

**A STUDY ON THE ENGAGEMENT OF RURAL WOMEN IN
DWELLING AGRICULTURAL ACTIVITIES IN SELECTED
AREAS OF DHAMRAI, DHAKA**

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DWELLING AGRICULTURAL ACTIVITIES IN SELECTED AREAS OF
DHAMRAI, DHAKA**

BY

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CERTIFICATE

This is to certify that the thesis entitled “**A STUDY ON THE ENGAGEMENT OF RURAL WOMEN IN DWELLING AGRICULTURAL ACTIVITIES IN SELECTED AREAS OF DHAMRAI, DHAKA**” submitted to the Faculty of Agribusiness Management, Sher-e-Bangla Agricultural University, Dhaka, in partial fulfillment of the requirements for the degree of **MASTER OF SCIENCE IN AGRIBUSINESS & MARKETING**, embodies the result of a piece of *bonafide* research work carried out by **SHAILA ISLAM** Registration No. **14-06249** under my supervision and guidance. No part of the thesis has been submitted for any other degree or diploma.

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ABSTRACT

The study's primary objectives to ascertain rural women's level of engagement in household agricultural activities at Dhamrai upazila, Dhaka district, and to analyze the relationships between selected characteristics of rural women and their level of engagement in household agricultural activities. The research is being undertaken in two villages inside the Kulla union, namely Chandrail and Sastapur. Between August 20 and September 20, 2020, data were gathered from 100 rural women utilizing a pre-tested interview schedule. To quantify the factors in the investigation, precise scales were developed. Correlation(s) tests were utilized to identify the relationships between the independent variables and the study's dependent variable. The findings indicated that the majority of rural women (73 percent) had a moderate level of participation in domestic agricultural activities, compared to 20% and 7% who had a low level of engagement and 7% who had a high level of engagement, respectively. Correlation analysis revealed that seven of nine independent variables, namely farm size, family income, cosmopolitaness, extension contact, agricultural training, knowledge about homestead agricultural activities, and attitude toward dwelling agricultural activities, had a significant positive relationship with rural women's participation in dwelling agricultural activities. The other two factors, namely the rural women's age and education level, exhibited no significant link with their engagement in household agricultural operations. The PCI ranked 'lack of necessary agricultural land' first, followed by 'lack of adequate fertilizers', 'lack of proper knowledge', 'lack of proper capital', 'lack of quality seeds', 'lack of extension workers', 'lack of adequate insecticides', 'lack of marketing opportunities', and 'lack of communication facilities'.

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CHAPTER 1

INTRODUCTION

1.1 Background of the Study

Bangladesh's economy is mostly agricultural, with agriculture accounting for 13.47 percent of Gross Domestic Product (GDP). During the last decade, agriculture contributed around 3% per year to the yearly economic growth rate, which will be 5.84 in 2020-2021. (BBS, 2021). Though agriculture's contribution to the national economy and employment may decline further, it will continue to be the single largest source of income and employment and a critical component of the country's claim to food self-sufficiency, rural poverty reduction, and sustainable economic development. The Government has the ability to guarantee that the required circumstances exist for the nation to address these difficulties, and it is critical to do so through increasing food production and incorporating women, who account for almost half of the overall population.

Women are critical in conserving the earth's essential life support systems, including land, water, vegetation, and wildlife (Swaminathan, 1985). They are critical to agricultural and domestic growth. It cannot be argued that in a developing nation like Bangladesh, the underutilized rural female force constitutes a vast reservoir of human resources although the intervention group have remarkably up-scaled their capacity in the decision-making process over loan, use of loan, agricultural production, sale of product, child education, children's marriage, medical care and family planning (Sarker and Yamashita, 2019). They form a sizable and potentially significant portion of the entire population. Rural women's contributions to Bangladesh's socioeconomic growth cannot go unrecognized. They were mostly involved in crop-related operations such as composting, transplanting, sowing, weeding, harvesting, drying, and household gardening. However, their greater economic contribution has not been accompanied by significant advancements in education, training, health and nutrition, as well as access to production resources and services. Similarly, they are virtually absent from national agenda-setting and resource-allocating organizations. Their increased involvement in village associations, marketing, co-ops, and other community groups

may contribute to the reduction of social duties associated with access to productive resources. Rural women are often involved in a variety of businesses but have not been fully recognized so far due to the lack of systematic study in these areas. Therefore, it is critical for women to become a preferred target group in agricultural output.

At the moment, numerous government-sponsored programs engage rural women, including goat rearing, poultry rearing, tree planting, and literacy programs. There are several service sector programs administered by the Ministry of Agriculture, including SAIP (Smallholder Agriculture Improvement Project), ASIRP (Agricultural Services Innovation and Reform Project), CDP (Crop Diversification Program), NCDP (North West Diversification Project), and Gram AUS. All of these programs emphasize women's engagement in agricultural operations, and encourage GOs to collaborate closely with local and national NGOs.

Rural women - who account for half of Bangladesh's rural population - must be included in development initiatives, particularly in household agricultural enterprises. Thus, when rural women are involved and included in development efforts and are aware of their rights and asserts, their involvement in subsistence agricultural operations will be significantly increased.

1.2 Statements of the Problem

"Engagement" in this context refers to an individual's participation with an object, phenomena, or latitude associated with domestic agriculture production. Participation in dwelling agricultural activities refers to an individual's attitude toward agricultural production in dwelling regions. Rural women's participation in domestic agricultural operations is critical for Bangladesh's agricultural growth, since the vast majority of them reside in rural regions and are in close proximity to agricultural production systems. Women are critical to the country's agricultural growth, having been actively engaged in agricultural output and productivity. It is consequently critical to have a thorough grasp of rural women's engagement in agricultural output, particularly in the country's residential agricultural operations.

By examining the problems from the perspective of rural women, this study sought to answer the following research questions on rural women's engagement in residential agricultural activities:

1. How involved are rural women in household agricultural activities?
2. Is the chosen attributes associated with rural women's engagement in domestic agricultural activities?
3. To what degree are there correlations between selected features of rural women and their participation in household agricultural activities?

1.3 Specific Objectives

To provide direction for the study, the following particular goals were established:

1. To show the socio demographic profile of women in the selected study area.
2. To examine the correlations between selected characteristics of rural women and their level of involvement in domestic agricultural activities.
3. To find out the problems rural women face when they engage in domestic agricultural chores.

1.4 Limitations of the Study

The study's objective was to ascertain rural women's level of participation in domestic agricultural chores and to investigate its link to their chosen characteristics. Taking into account the researcher's time, money, and other essential resources, and in order to keep the study manageable and relevant from a practical standpoint, it becomes important to set some constraints, as detailed below:

1. The research was limited to two villages, Chandrail and Sastapur, located in the Kulla union of the Dhamrai upazila of the Dhaka district.
2. There were several characteristics of rural women, but only nine were chosen for this research.
3. Although the research region had a large number of rural women, only 100 rural women were treated for this study.
4. Determining rural women's level of involvement in household agricultural operations was a tough and time-consuming undertaking. As a result, the research assessed rural women's participation via their responses to a series of chosen statements.
5. The respondents for data collection were restricted to rural women who were

only involved in domestic agriculture activities.

6. The researcher relied on the data provided by the sampled respondents during the interview to get information about the study. Due to the fact that none of the respondents maintained records, they embellished facts for the various questionnaires using memory. The respondents' major facts, cues, and character were all appropriate to the scenario that existed in the neighborhood in the year 2020.

1.5 Scopes of the Study

The study's conclusions will be relevant to two villages in particular: Chandrail and Sastapur in the Kulla union of Dhamrai upazila in the Dhaka district. The results, however, may also be relevant to other parts of Bangladesh if the research area's physical, socioeconomic, cultural, and geographic characteristics are similar. Thus, the results are likely to be beneficial to students, researchers, extension workers, and, in particular, planners as they formulate and revise extension initiatives. The results may represent a contribution to the field of agricultural development's body of knowledge

1.6 Assumptions

An assumption is a presumption that an apparent fact is true in principle, given the available evidence (Good, 1945). The researcher used the following assumptions when performing the study:

- a. The respondents included in the sample were capable of providing adequate replies to the interview schedule's questions.
- b. The respondents' perspectives and attitudes were typical of the rural women population in the research region.
- c. The respondents' replies were credible and genuine.
- d. The researcher who worked as interviewer was well-acclimatized to the study area's social context. As a result, the researcher's data collection was completely objective.
- e. The following are the things mentioned in the question about rural women's knowledge of agricultural extension initiatives.
- f. The respondents to the study were skilled enough to reply to the researcher's questions.

1.7 Hypotheses

Nine null hypotheses were developed to examine the link between chosen characteristics of rural women and their level of involvement in household agricultural operations. The null hypotheses were as follows: "There is no correlation between age, education, farm size, family income, cosmopolitanism, extension contact, agricultural training, knowledge about homestead agricultural activities, attitude toward homestead agricultural enterprises, and their engagement in dwelling agricultural enterprises."

1.8 Definition of Terms

To aid with comprehension, the following commonly used concepts throughout the study are explained and interpreted in alphabetical order:

Age

The term "age of an agricultural woman" refers to the chronological description of a rural woman's life from her birth until the time of the interview.

Agricultural Training

It refers to the total number of days charged by farmers to different agriculture-related training programs during the course of their lives.

Attitude towards Dwelling Agriculture

The attitude of an agrarian woman toward subsistence agriculture may be characterized as her mental state of preparedness that exerts an aggressive impact on the individual's reaction to any social object or scenario. The phrase 'attitude toward dwelling agriculture' refers to a rural woman's views, attitudes, and behavior inclinations toward vegetable, poultry, and goat production, as well as involvement in post-harvest activities and other agricultural production-related activities inside the homestead.

Cosmopolitanism

The term "cosmopolitanism" refers to an agricultural woman's proclivity for traveling to remote locations from her hamlet.

Education

Education of an agricultural lady refers to the process through which a person acquires desired information, skills, and attitudes via reading, writing, and other associated activities. Education was defined in this research as the years of schooling received by rural women respondents.

Extension Contact

Extension contact refers to an agricultural woman's capacity to become receptive to the effect of extended education through a variety of extension teaching approaches.

Family Income

The family income of an agricultural woman is defined as the sum of the respondent's and her family members' earnings from agriculture and other sources (services, business, etc.) during the previous year.

