

**ACHIEVEMENT OF LIVELIHOOD ASPIRATIONS OF TRIBAL
WOMEN OF NORTHERN BANGLADESH BY PARTICIPATION
IN AGRICULTURAL ACTIVITIES**

**A Thesis
By**

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**MASTER OF SCIENCE
IN
AGRICULTURAL EXTENSION**

**Department of Agricultural Extension
Hajee Mohammad Danesh Science and Technology University
Dinajpur**

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Achievement of livelihood aspirations of tribal women of northern Bangladesh by participation in agricultural activities

ABSTRACT

The study aimed at exploring the achievement of livelihood aspiration of tribal women and finding out the relationships between some of the selected characteristics of the tribal women and their achievement of livelihood aspiration. Data were collected by using a pre-tested interview schedule from the tribal women of two unions namely Chandipur, Mostafapur of Parbatipur upazila of Dinajpur district. Data were collected from randomly selected 110 respondents from the population of 250 tribal women by using simple random sampling method from 27 October to 15 November, 2016. The selected ten (10) characteristics of the tribal women such as age, educational qualification, family size, farm size, annual income, training experience, extension media contact, organizational participation, agricultural knowledge and attitude towards participation in agricultural activities were considered as the selected characteristics where achievement of livelihood aspirations of the tribal women constituted the focus issue. Achievement of livelihood aspirations of the tribal women was measured by 4-point rating scale. It was found that the observed score of achievement of livelihood aspirations of the participating tribal women ranged from 18 to 60 in score while the possible range was 0.0 to 75. The mean achievement of livelihood aspirations score was 37.0 with a standard deviation of 8.73. Among the farmers, 86.4 percent belonged to medium status of achievement of livelihood aspirations status while 7.3 percent of them had high status of achievement of livelihood aspirations and 6.4 percent had low status of livelihood aspirations. The variation regarding different achievement of livelihood aspirations was minimum, the highest status of achievement of livelihood aspirations was observed in case of achievement of household food security and it was the lowest in case of achievement of access to market opportunity. Four (4) out of ten (10) selected characteristics of the tribal women such as farm size, extension media contact, agricultural knowledge and attitude towards agricultural activities had significant positive relationships with their achievement of livelihood aspiration. Rests of the characteristics such as age, educational qualification, family size, annual income, training experience, and organizational participation had no significant relationship with their achievement of livelihood aspiration. It was found that the achievement of livelihood aspiration was mostly hindered due to lack of necessary agricultural land followed by lack of enough capital for agricultural activities and unavailability of sufficient fertilizers. To overcome the problems tribal women suggested solutions to supply sufficient cultivable land for cultivation followed by support from Sub-Assistant Agricultural Officer and provide loan.

CHAPTER 1

INTRODUCTION

1.1 General Background

Bangladesh is an agrarian over-populated country where the total population is 15,25,18,015 of which 15,86,141 are tribal (BBS, 2011) which constitute 1.04 percent of the total population. There are about 45 tribes in Bangladesh, of them Chakma, Mog, Murung, Tripura, Kuki, Luci, Khashia, Garo, Hajong, Koach, Sautal, Monipuri are significant (BBS, 2011). The main occupation of the tribes is mostly crop, livestock and forest agriculture. In ancient days the tribal people who lived in hilly area used to practice *jum* cultivation but who lived in flat area they did as general people do. The tribes of Bangladesh have significant contribution in the national economy especially in the crop, livestock and forestry sectors. Agriculture is the principle means of livelihoods of tribal people in Bangladesh. Tribal women are intimately involved in all phases of agricultural activities. Any economic strategy for agriculture and rural development linked to poverty alleviation, food security and gender equity should consider women's contribution in production and access to resources especially for tribal areas as the tribal people is one of the most disadvantaged people of the country.

In Northern Bangladesh tribal people intensely involved in agricultural activities directly or indirectly. Majority of them are traditionally farmer, though ironically a large number are now landless. Grabbing tribal land has become common phenomenon in the tribal inhabited areas of northern Bangladesh. Various means and causes are involved in this process. Therefore, at present tribal is mostly agricultural laborer or day laborer. Sometimes tribal women become targets of land related dispute/conflict and they becoming most disadvantaged segment of their community.

The various livelihood activities that tribal women conduct typically includes agricultural cultivation wage labor (farm and non-farm labor), forest collection/hunting, fishing, animal husbandry, liquor brewing and selling, job/service, and businesses. The outputs of these activities are typically in the form of food grains, food items (fish, meat, milk, vegetables, fruits, meals etc.), fuel wood, wood for building house and cash earned by performing wage labor or selling various goods. The outputs that are in the form of food grains and food items (often) directly fulfill the food need of the household. While the need for other non-food items like clothing, soap, footwear, medicine, and edible oil get

fulfilled by using cash income. Thus, if the outputs are sufficient enough then they lead to fulfillment of household needs. On the other hand, insufficient outputs result into lack of fulfillment of their needs. The livelihood resources and livelihood capabilities could be called as "the inputs" that contribute to the livelihood activity conducted by the people. The livelihood activity is "the process", which further result into "the outputs" that either lead to fulfillment or partial/non fulfillment of livelihood needs. These three aspects are entirely interdependent and interrelated. The changes in one of these aspects cause changes in the whole livelihood system.

The livelihood systems in the study area are primarily dependent on combinations of agriculture, forests and laboring. Due to very small holding and very low productivity of the land, most households live by maintaining a diversified pattern of occupations; no single activity provides sufficient resources to entirely ensure their livelihood. Vegetables are cultivated nearly year round and overall food security can extend from five to seven months only. Women's work is regarded as crucial for the survival of tribal households in terms of provisioning for food, earning income and managing financial resources encircling the agricultural activities. Aspirations play an important role in influencing how women make life choices, how they think and feel about themselves (Schaefer and Meece, 2009). The aspirations of tribal women and the factors contributing to their formation should therefore be of interest not only to the tribal women themselves, their families and communities, but to all those with an interest in agricultural and rural policy and development.

1.2 Statement of the Problem

In all the activities of the tribes, sporadic or regular, there is a feeling of solidarity and cohesion, an idea of mutual obligation or participation in the same economic undertaking. Thus, this spirit of mutual help pervades all possible spheres of their agricultural life like ploughing of fields, weeding, transplanting and harvesting. On the whole, the tribal are poor and they strive hard to sustain their livelihood. By nature they are intense commoner with the nature. Labor is their abhorrence, but necessity compels them to cultivate a small portion of land for their actual existence, beyond this trifling labor they never exert themselves (Malley, 1910).

