response to item No. 1 of the interview schedule.

3.4.1.2 Education

The education of a respondent was measured by the number of years of schooling. A score of one (1) was assigned for each year of schooling completed. For example, if a respondent completed study of class five his education score was assigned as 5. The knowledge status of a respondent who could sign only was assigned a score of 0.5 while 0 score was assigned if a respondent could not read or write. Besides, if a respondent did not go to school but studied at home and if his knowledge status was equivalent to the student of class five, then he was assigned a score of 5.

3.4.1.3 Farm Size

Farm size of a respondent was measured by the land area possessed by her. Data obtained in response to questions under item No. 3 of the interview schedule formed the basis for determining the farm size of the respondent. Here, farm size was computed by using the following formula:

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

Where,

A_1 = Homestead area
A_2 = Own pond and garden
A_3 = Own land under cultivation
A_4 = Land given to others as borga
A_5 = Land taken from others as borga
A_6 = Land taken from others as lease

The respondent has given information for their farm size in local measurement. Finally, it was converted into hectare and was considered as the farm size score of a respondent.

3.4.1.4 Family Income

The method of determining family income of a respondent involved two aspects. The first aspect is agriculture and the second aspect is non-agriculture. In

calculating the family income of a respondent, income of that respondent as well as her family members (earned from different sources) in a year were added together to obtain total family income of a respondent. A score of 1 was assigned for Tk. 1000. For an amount less than Tk.1000, a fraction score was computed and added with the main score. Data obtained in response to item No. 4 of the interview schedule were used to calculate the income score of a respondent.

3.4.1.5 Cosmopoliteness

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

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

Scores obtained for visit to each of the above five categories of places were added together to get the cosmopoliteness score of a respondent. The range of

cosmopoliteness score could be from '0' to '15', where '0' indicates 'no cosmopoliteness' and '15' indicates 'very high cosmopoliteness'.

3.4.1.6 Extension Contact

Extension contact is referred to the exposure or contact of the rural woman with some selected information sources and personalities. The extension contact score of a respondent was measured on the basis of her extent of contact with the selected information sources within a given duration for getting required information. There are three levels of extension contact. These are as follows:

a) Personal Contact

Personal contact of a respondent was measured by computing personal contact score on the basis of the extent of visit. The scale used for determining the exposure of a respondent is given below:

Source of Contact	Scoring System
1. Dealer of agricultural commodities	0 = Not even once in a month (**Never**) 1 = 1-2 times in a month (**Rarely**) 2 = 3 times in a month (**Occasionally**) 3 = More than 3 times in a month (**Regularly**)
2. Field worker of NGO	0 = Not even once in a month (**Never**) 1 = 1-2 times in a month (**Rarely**) 2 = 3 times in a month (**Occasionally**) 3 = More than 3 times in a month (**Regularly**)
3. SAAO	0 = Not even once in a year (**Never**) 1 = 1-3 times in a year (**Rarely**) 2 = 4-5 times in a year (**Occasionally**) 3 = More than 5 times in a year (**Regularly**)
4. Upazila Agriculture Officers (UAO/AAO/AEO)	0 = Not even once in a year (**Never**) 1 = Once in a year (**Rarely**) 2 = Twice in a year (**Occasionally**) 3 = More than twice in a year (**Regularly**)
5. Other Extension Officers (Livestock Officer, Fisheries Officer)	0 = Not even once in a year (**Never**) 1 = Once in a year (**Rarely**) 2 = Twice in a year (**Occasionally**) 3 = More than twice in a year (**Regularly**)

Total score of a respondent was determined by adding all personal contact scores. This score of a respondent could range from 0-15 where '0' indicates 'no personal contact' and '15' indicates 'high personal contact' as shown in item No. 6(a) of the interview schedule.

b) Group Contact

The total group contact score of a respondent was measured by computing all the group contact scores as shown in item No. 6(b) of the interview schedule. Scores were assigned for group contact in the following manner:

Source of Contact	Scoring System
1. Group discussion	0 = Not even once in 6 months (**Never**) 1 = 1-2 times in 6 months (**Rarely**) 2 = 3-4 times in 6 months (**Occasionally**) 3 = More than 4 times in 6 months (**Regularly**)
2. Field day	0 = Not even once in a year (**Never**) 1 = Once in a year (**Rarely**) 2 = Twice in a year (**Occasionally**) 3 = More than twice in a year (**Regularly**)
3.Result demonstration	0 = Not even once in a year (**Never**) 1 = Once in a year (**Rarely**) 2 = Twice in a year (**Occasionally**) 3 = More than twice in a year (**Regularly**)

The group contact score of a respondent could range from 0 to 9, where '0' indicates 'no group contact' and '9' indicates 'high group contact'.

c) Mass Contact

Data obtained in response to item No. 6(c) of the interview schedule were used to obtain mass contact score of a respondent. Scores were assigned for mass contact in the following manner:

Source of Contact	Scoring System
1. Radio	0 = Not even once in a week (**Never**) 1 = 1 time in a week (**Rarely**) 2 = 2 times in a week (**Occasionally**) 3 = More than 2 times in a week (**Regularly**)
2. Television	0 = Not even once in a month (**Never**) 1 = 1 time in a month (**Rarely**) 2 = 2 times in a month (**Occasionally**) 3 = More than 2 times in a month (**Regularly**)
3. Agriculture related newspapers	0 = Not even once in a month (**Never**) 1 = 1 time in a month (**Rarely**) 2 = 2 times in a month (**Occasionally**) 3 = More than 2 times in a month (**Regularly**)
4. Agricultural fair	0 = Not even once in a year (**Never**) 1 = 1 time in a year (**Rarely**) 2 = 2 times in a year (**Occasionally**) 3 = More than 2 times in a year (**Regularly**)

According to above scale possible mass contact score of the respondent could range from 0 to 12, where '0' indicates 'no mass contact' and '12' indicate 'high mass contact'.

Extension Contact Score = Personal Contact Score + Group Contact Score + Mass Contact Score.

Thus, the possible extension contact score of the respondents could range from 0 to 36, where '0' indicates 'no extension contact' and '36' indicates 'high extension contact'.

3.4.1.7 Agricultural Training

Agricultural training score of a respondent was measured by the number of days that a respondent had received agricultural training in her entire life. It was indicated by the total number of days of receiving agricultural training by a respondent under different training programs. Data obtained in response to item No. 7 of the interview schedule were used to obtain agricultural training score of a respondent.

3.4.1.8 Knowledge on Homestead Agricultural Activities

According to Naher (2000), knowledge on homestead agricultural activities of the rural women was measured in score by asking 15 selected questions related to various activities related to homestead agriculture. A full score 1 (one) was assigned for each correct answer and 0 (zero) score was assigned for the wrong answer. Therefore, for correct responses to all the questions a respondent could get a total score of ‘15’, while for wrong responses to all the questions a respondent could get ‘0’. However, the knowledge scores of the respondents were computed by adding her scores for all the 15 items. Thus, the knowledge score could range from ‘0’ to ‘15’, where ‘0’ (zero) indicates ‘no knowledge on homestead agricultural activities’ and ‘15’ indicates ‘high knowledge on homestead agricultural activities’.

3.4.1.9 Attitude towards Homestead Agriculture

The rural women's attitude towards homestead agriculture was another independent variable of the study. According to Naher (2000), sixteen independent statements were carefully constructed to develop attitude scale. Basically, the Likert Method of Summated Ratings was used to serve the purpose. There were 8 positive and 8 negative statements in the scale. These statements were randomly arranged. A respondent was asked to indicate his degree of agreement about each of the statements along with a five point scaling as ‘strongly agree’, ‘agree’, ‘no opinion’, ‘disagree’ and ‘strongly disagree’. Scores were assigned to these five alternative responses as 4, 3, 2, 1 and 0 respectively for each positive statement. However, the scores were reversed for the negative statements. The attitude towards homestead agriculture score of a respondent was obtained by adding her scores for all the 16 statements. This score could range from ‘0’ to ‘64’, where ‘0’ indicates most unfavorable attitude towards homestead agriculture and ‘64’ indicates most favorable attitude towards homestead agriculture.

3.4.2 Measurement of Dependent Variable

Rural women generally perform a number of homestead agricultural activities within the boundary of the homestead. However, their participation in agricultural income generating activities has been confirmed to (i) homestead vegetable cultivation, (ii) post-harvest activities, (iii) poultry raising and (iv) goat rearing as dependent variables for the study. Before selecting the dependent variables, the researcher reviewed available journals, research reports etc. from home and abroad. He also discussed with the resource personnel in this area and visited the study area for better identification of dependent variables.