Farm

Agrarian women's farms are defined as a household or unit of holding formed for the aim of producing one or more businesses such as crops, animals, fish, or trees in order to satisfy the rural women's goals. A farm may or may not be a for-profit venture.

Farm Size

The farm size of an agrarian lady refers to the amount of land possessed by a farmer or his wife for agricultural purposes. A responder was deemed to have complete interest in cultivated land that she either owned or gained via the barga system. The location was expected to be completely beneficial to the responder. When determining the size of a farm, the farmer's entitlement to land leased or mortgaged from others was treated as ownership.

Homestead

For this study, rural women's dwelling areas were defined as the raised lands of two selected villages in the Dhaka district, where households had an entire dwelling including living rooms, kitchens, cattle sheds, sheep or goat sheds, poultry houses, front yards, and courtyards, as well as the area covered by vegetables, fruit trees, timber trees, backyard bushes, and bamboo bunches.

Dwelling Agricultural Activities

Dwelling agricultural activities relate to the actions carried out by agrarian women in their families to engage in agricultural operations on their homestead. The agrarian women's dwelling agricultural activities included post-harvest

activities such as threshing, winnowing, drying, and preserving grains, vegetable and fruit production within the dwelling area, poultry raising, goat rearing, and cattle farming, as well as other agricultural production-related activities.

Knowledge on Dwelling Agricultural Activities

Knowledge of an agrarian woman's dwelling agricultural operations refers to her contentions awareness of various agricultural producing activities on her homestead. In other words, knowledge related to the growth of agrarian women's attentiveness and understanding about many areas of dwelling agriculture.

Participation in Dwelling Agricultural Activities

Engagement in dwelling agricultural operations by an agrarian woman was seen as an active process, implying that the individual took the initiative to accomplish something via agricultural production activities on the homestead. In this case, engagement of an agrarian lady in domestic agricultural operations referred to participation in four specific agricultural activities. These agricultural operations included (i) production of domestic vegetables, (ii) post-harvest activities, (iii) poultry keeping, and (iv) goat rearing.

Post-harvest Activities

The term "post-harvest activities" refers to tasks carried out by an agricultural woman after the harvest of a crop. Threshing, winnowing, drying, grading, and conserving agricultural products were included in the transactions. These transactions are often conducted on the homestead area.

Rural Women

Rural women are a distinct racial group, unified by language and culture, who live in an association under the leadership of one or more chiefs in rural inhabited territories.

CHAPTER 2

REVIEW OF LITERATURE

This chapter is consistent with the overview of prior studies on this inspection. The reviews are concisely organized around the study's key goals. Despite diligent efforts, significant numbers of directly linked literatures were unavailable for this investigation. However, this chapter discusses the existing research literatures briefly.

2.1 Participation in Homestead Agricultural Activities

Gopalappa (2017) reported that The responding women were able to participate n the household's new sericulture cropping pattern, which eliminated the need for them to rent out their labor. It was discovered that their participation to the agricultural activities of the home was more highly valued.

Karim and Wee (2016) mentioned that Women were responsible for seed collecting, storage, fertilizer application, as well as daily care and harvesting. In the case of tribal people, vegetables were typically cultivated and cared for by women.

Ajayi (2015) in his study found that The majority of women participate in subsistence crop planting, weeding, harvesting, and post-harvest tasks.

Chakma (2015) in a socio-economic study in a selected area of Khagrachari Hill district found that women and minorities The landless group had the greatest involvement rate, especially when it came to renting out labor.

Akanda (2014) in his study revealed that The majority of rural women were involved in vegetable agriculture, whereas just 15% were involved in fruit tree farming.

Islam and Dham (2014) reported that Women from the co-operator farm family were involved in every aspect of homestead gardening.

Sultana (2013) stated that Vegetables and fruits grown on the homestead are a vital component of the family diet, and a portion of them are sold commercially.

Virdi (2013) mentioned that In Bangladesh's rural areas, rural women have nearly always been involved with agriculture.

Vlassak (2013) mentioned that Women have a critical role in agricultural output in third world nations. Women do a variety of activities in agriculture, food delivery, and processing. Women want to enhance agricultural productivity, but their efforts are thwarted in a variety of ways.

Halim (2010) stated that In rural Bangladesh, rural women were engaged in productive labor in home industry and even marketing, in addition to caring for children and cooking and serving meals to other family members.

Gleason (2008) in his report mentioned that Rural Taiwanese women often collaborated with their male counterparts in practically every facet of agricultural production. Women were more likely to execute some jobs that males were more likely to accomplish, and vice versa.

Hossain *et al.* (2008) reported that Women account for around 48% of the overall population of Bangladesh. Even though, their contribution to the national census and development initiatives is insufficiently represented due to a lack of relevant information and documentation on dwelling agriculture.

Quddus *et al.* (2005) reported that Kitchen gardening and food processing at the household level were acceptable extension activities, and their involvement was quite favorable.

Dey (2005) mentioned in his paper that Women are economically engaged in their families and contribute significantly to post-harvest operations as well as other tasks such as kitchen gardening and animal care.

Younus (2004) stated that women's social status In the 1980s, engagement in activities outside the house grew increasingly acceptable, especially when women's participation was seen as an economic benefit to the family.

Huq (1974) mentioned that Women contribute significantly to a country's economic prosperity, particularly in agricultural productivity.

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

2.2.1 Age and Participation

Akanda (2004), Akhter (2009), Iqbal (1963) and Nair (1963) found that respondents' age revealed a substantial positive correlation with their agricultural activities engagement. .

Sirohi (2015) reported that There were operational disparities between age groups. Accordingly, threshing and seeding were performed by individuals aged 25-40 and younger than 15 years, respectively.

Huq (2011) stated that 70% of women employees in the survey are between the ages of 15 and 24, indicating that unmarried women spend more time in the labor field than married women.

Naher (2010) observed in her study that The rural women's age showed no discernible association with their involvement in household agriculture.

2.2.2 Education and Participation

Nahar (2016), Akanda (2014) and Kaur (2008) stated that Respondents' education showed a substantial positive correlation with their involvement in agricultural techniques.

Karim (2013) observed There is a favorable correlation between the education of farmers and their agricultural expertise in sugarcane growing.

Kaur (2009) found that Education changed women's attitudes on vegetable gardening, animal husbandry, and other forms of agriculture.

Arya (2009) in her study on women's role in decision making in farm credit found that Family education has no discernible association with women's decision-making involvement.

Hossain (2005) in his study found that There was no correlation between women's education and their adoption of better behaviors.

Naher (2000) observed in her study that Rural women's education exhibited no discernible correlation with their engagement in household agriculture.

2.2.3 Farm Size and Participation

Naher (2018), Akanda (2014), Saugwan *et al.* (2010), Akhter (2009), Bhatnagar and Sexena (2007), Ahsan (2006), Abdullah (2006) and Westernguard (2001) found that The respondents' farm size showed a substantial positive link with their involvement in agricultural techniques.

Halim (2011) and Dixon (2008) mentioned from his research findings that Women's labor is positively correlated with small-scale land ownership. Their involvement dwindles as commercialized agriculture develops.

Islam and Ahmed (2007) observed that Landless and small farm families are mainly interested in vegetable and spice cultivation, but big and medium farm households are more often involved in fruit and tree production.

2.2.4 Family Income and Participation

Akanda (2014), Akhter (2009), World Bank (2008) and Sattar (2008) observed that Family income exhibited a substantial positive correlation with agricultural practices involvement.

Naher (2018) observed in her study that Rural women's household income exhibited no discernible association with their engagement in homestead agriculture.

Ahmed (2017) found that The income of rural women was shown to be significantly related to their usage of information sources when adopting plant protection measures.

2.2.5 Cosmopolitanism and Participation

Akanda (2014) found that Rural women's non-localite behavior or cosmopolitanism was adversely connected with their involvement in homestead vegetable production, fruit tree cultivation, and non-farm household activities.

Ahmed (2007) found There is no correlation between rural women's cosmopolitanism and their acceptance of prescribed jute varieties, suggested fertilizer doses, and recommended plant protection measures in jute agriculture.

Naher (2000) observed in her study that The rural women's cosmopolitanism showed no discernible association with their engagement in household agriculture.

Latif (1974) in his study found that There was a favorable correlation between rural women's cosmopolitanism and their communication exposure.

Karim (1973) found There is a considerable positive correlation between the cosmopolitanism of transplanted Aman rice producers and their fertilizer adoption.

2.2.6 Extension Contact and Participation

Naher (2018), Nahar (2006), Karim (2013), Islam (2011) and Kaur (2008) in a study observed that Their engagement in agricultural activities was favorably associated with extension contact and mass media exposure.

2.2.7 Agricultural Training and Participation

Haque (2013) found that The respondent's training had a substantial favorable link with their adoption of new maize growing technology.

Islam (2012) conducted a study on farmers' knowledge and adoption of ecological agricultural practices under the supervision of proshika. He found that Farmers' exposure to agricultural training risks showed no discernible association with their embrace of ecological agriculture techniques.

Verma *et al.* (2009) found There was a considerable shift in rural women's attitudes before to and after training in enhanced homemaking duties. They said that as knowledge increased, the attitude got more favorable.

Hossain (2009) showed that Proper training has the potential to greatly increase participants' knowledge and skill levels.

2.2.8 Knowledge and Participation

Naher (2018) observed in her study that Rural women's understanding of homestead agriculture was significantly associated with their engagement in homestead agriculture.

Akanda (2014) in his study found that Rural women's agricultural expertise was positively associated with their engagement in fruit tree growing.

Ali (2013), Parveen (2013) and Verma *et al.* (2008) stated that The respondents' agricultural knowledge showed a substantial positive link with their attitude for involvement in the corresponding activities.

2.2.9 Attitude and Participation

Naher (2018) observed in her study that Rural women's attitudes regarding dwelling agriculture were positively correlated with their involvement in dwelling agriculture.

Ali (2015) mentioned that Rural women's agricultural expertise demonstrated a substantial positive correlation with their attitude toward group work in agricultural operations. Rural women's agricultural expertise demonstrated a substantial positive correlation with their attitude toward group work in agricultural operations.