Agriculture is prime occupation of the tribal people and agricultural uses dominate the land use pattern of their villages. In most cases the women work in different agricultural activities as well as they work as agricultural laborers, which improve their economic

structure. But the achievement of their livelihood aspirations due to participation in agricultural activities is not identified yet. In view of the above circumstances and general background, the study was undertaken with the title “achievement of livelihood aspirations of tribal women of northern Bangladesh by participation in agricultural activities”. The study aimed at providing information regarding the following queries:

- i. What is the extent of the achievement of livelihood aspiration of the tribal women due to participation in agricultural activities?
- ii. What are tribal women characteristics that directly related to the achievement of livelihood aspiration?
- iii. What are the relationships among the tribal women selected characteristics with the achievement of livelihood aspiration?
- iv. What are the problems being faced by the tribal women in achieving livelihood aspiration?

1.3 Specific Objectives of the Study

The general objectives of this study are to ascertain the achievement of livelihood aspirations of the tribal women due to participation in agricultural activities. Following specific objectives are formulated to give proper direction to the study:

- i) To ascertain the achievement of livelihood aspiration of the tribal women.
- ii) To determine the selected characteristics of the tribal women. The selected characteristics are:
 - a) Age
 - b) Educational qualification
 - c) Family size
 - d) Farm size
 - e) Annual income
 - f) Training experience
 - g) Extension media contact
 - h) Organizational participation
 - i) Agricultural knowledge and
 - j) Attitude towards participation in agricultural activities.
- iii) To determine the relationships between the selected characteristics and the achievement of livelihood aspirations of the tribal women due to participation in agricultural activities.
- iv) To determine the extent of problem faced by the tribal women in achieving livelihood aspirations and their probable solutions.

1.4 Justification of the Study:

Tribal people have been significantly represented among the poor and landless and their opportunities are limited. Most of the tribal people live in the remote and rural areas. Lack of communication facilities, low level of skills and literacy contributes to low productivity. The government has limited ability to play a leading role in their development due to centralized mode of operation and constricted resources.

Agriculture play an important role for achieving women farmers livelihood regarding the impact of agriculture on the well-being of their large groups in terms of employment and income generation, changes in values and other indicators of improved living conditions. Agricultural research and development organizations are increasingly under pressure to shift from enhancing productivity of food crops to improving profitability and competitiveness of small-scale farming and linking smallholder tribal women to more profit. It is about increasing tribal women farmers' ability to compete in the agricultural activities so that they can maximize profit, ensure incremental income and meet other livelihood aspiration.

Many government and non-government organizations are working in the field of agriculture. Very few of them consider tribal people especially tribal women as special client group though they are the most important community of this country. This study may be helpful for women's to improve their agricultural activities for achievement of livelihood aspiration.

1.5 Assumptions of the Study

The researcher made the following assumptions while undertaking the study.

- i. The respondents were capable of furnishing proper responses to the questions included in the interview schedule.
- ii. The researcher who has acted as interviewer was well adjusted to the social and cultural environment of the study area. Hence, the data collected by the researcher from the respondents furnished their correct opinions.
- iii. The responses furnished by the respondents were reliable and valid. They expressed the truth about their convictions and awareness.
- iv. Views and opinions given by the respondents included in the sample of the study were the representative views and opinions of the whole population of the study area.

- v. The information sought reveals the real situation to satisfy the objectives of the study.
- vi. The items, questions and scales included in the questionnaire were relevant and appropriate.
- vii. Data were normally and independently distribution.
- viii. The sampling procedures followed for this study, the analysis of data and interpretations etc. were free from all biases.

1.6 Limitations of the Study

In order to make the study meaningful and manageable from the point of view of the researcher, it was necessary to impose some limitations as stated below:

- i. Since the findings of the study were based on the opinion expression capability and ability to recall of the respondents, the study was confined to both their ability to recall and also their sincerity and honesty in providing the needed information.
- ii. There were many tribal women in the study area, but only 110 tribal women were considered for this study.
- iii. There are many characteristics of the tribal women but only ten of them were selected for this study.
- iv. For investigation of this study, the researcher depended on the data as furnished by the selected tribal women during the time of data collection.
- v. Achievement of livelihood aspiration was measured by using 4-point rating scale on five dimensions only.
- vi. The landless tribal women were excluded from the study because they were not directly concerned with the use of agricultural information.
- vii. In many situations, the researcher faced unexpected interference from the over-interested side-talkers of the non-target respondents.

1.7 Definition of Key Terms

Attitude: Attitude means ones feelings, beliefs and actions towards an object and concept. This variable is operationalized by developing an attitude scale, following Likert method of summated ratings.

Achievement: Achievements are the outcomes farmers pursue in their quest to embrace aspired livelihood goals. In an operational mode of expression, achievement can be seen as a function of achievement-oriented activities as impelled by and directed towards aspired

livelihood goals. The higher the prepotencies and frequency of using the achievement-oriented activities, the higher the achievement tends to be.

Livelihood: UNDP (2005) describe that livelihoods are the means, activities and entitlement by which people make a living. A livelihood system is a dynamic realm that integrates both the opportunities and assets available to a group of people for achieving their goals and aspirations as well as interactions with and exposure to a range of beneficial or harmful ecological, social, economic and political perturbations that may help or hinder group's capacities to make a living.

Aspiration: Aspiration referred to the desire or ambition of an individual regarding her farm, family and environment. It leads to work hard and to acquire sufficient knowledge and skill on a particular aspect. Tribal women farmer's aspiration on farming might be an indication of his acquisition of knowledge and ability to solve his farm problems.

Achievement of livelihood aspiration: Achievement of livelihood aspirations manifests a certain standard of achievement of livelihood goals relative to internal standards of excellence, a farmer need to accomplish as individual in the farming community.

Annual family income: Income was defined as the total financial return per year of a family from farm (crops, livestock, poultry, and fish) and non-farm sources (Service, business, selling labor, and bank interests, remittance, financial help from relatives, etc).

Education: Education is the process of changing knowledge, skill and attitude of an individual to the desired dimension. It will be measured in terms of years of schooling completed by an individual at the time of interview.

Family size: Family size of household will be defined as family including family head and other dependent.

Farm size: Farm size refers to the total area, on which a farmer's family carries on farming operations, the area being estimated in terms of full benefit to the farmer's family.

Organizational participation: It expressed the duration of participation in different organizations.

Training exposure: It referred to the total number of days that a respondent received training in her entire life from different organization under different training program.

CHAPTER 2

REVIEW OF LITERATURE

In this Chapter, review of literatures relevant to the study is presented. This is mainly concerned with tribal women's participation in agricultural activities for achieving livelihood aspiration. This Chapter has been presented in four sections. First section deals with concept of aspiration and livelihood, the second section deals with the review of literature related to achievement of livelihood aspirations and change in socio-economic status due to agricultural activities, while the third section deals with the review of past studies concerning relationship of the selected characteristics of the tribal women with their achievement of livelihood aspirations. The conceptual framework of the study is presented in last section.