3.4.2.1 Measurement of Participation of Rural Women in Homestead Agricultural Activities

To measure participation of the rural women in four selected areas of homestead agricultural activities, 10 items were selected under each of the homestead activities which are as follows:

a. Items of Participation in Homestead Vegetable Cultivation

i. Land selection & preparation
ii. Plant nutrient management
iii. Pest management
iv. Irrigation/drainage
v. Cultural operations

b. Items of participation in post-harvest activities

i. Threshing
ii. Winnowing
iii. Drying
iv. Grading
v. Storing

c. Items of participation in poultry raising

i. Collection of chicken
ii. Poultry shed management
iii. Feeding poultry birds
iv. Vaccination & treatment
v. Selling

d. Items of participation in goat rearing

i. Collection of goat breed
ii. Goat shed management
iii. Feeding
iv. Vaccination & treatment
v. Selling

Thus, 20 items were selected to measure rural women's participation in homestead agricultural activities. The respondents were asked to indicate their extent of participation to each of the above 20 items along with a five-point scale: 'never', 'rarely', 'occasionally', 'often' and 'regularly'. The responses of these questions were given scores of '0', '1', '2', '3' and '4' respectively. The participation score of a rural woman was obtained by summing her scores for all the 20 items of the 4 (four) selected areas of homestead agricultural activities which are homestead vegetable cultivation, post-harvest activities, poultry raising and goat rearing. Thus, the participation score of a rural woman for all the 4 (four) areas of homestead agricultural activities could range from '0' to '80', where '0' (zero) indicated that the rural woman never participated in homestead agricultural activities and '80' indicated that the rural woman participated regularly in homestead agricultural activities.

3.5 Measurement of Problem Confrontation Index (PCI) in Participating Homestead Agricultural Activities

The rural women of the study area might have faced various types of problems in participating homestead agricultural activities. But the investigator gained an experience through personal contact regarding common problems faced by the respondents at the time of data collection. Besides, the researcher gained knowledge through consultation with experts, pre-testing experience and reviewing previous research findings. Finally, the researcher prepared a list of ten possible problems in this regard. A scale was prepared to indicate the extent to which each

of the ten problems was applicable in the case of a respondent. The respondents were asked to indicate the degree of severity of the problems in a 5-point scale as ‘very high problem’, ‘high problem’, ‘moderate problem’, ‘little problem’ and ‘no problem at all’. Weights were assigned to those responses as ‘4’, ‘3’, ‘2’, ‘1’ and ‘0’ respectively.

To measure Problem Confrontation Index (PCI), the following 10 (ten) items were selected:

i. Lack of knowledge
ii. Lack of necessary agricultural land
iii. Lack of capital
iv. Lack of quality seed
v. Lack of sufficient fertilizers
vi. Lack of sufficient insecticides
vii. Lack of extension workers
viii. Lack of marketing opportunities
ix. Lack of transportation facilities
x. Lack of cooperation from male partner.

The Problem Confrontation Index (PCI) for each problem was computed by using the following formula:

$$\mathbf{PCI = (P_{vh} \times 4) + (P_h \times 3) + (P_m \times 2) + (P_l \times 1) + (P_n \times 0)}$$

Where,

P_{vh} =Percentage of rural women who confronted very high problem

P_h =Percentage of rural women who confronted high problem

P_m =Percentage of rural women who confronted moderate problem

P_l =Percentage of rural women who confronted little problem

P_n =Percentage of rural women who confronted no problem at all

To determine comparative importance of those ten problems, PCI was computed for each of the ten problems by summing up the scores of all the respondents. Problem Confrontation Index (PCI) of a specific problem could range from '0' to '400', where '0' indicated 'no problem confrontation' and '400' indicated 'high problem confrontation'.

3.6 Statement of Hypothesis

As defined by Goode and Hatt (1952), "A hypothesis, which can be put to a test to determine its validity. It may see contrary to, or in accord with common sense. It may prove to be correct or incorrect. In any event, however, it leads to an empirical test". In studying the relationship between variables, research hypothesis are formulated which state the anticipated relationship between the variables. However, for statistical test it becomes necessary to formulate null hypothesis. A null hypothesis states that there is no relationship between the variables. If a null hypothesis is rejected on the basis of a statistical test, it is assumed that there is a relationship between the concerned variables.

The null hypothesis can be assumed for this study as – "there was no relationship between the rural women's selected characteristics and their participation in homestead agricultural activities". The characteristics were: age, education, farm size, family income, cosmopoliteness, extension contact, knowledge on homestead agricultural activities and attitude towards homestead agriculture.

3.7 Instrument for Data Collection

In order to collect relevant information from the respondents, an interview schedule was used. The schedule was carefully designed keeping the objectives of the study in view. The schedule contained both open, closed and multiple choice questions. Most easy, simple direct questions and different scales were used to obtain the information. Direct questions were also used to obtain information, like age, education, farm size, and family income, training etc. Different scales were

developed and used to measure the cosmopoliteness, extension contact and attitude towards homestead agriculture of the respondents.

A closed form questions was designed to obtained information on knowledge of the rural women on homestead agricultural activities. The questions were arranged systematically and presented clearly so that the respondents could understand to furnish information in a consistent and systematic manner. The interview schedule was prepared in Bengali language for better understanding by the respondents and was pre-tested. The pre-test facilitated the researcher to examine the suitability of different questions and statements of the interview schedule in general. After that, the interview schedule was finally prepared with necessary correlations, modifications and alterations as per experience of the pre-test. An English version of the interview schedule is enclosed at Appendix-A.

3.8 Collection of Data

Data for this study were collected through personal interview by the researcher himself during September 20 to October 20, 2007. The interview schedule prepared earlier by the researcher was used to gather information. All possible efforts were made to explain the purpose of the study to the respondents in order to get valid and pertinent information from them.

Interviews were conducted with the respondents at their homes. While starting interview with any respondent, the researcher took all possible care to establish rapport with them so that they did not feel uneasy or hesitation to furnish proper responses to the questions and statements in the interview schedule. The questions were explained and clarified whenever any respondent felt difficulty in understanding properly. None of the rural women was interviewed from the reserve list during final collection of data.

3.9 Compilation of Data

After completion of field survey all the data of the interview schedule were compiled. Local units were converted into standard unit. Appropriate coding and scoring technique was followed to convert the qualitative data into quantitative forms. The responses of the individual respondent contained in the interview schedules were transferred to a master sheet for entering the data in the computer. As soon as the data entered into the computer, it was then analyzed in accordance with the objectives of the study.

3.10 Statistical Analysis

Statistical measure such as number, percentage, minimum-maximum, rank order etc. Mean and standard deviation were used in describing the independent and dependent variables of the study. For clarity of understanding tables were used to present the data. For exploring the relationships between the selected characteristics of the respondents and their participation in homestead agricultural activities Pearson's Product Moment Correlation Co-efficient (r) was computed. Data were analyzed by using software named SPSS.

CHAPTER 4

RESULTS AND DISCUSSION

In general, the term "participation" (in homestead agricultural activities) refers to taking part fully or partially in different events of homestead agricultural activities. In fact, the rural women participate in various agricultural and non-agricultural activities within and outside the homestead. However, in this piece of study four activities viz. homestead vegetable cultivation, post-harvest activities, poultry raising and goat rearing have been selected to measure the extent of the rural women's participation in homestead agricultural activities in Tentulia upazila under Panchagarh district. Data were collected from the respondents and were carefully edited, coded, computed, tabulated and analyzed in accordance with the objectives of the study. After completion of those processes this chapter was written carefully. This chapter is divided into four sections. In the first section, the independent variables (selected characteristics of the rural women) have been discussed. The second section deals with the dependent variable of the study. The third section deals with the relationships between select characteristics of the rural women and their participation in homestead agricultural activities. In the fourth section, a discussion was made on the comparative problems confrontation of the rural women in participating homestead agricultural activities.

4.1 Selected Characteristics of the Rural Women

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

Table 4.1 Rural Women's Characteristics Profile

Sl. No.	Characteristics	Measuring Unit	Possible range	Observed range	Mean	Standard deviation
1.	Age	Actual years	Unknown	19-55	33.25	8.97
2.	Education	Year of schooling	Unknown	0-12	3.42	3.63
3.	Farm size	Hectare	Unknown	0.02-4.92	.78	.911
4.	Family income	In Tk..1000	Unknown	8.50-342.00	57.42	62.09
5.	Cosmopoliteness	Score	0-15	0-9	4.35	1.73
6.	Extension contact	Score	0-36	1-21	7.53	3.89
7.	Agricultural training	Score	Unknown	0-15	2.91	3.56
8.	Knowledge on homestead agricultural activities	Score	0-15	5-13	8.74	1.69
9.	Attitude towards homestead agriculture	Score	0-64	21-57	38.35	6.87

4.1.1 Age

The observed age scores of the rural women ranged from 19 to 55 having an average of 33.25 and a standard deviation of 8.97. On the basis of the age scores of the rural women, they were classified into three categories: "young" (up to 30 years), "middle aged" (31-45 years) and "old" (above 45 years). The distribution of the rural women according to their age is shown in Table 4.2.