Fatema (2015) in her study found that The link between issue confrontation and farm women's attitude toward agricultural income-generating activities was inversely significant, indicating that women with a more favorable attitude toward agricultural income-generating activities experience fewer difficulties.

Islam (2011) conducted a study on attitude of the rural women towards technology and found that Rural women who had interaction with technology and those who did not had markedly different attitudes about technology.

2.3 The Conceptual Framework of the Study

The collection and evaluation of variables is a critical activity in scientific research. When correctly created, a research hypothesis has at least two critical components, namely "a dependent variable" and "an independent variable." A dependent variable is a factor that arises, departs, or alters when the independent variable is introduced, removed, or varied in the study (Townsend, 2013). An independent variable is a factor that the researcher manipulates in order to identify its relevance to an observed event. In light of the evaluation of literature's major results, the researcher built a self-explanatory conceptual model for the study, as seen in Figure 2.1.

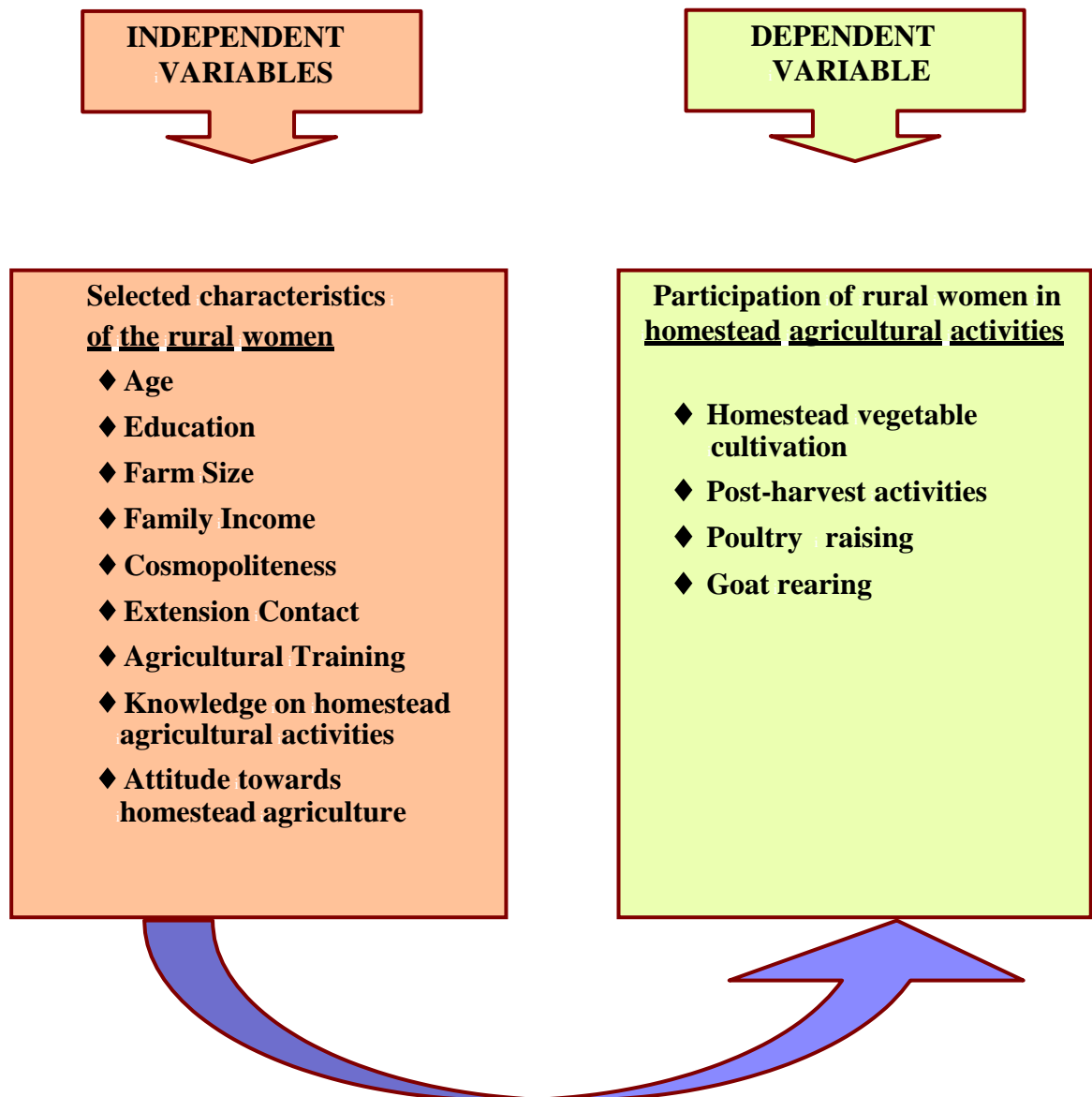


Figure 2.1 The conceptual framework of the study

CHAPTER 3

METHODOLOGY

Methodology is critical in every scientific study. Appropriate methodology assists the researcher in collecting accurate and trustworthy data and appropriately analyzing it in order to reach accurate findings. The following sections detail the methodology and processes used to guide the study:

3.1 Locale of the Study

Rural women, i.e. female heads of families, are found in all unions of Dhamrai upazila in the Dhaka district. The districts of Bangladesh are divided into sub-districts called Upazilas (Sarker 2010). Kulla union was randomly chosen as the research area among 16 (sixteen) unions in Dhamrai upazila, including two villages. Chandrail and Sastapur were the villages. Figure 3.1 and Figure 3.2 depict a map of Dhaka district and another of Dhamrai upazila, respectively, indicating the study's location.

3.2 Population and Sample Size

Two villages from the research region were chosen at random. These two villages have a total of 2084 rural households. As a result, the research population consisted of 2084 housewives (rural women) from these families. Among them, one hundred rural women were randomly chosen as the study's sample using a random selection approach that took 5% of the population into account. The sample data were compiled using a pre-tested interview plan. Additionally, 10% of the samples, or ten rural women, were chosen from the community as reserves to be interviewed solely in the event that respondents on the initial list were unavailable during data collection. Table 3.1 shows the demographic and sample allocations, as well as a reserve list of rural women.

Table 3.1 Distribution of Population and Samples with Reserve List

Name of Union	Name of Villages	Total Population	Sample Size	Reserve List Size
Kulla	Chandrail	1079	52	6
	Sastapur	1005	48	4
Total =		2084	100	10



Figure 3.1 A map of Dhaka district showing the Dhamrai upazila



Figure 3.2 A map of Dhamrai 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:

1. Age,
2. Level of Education,
3. Farm Size,
4. Annual Family Income,
5. Cosmopolitaness,
6. Extension Contact,
7. Agricultural Training,
8. Knowledge on Dwelling Agricultural Activities and
9. Attitude towards Dwelling Agricultural Activities.

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

3.4 Measurement of Variables

3.4.1 Measurement of Independent Variables

Several personal, economic, social, and psychological aspects of rural women were included as independent factors in this research. These attributes include the following:

3.4.1.1 Age

The peasant woman's age is defined as the time span between her birth and the moment of the interview. It was consistent with her answer to item No. 1 of the interview schedule in terms of actual years.

3.4.1.2 Education

The number of years spent in school was used to determine a respondent's education. Each year of education completed was assigned a score of one (1). For example, if a responder completed class five studies, his education level was given to be 5. A

respondent who could only sign was awarded a score of 0.5 for knowledge, whereas a respondent who could not read or write was assigned a score of 0. Additionally, if a responder did not attend school but studied at home and his knowledge level was equivalent to that of a fifth-grade student, he was assigned a score of 5.

3.4.1.3 Farm Size

A respondent's farm size was determined by the amount of land she owned. The data collected in answer to item No. 3 of the interview program were used to calculate the respondent's farm size. The following formula was used to determine the size of the farm:

$$\text{Farm size} = A_1 + A_2 + A_3 + A_4 + A_5 + A_6$$

Where, A_1 = Dwelling 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 responder provided information about the size of their farm in terms of resident count. Finally, it was converted to hectares and used to calculate a respondent's farm size score.

3.4.1.4 Family Income

The technique used to determine a respondent's household income has two components. Agriculture is the first component, whereas non-agriculture is the second. When calculating a respondent's family income, the respondent's income and that of her family members (earned from various sources) were combined together in a given year to produce the respondent's total family income. For Tk. 1000, a score of 1 was assigned. A fraction score was computed and added to the main score for amounts less than Tk.1000. The income score of a respondent was calculated using data obtained in answer to question No. 4 of the interview program.

3.4.1.5 Cosmopolitaness

A respondent's cosmopolitaness was linked to her frequent visits to diverse locations outside of her community. The following scale was used to determine a respondent's cosmopolitaness score.

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)

The scores received for visits to each of the five types of venues listed above were combined together to get a respondent's cosmopolitaness score. The cosmopolitaness score may vary between '0' and '15', with '0' indicating 'no cosmopolitaness' and '15' indicating 'extreme cosmopolitaness'.

3.4.1.6 Extension Contact

Extension contact refers to the agricultural woman's disclosure or interaction with certain information sources and personalities. A respondent's extension contact score was determined based on her degree of contact with the designated information sources during a certain time period in order to get the needed information. Extension contacts are classified into three categories. These include the following:

Personal Contact

Personal contact was determined for each responder by generating a personal contact score based on the degree of visit. The scale used to determine a respondent's disclosure is as follows:

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)

A respondent's total score was calculated by summing the scores for all personal contacts. This respondent's score would range from 0 to 15, with '0' denoting 'no personal contact' and '15' denoting 'heavy personal contact,' as indicated in item No. 6(a) of the interview program.

Group Contact

A respondent's total group contact score was computed by adding up all of his or her group contact scores as specified in item No. 6(b) of the interview program. Scores were submitted in the following way for group contact:

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' shows 'no group contact' and '9' shows 'high group contact'.

Mass Contact

The data collected in answer to question No. 6(c) of the interview program were utilized to calculate a respondent's mass contact score. Scores were distributed to the public in the following manner:

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

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

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)

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

3.4.1.7 Agricultural Training

A respondent's agricultural training score was derived by the number of days she had received agricultural training throughout her life. It was shown by the total number of days spent by a responder acquiring agricultural training via various training programs. The data acquired in answer to question No. 7 of the interview program were utilized to calculate a respondent's agricultural training score.