2.1 Concept of Aspiration and Livelihood

Morrison and Akerman (2008) followed Quaglia and Cobb (1996) and use a definition of aspirations that reflects the ability to set future goals while being “inspired in the present to work towards these goals”. Leavy and Smith (2010) stated that “an individual requires a livelihood strategy to achieve his desires and goal is, thus aspirations are the driving force of livelihood strategies although there are barriers which tend to limit one from realizing their aspirations. That relates more to the ability of an individual to achieve their goals. In addition aspirations are influenced by other factors; these include the context in which the individual lives. This context encompasses personal beliefs, societal expectations, educational and other life opportunities and constraints, among many others.” Bajema *et al.* (2002) argued that “people tend to compare themselves to groups with similar beliefs and abilities – thus acting to limit levels of aspiration, especially when the group is cut off from other groups”.

Mac Brayne (1987) defines aspiration as “an individual's desire to obtain a status object or goal such as a particular occupation or level of education”, while expectations are: “the individual's estimation of the likelihood of attaining those goals, plans, ambitions or dreams”. The behavioral realization of the goal.

Walker *et al.* (2001) reported that a livelihood is made up various activities and assets, including material capital, human capital and financial assets. These factors require strategies to combine them. The decision for a household to pursue a certain livelihood strategy is dynamic; it is influenced by a change in relationship between individuals within

a society, opportunities for access and ability to make use of the opportunities in order to make a living. Ellis (2000) defined “a livelihood comprises the assets, the activities, and the access to these that together determine the living gained by an individual of households.” Household activities map into outcomes. Activities may lead to single or multiple outcomes. In certain circumstances, outcomes are directly linked to a household asset rather than obtained from a particular activity. The concept of livelihoods is, however, a dynamic concept that recognizes long-term planning by households.

Barrett and Reardon (2000) describe livelihoods as being similar to a production functioning that they are processes that map assets (akin to factors of production) to outputs. As such livelihoods cannot be compared because they are by nature processes. They also note that the livelihood concept has tended to ignore the importance of prices and price risk, which is an important determinant of income from livelihood strategies.

Roe (1998) highlighted that UNDP’s sustainable approach includes poverty eradication, employment and sustainable livelihoods, gender, protection and regeneration of the environment and governance. Sustainable livelihoods are those that are: able to cope with and recover from shocks and stresses (such as drought, civil war, policy failure) through adaptive and coping strategies; economically effective; ecologically sound, ensuring that livelihood activities do not irreversibly degrade natural resources within a given ecosystem; and socially equitable, which suggests that promotion of livelihood opportunities for one group should not foreclose option for other groups, either now or in the future.

Rennie and Singh (1996) observed that a livelihood is a more tangible concept than ‘development’, easier to discuss, observe, describe and even quantify. Predominantly the poor of the world depend directly on natural resources, through cultivation, herding, collecting or hunting for their livelihoods. Therefore, for the livelihoods to be sustainable, the natural resources must be sustained.

Singh and Perpetua (1995) described that sustainability and vulnerability are ‘processes’ and not events. Livelihood systems and groups (i.e. individual households, communities) on the above-mentioned continuum are dynamic in nature. Based on the specific configuration of this space, livelihood systems can be located at a certain point on this continuum. Additionally, accounting for vulnerable and sustainable livelihoods as processes allows us to view the relationship between, for example economic growth and social equity, or even sustainability not in either/or terms, but as more complex relationships where the existence of such contradictions is a part of the process.

Chambers and Conway (1992) defined that “a livelihood comprises the capabilities, assets (store, resources, claims and access) and activities required for a means of living. A livelihood is sustainable which can cope with and recovers from stress and shocks, maintain or enhance its capabilities and assets, and provide sustainable livelihood opportunities for the next generation, and which contributes net benefits to other livelihoods at the local and global levels and in the long and short-term.”

2.2 Review of Literature Related to achievement of livelihood aspirations and Socio-economic Status due to Agricultural activities

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

Ali and Rahman (1978) reported that women were engaged in both productive and household activities. The production or income generating activities improve their socio-economic conditions.

Satter (1985) observed that women participation in the post-harvest operations, vegetables cultivation, livestock care as well as other economic activities which had a great contribution in the family income.

Karim and wee (1996) mentioned that women were involved in seed collection, seed storage, water management, fertilizer application and daily maintenance and harvesting. In case of tribal people, vegetables were growing mostly cared by women. Urban women were also eager to grow vegetables in the homestead.

Bedana (2003) found that in the study area, farm size and annual household income were positively changed by 85.5 percent and 93.4 percent, respectively. Cropping pattern has been changed to a considerable extent after implementation of the ICM project in the study area. The changing cropping pattern has proved itself to obtain better economic benefit for the targeted resource poor farmers.

Hossain et al. (2004) found that participation of tribal women in homestead vegetable Production was found low participation to high participation.

Miah et al. (2004) conducted a study to investigate the farming and non-farming activities Performed by rural women along their allocation of time in this regard. Finding revealed that the homestead area of the women had significant relationship with their duration of involvement in income generating activities.

Sarmin (2014) observed that among the farmers, majority (68.22 percent) belonged to medium status of livelihood improvement while 10.29 percent of them had low status of livelihood improvement and 21.49 percent had high status of livelihood improvement.

Meti and Sathish (2014) found that majority of the women participated regularly in activities like sowing operations, weeding and inter cultivation operations, harvesting and post harvesting operations and animal husbandry activities.

Rahman (2015) found that an overwhelming majority (96.36 percent) of rural women had very high participation in household and agricultural activities.

Bargali (2015) conducted a study and found that about 76.0 percent of women in hill area were independently performing the post-harvest management activities such as, cutting, drying, threshing, winnowing, management of surplus product, marketing and management of cash while 24.0 percent of the women jointly performed the role and sharing responsibilities with men.

2.3 Review of Literature Related to the Selected Characteristics of the Respondent and their Achievement of Livelihood Aspirations

2.3.1 Age and achievement of livelihood aspirations

Sarmin (2014) found that age of the women had no significant relationship with their livelihood improvement. Similarly Hossain *et al.* (2013) found that age of the women had negative significant relationship with the participation of rural women in various farm and non-farm activities. Amin (2008) found in her study that, age of the respondent had not shown any significant relationship with role performance of farmers in maintaining sustainable livelihood. Similarly, Mortuza *et al.* (2004) observed that age had no significant relationship with their livelihood. Kabir (2003) and Amin (2002) found similar findings. In contrast, Moktan and Mukhopadhey (2012) concluded that there was a positive relationship between age of the women and their nature of extend in the economic contribution in agriculture. Similarly Rahman (2002) found that age of resource poor FIAC farmers showed significant relationship with their livelihood asset building capacity. Again, Alam (2001) reported that there was a significant negative relationship between age and living status of the beneficiaries of social forestry project of Caritas.