Table 4.2 Distribution of the rural women according to age

Categories	Rural Women		Mean	Standard Deviation
	Number	***Percent***		
Young (up to 30 years)	44	44	33.25	8.97
Middle aged (31-45 years)	46	46		
Old (above 45 years)	10	10		
Total	100	100		

The finding indicated that a large proportion (46 percent) of the rural women were middle aged compared to 44 and 10 percent being young and old respectively. It was found that middle aged respondents are more interested in participation in homestead agricultural activities. The extension agencies should consider this age category among the rural women and involve them for increasing their homestead agricultural production.

4.1.2 Education

The observed education scores of the rural women ranged from 0 to 12 having an average of 3.42 and the standard deviation was 3.63. On the basis of their education scores, the rural women were classified into four categories, namely “illiterate” (0), “primary level” (1-5), “secondary level” (6-10) and “above secondary level” (above 10). The distribution of the rural women according to their level of education is shown in Table 4.3.

Table 4.3 Distribution of the rural women according to education

Categories	Rural Women		Mean	Standard Deviation
	Number	***Percent***		
Illiterate (0)	45	45	3.42	3.63
Primary level (1-5)	28	28		
Secondary level (6-10)	24	24		
Above secondary level (above 10)	3	3		
Total	100	100		

The finding showed that the majority (45 percent) of the rural women had no education at all. On the other hand, among the respondents 28 percent had primary education compared to 24 and 3 percent having education up to secondary level and above secondary level respectively. It was assumed that majority of the respondents were not progressive and innovative with respect to participation in homestead agricultural activities.

4.1.3 Farm Size

The observed farm size scores of the rural women varied from 0.02 hectare to 4.92 hectares. The average farm size was 0.78 hectares and the standard deviation was 0.91. The rural women were classified into the following four categories based on their farm size scores: “marginal farm size” (up to 0.5), “small farm size” (0.51-1.00), and “medium farm size” (1.01 -2.00) and “large farm size” (above 2.00 ha). The distribution of the rural women according to their farm size is shown in Table 4.4.

Table 4.4 Distribution of rural women according to farm size

Categories	Rural Women		Mean	Standard Deviation
	Number	*Percent*		
Marginal farm size (up to 0.5 ha)	57	57	0.78	0.91
Small farm size (0.51-1.00 ha)	18	18		
Medium farm size (1.01-2.00 ha)	17	17		
Large farm size (above 2.00 ha)	8	8		
Total	100	100		

The finding showed that 57 percent of the rural women possessed marginal farm size compared to 18, 17 and 8 percent of them having small and medium and large farm size respectively. The average farm size of the rural women was 0.78 hectare which is a little bit lower than the national average farm size which is equivalent to 0.80 hectare (BBS, 2006). This indicates that the farm size levels of the rural women in the study area were like a typical agricultural farming community of Bangladesh.

4.1.4 Family Income

The observed family income of the rural women ranged from 8.50-342.00 having an average of 57.42 with a standard deviation of 62.09. Based on their family income scores, the rural women were classified into three categories: “low income” (up to 100 thousand Taka), “medium income” (101-200 thousand Taka) and “high income” (above 200 thousand Taka). The distribution of the rural women according to their family income is shown in Table 4.5.

Table 4.5 Distribution of rural women according to annual family income

Categories	Rural Women		Mean	Standard Deviation
	Number	*Percent*		
Low income (up to 100 thousand Taka)	85	85	57.42	62.09
Medium income (100-200 thousand Taka)	10	10		
High income (above 200 thousand Taka)	5	5		
Total	100	100		

The finding revealed that the highest portion (85 percent) of the rural women had low family income while 10 and 5 percent of them had medium and high family income respectively. That means 95 percent of the rural women had low to medium family income.

4.1.5 Cosmopoliteness

The observed cosmopoliteness scores of the rural women ranged from 0 to 9 with an average of 4.35 and a standard deviation of 1.73 against the possible range of 0 to 15. On the basis of their cosmopoliteness scores, the rural women were classified into four categories: “no cosmopoliteness” (0), “low cosmopoliteness” (1-3), “medium cosmopoliteness (4-6) and “high cosmopoliteness” (above 6). The distribution of the rural women according to their cosmopoliteness is shown in Table 4.6.

Table 4.6 Distribution of rural women according to cosmopoliteness

Categories	Rural Women		Mean	Standard Deviation
	Number	***Percent***		
No cosmopoliteness (0)	2	2	4.35	1.73
Low cosmopoliteness (1-3)	26	26		
Medium cosmopoliteness (4-6)	61	61		
High cosmopoliteness (above 6)	11	11		
Total	100	100		

The finding showed that the majority (61 percent) of the rural women had medium cosmopoliteness compared to 26 and 11 percent having low and high cosmopoliteness respectively. On the other hand, 2 percent of the rural women had no cosmopoliteness. It was observed that the rural women with medium cosmopoliteness participated more in homestead agricultural activities. It was also revealed that social barrier, economic hardship and illiteracy discouraged them from going outside their own location.

4.1.6 Extension Contact

The observed extension contact scores of the rural women ranged from 1-21 against the possible range of 0 to 36 having an average of 7.53 with a standard deviation of 3.89. Based on the extension contact scores, the rural women were classified into three categories: “low extension contact” (up to 7), “medium extension contact” (8-14) and “high extension contact” (above 14). The distribution of the rural women according to their extension contact scores is shown in Table 4.7.

Table 4.7 Distribution of rural women according to extension contact

Categories	Rural Women		Mean	Standard Deviation
	Number	***Percent***		
Low extension contact (up to 7)	60	60	7.53	3.89
Medium extension contact (8-14)	32	32		
High extension contact (above 14)	8	8		
Total	100	100		

The finding showed that the highest proportion (60 percent) of the rural women had low extension contact as compared to 32 and 8 percent having medium and high extension contact respectively. Thus, it can be concluded that most of the rural women were either not getting help from the extension workers or they were not aware of the services provided by different extension agencies. Therefore, the extension service organizations should increase the contact.

4.1.7 Agricultural Training

The observed agricultural training scores of the rural women ranged from 0 to 15 having an average of 2.91 and a standard deviation of 3.56. On the basis of their agricultural training scores, the rural women were classified into four categories: “no training” (0), “low training” (up to 5), “medium training” (6-10) and high training (above 10). The distribution of the rural women according to their agricultural training scores is shown in Table 4.8.

Table 4.8 Distribution of rural women according to agricultural training

Categories	Rural Women		Mean	Standard Deviation
	Number	*Percent*		
No training (0)	46	46	2.91	3.56
Low training (up to 5)	38	38		
Medium training (6-10)	12	12		
High training (above 10)	4	4		
Total	100	100		

The finding revealed that 46 percent of the rural women had no agricultural training. On the other hand, 38 percent of the respondents had low training compared to 12 and 4 percent having medium and high training respectively. So, there is a need to train up the rural women for different agricultural activities.

4.1.8 Knowledge on Homestead Agricultural Activities

The knowledge on homestead agricultural activities scores of the rural women ranged from 5 to 13 having an average of 8.74 and a standard deviation of 1.69 against the possible range of 0-15. Based on the knowledge on homestead agricultural activities scores, the rural women were classified into the following three categories: “poor knowledge” (up to 7), “medium knowledge” (8 to 10) and “high knowledge” (above 10). The distribution of the rural women according to their knowledge on homestead agricultural activities is shown in Table 4.9.

Table 4.9 Distribution of rural women according to knowledge on homestead agricultural activities

Categories	Rural Women		Mean	Standard Deviation
	Number	*Percent*		
Poor knowledge (up to 7)	23	23	8.74	1.69
Medium knowledge (8-10)	62	62		
High knowledge (above 10)	15	15		
Total	100	100		

The finding indicated that the highest proportion (62 percent) of the rural women had medium knowledge on homestead agricultural activities compared to 23 and 15 percent having low knowledge and high knowledge on homestead agricultural activities respectively. The above data reveal that about one-fourth of the respondents had insufficient knowledge on homestead agricultural activities. It was observed that the rural women gained knowledge on homestead agricultural activities mostly from their husbands and parents. Besides, they gained knowledge on homestead agricultural activities in course of time and through their experience which is not an effective way of learning.

4.1.9 Attitude towards Homestead Agriculture

The observed attitude towards homestead agriculture scores of the rural women ranged from 21 to 57 having the average of 38.35 with a standard deviation of 6.87 against the possible range of 0 to 64. Based on their attitude towards homestead agriculture scores, the rural women were classified into the following three categories: “unfavorable attitude” (up to 33), “medium attitude” (34 to 45) and “high attitude” (above 45). The distribution of the rural women according to their attitude towards homestead agriculture is shown in Table 4.10.