3.4.1.8 Knowledge on Dwelling Agricultural Activities

According to Naher (2018), the rural women's knowledge of dwelling agricultural activities was quantified by asking 15 chosen questions on different aspects of household agriculture. Each accurate response received a complete score of 1 (one), while the incorrect answer received a score of 0 (zero). Thus, a respondent who correctly answers all questions will get a total score of '15,' whereas a respondent who incorrectly answers all questions would receive a score of '0.' However, respondents' knowledge scores were derived by summing their values on all 15 questions. Thus, the knowledge score would range between '0' and '15', with '0' (zero) indicating 'no understanding of dwelling agricultural activities' and '15' indicating 'great knowledge of dwelling agricultural activities.'

3.4.1.9 Attitude towards Dwelling Agriculture

Another independent variable in the research was rural women's attitude toward housing agriculture. According to Naher (2018), an attitude scale was developed using sixteen independent assertions. Essentially, the Likert Method of Summarized Ratings was employed to accomplish the goal. The scale had eight positive and eight negative notifications. These statements were arranged in no particular order. A responder was asked to rate his level of agreement with each of the announcements on a five-point scale, which included 'strongly agree', 'agree', 'no opinion', 'disagree', and 'strongly disagree'. Scores of 4, 3, 2, 1 and 0 were assigned to these five possible replies for each positive statement. However, the ratings for unfavorable announcements were reversed. A respondent's attitude toward dwelling agriculture was calculated by aggregating her scores for all 16 statements. This score may vary from '0' to '64', with '0' indicating the most negative attitude toward dwelling agriculture and '64' indicating the most positive attitude toward dwelling agricultural. Another independent variable in the research was rural women's attitude toward housing agriculture. According to Naher (2018), an attitude scale was developed using sixteen independent assertions. Essentially, the Likert Method of Summarized Ratings was employed to accomplish the goal. The scale had eight positive and eight negative notifications. These statements were arranged in no particular order. A responder was asked to rate his level of agreement with each of the announcements on a five-point scale, which included 'strongly agree', 'agree', 'no opinion', 'disagree', and 'strongly disagree'. Scores of 4, 3, 2, 1 and 0 were assigned to these five possible

replies for each positive statement. However, the ratings for unfavorable announcements were reversed. A respondent's attitude toward dwelling agriculture was calculated by aggregating her scores for all 16 statements. This score may vary from '0' to '64', with '0' indicating the most negative attitude toward dwelling agriculture and '64' indicating the most positive attitude toward dwelling agricultural.

3.4.2 Measurement of Dependent Variable

Rural women often engage in a variety of agricultural occupations inside the confines of the house. However, their participation in agricultural income-generating activities has been substantiated for the dependent variables I dwelling vegetable gardening, (ii) post-harvest activities, (iii) poultry keeping, and (iv) goat rearing. Prior to selecting the dependent variables, the researcher studied available journals, research papers, and other materials from both domestic and international sources. Additionally, she spoke with resource persons in this region and visited the research location to assist in identifying dependent variables.

3.4.2.1 Measurement of Participation of Rural Women in Dwelling Agricultural Activities

To measure involvement of the agrarian women in two selected areas of dwelling agricultural activities, 10 items were selected under each of the dwelling activities which are as follows:

Items of Involvement in Dwelling Vegetable Cultivation

1. Land election & preparation
2. Plant nutrient management
3. Pest management
4. Irrigation/drainage
5. Cultural activities

Items of engagement in post-harvest activities

1. Threshing
2. Winnowing
3. Drying
4. Grading
5. Storing

Items of engagement in poultry raising

1. Collection of chicken
2. Poultry shed management
3. Feeding poultry birds
4. Vaccination & treatment
5. Selling

Items of engagement in goat rearing

1. Collection of goat breed
2. Goat shed management
3. Feeding
4. Vaccination & treatment
5. Selling

Thus, twenty measures were chosen to assess rural women's participation in domestic agricultural tasks. The respondents were asked to rate their level of participation with each of the preceding twenty things on a five-point scale: 'never,' 'rarely,' 'sometimes,' 'frequently,' and 'regularly'. Scores of '0', '1', '2', '3', and '4' were assigned to the replies to these questions. The engagement score of an agrarian woman was calculated by adding her scores for each of the twenty items in four (four) chosen areas of her agricultural activities: vegetable gardening, post-harvest activities, chicken keeping, and goat rearing. Thus, a rural woman's engagement score for all four (four) areas of dwelling agricultural activities could range from '0' to '80', with '0' (zero) indicating that the rural woman never engaged in dwelling agricultural activities and '80' indicating that the rural woman engaged in dwelling agricultural activities on a regular basis.

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

Rural women in the research region may have encountered a variety of difficulties while engaging in domestic agriculture tasks. However, the investigator obtained knowledge via personal interaction with respondents about common challenges encountered during data collecting. Additionally, the researcher obtained expertise by consulting with specialists, doing pre-testing, and evaluating past study results.

Finally, the researcher compiled a list of 10 potential difficulties in this area. A scale was developed to measure the extent to which each of the 10 difficulties applied to the respondent's situation. The respondents were asked to rank the severity of the difficulties on a five-point scale: 'very high problem', 'high problem', 'moderate problem', 'minor problem', and 'no difficulty at all'. Weights of '4', '3', '2', '1', and '0' were assigned to such replies.

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

1. Lack of knowledge
2. Lack of necessary agricultural land
3. Lack of 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 transportation facilities
10. Lack of cooperation from male partner.

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

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

Where,

P_{vh} =Percentage of rural women who meet very high problems.

P_h =Percentage of rural women who meet high problem

P_m =Percentage of rural women who meet moderate problem

P_l =Percentage of rural women who meet little problem

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

To define comparative importance of those ten problems, PCI was calculated for each of the ten problems by summing up the scores of all the respondents. Problem

Confrontation Index (PCI) of a specific problem would range from '0' to '400', where '0' shows 'no problem confrontation' and '400' shows 'high problem confrontation'.

3.6 Statement of Hypothesis

As defined by Goode and Hatt (2012), a hypothesis is "a statement that may be tested in order to determine its validity." It may see in the opposite direction of, or in accordance with, common sense. It may out to be correct or incorrect. In any case, it results in an experimental test". When investigating the link between variables, research hypotheses are generated that indicate the expected relationship between the variables. However, for statistical tests, the null hypothesis must be calculated. The null hypothesis states that no link exists between the variables. If a null hypothesis is rejected by a statistical test, it is assumed that a connection exists between the variables in question.

The null hypothesis for this research is - "there was no link between selected characteristics of rural women and their engagement in residential agricultural activities." Age, education, farm size, family wealth, cosmopolitanism, extension contact, awareness of dwelling agricultural operations, and attitude toward dwelling agriculture were all considered criteria.

3.7 Instrument for Data Collection

An interview program was utilized to get the necessary information from the respondents. The curriculum was meticulously constructed with the study's aims in mind. The software had questions that were open-ended, closed-ended, and multiple choice. The information was gathered using the most straightforward, basic direct questions and a variety of scales. Direct questions on age, education, farm size, family income, and training were also posed. Different scores were developed and utilized to determine the respondents' cosmopolitanism, extended contact, and attitude toward dwelling agriculture.

A closed form question was used to get information on rural women's understanding of household agricultural activities. The questions were developed in a systematic and straightforward way to ensure that respondents understood how to provide information in a consistent and systematic manner. The interview program was written in Bengali to aid respondents' comprehension and was pre-tested. The pre-test

enabled the researcher to assess the applicability of various interview questions and statements in general. Following that, the interview program was finalized with the appropriate correlations, revisions, and variations based on the pre-test experience. Appendix-A contains an English translation of the interview program.

3.8 Collection of Data

The researcher gathered data for this study by personal interview between August 20 and September 20, 2020. The researcher gathered information using the interview program he or she had previously developed. Every attempt was taken to communicate the study's aims to respondents in order to get accurate and useful information from them.

The respondents were interviewed at their homes. While conducting an interview with any respondent, the researcher took every precaution to establish rapport with them so that they would not feel uncomfortable or hesitant to provide adequate replies to the interview program's questions and remarks. When a responder expressed confusion about a question, it was answered and clarified. During the final data gathering phase, none of the agrarian women on the reserve list were questioned.

3.9 Compilation of Data

After the field survey was completed, all of the data for the interview schedule was prepared. Local units have been translated to the metric system. To translate the qualitative data to quantitative forms, an appropriate coding and scoring procedure was used. The replies of each respondent were moved from the interview schedules to a master sheet for computer entry. Once the data was loaded into the computer, it was examined in line with the study's objectives.

3.10 Statistical Analysis

Statistical measures such as number, percentage, minimum-maximum, and rank order are all examples of statistical measures. The study's independent and dependent variables were described using the mean and standard deviation. Tables were employed to show the data for ease of comprehension. Pearson's Product Moment

Correlation Coefficient (r) was used to examine the correlations between respondents' specified characteristics and their engagement in homestead agricultural activities. SPSS was used to examine the data.

CHAPTER 4

RESULTS AND DISCUSSION

In general, the phrase "engagement" (in domestic agricultural activities) refers to actively participating in or partly participating in various domestic agricultural activities events. Indeed, rural women are involved in a variety of agricultural and non-agricultural tasks both inside and beyond the home. However, in this research, four activities were chosen to assess rural women's engagement in dwelling agricultural activities in Dhamrai upazila, Dhaka district: dwelling vegetable growing, post-harvest activities, chicken keeping, and goat herding. The respondents' data were meticulously edited, coded, calculated, tabulated, and evaluated in line with the study's objectives. Following the conclusion of those procedures, this chapter was painstakingly written. This chapter is comprised of four sections. The first part covered the independent variables (chosen characteristics of rural women). The second portion delves further into the study's dependent variable. The third segment examines the links between certain features of rural women and their engagement in subsistence agricultural activities. The fourth portion discussed the contrasting difficulties rural women face while engaging in domestic agriculture tasks.