2.3.2 Educational qualification and achievement of livelihood aspirations

Rahman (2015) found that education had significant relationship with their livelihood. Again, Sarmin (2014) found that educational qualification of the women had positive significant relationship with their livelihood improvement. Moktan and Mukhopadhey (2012) concluded that there was a positive and significant relationship between the level education and the nature of extend of women in the economic contribution in agriculture. Similarly, Faridi et al. (2011) found that education had significant relationship with their livelihood. Mortuza *et al.* (2004) found that family education had significant relationship with their livelihood. Amin (2002) mentioned similar relationship in his study. But, Rokanuzzaman (2004) found that education had not significant relationship with their livelihood status due to join in the community based fisheries management project. In contrast, Kabir (2003) reported that there was no relationship between educations of the beneficiaries of living condition.

2.3.3 Family size and achievement of livelihood aspirations

.Rahman (2015) found that family size had significant relationship with their livelihood. Again Amin (2008) found in her study that, family size of the respondent had positive significant relationship with role performance of FIAC in maintaining sustainable livelihood. Ali (2003) also found a significant positive relationship between family size of the beneficiaries of FIAC and their food consumption. Again, Islam (2002) showed a significant positive relationship between family size of the beneficiaries of the respective NGOs and their living status in terms of food consumption and household assets. In contrast, Mortuza *et al.* (2004) found that family size of group member had no significant relationship with livelihood status of the respondent. Similarly, Rokanuzzaman (2004) found that family size had no significant relationship with their livelihood status due to join in the community based fisheries management project.

2.3.4 Farm size and achievement of livelihood aspirations

Sarmin (2014) found that farm size of the women had no significant relationship with their livelihood improvement. Again Amin (2008) found in her study that, farm size had not show any significant relationship with role performance of maintaining sustainable livelihood. Islam (2002) reported that there was no significant relationship between farm size of the beneficiaries of farmers and their living status. Similarly, Mortuza *et al.* (2004) found that farm size of group member had no significant positive relationship with their livelihood. Rokanuzzan (2004) also found that farm size had no significant relationship

with livelihood status due to join in the community based fisheries management project. In contrast, Ali (2003) found a significant positive relationship between farm size of the FIAC beneficiaries and their livelihood condition.

2.3.5 Family income and achievement of livelihood aspirations

Rahman (2015) found that family income had significant positive relationship with livelihood. Similarly, Sarmin (2014) found that family income of the women had positive significant relationship with their livelihood improvement. Again, Mortuza *et al.* (2004) found that family income had significant positive relationship with livelihood. In contrast, Amin (2008) found in her study that, annual income had not show any significant relationship with role performance of women in maintaining sustainable livelihood.

2.3.6 Training experience and achievement of livelihood aspirations

Sarmin (2014) found that training experience of the women had positive significant relationship with their livelihood improvement. Similarly, Moktan and Mukhopadhey (2012) concluded that there was a positive and significant relationship between training received by the women and their nature of extend in the economic contribution in agriculture. Similarly, Sarkar (2005) revealed that there was significant positive relationship between training received by the women beneficiaries of CONCERN Bangladesh and their level of empowerment. But, Naoroze (2004) in his study found that there was no significant relationship between training exposure of rural women and their empowerment.

2.3.7 Extension media contact and achievement of livelihood aspiration

Sarmin (2014) found that extension media contact of the women had positive significant relationship with their livelihood improvement. Again Amin (2008) found in her study that, extension media contact had positive significant relationship with role performance of maintaining sustainable livelihood. Islam (2004) also observed that extension media contact showed significant positive relationship with the extent of knowledge on livelihood. Again, Alam (2001) reported that there was a highly significant relationship between extension media contact of the Caritas beneficiaries and their socio-economic status. In contrast, Rokanuzzaman (2004) found that extension media contact had no significant relationship with their livelihood status of the beneficiaries to join in the community based fisheries management project. Similarly, Kabir (2003) observed in his study that change in livelihood condition of the beneficiaries towards improving livelihood status had no significant relationship with contact with FIAC.

2.3.8 Organizational participation and achievement of livelihood aspirations

Moktan and Mukhopadhey (2012) concluded that there was a positive and significant relationship between participation in organizational and the nature of extends of women in the economic contribution in agriculture. In contrast Hoque (2011) found a negative relationship between organizational participation and livelihood status in his study on socio-economic improvement of the farmers due to transformation from crop farming to aquaculture. Again, Yesmin (2007) also reported that organizational participation have to significant relationship with the livelihood status. Rasel (2004) reported that organizational participation did not have any significant relationship with the living conditions.

2.3.9 Agricultural knowledge and achievement of livelihood aspirations

Sarmin (2014) found that agricultural knowledge of the women had no significant relationship with their livelihood improvement. In contrast Amin (2008) found in her study that, agricultural knowledge had positive significant relationship with role performance of char land women in maintaining sustainable livelihood. Amin (2002) also reported that there was a significant positive relationship between knowledge of the beneficiaries of PETRRA project of RDRS and their livelihood change.