Table 4.10 Distribution of rural women according to attitude towards homestead agriculture

Categories	Rural Women		Mean	Standard Deviation
	Number	***Percent***		
Unfavorable attitude (up to 33)	20	20	38.35	6.87
Moderately unfavorable to moderately favorable attitude (34 to 45)	67	67		
Favorable attitude (above 45)	13	13		
Total	100	100		

The finding showed that the highest proportion (67 percent) of the rural women had moderately favorable attitude towards homestead agriculture compared to 20 and 13 percent having unfavorable and favorable attitude towards homestead agriculture respectively. Therefore, it can be assumed that majority of the rural women of the study area showed interest to participate in homestead agriculture.

4.2 Participation of the rural women in homestead agricultural activities

An interval scale was used to measure the participation of rural women in homestead agricultural activities. Composite participations are described below:

The observed participation score of the rural women in four selected homestead agricultural activities ranged from 10 to 52 having an average of 30.16 with a standard deviation 7.22 against the possible range of 0 to 80. On the basis of their participation scores, the rural women were classified into three categories: “low participation” (up to 24), “medium participation” (25-38) and “high participation” (above 38). The highest proportion (73 percent) of the rural women fell in the “medium participation” category while 20 percent of them fell in the “low participation” category and only 7 percent fell in the “high participation” category.

The distribution of the rural women according to their participation in homestead agricultural activities is shown in Figure 4.1.

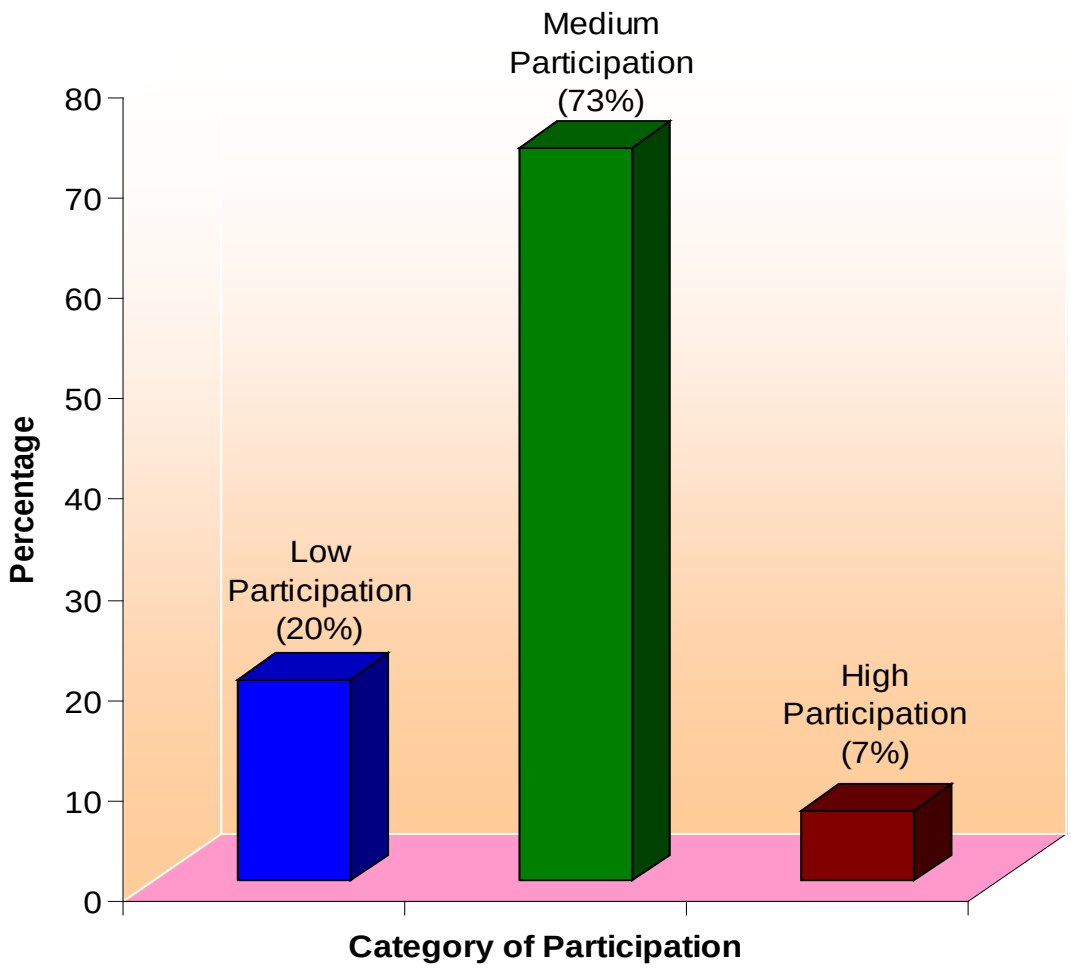

Figure 4.1 Bar graph showing categories of participation

The findings indicated that a large proportion (73 percent) of the rural women had medium participation in homestead agricultural activities compared to 20 and 7 percent having low and high participation in homestead agricultural activities respectively. This scenario is not satisfactory and therefore should overcome immediately by taking necessary steps by GOs and NGOs.

4.3 Relationship between the Characteristics of the Rural Women and their Participation in Homestead Agricultural Activities

Coefficient of correlation was computed in order to explore the relationship between the selected characteristics of the rural women and their participation in homestead agricultural activities. The selected characteristics of the rural women constituted independent variables and participation of the rural women in homestead agricultural activities constituted the dependent variable of the study.

In this section relationship between nine selected characteristics (independent variables) of the rural women viz. age, education, farm size, family income, cosmopoliteness, extension contact, agricultural training, knowledge on homestead agricultural activities, attitude towards homestead agriculture and dependent variables i.e. participation in homestead agricultural activities have been described.

Person's Product Moment Co-efficient of Correlation (r) has been used to test the hypothesis concerning the relationship between two variables. Five percent and one percent level of probability were used as the basis for rejection of a hypothesis. The table value of 'r' was calculated at (100-2) = 98 degrees of freedom. The summary of the results of the co-efficient of correlation indicating the relationships between the selected characteristics of the respondents and their participation in homestead agriculture is shown in Table 4.11.

Table 4.11 Correlation coefficient between the selected characteristics of the rural women with their participation in homestead agricultural activities

Dependent Variable	Computed Value of 'r'	Independent Variables	Table Value of 'r' at 98 Degrees of Freedom	
			at 5% level	at 1% level
Participation in homestead agricultural activities	0.112^{NS}	Age	0.196	0.256
	0.059^{NS}	Education		
	0.409**	Farm size		
	0.413**	Family income		
	0.317**	Cosmopoliteness		
	0.481**	Extension contact		
	0.224**	Agricultural training		
	0.368**	Knowledge on homestead agriculture		
	0.259**	Attitude towards homestead agriculture		

^{NS} = Not significant
* = Significant at 0.05 level of probability
**= Significant at 0.01 level of probability

4.3.1 Relationship between age of the rural women and dependent variable

The relationship between age of the rural women and their participation in homestead agricultural activities was examined by testing the following null hypothesis:

"There is no relationship between age of the rural women and their participation in homestead agricultural activities"

Computed value of the co-efficient of correlation between age of the rural women and their participation in homestead agricultural activities was found to be 0.112^{NS} as shown in Table 4.11. The following observations were recorded regarding the relationship between the two variables on the basis of the co-efficient of correlation:

- The relationship showed a positive trend.
- The computed value of 'r' (0.112) was smaller than the table value (± 0.196) with 98 degrees of freedom at 0.05 level of probability.
- The concerned null hypothesis was accepted.
- The co-efficient of correlation between the concerned variables was not significant at 0.05 level of probability.

The findings demonstrate that age of the rural women had no significant relationship with their participation in homestead agricultural activities. It was observed in one study area that the older rural women had higher participation in homestead agricultural activities, but in another area reverse result was observed. Therefore, it can be concluded that other factors of the rural women like family income, extension contact, cosmopoliteness etc. might have influenced them in participating in homestead agricultural activities.

4.3.2 Relationship between education of the rural women and dependent variable

The relationship between education of the rural women and their participation in homestead agricultural activities was examined by testing the following null hypothesis:

"There is no relationship between education of the rural women and their participation in homestead agricultural activities"

The co-efficient of correlation between education of the rural women and participation of the rural women in homestead agricultural activities was found to be 0.059^{NS} as shown in Table 4.11. The following observations were recorded regarding the relationship between the two variables on the basis of co-efficient of correlation:

- The relationship showed a positive trend.
- The computed value of 'r' (0.059) was smaller than the table value (± 0.196) with 98 degrees of freedom at 0.05 level of probability.
- The concerned null hypothesis was accepted.
- The co-efficient of correlation between the concerned variables was not significant at 0.05 level of probability.