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	3.44	3.65
3.	Farm size	Hectare	Unknown	0.02-4.92	.79	.92
4.	Family income	In Tk.1000	Unknown	8.50-342.00	58.52	62.29
5.	Cosmopolitaness	Score	0-15	0-9	5.35	1.83
6.	Extension contact	Score	0-36	1-21	7.44	3.91
7.	Agricultural training	Score	Unknown	0-15	2.97	3.61
8.	Knowledge on dwelling agricultural activities	Score	0-15	5-13	8.11	1.72
9.	Attitude towards dwelling agriculture	Score	0-64	21-57	38.35	6.87

4.1.1 Age

Age scores for agricultural women were reported to vary between 19 and 55, with an average of 33.25 and a standard deviation of 8.97. The agricultural women were divided into three groups based on their age scores: "young" (under 30 years), "middle aged" (31-45 years), and "elderly" (above 45 years). The age distribution of rural women is given in Table 4.2.

Table 4.2 Distribution of the rural women according to age

Categories	Rural Women		Mean	Standard Deviation
	<i>Number</i>	<i>Percent</i>		
Young (up to 30 years)	41	41	33.25	8.97
Middle aged (31-45 years)	49	49		
Old (above 45 years)	10	10		
Total	100	100		

The study discovered that a substantial number (46%) of rural women were of middle age, compared to 44 and 10% of young and elderly women, respectively. It was shown that respondents in their middle years are more keen in engaging in residential agricultural activities. Extension organizations should examine this age group of agrarian women and engage them in efforts to increase their household agricultural productivity.

4.1.2 Education

Education scores of agricultural women were discovered to vary from 0 to 12, with an average of 3.42 and a standard deviation of 3.63. Rural women were divided into four groups based on their educational attainment: "illiterate" (0), "primary level" (1-5), "secondary level" (6-10), and "above secondary level" (above 10). Table 4.3 illustrates the distribution of rural women according to their degree of education.

Table 4.3 Distribution of the rural women according to education

Categories	Rural Women		Mean	Standard Deviation
	Number	Percent		
Illiterate (0)	41	41	3.44	3.65
Primary level (1-5)	29	29		
Secondary level (6-10)	23	23		
Above secondary level (above 10)	7	7		
Total	100	100		

The study discovered that the vast majority (41%) of rural women lacked any kind of schooling. On the other side, 29% of respondents had an elementary education, compared to 23% and 7% who had a secondary or higher education, respectively. It was considered that the majority of respondents were conservative and unimaginative in their approach to dwelling agricultural operations.

4.1.3 Farm Size

The observed farm sizes of rural women ranged between 0.02 and 4.95 hectares. The average farm was 0.79 hectares in size, with a standard variation of 0.92 hectares. Rural women were grouped into four groups based on their farm size scores: "marginal farm size" (less than 0.5), "small farm size" (0.51–1.00), "medium farm size" (1.01–2.00), and "big farm size" (more than 2.00). (above 2.00 ha). Table 4.4 shows the distribution of rural women by farm size.

Table 4.4 Distribution of rural women according to farm size

Categories	Rural Women		Mean	Standard Deviation
	<i>Number</i>	<i>Percent</i>		
Marginal farm size (up to 0.5 ha)	51	51	0.79	0.92
Small farm size (0.51-1.00 ha)	19	19		
Medium farm size (1.01-2.00 ha)	21	21		
Large farm size (above 2.00 ha)	9	9		
Total	100	100		

The study discovered that 51% of rural women had a marginal farm, compared to 19%, 21%, and 9% who had a small, medium, or big farm, respectively. The average farm size of rural women was 0.79 hectares, somewhat less than the national average of 0.80 hectares (BBS, 2020). This shows that the farm sizes of the agrarian women in the research region were comparable to those of a typical Bangladeshi agricultural farming community.

4.1.4 Family Income

Rural women's household income was reported to vary between 8.50 and 345.00, with an average of 58.52 and a standard deviation of 62.29. Rural women were divided into three income groups based on their family income: "low income" (up to 100 thousand Taka), "middle income" (101-200 thousand Taka), and "high income" (above 200 thousand Taka). Table 4.5 shows the distribution of rural women by household income. Rural women's household income was reported to vary between 8.50 and 345.00, with an average of 58.52 and a standard deviation of 62.29. Rural women were divided into three income groups based on their family income: "low income" (up to 100 thousand Taka), "middle income" (101-200 thousand Taka), and "high income" (above 200 thousand Taka). Table 4.5 shows the distribution of rural women by household income.

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)	72	72	58.52	62.29
Medium income(100-200 thousand Taka)	23	23		
High income (above 200 thousand Taka)	5	5		
Total	100	100		

The study discovered that the majority (72%) of rural women had a low family income, while 23 and 5% had a medium or high family income, respectively. This suggests that 95% of rural women had a low to moderate household income.

4.1.5 Cosmopolitaness

The observed scores of rural women's cosmopolitaness varied from 0 to 9, with an average of 5.35 and a standard deviation of 1.83, compared to a potential range of 0 to 15. Rural women were divided into four groups based on their cosmopolitaness scores: "no cosmopolitaness" (0), "low cosmopolitaness" (1-3), "medium cosmopolitaness (4-6), and "high cosmopolitaness" (above 6). Table 4.6 depicts the distribution of rural women according to their cosmopolitaness.

Table 4.6 Distribution of rural women according to cosmopolitanism

Categories	Rural Women		Mean	Standard Deviation
	Number	Percent		
No cosmopolitanism (0)	2	2	5.35	1.83
Low cosmopolitanism (1-3)	23	23		
Medium cosmopolitanism (4-6)	61	61		
High cosmopolitanism (above 6)	14	14		
Total	100	100		

The findings indicated that the majority (61%) of rural women had a moderate level of cosmopolitanism, compared to 23 and 14% who had a low or a high level of cosmopolitanism, respectively. On the other hand, just 2% of rural women were cosmopolitan. It was shown that rural women with a moderate level of cosmopolitanism participated in more domestic agriculture tasks. Additionally, it was discovered that social barriers, economic difficulty, and illiteracy hindered people from venturing outside their immediate vicinity.

4.1.6 Extension Contact

Rural women's extension contact scores varied from 1 to 21 out of a potential range of 0 to 36, with an average of 7.44 and a standard deviation of 3.91. Rural women were divided into three groups based on their extension contact scores: "low extension contact" (up to 7), "mid extension contact" (8- 14), and "high extension contact" (above 14). Table 4.7 shows the distribution of rural women according to their extension contact ratings.

Table 4.7 Distribution of rural women according to extension contact

Categories	Rural Women		Mean	Standard Deviation
	<i>Number</i>	<i>Percent</i>		
Low extension contact (up to 7)	57	57	7.44	3.91
Medium extension contact (8-14)	31	31		
High extension contact (above 14)	12	12		
Total	100	100		

The findings indicated that the majority of rural women (57%) had low extension contact, compared to 31 and 12 percent who had medium or high extension contact, respectively. Thus, it may be inferred that the majority of rural women either did not get assistance from extension workers or were unaware of the services offered by various extension organizations. As a result, extension service organizations should strengthen their connections.

4.1.7 Agricultural Training

The agricultural training scores of rural women were reported to vary between 0 and 15, with an average of 2.97 and a standard deviation of 3.61. Rural women were divided into four groups based on their agricultural training scores: "no training" (0), "low training" (up to 5), "medium training" (6-10) and "high training" (11-20). (above 10). Table 4.8 shows the distribution of rural women according to their agricultural training ratings.

Table 4.8 Distribution of rural women according to agricultural training

Categories	Rural Women		Mean	Standard Deviation
	Number	Percent		
No training (0)	43	43	2.97	3.61
Low training (up to 5)	37	37		
Medium training (6-10)	15	15		
High training (above 10)	5	5		
Total	100	100		

The study discovered that 43% of rural women lacked agricultural training. On the other side, 37% of respondents reported having little training, while 15% and 5% reported having medium or high training, respectively. As a result, rural women must be trained in a variety of agricultural vocations.

4.1.8 Knowledge on Dwelling Agricultural Activities

The rural women's knowledge of domestic agricultural operations varied from 5 to 13, with an average of 8.81 and a standard deviation of 1.72, compared to a potential range of 0-15. Rural women were divided into three groups based on their understanding of household agricultural activities: "poor knowledge" (up to 7), "medium knowledge" (8 to 10) and "high knowledge" (above 10). Table 4.9 shows the distribution of rural women according to their expertise of domestic agricultural operations.

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)	21	21	8.81	1.72
Medium knowledge (8-10)	61	61		
High knowledge (above 10)	18	18		
Total	100	100		

The findings suggested that the majority (61%) of rural women had medium knowledge of homestead agricultural operations, compared to 21 and 18% who had low and high knowledge, respectively, of homestead agricultural activities. According to the statistics above, almost one-fourth of respondents lacked appropriate understanding regarding household agricultural operations. Rural women acquired expertise about domestic agriculture operations mostly from their husbands and parents. Additionally, individuals acquired information about domestic agricultural operations through time and via experience, which is not an efficient method of learning.

4.1.9 Attitude towards Dwelling Agriculture

The observed scores of rural women's attitudes regarding housing agriculture varied from 21 to 57, with an average of 38.53 and a standard deviation of 6.78, versus a potential range of 0 to 64. Rural women were divided into three groups based on their attitude toward dwelling agricultural scores: "unfavorable attitude" (up to 33), "mid attitude" (34 to 45), and "high attitude" (above 45). Table 4.10 illustrates the distribution of rural women according to their attitude toward dwelling agriculture.

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)	18	18	38.35	6.87
Moderately unfavorable to moderately favorable attitude (34 to 45)	67	67		
Favorable attitude (above 45)	15	15		
Total	100	100		

The study discovered that the majority of rural women (67%) had a somewhat good opinion about dwelling agricultural, compared to 18 and 15% who had a negative attitude toward dwelling farm, respectively. As a result, it may be inferred that the majority of rural women in the research region expressed an interest in dwelling agriculture.

4.2 Engagement of the rural women in dwelling agricultural activities

The participation of rural women in domestic agricultural tasks was quantified using an interval scale. The following are examples of composite participations:

Rural women's observed engagement in four chosen residential agricultural activities varied from 10 to 52, with an average of 30.12 and a standard deviation of 7.27, compared to a feasible range of 0 to 80. Rural women were divided into three groups based on their participation scores: "low participation" (up to 24), "mid involvement" (25-38), and "high participation" (above 38). The majority of rural women (73%) fell into the "medium involvement" group, while 20% went into the "low participation" category and just 7% fell into the "high participation" category.

The dispersion of rural women is shown in Figure 4.1 according to their involvement in residential agricultural operations.