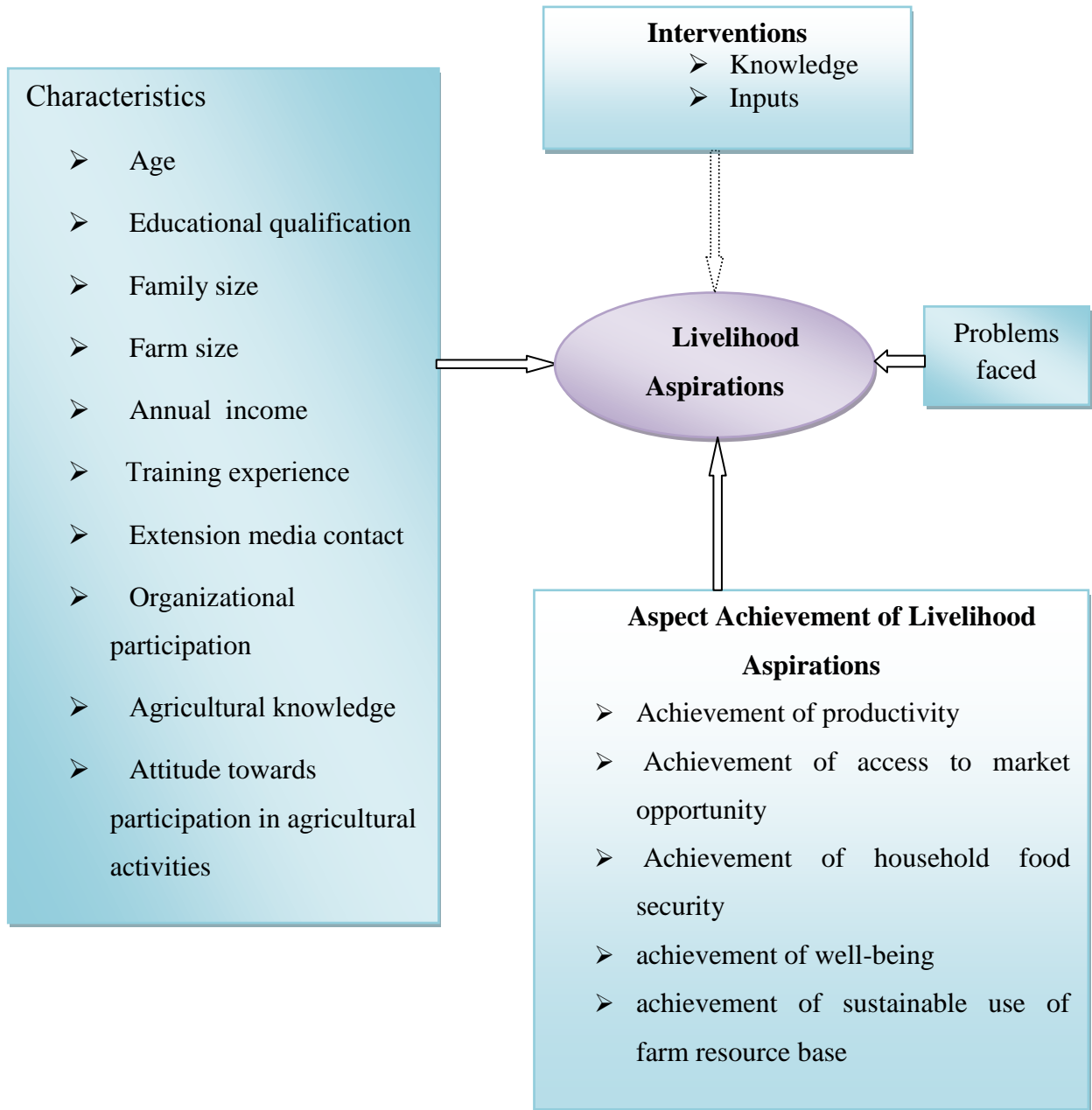
2.3.10 Attitude and achievement of livelihood aspirations

Alauddin (2008) found that attitude towards technology had positive significant relationship with their participation in agricultural activities. Again, Rahman (2007) found that attitude towards homestead agriculture of the rural women had significant positive relationship with their participation in homestead agricultural activities.

2.4 Conceptual Framework of the Study

Conceptual framework is a type of intermediate theory that attempt to connect to all aspects of inquiry (e.g. problem definition, purpose, literature review, methodology, data collection and analysis). Conceptual frameworks can act like maps that give coherence to empirical inquiry. Because conceptual framework is potentially so close to empirical inquiry, they take different forms depending upon the research questions or problem (Wikipedia, 2012). This section deals with the conceptual framework considered in the present study. The conceptual framework was kept in mind forming the structural arrangement between the selected characteristics and focus issues. This study concerned with that achievement of livelihood aspirations as the focus issue which would be influenced by 10 selected characteristics of the respondents viz. age, educational qualification, family size, farm size, annual income, training experience, extension media contact, organizational participation, agricultural knowledge and attitude towards

participation in agricultural activities. Based on these discussions the conceptual framework of this study has been formulated. The solid one-way arrows indicate the cause-effect relationships which have been investigated and the broken one-way arrows indicate the relationships which have not been investigated in the present research work although the issues might exert their impact (Figure 2.1).



Legend:

➡ Indicates parameters under investigation

⋯➡ Indicates parameters not considered for investigation

Figure 2.1 Conceptual framework of the study

CHAPTER 3

METHODOLOGY

Methodology deserves a very careful consideration in any scientific research. It should be such as would enable the researcher to collect information. Keeping this point in view, the researcher took utmost care for using proper method in all aspects of this investigation. This Chapter contains the methods and procedures in the present study in accordance with the objectives.

3.1 Locale of the Study

The study was conducted in Dinajpur districts. Two unions from Parbatipur upazila in Dinajpur district namely, Chandipur and Mostafapur was selected purposively as the tribal people concentrated in these two unions. A map of Dinajpur district showing the Parbatipur upazila in presented in Figure 3.1 and a map of Parbatipur upazila showing the Chandipur and Mostafapur unions is presented in Figure 3.2.

3.2 Population and Sample

A list of the tribal households was collected from respective offices. The total numbers of tribal women farmer were 250 in the selected two unions and they constituted the population for the study. A total of 44 percent tribal women participants of about 110 women farmers were randomly selected as sample by using simple random sampling method. Simultaneously a reserve list of 11 women farmers was made in order to use in case of unavailability of sampled farmers.

3.3 Measurement of Variables

3.3.1 Measurement of selected characteristics

The ten selected characteristics of the respondents (namely age, educational qualification, family size, farm size, annual income, training experience, extension media contact, organizational participation, agricultural knowledge and Tribal women attitude towards participation in agricultural activities) was considered in this study to describe the socio-economic profile of the tribal women. The measurement procedures of these characteristics are discussed below.