The findings demonstrate that there was no significant relationship between education of the rural women and their participation in homestead agricultural activities. Naher (2000), Hossain (1985) had also found similar result.

4.3.3 Relationship between farm size of the rural women and dependent variable

The relationship between farm size of the rural women and their participation in homestead agricultural activities was examined by testing the following null hypothesis:

"There is no relationship between farm size of the rural women and their participation in homestead agricultural activities".

Computed value of the co-efficient of correlation between farm size of the rural women and their participation in homestead agricultural activities was found to be 0.409** as shown in Table 4.11. The following observations were recorded regarding the relationship between the two variables on the basis of co-efficient of correlation:

- The relationship showed a positive trend.
- The computed value of 'r' (0.409) was greater than the table value (± 0.256) with 98 degrees of freedom at 0.01 level of probability.
- The concerned null hypothesis was rejected.
- The co-efficient of correlation between the concerned variables was significant at 0.01 level of probability.

The findings demonstrate that the farm size of the rural women had significant positive relationship with their participation in homestead agricultural activities. Naher (2000), Akanda (1994), Saugwan *et al*. (1990), Akhter (1989), Bhatnagar and Sexena (1987), Ahsan (1986), Abdullah (1983) and Westernguard (1981) had found similar result. High participation in homestead agricultural activities was observed in the study area among the rural women.

4.3.4 Relationship between family income of the rural women and dependent variable

The relationship between family income of the rural women and their participation in homestead agricultural activities was examined by testing the following null hypothesis:

"There is no relationship between family income of the rural women and their participation in homestead agricultural activities".

Computed value of the co-efficient of correlation between family income of the rural women and their participation in homestead agricultural activities was found to be 0.413** as shown in Table 4.11. The following observations were recorded regarding the relationship between the two variables on the basis of co-efficient of correlation:

- The relationship showed a positive trend.
- The computed value of 'r' (0.413) was greater than the table value (± 0.256) with 98 degrees of freedom at 0.01 level of probability.
- The concerned null hypothesis was rejected.
- The co-efficient of correlation between the concerned variables was significant at 0.01 level of probability.

The findings demonstrate that the family income of the rural women had significant positive relationship with their participation in homestead agricultural activities. Akanda (1994), Akhter (1989), World Bank (1988) and Sattar (1979) had found similar findings. Hence, it was concluded that the respondents could increase their participation in homestead agricultural activities if their family income increased.

4.3.5 Relationship between cosmopoliteness of the rural women and dependent variable

The relationship between cosmopoliteness of the rural women and their participation in homestead agricultural activities was examined by testing the following null hypothesis:

"There is no relationship between cosmopoliteness of the rural women and their participation in homestead agricultural activities".

Computed value of the co-efficient of correlation between cosmopoliteness of the rural women and their participation in homestead agricultural activities was found to be 0.317** which is shown in Table 4.11. The following

observations were recorded regarding the relationship between the two variables on the basis of co-efficient of correlation:

- The relationship showed a positive trend.
- The computed value of 'r' (0.317) was greater than the table value
- (± 0.256) with 98 degrees of freedom at 0.01 level of probability.
- The concerned null hypothesis was rejected.
- The co-efficient of correlation between the concerned variables was significant at 0.01 level of probability.

The findings demonstrate that the cosmopoliteness of the rural women had significant positive relationship with their participation in homestead agricultural activities. Findings as documented above implied that the rural women who are more cosmopolite have more participation in homestead agricultural activities. Movement outside one's periphery creates opportunity to meet with others, learn and see new innovations which ultimately change attitudes.

4.3.6 Relationship between extension contact of the rural women and dependent variable

The relationship between extension contact of the rural women and their participation in homestead agricultural activities was examined by testing the following null hypothesis:

"There is no relationship between extension contact of the rural women and their participation in homestead agricultural activities".

Computed value of the co-efficient of correlation between extension contact of the rural women and their participation in homestead agricultural activities was found to be 0.481** which is shown in Table 4.11. The following observations were recorded regarding the relationship between the two variables on the basis of co-efficient of correlation:

- The relationship showed a positive trend.
- The computed value of 'r' (0.481) was greater than the table value
- (± 0.256) with 98 degrees of freedom at 0.01 level of probability.
- The concerned null hypothesis was rejected.
- The co-efficient of correlation between the concerned variables was significant at 0.01 level of probability.

The findings demonstrate that the extension contact of the rural women had significant positive relationship with their participation in homestead agricultural activities. Naher (2000), Nahar (1996), Karim (1993), Islam (1991) and Kaur (1988) had found similar findings in their studies. From the above findings it was revealed that extension contact had immense influence on the participation of the rural women in all types of agricultural activities. It is obvious that contact with extension agents and other extension teaching methods change attitude of clients radically and as a result they become interested to adopt new technologies which had somewhat been reflected here. But at present there is utmost need for strengthening extension services to reach to the rural women.

4.3.7 Relationship between agricultural training of the rural women and dependent variable

The relationship between agricultural training of the rural women and their participation in homestead agricultural activities was examined by testing the following null hypothesis:

"There is no relationship between agricultural training of the rural women and their participation in homestead agricultural activities".

Computed value of the co-efficient of correlation between agricultural training of the rural women and their participation in homestead agricultural activities was found to be 0.224* as shown in Table 4.11. The following observations were recorded regarding the relationship between the two variables on the basis of co-efficient of correlation:

- The relationship showed a positive trend.
- The computed value of 'r' (0.224) was greater than the table value (± 0.196) with 98 degrees of freedom at 0.05 level of probability.
- The concerned null hypothesis was rejected.
- The co-efficient of correlation between the concerned variables was significant at 0.05 level of probability.

The findings reveal that the agricultural training of the rural women had significant positive relationship with their participation in homestead agricultural activities. Haque (2003) had found similar findings in his studies. Agricultural training as observed from above findings had significant effect on participation of the rural women in all the agricultural activities.

4.3.8 Relationship between knowledge on homestead agricultural activities of the rural women and dependent variable

The relationship between knowledge on homestead agricultural activities of the rural women and their participation in homestead agricultural activities was examined by testing the following null hypothesis:

"There is no relationship between knowledge on homestead agricultural activities and their participation in homestead agricultural activities".

Computed value of the co-efficient of correlation between the knowledge on homestead agricultural activities and their participation in homestead agricultural activities was found to be 0.368** as shown in Table 4.11. The following observations were recorded regarding the relationship between the two variables on the basis of co-efficient of correlation:

- The relationship showed a positive trend.
- The computed value of 'r' (0.368) was greater than the table value (± 0.256) with 98 degrees of freedom at 0.01 level of probability.
- The concerned null hypothesis was rejected.
- The co-efficient of correlation between the concerned variables was significant at 0.01 level of probability.

The findings demonstrate that the knowledge of the rural women on homestead agricultural activities had significant positive relationship with their participation in homestead agricultural activities. Naher (2000), Ali (1995), Parveen (1993) and Verma *et al.* (1988) had also found similar findings. Therefore, it can be concluded that if respondents could increase their knowledge on homestead agriculture, it would make them interested to participate in homestead agricultural activities.

4.3.10 Relationship between attitude of the rural women towards homestead agriculture and dependent variable

The relationship between attitude of the rural women towards homestead agriculture and their participation in homestead agricultural activities was examined by testing the following null hypothesis:

"There is no relationship between attitude of the rural women towards homestead agriculture and their participation in homestead agricultural activities".

Computed value of the co-efficient of correlation between attitude of the rural women towards homestead agriculture and their participation in homestead agricultural activities was found to be 0.259** as shown in Table 4.11. The following observations were recorded regarding the relationship between the two variables on the basis of co-efficient of correlation:

- The relationship showed a positive trend.
- The computed value of 'r' (0.259) was greater than the table value (± 0.256) with 98 degrees of freedom at 0.01 level of probability.
- The concerned null hypothesis was rejected.
- The co-efficient of correlation between the concerned variables was significant at 0.01 level of probability.

The findings demonstrate that the attitude of the rural women towards homestead agriculture had significant positive relationship with their participation in homestead agricultural activities. Naher (2000), Ali (1995) in his study had also found similar findings. From the above findings it can be assumed that attitude is one of the important factors that directs person to take part in any activity. It was observed in the study area that the rural women with favorable attitude had more participation in agricultural activities. On the other hand, the rural women with unfavorable attitude did not take part in most of the agricultural activities within and outside their homestead.

4.4 Comparative Problem Confrontation of the Rural Women in Participating Homestead Agricultural Activities

The Problem Confrontation Index (PCI) was calculated to find out major problems confronted by the rural women in participating selected homestead agricultural income generating activities. The severity of problem confrontation of the respondents is shown in Table 4.12.