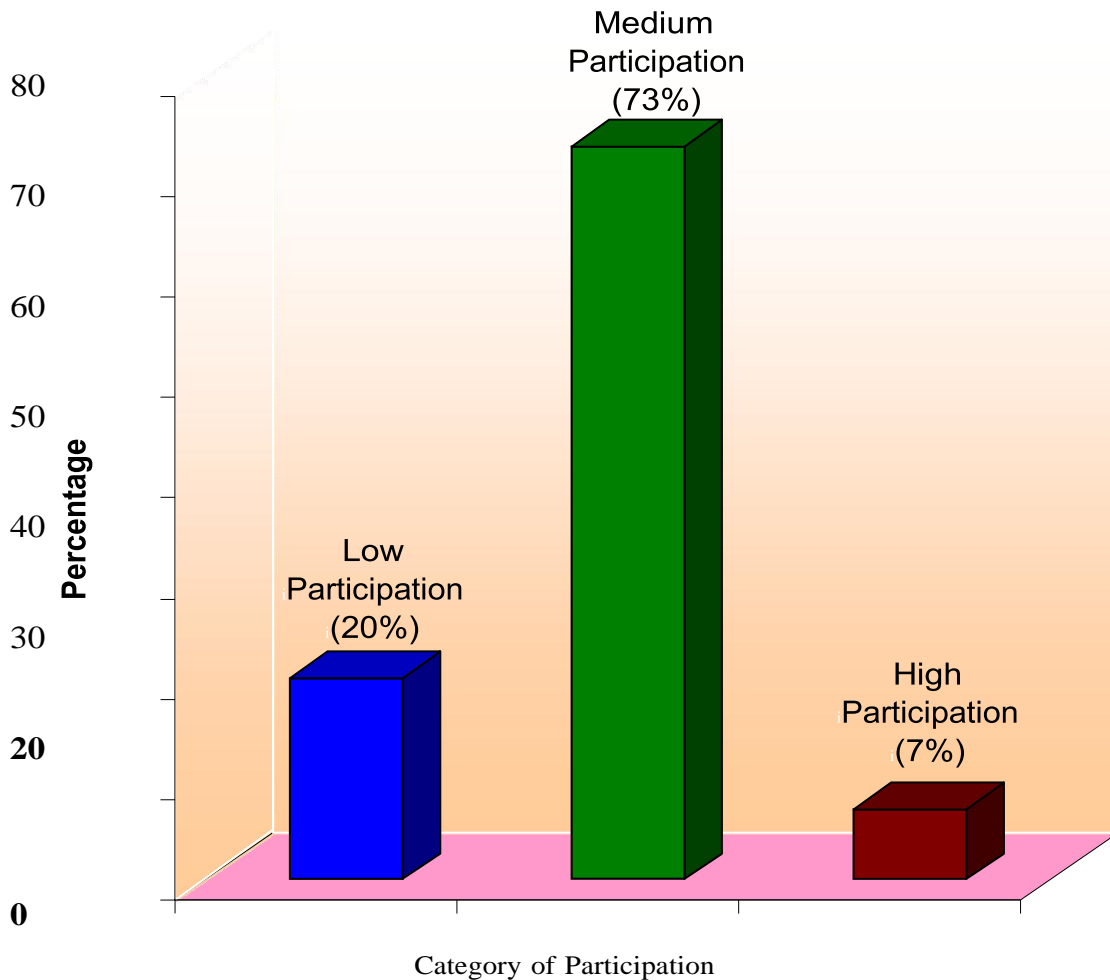


Figure 4.1 Bar graph showing categories of participation

The data indicated that a considerable number (73 percent) of rural women engaged in medium-level agricultural activities, compared to 20% and 7% who engaged in low- and high-level agricultural activities, respectively. This circumstance is not pleasant and should be rectified promptly by governments and non-governmental organizations taking the appropriate actions.

4.3 Relationship between the Characteristics of the Rural Women and their Engagement in Dwelling Agricultural Activities

The correlation coefficient was calculated in order to investigate the association between chosen characteristics of rural women and their participation in domestic agricultural activities. The study's independent variables were chosen features of rural women, whereas the study's dependent variable was their engagement in domestic

agricultural chores.

The link between nine chosen characteristics (independent variables) of rural women and their participation in residential agricultural activities is detailed in this section.

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**	Cosmopolitaness		
	0.481**	Extension contact		
	0.224**	Agricultural training		
	0.368**	Knowledge on dwelling agriculture		
	0.259**	Attitude towards dwelling agriculture		

^{NS} = Not significant

* = Significant at 0.05 level of probability

**= Significant at 0.01 level of probability

Individual's Product Moment The coefficient of correlation (r) was employed to examine the link between two variables. The 5% and 1% threshold of probability

were used to reject a hypothesis. At $(100-2) = 98$ degrees of freedom, the table value of 'r' was computed. Table 4.11 summarizes the correlation coefficient data revealing the links between respondents' chosen characteristics and their engagement in homestead agriculture.

Relationship between age of the rural women and dependent variable

The following null hypothesis was tested to determine the association between rural women's age and their participation in residential agricultural activities:

"There is no correlation between rural women's age and their participation in domestic agricultural chores."

The computed correlation coefficient between rural women's age and their participation in residential agricultural activities was determined to be 0.112NS, as shown in Table 4.11. On the basis of the correlation coefficient, the following observations were made about the connection between the two variables:

The association revealed a tendency toward the favorable.

With 98 degrees of freedom and a 0.05 level of probability, the estimated value of 'r' (0.112) was less than the table value (0.196).

The null hypothesis in question was accepted.

Correlation coefficients between the variables in question were not significant at the 0.05 level of probability.

The data indicate that rural women's age had no discernible link with their participation in residential agricultural activities. In one research location, it was noted that older rural women were more engaged in domestic agricultural tasks, but in another area, the opposite was seen. Thus, it may be inferred that additional variables influencing rural women's participation in dwelling agricultural activities, such as family income, extension contact, and cosmopolitaness, may have affected their decision to engage in dwelling agricultural activities.

Relationship between education of the rural women and dependent variable

The following null hypothesis was tested to determine the association between rural women's education and their participation in residential agricultural activities:

"There is no correlation between rural women's education and their participation in subsistence farming operations."

The correlation coefficient between rural women's education and their participation in household agricultural activities was determined to be 0.059NS, as shown in Table 4.11.

On the basis of the correlation coefficient, the following observations were made about the connection between the two variables:

The connection exhibited a tendency toward positivity.

With 98 degrees of freedom and a 0.05 level of probability, the estimated value of 'r' (0.059) was less than the table value (0.196).

The null hypothesis in question was accepted.

Correlation coefficients between the variables in question were not significant at the 0.05 level of probability.

The data indicate that there is no substantial association between rural women's education and their participation in household agricultural operations. Naher (2018) and Hossain (2015) also discovered a comparable finding.

Relationship between farm size of the rural women and dependent variable

The association between rural women's farm size and their participation in dwelling agricultural activities was investigated by testing the null hypothesis: "There is no relationship between rural women's farm size and their participation in dwelling agricultural activities."

The computed correlation coefficient between the size of rural women's farms and their participation in residential agricultural activities was determined to be

0.408**, as shown in Table 4.11. On the basis of the correlation coefficient, the following observations were made about the connection between the two variables:

The connection exhibited a tendency toward positivity.

With 98 degrees of freedom and a 0.01 level of probability, the estimated value of 'r' (0.408) was larger than the table value (0.256).

The null hypothesis in question was rejected.

Correlation coefficients between the variables in question were significant at the 0.01 level of probability.

The data indicate that rural women's farm size was significantly associated with their engagement in household agricultural activities. Naher (2018), Akanda (2014), Saugwan et al. (2010), Akhter (2009), Bhatnagar and Sexena (2007), Ahsan (2006), Abdullah (2003), and Westernguard (2001) all reported comparable findings. Rural women in the study region engaged in a high level of domestic agricultural chores.

Relationship between family income of the rural women and dependent variable

The association between rural women's family income and their participation in dwelling agricultural activities was investigated by testing the null hypothesis: "There is no relationship between rural women's family income and their participation in dwelling agricultural activities."

The computed correlation coefficient between rural women's family income and their participation in residential agricultural activities was determined to be 0.412**, as shown in Table 4.11. On the basis of the correlation coefficient, the following observations were made about the connection between the two variables:

The connection exhibited a tendency toward positivity.

With 98 degrees of freedom and a 0.01 level of probability, the calculated value of 'r' (0.413) was larger than the table value (0.256).

The null hypothesis in question was rejected.

Correlation coefficients between the variables in question were significant at the 0.01 level of probability.

The data indicate that rural women's family income had a substantial positive link with their participation in domestic agricultural activities. Similar conclusions were made by Akanda (2014), Akhter (2009), the World Bank (2008), and Sattar (2007). As a result, it was found that respondents' involvement in residential agricultural activities may be raised if their family income grew.

Relationship between cosmopolitanism of the rural women and dependent variable

The association between rural women's cosmopolitanism and their participation in domestic agricultural chores was investigated by testing the following null hypothesis:

"There is no correlation between rural women's cosmopolitanism and their participation in subsistence farming operations."

The calculated correlation coefficient between rural women's cosmopolitanism and their participation in residential agricultural activities was determined to be 0.318**, as shown in Table 4.11. On the basis of the correlation coefficient, the following observations were made about the connection between the two variables:

The connection exhibited a tendency toward positivity.

With 98 degrees of freedom and a 0.01 level of probability, the estimated value of 'r' (0.318) was larger than the table value (0.256).

The null hypothesis in question was rejected.

Correlation coefficients between the variables in question were significant at the 0.01 level of probability.

The data indicate that rural women's cosmopolitanism had a substantial positive link with their participation in residential agricultural activities. As previously

said, rural women who are more cosmopolitan participate in more dwelling agricultural activities. Movement outside one's peripheral provides a chance to meet new people, gain new skills, and observe new developments, all of which have the potential to alter perspectives.

Relationship between extension contact of the rural women and dependent variable

The association between rural women's extension contact and their participation in household agricultural activities was studied by evaluating the following null hypothesis:

"There is no correlation between rural women's extension contact and their participation in household agricultural operations."