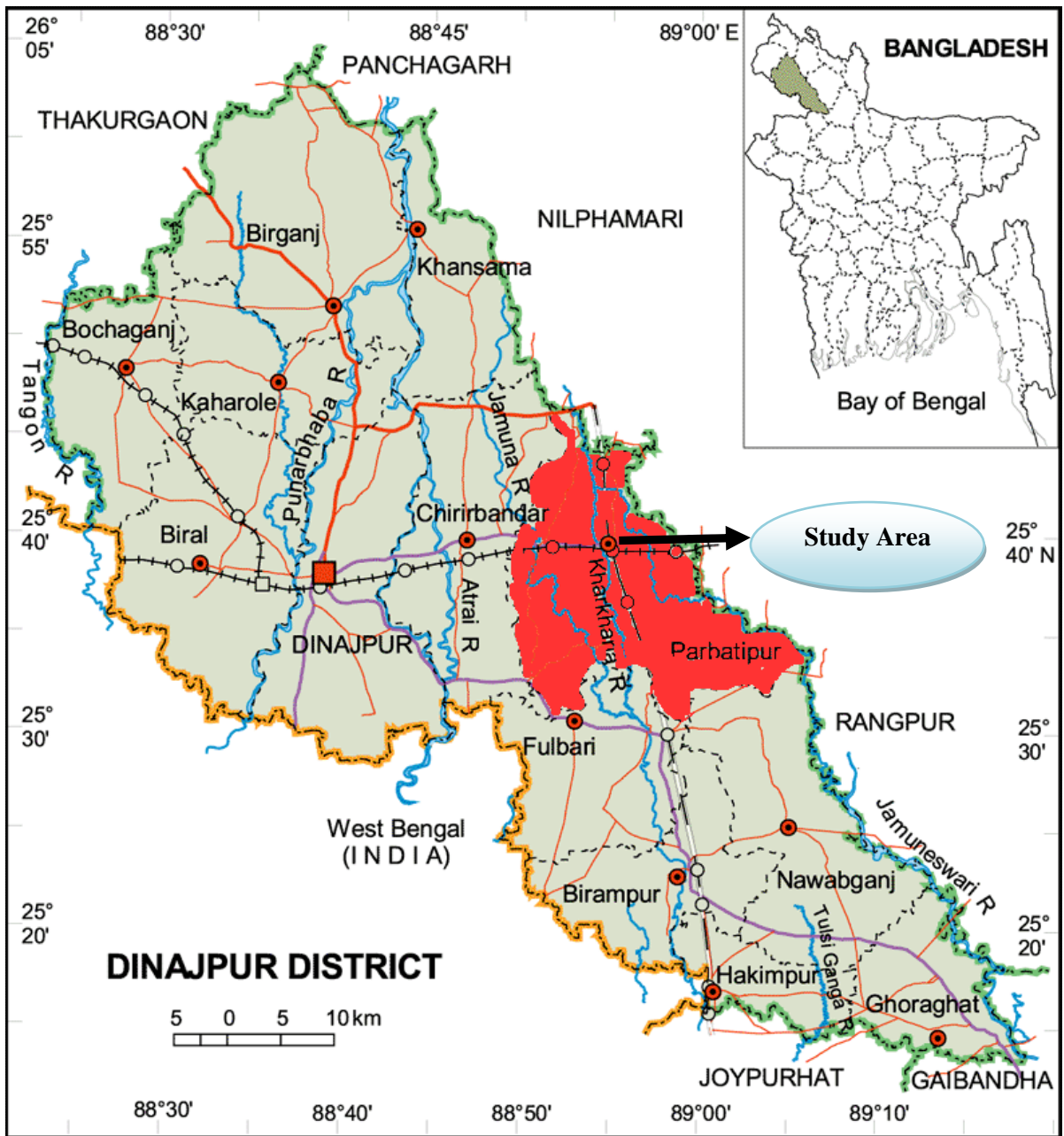


Figure 3.1 A map of Dinajpur district showing Parbatipur (Bangladesh inset)

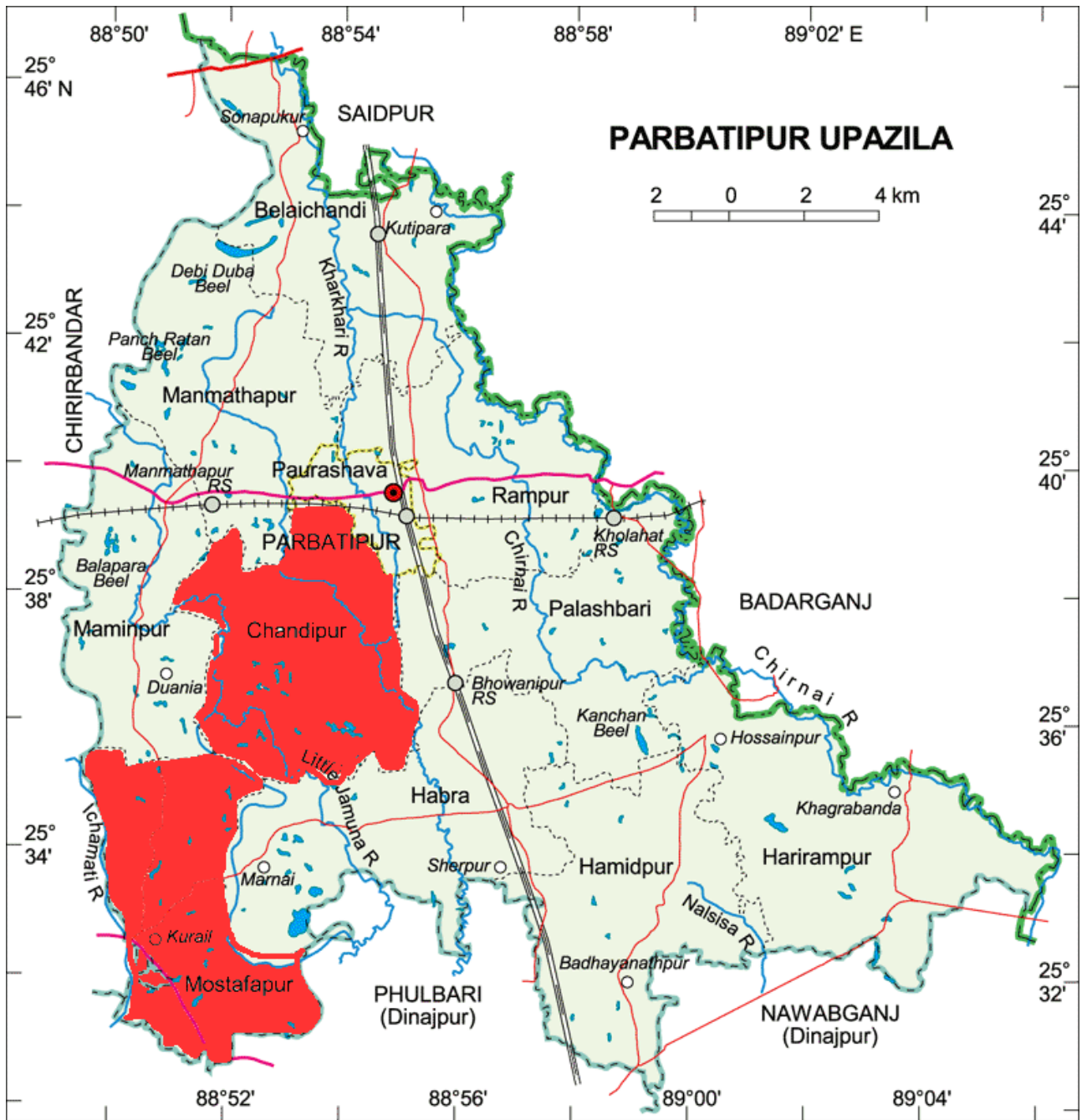


Figure 3.2 A map of Parbatipur upazila showing the study area Chandipur and Mostafapur

3.3.1.1 Age

Age of the Tribal women was measured in terms of complete years from her birthday to the time of interview which was found on the basis of response of the respondent. A unit score (1) was assigned for each year of one's age. The variable appears in item number 1 in the interview schedule (Appendix A).