Table 4.12: Problem Confrontation Index (PCI) for selected 10 problems with rank order

Sl. no.	Problems	Opinion on extent of problem					PCI	Rank order
		Very high	High	Moderate	Little	Not at all		
1.	Lack of necessary agricultural land	56	18	12	7	7	309	1
2.	Lack of sufficient fertilizers	48	27	13	7	5	306	2
3.	Lack of necessary knowledge	24	56	10	7	3	291	3
4.	Lack of necessary capital	44	29	7	13	7	290	4
5.	Lack of quality seed	32	26	30	10	2	276	5
6.	Lack of extension workers	34	26	22	13	5	271	6
7.	Lack of sufficient insecticides	25	35	22	13	5	262	7
8.	Lack of marketing opportunities	18	24	26	22	10	218	8
9.	Lack of communication facilities	14	24	21	26	15	196	9
10.	Lack of co-operation of male	19	16	27	16	22	194	10

From Table 4.12 it was observed that –

(1) On the basis of Problem Confrontation Index (PCI), ‘lack of necessary agricultural land’ ranked first with a PCI of 309. It was found that most of the rural women fell in marginal land category i.e. majority of the rural women had no land or a little amount of land for crop cultivation. It was a serious problem for the rural women of the study area having highest score. Therefore, to solve this problem it may be suggested that they should follow intensive cultivation practices.

(2) 'Lack of sufficient fertilizers' ranked 2nd with a PCI of 306. As the supply of fertilizers in the market was insufficient and price was high during crop production season, most of the time the rural women faced this problem. Therefore, it may be suggested that proper supply of fertilizers should be ensured.

(3) 'Lack of necessary knowledge' ranked 3rd with a PCI of 291. It was found that most of the rural women had poor knowledge on homestead agricultural activities. For the lack of necessary knowledge, most of the rural women faced different types of problems relating to participation in homestead agricultural activities. Therefore, it may be suggested that proper steps should be taken to increase their knowledge on homestead agricultural activities.

(4) 'Lack of necessary capital' ranked 4th with a PCI of 290. Most of the rural women of the study were very poor. They lived from hand to mouth. For this reason, they could not invest enough money to participate in homestead agricultural activities. Therefore, to solve this problem it may be suggested that credit facilities should be increased.

(5) 'Lack of quality seed' ranked 5th with a PCI of 276. Most of the rural women of the study area were very poor. They lived from hand to mouth. As good seeds were expensive and hard to manage, they could not arrange good seeds timely. Therefore, it may be suggested that supply of quality seed should be ensured to the rural people.

(6) 'Lack of extension workers' ranked 6th with a PCI of 271. Most of the rural women of the study area were unable to meet with extension workers due to insufficiency and also negligence of the extension workers. As a result, they become unaware of the benefits of homestead agricultural activities. Therefore, it may be suggested that extension organizations should increase their extension contact.

7) 'Lack of sufficient insecticides' ranked 7th with a PCI of 262. Due to unavailability of sufficient insecticides in the market during crop production season, most of the rural women never practiced new agricultural technologies related to homestead vegetable cultivation. Therefore, it may be suggested that proper supply of insecticides should be ensured.

(8) ‘Lack of marketing opportunities’ ranked 8th with a PCI of 218. Due to falling market price of crops time to time in production season and also due to selling produces to the broker, most of the time the rural women did not get high price of their produces. Therefore, it may be suggested that available marketing facilities should be ensured.

(9) ‘Lack of communication facilities’ ranked 9th with a PCI of 196. Most of the rural occupied villages were isolated from other villages not having enough communication facilities. So, they faced this problem. Therefore, it may be suggested that sufficient communication facilities should be created.

(10) ‘Lack of co-operation of male’ had the lowest with a PCI of 194. It was also a problem for the rural women to continue and extend their participation in different homestead agricultural activities. Therefore, it may be suggested that male be should cooperative with the female members of the family.

CHAPTER 5

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

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

5.1 Summary of the Findings

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

5.1.1 Selected Characteristics of Rural Women

Age

A large proportion (46 percent) of the rural women was middle aged compared to 44 and 10 percent being young and old respectively.

Education

Majority (45 percent) of the rural women had no education at all. On the other hand, among the respondents 28 percent had primary education compared to 24 and 3 percent having education up to secondary level and above secondary level respectively.

Farm size

Majority (57 percent) of the rural women possessed marginal farm size compared to 18, 17 and 8 percent of them having small and medium and large farm size respectively.

Family income

The highest proportion (85 percent) of the rural women had low family income while 10 and 5 percent of them had medium and high family income respectively.

Cosmopoliteness

Majority (61 percent) of the rural women had medium cosmopoliteness compared to 26 and 11 percent having low and high cosmopoliteness respectively.

Extension contact

The highest proportion (60 percent) of the rural women had low extension contact as compared to 32 and 8 percent having medium and high extension contact respectively.

Agricultural training

Majority (46 percent) of the rural women had no agricultural training. On the other hand, 38 percent of the respondents had low training compared to 12 and 4 percent having medium and high training respectively.

Knowledge on homestead agricultural activities

The highest proportion (62 percent) of the rural women had medium knowledge on homestead agriculture compared to 23 and 15 percent having low and high knowledge on homestead agriculture respectively.

Attitude towards homestead agriculture

The highest proportion (67 percent) of the rural women had moderately favorable attitude towards homestead agriculture compared to 20 and 13 percent having unfavorable and favorable attitude towards homestead agriculture respectively.

5.1.2 Participation in Homestead Agricultural Activities

The highest proportion (73 percent) of the rural women of the study area had medium participation in homestead agricultural activities compared to 20 and 7 percent having low participation and high participation in homestead agricultural activities.

5.1.3 Relationship between the Selected Characteristics of the Rural Women and their Participation in Homestead Agricultural Activities

Correlation analysis indicated that seven, out of nine independent variables namely, farm size, family income, cosmopoliteness, extension contact, agricultural training, knowledge on homestead agricultural activities and attitude towards homestead agriculture had significant positive relationship with participation of rural women in homestead agricultural activities. Other two variables namely, age and education of the rural women had no significant relationship with their participation in homestead agricultural activities.

5.1.4 Comparative Problem Confrontation of the Rural Women in Participating Homestead Agricultural Activities

On the basis of descending order of Problem Confrontation Index (PCI), 'lack of necessary agricultural land' ranked first followed by 'lack of sufficient fertilizers', 'lack of necessary knowledge', 'lack of necessary capital', 'lack of quality seeds', 'lack of extension workers', 'lack of sufficient insecticides', 'lack of marketing opportunities', and 'lack of communication facilities'. Lack of cooperation of male ranked last.

5.2 Conclusions

A conclusion may be looked upon as an inference based on the findings of empirical study, pertinent facts and unbiased judgments. Findings of the study and the logical interpretations of their meaning in light of other relevant facts prompted the researcher to draw the following conclusions:

1. The participation in homestead agricultural activities by the rural women was not satisfactory as 73 percent of them had medium participation in homestead agricultural activities. To meet the ever-growing demand for food, nutrition, there is a need for further enhancements of the rate and

extent of participation of rural women in different homestead agricultural activities. Particularly, workers of both Government Organization (GO) and Non-Government Organization (NGO) should provide appropriate technical and management related information to all the rural women of the study area through continued improvements in extension and other support services.

2. The study indicates that majority of the rural women (46 percent) was middle-aged and its relationship with their participation in homestead agricultural activities was not significant. It may, therefore, be concluded that proper emphasis should be given on the rural women of all age categories by the extension workers in order to encourage participation in homestead agricultural activities. However, considering the fact that most of the rural women belonged to the middle-aged group, it would be wise to give proper attention to the middle-aged rural women first and plan to motivate them in participating in different homestead agricultural activities as comparatively larger number of the rural women are members of these group.
3. Education of the rural women had no significant relationship with their participation in homestead agricultural activities. According to this result we can draw a conclusion that high literacy rate as well as higher educational level among the rural women of the study area does not have much influence in their participation in homestead agricultural activities. But, it was observed that 45 percent of the rural women had no education at all. Though education of the rural women does not have direct effect on their participation in different homestead agricultural activities, but it can indirectly help the rural women to become aware of the benefits of homestead agricultural activities. So, necessary steps should be taken to improve the educational level of the rural women of the study area.

Farm size of the rural women had positive significant relationship with their participation in homestead agricultural activities. The rural women having large farm are generally economically solvent and they always try to avoid labourious and labour-intensive technology/innovation due to scarcity of labours. But, it was the fact that majority (57 percent) of the rural women had marginal farms. Considering the above facts, it may be concluded that participation in homestead agricultural activities among marginal farm size holder rural women should be encouraged.