The calculated correlation coefficient between rural women's extension contact and their participation in residential agricultural activities was 0.482**, as shown in Table 4.11. On the basis of the correlation coefficient, the following observations were made about the connection between the two variables:

The connection exhibited a tendency toward positivity.

With 98 degrees of freedom and a 0.01 level of probability, the calculated value of 'r' (0.482) was larger than the table value (0.256).

The null hypothesis in question was rejected.

Correlation coefficients between the variables in question were significant at the 0.01 level of probability.

The results indicate that rural women's interaction with extension personnel had a considerable favorable effect on their engagement in household agricultural operations. In their respective investigations, Naher (2018), Nahar (2016), Karim (2013), Islam (2011), and Kaur (2008) discovered comparable results. The statistics above indicate that extended contact has a significant impact on rural women's participation in all sorts of agricultural activity. It is self-evident that interaction with extension agents and other extension teaching techniques fundamentally alters clients' attitudes, and as a consequence, they develop an interest in adopting new

technologies, as was partially represented here. However, there is an urgent need to enhance extension services in order to reach agricultural women.

Relationship between agricultural training of the rural women and dependent variable

The association between rural women's agricultural training and their involvement in household agricultural activities was investigated by testing the null hypothesis:

"There is no correlation between rural women's agricultural training and their participation in subsistence agricultural operations."

The computed correlation coefficient between rural women's agricultural training and their participation in household agricultural activities was determined to be 0.223*, as shown in Table 4.11. On the basis of the correlation coefficient, the following observations were made about the connection between the two variables:

The connection exhibited a tendency toward positivity.

With 98 degrees of freedom and a 0.05 level of probability, the calculated value of 'r' (0.223) was larger than the table value (0.196).

The null hypothesis in question was rejected.

Correlation coefficients between the variables in question were significant at the 0.05 level of probability.

The data indicate that rural women's agricultural training had a substantial positive link with their participation in household agricultural operations. Haque (2013) discovered comparable results in his research. Agricultural training, as seen by the data above, has a considerable influence on rural women's involvement in all agricultural activities.

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

The link between rural women's knowledge of dwelling agricultural activities and their participation in dwelling agricultural activities was explored using the null hypothesis:

"There is no correlation between their understanding of habitational agricultural activities and their participation in habitational agricultural activities."

The calculated correlation coefficient between their knowledge of dwelling agricultural activities and their participation in dwelling agricultural activities was determined to be 0.371**, as shown in Table 4.11. On the basis of the correlation coefficient, the following observations were made about the connection between the two variables:

The connection exhibited a tendency toward positivity.

With 98 degrees of freedom and a 0.01 level of probability, the estimated value of 'r' (0.371) was larger than the table value (0.256).

The null hypothesis in question was rejected.

Correlation coefficients between the variables in question were significant at the 0.01 level of probability.

The data indicate that rural women's understanding of homestead agricultural activities was significantly associated with their participation in dwelling agricultural activities. Similar results were also discovered by Naher (2018), Ali (2015), Parveen (2013), and Verma et al. (2008). As a result, it can be stated that increasing respondents' knowledge of dwelling agriculture will improve their interest in engaging in dwelling agricultural activities.

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

The relationship between rural women's attitudes toward dwelling agriculture and their participation in dwelling agricultural activities was investigated by testing the

null hypothesis "There is no relationship between rural women's attitudes toward dwelling agriculture and their participation in dwelling agricultural activities."

The calculated correlation coefficient between rural women's attitudes regarding dwelling agriculture and their participation in dwelling agricultural activities was determined to be 0.257**, as shown in Table 4.11. On the basis of the correlation coefficient, the following observations were made about the connection between the two variables:

The connection exhibited a tendency toward positivity.

With 98 degrees of freedom and a 0.01 level of probability, the estimated value of 'r' (0.257) was larger than the table value (0.256).

The null hypothesis in question was rejected.

Correlation coefficients between the variables in question were significant at the 0.01 level of probability.

The results indicate that rural women's attitudes on dwelling agriculture were significantly associated with their participation in dwelling agricultural activities. Naher (2018) and Ali (2015) both discovered comparable results in their respective studies. As a result of the above data, it can be concluded that attitude is a significant element that influences a person's decision to engage in any activity. In the research region, it was discovered that agrarian women with a positive attitude were more engaged in agricultural activities. On the other hand, rural women with a negative attitude did not participate in the majority of agricultural operations both inside and outside their residence.

4.4 Comparative Problem Confrontation of the Rural Women in Engaging Dwelling Agricultural Activities

The Problem Confrontation Index (PCI) was developed to ascertain the key difficulties rural women face while participating in specified residential agricultural income-generating activities. The degree of respondents' issue encounters is reflected 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	57	19	13	8	6	308	1
2.	Lack of sufficient fertilizers	46	26	14	7	7	305	2
3.	Lack of necessary knowledge	25	55	11	9	4	290	3
4.	Lack of necessary capital	43	28	8	11	6	289	4
5.	Lack of quality seed	33	27	31	11	3	275	5
6.	Lack of extension workers	32	25	21	13	4	270	6
7.	Lack of sufficient insecticides	26	34	23	13	4	261	7
8.	Lack of marketing opportunities	19	23	27	21	11	217	8
9.	Lack of communication facilities	13	23	22	25	14	195	9
10.	Lack of co-operation of male	18	17	26	17	21	193	10

From Table 4.12 it was observed that –

'Lack of necessary agricultural land' placed first on the Problem Confrontation Index (PCI) with a PCI of 308. The majority of agrarian women were found to be in the marginal land group, meaning they had no land or only a small quantity of land for agricultural cultivation. It was a severe problem for the study area's rural women who scored the highest. As a result, it may be proposed that they use intense cultivation procedures to alleviate this problem.

With a PCI of 305, 'lack of sufficient fertilizers' came in second. The majority of the time, rural women experienced this challenge because the market supply of fertilizers was limited and the price was excessive during crop production season. As a result, it may be proposed that a sufficient supply of fertilizers be ensured.

With a PCI of 290, 'lack of necessary knowledge' came in third. The majority of agrarian women were found to have limited expertise of domestic agriculture tasks. Most rural women experienced various forms of challenges linked to engagement in residential agricultural operations due to a lack of basic information. As a result, it may be proposed that appropriate actions be taken to improve their knowledge of domestic agricultural activities.

With a PCI of 289, 'Lack of essential funds' was rated fourth. The majority of the study's agrarian women were impoverished. They ate whatever they could get their hands on. As a result, they were unable to invest sufficient funds in domestic agricultural activity. As a result, it may be advised that credit facilities be raised and sufficient to remedy this situation.

With a PCI of 275, 'lack of quality seed' was ranked fifth. The majority of the rural women in the study area were impoverished. They ate whatever they could get their hands on. They were unable to organize decent seeds in a timely manner since good seeds were pricey and difficult to maintain. As a result, it may be proposed that the agrarian people be provided with high-quality seed.

With a PCI of 270, 'lack of extension staff' came in sixth. Due to insufficient resources and extension workers' incompetence, the majority of agricultural women in the research region were unable to meet with extension workers. As a result, they are oblivious to the advantages of residing agricultural operations. As a result, extension organizations may be advised to enhance their extension interaction.

With a PCI of 261, 'lack of sufficient pesticides' was ranked seventh. Most agrarian women never applied new agricultural technologies related to household

vegetable gardening because there were insufficient insecticides on the market throughout crop production season. As a result, it's possible that an adequate supply of insecticides should be ensured.

With a PCI of 217, 'lack of marketing chances' was ranked eighth. Most of the time, agrarian women did not earn a high price for their output due to dropping market prices of crops from time to time during the production season, as well as selling produce to the broker. As a result, it is possible to recommend that available marketing facilities be ensured and sufficient.

With a PCI of 195, 'lack of communication facilities' was ranked 9th. The majority of the agricultural occupied villages were cut off from other communities due to a lack of communication infrastructure. As a result, they were confronted with this issue. As a result, it may be advised that adequate and acceptable communication facilities be established.

The PCI for 'lack of cooperation of male' was the lowest, at 193. It was also difficult for agrarian women to continue and expand their participation in various domestic agricultural chores. As a result, it may be proposed that males work together with female family members.

CHAPTER 5

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This chapter summarizes the study's findings, conclusions, and recommendations.

5.1 Summary of the Findings

The following four subsections provide a summary of the most important findings:

5.1.1 Selected Characteristics of Rural Women

Age

The majority of rural women (47%) were middle-aged, compared to 41 and 12 percent of young and old women, respectively.

Education

The majority of rural women (44 percent) had no formal education. Furthermore, 27 percent of the respondents had received only primary school, compared to 23 and 6 percent who had received secondary and post-secondary education, respectively.

Farm size

The majority of rural women (56%) enchanted marginal farm size, compared to 19, 16, and 9% who had small, medium, and large farm sizes, respectively.

Family Income

The majority of rural women (81%) had a low family income, whereas 12 and 7% had a medium and high family income, respectively.

Cosmopolitaness

The majority of rural women (59%) reported a medium level of cosmopolitaness, compared to 27 and 12 percent who had low and high levels of cosmopolitaness, respectively.

Extension contact

Low extension contact was reported by the majority of rural women (59%) compared to medium and high extension contact by 31 and 10%, respectively.

Agricultural training

The majority of rural women (45%) lacked agricultural training. On the other hand, low training was reported by 36% of respondents, while medium and high training was reported by 13 and 6% of respondents, respectively.

Knowledge on dwelling agricultural activities

The majority of rural women (61%) had a medium understanding of dwelling agriculture, compared to 25 and 14 percent who had a poor and high understanding of dwelling agriculture, respectively.

Attitude towards dwelling agriculture

The majority of rural women (68%) had a favorable attitude toward dwelling agricultural, compared to 21 and 11 percent who had a negative and favorable attitude toward dwelling agriculture, respectively.

5.1.2 Engagement in Dwelling Agricultural Activities

The majority of rural women in the research area (71%) had medium engagement in residential agricultural activities, compared to 21 and 8% who had low and high engagement, respectively.

5.1.3 Relationship between the Selected Characteristics of the Rural Women and their Engagement in Dwelling Agricultural Activities

Farm size, family income, cosmopolitaness, extension contact, agricultural training, knowledge of dwelling agricultural activities, and attitude toward dwelling agricultural activities were found to have significant positive relationships with engagement of rural women in dwelling agricultural activities using correlation analysis. The other two variables, namely the rural women's age and education, exhibited no significant link with their participation in domestic agricultural chores.