3.3.1.2 Educational qualification

Educational qualification was measured in terms of one's year of schooling. If a respondent did not know how to read and write his score was given as zero (0). A score of 0.5 was assigned to that respondent who could sign her name only. Besides this, a respondent was given actual score of one for every year of schooling i.e. 1 for class I, 2 for class II and so on. Similarly if a respondent passed the final examination of class V her level of educational score was taken as five. The variable appears in item number 2 in the interview schedule (Appendix A).

3.3.1.3 Family size

The family size was measured by the total number of members in the family of a respondent. The family members included the respondent herself, her husband, children and other dependent members who lived and ate together. A unit score was assigned for each member of the family. If a respondent had five members in her family, then family size score was given as 5 (Khan, 2004). The variable appears in item number 3 in the interview schedule (Appendix A).

3.3.1.4 Farm size

The farm size was measured by the area of the raised land in which the household of the respondent had its entire dwelling unit including homestead area under cultivation (Sarker, 2004). It was measured in hectare. The variable appears in item number 4 in the interview schedule (Appendix A). It was measured using the following formula:

$$\text{Farm size} = A + B + \frac{1}{2}(C + D) + E + F$$

Where, A= Homestead area

B= Cultivable land

C= Land taken from others on *borga*

D= Land given to others on *borga*

E= Pond

F= Land taken from others on lease

3.3.1.5 Annual income

Annual income of Tribal women was measured by taking the sum of income earned by the tribal women herself and other members of her family in the last year from different sources like agricultural, and some other non agricultural sectors. It was expressed in thousands taka. One unit score (1) was assigned for each of thousand taka. The variable appears in item number 5 in the interview schedule (Appendix A).

3.3.1.6 Training experience

Training experience was determined by total number of days of training received by the tribal women from any organization in their entire lifetime. The variable appears in item number 6 in the interview schedule (Appendix A).

3.3.1.7 Extension media contact

The extension media contact score was computed for each respondent on the basis of her extent of contact with 10 selected extension media among which three belong to individual contact, three under group contact and four under mass media contact and others category. For measurement of the extension media contact, score was assigned for the extension media as 3, 2, 1 and 0 for the extent of contact 'regularly', 'occasionally', 'very low' and 'never' respectively. The variable appears in the item number 7 in the interview schedule (Appendix A).

3.3.1.8 Organizational participation

Organizational participation score of a respondent was computed on the basis of her participation in different organizations operating in the study area. The researcher identified seven such organizations as shown in item number 8 in the interview schedule (Appendix A). For computing organizational participation of a respondent the following formula was used (Mondol, 2009):

$$\text{Organizational participation score} = \sum (RS \times D)$$

Where,

RS=Rank status

D= Duration score

Rank status (RS) is the scores against the status of participation of an individual in an organization. For measurement of the organizational participation, score was assigned for the organizational participation as 0, 1, 2 and 3 for the nature of participant 'not involved', 'general member', 'executive committee member' and 'chairman/president' respectively.

Duration score (D) was rather fixed to one unit for each year. Scores obtained by respondent on each of the organization, which indicated status of participation, were summed-up to get the organizational participation score.

3.3.1.9 Agricultural knowledge

To measure the agricultural knowledge of a respondent 10-items scale was constructed in the interview schedule. Each respondent was asked to answer all the 10 questions. Out of assigned scores against each question, the summation of obtained scores against 10 questions represented the agricultural knowledge of a respondent. Agricultural knowledge was measured by the total knowledge score about agriculture. The total assigned score was 24. But, the score of each question was not equal; it was determined according to the extent of difficulty. Full score was assigned for each correct answer and zero (0) for the wrong answer. However, for correct responses to all questions, a respondent could get a total score of 24, while wrong responses to all questions he could get 0 (zero). Zero (0) indicating no agricultural knowledge and 24 indicates very high knowledge. The variable appears in item number 10 in the interview schedule (Appendix A).

3.3.1.10 Attitude towards participation in agricultural activities

An attitude may be defined as predisposition to act towards an object in a certain manner. Attitude of a Tribal woman towards participation in agricultural activities was used to refer to her belief, feelings and action towards the various aspects of participation in agricultural activities. It was measured by Likert scale (1932) by constituting 10 statements (five positive and five negative). A statement was considered positive if it possessed an idea favorable towards the participation in agricultural activities. On the other hand, a statement was considered negative if it was unfavorable towards the agricultural activities. The respondents were asked to express their opinion in the form of 'strongly agree or 'agree' or 'undecided' or 'disagree' or 'strongly disagree'. A score of 4 was given to 'strongly agree', 3 to 'agree', 2 to 'undecided', 1 to 'disagree' and 0 to 'strongly disagree', if the statement was positive. A reverse scoring method was followed in case of statements considered negative. Attitude score of a respondent was determined by summing the scores obtained by her for all the items in the scale. The index scores of respondents could range from 0 to 40 where 0 indicating strongly unfavorable and 40 indicating strongly favorable attitude towards participation in agricultural activities. The variable appears in item number 10 in the interview schedule (Appendix A).

3.3.2 Measurement of focus issue (achievement of livelihood aspirations)

In this study achievement of livelihood aspirations was the focus issue. The achievement of livelihood aspirations was measured by consideration of five selected dimensions of livelihood aspirations namely achievement of productivity, achievement of access to market opportunity, achievement of household food security, achievement of well-being and achievement of sustainable use of farm resource base. Five selected achievement-oriented activities for each of the five dimensions were used to measure the achievement of livelihood aspiration of that specific dimension. Thus a total of 25 selected achievement-oriented activities were constructed to measure the tribal women's overall achievement of livelihood aspirations. A four-point rating scale was used to measure the opinion of the respondent against each activity. The scores along the scale used for computing the extent of achievement of livelihood aspiration of the tribal women were 3, 2, 1 and 0 for high, medium, low and not at all, respectively. The score obtained by the respondents on dimension wise achievement of livelihood aspirations could range from 0 to 15, where 0 indicating no achievement and 15 indicating very high achievement of livelihood aspiration on that specific dimension. The overall achievement of livelihood aspiration could range from 0 to 75, where 0 indicating no achievement and 75 indicating very high achievement of overall livelihood aspirations.

3.4 Problems Confrontation in Achievement of Livelihood Aspirations and Their Suggested Solutions

Tribal women in the study area have faced various types of problems in performing agricultural activities. The investigator gained an experience during pre-testing of the interview schedule regarding common problems faced by the tribal women before data collection. Besides, the researcher gained experience through consultation with experts and reviewing previous research findings. Finally, the researcher prepared a list of ten possible problems in this regard. A scale was prepared to indicate the extent to which each of the ten problems was applicable in case of a respondent. Each respondent was asked to express her opinion regarding the seriousness of the problems she faced in performing agricultural activities. Scores were assigned as 3, 2, 1, 0 for high, medium, low and not at all, respectively for each of the problems.