Finding of the study showed that family income of the rural women had positive significant relationship with their participation in homestead agricultural activities. It may be concluded that the availability of the money is more essential to reduce financial hardships to a considerable extent and to increase participations of the rural women in different homestead agricultural activities.

Finding showed that cosmopoliteness of the rural women had positive significant relationship with their participation in homestead agricultural activities. Through cosmopoliteness an individual farmer becomes aware of the recent information on various aspects of homestead agricultural activities. Consequently, he becomes motivated to participate in those homestead agricultural activities as though he is influenced by others. The findings of the study therefore, lead to the conclusion that for successful participation in homestead agricultural activities, the rural women of the study area need to be more cosmopolite for their better awareness of recent technologies related to homestead agriculture. For this, field-days, tours, fairs etc. should be arranged to increase the cosmopoliteness among the rural women.

Finding of the study showed that extension contacts of the rural women had positive significant relationship with their participation in homestead

agricultural activities. Extension contacts increase the outlook of the rural women which lead them to adopt new technologies related to homestead agriculture. It is evident from the fact that majority (60 percent) of the respondents had low extension contact. It may, therefore, be concluded that further communication planning and implementation by the extension workers of Government Organizations (GOs) and Non-Government Organizations (NGOs) with the rural women through effective methods would lead to the multiplication of their participation in homestead agricultural activities.

Agricultural training of the rural women had positive significant relationship with their participation in homestead agricultural activities. The farmers having high training gained more knowledge on homestead agriculture and as a result, they adopt new technologies related to homestead agriculture very swiftly. It was observed that majority (46 percent) of the respondents had no agricultural training at all. Considering the above facts, it may be concluded that the participation of the rural women in homestead agricultural activities can be increased if more agricultural training is conducted for the rural women of the study area.

Finding showed that knowledge on homestead agricultural activities of the rural women had positive significant relationship with their participation in homestead agricultural activities. Through this kind of knowledge an individual farmer becomes aware of the recent information on the various aspects of modern agricultural activities related to homestead agriculture. It was found that majority (62 percent) of the rural women had medium knowledge on homestead agriculture. Consequently, the above facts lead to the conclusion that necessary arrangements should be made to increase knowledge of the rural women on homestead agricultural activities which would ultimately increase their participation in different activities of homestead agriculture.

Finding showed that attitude of the rural women towards homestead agriculture had a positive significant relationship with their participation in homestead agricultural activities. In the area of human behaviour, it is important to know that the nature of human behaviour is very complex and the personality with its high complex components manifests itself in different kinds of behaviour. Participation of a new innovation is very much dependent on the attitude towards that innovation of a respondent. It was observed that majority (67 percent) of the respondents had moderately favourable attitude towards homestead agriculture. So, it may be concluded that favourable attitude towards homestead agriculture can led the rural women to adopt more homestead agricultural activities.

5.3 Recommendations

On the basis of findings and conclusion of the study, recommendations are made as follows:

5.3.1 Recommendation for policy implications

1. Homestead agriculture is an important source of nutrients that make diets for human beings more balanced and also a good earning source for the family. But in the present study, majority of the rural women had low to medium participation in homestead agricultural activities. It is, therefore, recommended that necessary steps should be taken to motivate the farmers in participating homestead agricultural activities.

2. Farm size of the rural women had significant positive relationship with their participation in homestead agricultural activities. Therefore, it may be recommended that concerned authorities should take necessary motivational program specially to low and medium farm sized rural women so that they can cultivate more crops in their homestead.

3. Family income of the rural women had significant positive relationship with their participation in homestead agricultural activities. Therefore, it may be recommended that concerned authority should supply more credit to the rural women who had low family income so that they can invest more money to participate in homestead agricultural activities.

4. Extension contact and cosmopoliteness of the rural women had significant positive relationship with their participation in homestead agricultural activities. Therefore, it may be recommended that concern authority should take necessary action so that the rural women could increase their extension contact and become more cosmopolite.

5. Agricultural training and knowledge on homestead agricultural activities of the farmers had positive significant relationship with their participation in homestead agricultural activities. Therefore, it may be recommended that concern authority should take necessary training and skill development program like training on vegetable cultivation, poultry raising and goat rearing etc. so that the rural women could increase agricultural production in their homestead as well as can increase their family income.

5.3.2 Recommendation for Future Research

The following recommendations are made for future research:

1. To arrive at generalizations as to the participation in homestead agricultural activities of the rural women in the country and to draw up policy measures for the betterment of the whole nation, similar research efforts are needed at other locations of the country.

2. This study investigated the effects of nine personal and socio-economic characteristics of the rural women on their extent of participation in homestead

agricultural activities. It is, therefore, recommended that further study should be conducted involving other related characteristics.

3. The study was conducted to find out the extent of participation of the rural women in homestead agricultural activities. Further research should be taken to find out the extent of participation in non-agricultural income generating activities of the rural women and other similar types of topics.

CHAPTER 6

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APPENDIX-A

AN ENGLISH VERSION OF THE INTERVIEW SCHEDULE

Department of Agricultural Extension and Information System

Sher-e-Bangla Agricultural University
Dhaka, Bangladesh

An interview schedule for a research study entitled
"Participation of Rural Women in Homestead Agricultural Activities"

ADDRESS OF THE RESPONDENT

Name of the respondent----------

Husband's name----------

Village----------

Union ----------

Thana/Upazila ----------

District ----------

(Please answer the following questions. Provided information will be strictly kept confidential.)

1. Age

Please mention your age.

---------- years.

2. Education

What is the level of your education?

a) Do not know how to read or write.
b) Can sign name only.
c) Passed class ----------.

3. Farm Size

Please mention the amount of your land according to tenure status.

Sl. no.	Type of land use	Area (bigha)	Area (hectare)
1.	Own homestead		
2.	Own land under cultivation		
3.	Own pond and garden		
4.	Own land given on borga to others		
5.	Land taken on borga from others		
6.	Land taken on lease from others		
Total =			

4. Family Income

Please mention your family income.

(a) How much money did you receive from the following agricultural sources in the previous year?

Sl. no.	Name of the product	Total production (local unit)	Price/unit (Tk.)	Total price (Tk.)
1.	Agriculture			
2.	Poultry			
3.	Cattle & Goat			
Total =				

(b) How much money did you receive from the sources other than agriculture in the previous year?

i. Employment ---------- Taka

ii. Business ---------- Taka

iii. Profession as day labour ---------- Taka

iv. Income of other family members ---------- Taka

v. Others ---------- Taka

Total = Taka

Total Income = 6 (a) + 6 (b) = ---------- Taka

5. Cosmopoliteness

Please mention your extent of visit in the following places out side of your village?

Sl. no.	Places of visit	Extent of visit			
		Regularly (score-3)	**Occasionally (score-2)**	**Rarely (score-1)**	**Never (score-0)**
	Other village	9 or more times/month	5-8 times month	1-4 times/ month	0 (zero) time/ month
	Upazila town	9 or more times/ 6 months	5-8 times/ 6 months	1-4 times/ 6 months	0 (zero) time/ 6 months
	Own district town	9 or more times/year	5-8 times year	1-4 times/ year	0 (zero) time/ year
	Other district town	6 or more times/year	3-5 times year	1-2 times/ year	0 (zero) time/ year
	Capital city/divisional town	3 or more times/year	2 times/ year	Once/ year	0 (zero) time/ year
Total =					

6. Extension Contact

Please indicate your extent of contact with the following media.

(a) Personal contact

Sl. no.	Places of visit	Extent of contact			
		Regularly (Score-3)	**Occasionally (Score-2)**	**Rarely (Score-1)**	**Never (Score-0)**
1.	Dealer of agricultural commodities	4 or more times/month	3 times/ month	1-2 times/ month	0 time/ year
2.	Field worker of NGO	4 or more times/month	3 times/ month	1-2 times/ month	0 time/ year
3.	SAAO	6 or more times/year	4-5 times/ year	1-3 times/ year	0 time/ year
4.	Upazila Agriculture Officers (UAO/AAO/AEO)	3 or more times/year	2 times/ year	1 time/ year	0 time/ year
5.	Other Extension Officers (Livestock, Fisheries etc.)	3 or more times/year	2 times/ year	1 time/ year	0 time/ year
Total =					

(b) Group contact

Sl. no.	Places of Visit	Extent of contact			
		Regularly (score-3)	**Occasionally (score-2)**	**Rarely (score-1)**	**Never (score-0)**
1.	Group discussion	5 or more times/ 6 months	3-4 times/ 6 month	1-2 times/ 6 month	0 time/ 6 month
2.	Field day	3 or more times/ year	2 times/ year	1 time/ year	0 time/ year
3.	Result discussion	3 or more times/ year	2 times/ year	1 time/ years	0 time/ year
Total =					

(c)Mass contact

Sl. no.	Places of visit	Extent of contact			
		Regularly (score-3)	**Occasionally (score-2)**	**Rarely (score-1)**	**Never (score-0)**
1.	Radio	3 or more times/ week	2 times/ week	1 time/ week	0 time/ week
2.	Television	3 or more times/ month	2 times/ month	1 time/ month	0 time/ month
3.	Newspaper related to agriculture	3 or more times/ month	2 times/ month	1 time/ month	0 time/ month
4.	Agricultural fair	3 or more times/ year	2 times/ year	1 time/ year	0 time/ year
Total =					

7. <u>Training Received</u>

Please state your participation in training programs.