5.1.4 Comparative Problem Confrontation of the Agrarian Women in Engaging Dwelling Agricultural Activities

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

5.2 Conclusions

A conclusion can be thought of as a hypothesis based on the results of an experiment, relevant information, and unbiased assessments. The researcher came to the following conclusions based on the study's findings and logical clarifications of their significance in light of other pertinent facts:

The agrarian women's participation in household agricultural operations was not satisfactory, with 71% of them having a medium level of participation. To meet the ever-increasing need for food and nutrition, the rate and extent of rural women's participation in various residential agricultural operations must be increased. Through continuing improvements in extension and other support services, employees from both Government Organizations (GO) and Non-Governmental Organizations (NGO) should give convenient technical and management related information to all rural women in the research region.

According to the study, the majority of agrarian women (45 percent) were middle-aged, and their age had no bearing on their participation in domestic agricultural chores. As a result, it may be argued that extension workers should place a greater emphasis on agrarian women of all ages in order to stimulate participation in household agricultural operations. Given that the majority of rural women are in their forties and fifties, it would be prudent to focus on these women first and aim to encourage them to participate in various domestic farming activities.

Rural women's education had little correlation with their participation in domestic agricultural chores. As a result of this finding, we may deduce that greater literacy rates and higher educational levels among rural women in the

research area had little impact on their participation in domestic agricultural activities. However, it was discovered that 45 percent of agricultural women had no formal education. Though rural women's education has little direct impact on their participation in various residential agricultural activities, it can indirectly assist rural women in being aware of the benefits of such activities. As a result, significant efforts should be implemented to raise the educational level of the study area's rural women.

The size of a rural woman's farm has a positive link with her participation in domestic agricultural activities. Due to labor shortages, rural women with vast farms are often financially sound, and they always attempt to avoid arduous and labor-intensive technology/innovation. However, the fact that the majority of rural women (56%) owned marginal farms was the deciding factor. Given the foregoing information, it is reasonable to conclude that agrarian women should be encouraged to engage in domestic agricultural activities among small-scale farmers.

The study's findings revealed that rural women's household income had a favorable significant association with their participation in residential agricultural activities. It may be stated that the financial opportunity is more essential to alleviate financial troubles and to boost rural women's participation in various housing agricultural operations.

The findings revealed that rural women's cosmopolitanism had a favorable significant link with their participation in domestic agricultural activities. Individual farmers become aware of recent information on different elements of their daily agricultural activity as a result of their cosmopolitanism. As a result, he feels compelled to engage in those domestic farming tasks, as if he is being influenced by others. The study's findings led to the conclusion that in order to be successful in dwelling agricultural activities, agrarian women in the study area must be more cosmopolitan in order to have a better understanding of modern technology linked to dwelling agriculture. Field days, trips, fairs, and other activities should be organized to develop cosmopolitanism among agricultural women.

The study's findings revealed that rural women's extension contacts had a favorable significant link with their participation in domestic agricultural activities. Extension contacts broaden rural women's perspectives, causing them to adopt new technology related to housing agriculture. The fact that the majority of the respondents (60 percent) had depressed extension contact demonstrates this. As a result, it is possible to conclude that better communication planning and implementation by extension workers from Government Organizations (GOs) and Non-Governmental Organizations (NGOs) with agrarian women using effective methods will result in a greater number of agrarian women participating in dwelling agricultural activities.

Agrarian women's agricultural training demonstrated a favorable substantial link with their participation in household agricultural operations. Farmers with advanced training gained a greater understanding of housing agriculture, and as a result, they adopted new dwelling agriculture technologies more quickly. It was shown that the bulk of the respondents (45%) had no agricultural training at all. Given the foregoing information, it is reasonable to conclude that if more agricultural training is provided to agrarian women in the study area, their participation in domestic agricultural activities will grow.

The findings revealed that rural women's knowledge of dwelling agricultural activities had a positive significant link with their participation in dwelling agricultural activities. Individual farmers become aware of the latest information on the many prospects of modern agricultural operations related to homestead agriculture as a result of this type of knowledge. The majority of rural women (61%) had only a basic understanding of household agriculture. As a result of the foregoing facts, it is concluded that required measures should be made to expand rural women's knowledge of dwelling agricultural activities, hence increasing their participation in various dwelling agricultural activities.

The findings revealed that rural women's attitudes regarding dwelling agriculture had a favorable link with their participation in dwelling agricultural activities. In the field of human behavior, it's critical to understand that the nature of human

behavior is extremely complicated, and that the personality's high complexity displays itself in a variety of behaviors. The response to a new innovation is highly influenced by the respondent's attitude regarding that innovation. The majority of the respondents (67 percent) had a moderately favorable attitude of housing agriculture. As a result, it is possible to conclude that rural women who have a positive attitude toward dwelling agriculture are more likely to engage in dwelling agricultural activities.

5.3 Recommendations

The following recommendations are given based on the study's findings and conclusion:

5.3.1 Recommendation for policy implications

1. Dwelling agriculture is a key supply of nutrients that help people eat a more balanced diet, as well as a good source of income for the family. However, the majority of rural women in our survey had a low to moderate level of involvement in domestic agricultural operations. As a result, it is suggested that adequate efforts be implemented to encourage farmers to engage in residential agricultural operations.
2. The size of a rural woman's farm had a substantial positive link with her participation in household agricultural operations. As a result, it is possible that concerned authorities should implement a proper motivational program, aimed specifically at low and medium-sized agricultural women, so that they can plant more crops in their homes.
3. Rural women's family income exhibited a significant positive link with their participation in domestic agricultural activities. As a result, it may be suggested that the relevant authorities provide more credit to agrarian women with low family income so that they can invest more money in domestic agricultural operations.
4. Extension contact and rural women's cosmopolitaness exhibited a significant favorable link with their participation in domestic agricultural activities. As a result, it may be suggested that the relevant authorities take the appropriate steps to help agricultural women enhance their extension contact and become

more cosmopolitan.

5. Farmers' agricultural training and understanding of domestic agricultural activities had a positive significant link with their participation in domestic agricultural activities. As a result, it may be suggested that the concerned authority implement a proper training and skill development program, such as training on vegetable cultivation, poultry raising, and goat rearing, among other things, so that agrarian women can increase agricultural production in their homes while also increasing their family's income.

5.3.2 Recommendation for Future Research

For future investigation, the following suggestions are made:

1. Similar study efforts are needed in various parts of the country to get at generalizations about rural women's participation in household agricultural activities and to develop policy measures for the country's improvement.
2. The influence of nine personal and socioeconomic factors of rural women on their level of engagement in residential agricultural activities were explored in this study. As a result, it is suggested that more research be done incorporating other associated traits.
3. The purpose of the study was to determine the level of rural women's participation in domestic agricultural operations. More research should be done to determine the degree of agrarian women's participation in non-agricultural income-generating activities and other comparable concerns.

CHAPTER 6

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APPENDIX-A

AN ENGLISH VERSION OF THE INTERVIEW SCHEDULE

Department of Agribusiness & Marketing

Sher-e-Bangla Agricultural University

Dhaka, Bangladesh

An interview schedule for a research study entitled

“A STUDY ON THE ENGAGEMENT OF RURAL WOMEN IN DWELLING AGRICULTURAL ACTIVITIES IN SELECTED AREAS OF DHAMRAI, DHAKA”

1. 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.)

2. Age

Please mention your age.

..... years.

3. Education

What is the level of your education?

Do not know how to read or write.

Can sign name only.

Passed class --.

4. 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 dwelling place		
2.	Own land under cultivation		
3.	Own pond and garden		
4.	Own land given on barga to others		
5.	Land taken on barga from others		
6.	Land taken on lease from others		
Total	=		

5. Family Income

Please mention your family income.

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	=			

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

Employment -

Business

Profession as day labour Taka

Income of other family members Taka

Others Taka

Total = Taka

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

6. Cosmopolitaness

Please mention your degree 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)
1	Other village	9 or more times/month	5-8 times month	1-4 times/month	0 (zero) time/month
2	Upazila town	9 or more times/6 months	5-8 times/6 months	1-4 times/6 months	0 (zero) time/6 months
3	Own district town	9 or more times/year	5-8 times year	1-4 times/year	0 (zero) time/year
4	Other district town	6 or more times/year	3-5 times year	1-2 times/year	0 (zero) time/year
5	Capital city/divisional town	3 or more times/year	2 times/year	Once/year	0 (zero) time/year
Total =					

7. Extension Contact

Please indicate your extent of contact with the following media.

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 =					

8. 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 =					

9. 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 =					

10. Training Received

Please state your participation in training programs.

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

11. Knowledge on Dwelling Agricultural Activities

Please answer the following questions:

Sl. no.	Questions	Full marks	Marks obtained
1.	What do you understand by dwelling agriculture? (a)Working in dwelling area for earning money (score-1), (b)Any kind of work (score-0)	1	
2.	Do you think dwelling places deal for vegetable cultivation? (a)Yes, do (score-1), (b)No, 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 two 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. Mango tree & Jackfruit tree (score-1), Sugarcane plant & Jute plant (score-0)	1	
	Total =	15	

12. Attitude towards Dwelling 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 dwelling area is essential for family nutrition					
2. (-)	Vegetable cultivation in the dwelling place is an extra botheration to me, hence I try to avoid it					
3. (+)	Intensive vegetable cultivation in the dwelling 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 dwelling are main source of fuel					
6. (-)	Did not plant trees (for timber) in the dwelling as it requires long time to get return from it					
7. (+)	Raising poultry in the dwelling 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 dwelling. 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 dwelling 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	=					

13. Engagement in Dwelling Agricultural Activities

Engagement in the dwelling vegetable cultivation

Please indicate your degree 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 =						

Engagement in the post-harvest activities

Please indicate your degree of engagement in the following items of post-harvest activities:

Sl. no.	Item/Operation	Degree of Engagement				
		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 =						

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 =						

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 =						

14. Problem Confrontation in Participating Dwelling Agricultural Activities

Please mention problems you usually faced in engaging dwelling 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 DWELLING AGRICULTURE

Y = PARTICIPATION IN HOMESTEAD AGRICULTURAL ACTIVITIES