Sl. no.	Topics of training	Duration (Days)
1.		
2.		
3.		
Total =		

8. Knowledge on Homestead Agricultural Activities

Please answer the following questions:

Sl. no.	Questions	Full marks	Marks obtained
1.	What do you understand by homestead agriculture? (a)Working in homestead area for earning money (score-1), (b)Any kind of work (score-0)	1	
2.	Do you think homestead is ideal for vegetable cultivation? (a)Yes, I do (score-1), (b)No, I don't (score-0)	1	
3.	What is the optimum time for sowing lady's finger? (a)April-May (score-1), (b)January-February (score-0)	1	
4.	What is the optimum time for planting tomato? (a)October-November (score-1), (b)March-April (score-0)	1	
5.	Name two organic fertilizers used in vegetable cultivation. (a)Cowdung & Rotten leaves (score-1), (b)Urea & Phosphate (score-0)	1	
6.	Name to exotic breeds of poultry. (a)Leghorn & Fayoumi (score-1), (b)Jalali & Lahori (score-0)	1	
7.	How many eggs are laid by local and exotic breed in a year? (a)45 & 200 (score-1), (b)200 & 350 (score-0)	1	
8.	Name two epidemic diseases of poultry. (a)New Castle & Fowl Pox (score-1), (b)Diarrhea & Fever (score-0)	1	
9.	What is the balanced diet for poultry? a)Proper mixture of rice bran, dust of maize & wheat, soybean meal, salt, vitamin, water etc. (score-1) (b) Rice only (score-0)	1	
10.	At what age a goat get ready for its first offspring? (a)2 years (score-1), (b)4 years (score-0)	1	
11.	In ideal situation, how many times an adult goat should be served with foods in a day? (a)3 times (score-1), (b)6 times (score-0)	1	
12.	Which one is the best fodder for goat? (a)Green grass (score-1), (b)Straw, rice bran (score-0)	1	
13.	Name two diseases of goat. (a)Foot & mouth disease and Anthrax (score-1), (b)Mumps & Diphtheria (score-0)	1	
14.	Name two vegetables which you cultivated in your homestead. (a)Bean and Amaranth (score-1), (b)Rice and wheat (score-0)	1	
15.	Name two trees which give food, fodder and fuel. (a) Mango tree & Jackfruit tree (score-1), (b) Sugarcane plant & Jute plant (score-0)	1	
	Total =	15	

9. Attitude towards Homestead Agriculture

Please indicate your degree of agreement regarding the following statements:

Sl. no.	Statements	Degree of agreement				
		Strongly agree	**Agree**	**No opinion**	**Disagree**	**Strongly disagree**
1. (+)	Vegetable cultivation in the homestead area is essential for family nutrition					
2. (-)	Vegetable cultivation in the homestead is an extra botheration to me, hence I try to avoid it					
3. (+)	Intensive vegetable cultivation in the homestead is a good technique that meets vegetable requirement of the family round the year and also provides some income					
4. (-)	Vegetable cultivation is expensive, requires extra labour and care that's why I am not interested in it					
5. (+)	Trees planted in the homestead are main source of fuel					
6. (-)	Did not plant trees (for timber) in the homestead as it requires long time to get return from it					
7. (+)	Raising poultry in the homestead is not a cumbersome job but is forfeitable to me					
8. (-)	Epidemic diseases of poultry incur huge loss. Hence I do not prefer raising poultry					
9. (+)	Foreign breeds of poultry give more eggs compared to local breed. So I like it					
10. (-)	I do not like foreign breed of poultry as it requires much care and costly feed					
11. (+)	Goat rearing is easy and does not require extra cost for feeding that is why I prefer it					
12. (-)	Goat destroys food grain, vegetables and seedlings of trees in the homestead. It also destroys other's crop field which creates conflict among the neighbors. Due to these reasons I do not rear goat.					
13. (+)	Fish culture in the homestead pond is profitable as it serves family consumption and also provides cash.					
14. (-)	Drying of pond in the winter discourages me growing fish.					
15. (+)	Rearing milch cow is profitable as the price of milk is high.					
16. (-)	Collection of grass for the cow everyday is a tedious job. Feed cost is also high. Thus I do not like to rear milch cow.					
Total =						

10. Participation in Homestead Agricultural Activities

(a) Participation in the homestead vegetable cultivation

Please indicate your extent of participation in the following items of vegetable cultivation:

Sl. no.	Items/Operations	Extent of participation				
		Regularly (score-4)	**Rarely** (score-3)	**Occasionally** (score-1)	**Often** (score-1)	**Never** (score-0)
1.	Land selection & preparation					
2.	Plant nutrient management					
3.	Pest management					
4.	Irrigation/drainage					
5.	Cultural operations					
Total =						

(b) Participation in the post-harvest activities

Please indicate your extent of participation in the following items of post-harvest activities:

Sl. no.	Item/Operation	Extent of participation				
		Regularly (score-4)	**Rarely** (score-3)	**Occasionally** (score-1)	**Often** (score-1)	**Never** (score-0)
1.	Threshing					
2.	Winnowing					
3.	Drying					
4.	Grading					
5.	Storing					
Total =						

(c) Participation in poultry raising

Please indicate your extent of participation in the following items of poultry raising.

Sl. no.	Item/Operation	Extent of participation				
		Regularly (score-4)	**Rarely** (score-3)	**Occasionally** (score-2)	**Often** (score-1)	**Never** (score-0)
1.	Collection of chicken					
2.	Poultry shed management					
3.	Feeding poultry birds					
4.	Vaccination & treatment					
5.	Selling					
	Total =					

(d) Participation in goat rearing

Please indicate your extent of participation in the following items of goat rearing.

Sl. no.	Item/Operation	Extent of participation				
		Regularly (score-2)	**Rarely** (score-3)	**Occasionally** (score-1)	**Often** (score-1)	**Never** (score-0)
1.	Collection of goat breed					
2.	Goat shed management					
3.	Feeding					
4.	Vaccination & treatment					
5.	Selling					
	Total =					

11. Problem Confrontation in Participating Homestead Agricultural Activities

Please mention problems you usually faced in participating homestead agricultural activities.

Sl. No.	**Problems**	**Opinion on extent of problem**					**Total**
		Very high (score–4)	**High** (score–3)	**Moderate** (score–2)	**Little** (score–1)	**Not at all** (score–0)	
1.	Lack of necessary knowledge						
2.	Lack of necessary agricultural land						
3.	Lack of necessary capital						
4.	Lack of quality seed						
5.	Lack of sufficient fertilizers						
6.	Lack of sufficient insecticides						
7.	Lack of extension workers						
8.	Lack of marketing opportunities						
9.	Lack of communication facilities						
10.	Lack of co-operation of male						

Date :

_____

Signature of the Interviewer

APPENDIX–B

CORRELATION MATRIX AMONG THE VARIABLES OF THE STUDY (N=100)

VARIABLE	X1	X2	X3	X4	X5	X6	X7	X8	X9	Y
X1	1									
X2	-.103	1								
X3	.356**	.392**	1							
X4	.301**	.504**	.930**	1						
X5	.193 NS	.208*	.435**	.410**	1					
X6	.184 NS	.411**	.690**	.729**	.538**	1				
X7	.196 NS	.320**	.334**	.391**	.246*	.375**	1			
X8	.019 NS	.596**	.547**	.602**	.367**	.619**	.374**	1		
X9	.087 NS	.610**	.627**	.630**	.496**	.669**	.392**	.750**	1	
Y	.112 NS	.059 NS	.409**	.413**	.317**	.481**	.224*	.368**	.259**	1

NS = Not Significant
* = Significant at the 0.05 level
** = Significant at the 0.01 level

X1 = AGE
X2 = EDUCATION
X3 = FARM SIZE
X4 = FAMILY INCOME
X5 = COSMOPOLITENESS
X6 = EXTENSION CONTACT
X7 = AGRICULTURAL TRAINING
X8 = KNOWLEDGE ON HOMESTEAD AGRICULTURAL ACTIVITIES
X9 = ATTITUDE TOWARDS HOMESEAD AGRICULTURE
Y = PARTICIPATION IN HOMESTEAD AGRICULTURAL ACTIVITIES