On the other hand, to ascertain the comparison among the problems (form making ranked order), Problems Confrontation Index (PCI) was computed by using the following formula:

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

Where, P_n = Frequency of respondent mention the problem as 'not at all'

P_l = Frequency of respondent mention the problem as 'low'

P_m = Frequency of respondent mention the problem as 'medium'

P_h = Frequency of respondent mention the problem as 'high'

The tribal women farmers were requested to mention the means to solve their agricultural problems. In this case an open ended question was used. Then the mentioned suggestions were ranked on the basis of number of citations on the respective areas.

3.5 Research Instrument

In order to collect relevant data for the study, a structured interview schedule was prepared keeping the objectives in mind. The questions and statements contained in the schedule were simple, direct and easily understandable by the respondents. The schedule contained both open and closed form of questions. A draft interview schedule was prepared in advance before using the same for collection of data. The draft schedule was pre-tested with 11 selected samples from the study area. This pre-test facilitated the researcher to identify faulty questions in the draft schedule and necessary corrections, addition and adjustment was made afterwards in the schedule on the basis of the pre-test results.

3.6 Hypothesis of the Study

According to Kerlinger (1973) a hypothesis is a conjectural statement of the relation between two or more variables. Hypothesis are always in declarative sentence form and they are related, either generally or specifically from variables to variables. In broad sense hypotheses are divided into two categories: (a) Research hypothesis and (b) Null hypothesis.

3.6.1 Research hypothesis

Based on review of literature and development of conceptual framework, the following research hypothesis was formulated: 'There were significant relationships between the selected nine characteristics of the participant women and their participation in agricultural activities. However, when a researcher tries to perform statistical tests, then it becomes necessary to formulate null hypothesis.

3.6.2 Null hypothesis

Null hypothesis: There was no relationship between the selected ten characteristics of the tribal women and their participation in agricultural activities.

3.7 Data Collection Method

The prime task in materializing objectives of the study was to collect data by interviewing 110 respondents. Data were collected by the researcher herself using structured interview schedule through face-to-face contact. The researcher was first established rapport with the respondents and clearly explains the objectives of the study by using local language as far as possible. As a result, the respondents were furnished proper responses to the questions and statements without any hesitation. Data were collected during 27 October to 15 November, 2016.

3.8 Compilation of Data

At the end of data collection, the collected data were coded, compiled, tabulated and analyzed. The local units were converted into standard units. The qualitative data were transferred into quantitative data by appropriate scoring technique (s). The responses of the respondents that were recorded in the interview schedule were transferred into a master sheet for analysis of the data.

3.9 Statistical Analysis

The SPSS program was used for the analysis purpose. Various descriptive statistical measures such as range, mean, standard deviation, and percentage were used for categorization and describing the variables. Pearson's Product Moment Correlation coefficient (r) was used for testing the relationships between the concerned variables.

CHAPTER 4

FINDINGS AND DISCUSSION

The findings of this study and their logical interpretations have been systematically presented in four sections in this Chapter according to the objectives of the study. The first section deals with the selected characteristics of the tribal women. The second section deals with the achievement of livelihood aspirations of the tribal women and the third section deals with the relationships between selected characteristics of the tribal women and their achievement of livelihood aspirations. The final section presents the problems faced by the tribal women in performing agricultural activities and their suggestions to overcome the problems.

4.1 Selected Characteristics of the Tribal Women

The ten (10) selected characteristics of the tribal women such as age, educational qualification, family size, farm size, annual income, training experience, extension contact media, organizational participation, agricultural knowledge and attitude towards participation in agricultural activities were the selected characteristics of this study. The findings of the characteristics of the participants are presented in Table 4.1 and have been discussed in subsequent sub-sections. The respondents were classified in suitable categories for describing their selected characteristics.

4.1.1 Age

Age of the tribal women was found to vary from 20 to 60 years with an average of 40.74 years and a standard deviation of 11.82 years. Based on their age the tribal women were classified into three categories namely 'young' (up to 35 years) 'medium' (36-50 years) and 'old' (above 50 years). Data presented in Table 4.1 indicated that about 44.5 percent of the tribal women fell in the young age category, while 38.2 percent of the tribal women fell in the medium aged category and about 17.3 percent in the old category. Data of Table 4.1 indicated that an overwhelming majority of the tribal women were young and medium aged. Tribal society of Bangladesh maintain traditional norms, values, custom and this is very much favorable for young and medium aged to involve in various organizational activities. Also they are likely to influence for family and community decision-making process because they are energetic and well acquainted with farm and non-farm activities.

Table 4.1 Distribution of the tribal women based on their selected characteristics scores (N=110)

Characteristics	Scoring method	Range		Categories	Respondents		Mean	SD
		Possible score	Observed		Freq.	%		
Age	No. of year	Unknown	20-60	Young (≤ 35)	49	44.5	40.74	11.82
				Medium (36-50)	42	38.2		
				Old (> 50)	19	17.3		
Educational qualification	Year of schooling	Unknown	0-15	Can't read and write (0)	30	27.3	2.28	3.62
				Can sign name only (0.5)	50	45.5		
				Primary (1-5)	11	10.0		
				Secondary (6-10)	16	14.5		
				Higher secondary (>10)	03	02.7		
Family size	No. of members	Unknown	2-9	Small (2-4)	73	66.4	4.18	1.64
				Medium (5-6)	26	23.6		
				Large (>6)	11	10.0		
Farm size	Hectare	Unknown	0.02-2.79	Marginal (0.02-0.2)	90	81.8	0.21	0.39
				Small (0.21-1.0)	15	13.6		
				Medium (1.01-3)	05	04.5		
Annual income	('000' Tk.)	Unknown	17-130	Low (≤ 56.00)	46	41.8	59.90	19.02
				Medium (56.01-95.00)	60	54.5		
				High (>95.00)	04	03.7		
Training experience	Day	Unknown	0-30	No (0)	98	89.1	5.95	32.04
				Weekly (1-7)	03	02.7		
				More than weekly (>7)	09	08.2		
Extension media contact	Score	0-30	2-27	Low (≤ 9)	74	67.3	9.04	3.57
				Medium (10-18)	33	30.0		
				High (>18)	03	02.7		
Organizational participation	Year	Unknown	0-15	Low (≤ 5)	83	75.5	2.37	3.67
				Medium (6-10)	26	23.6		
				High (>10)	01	0.9		
Agricultural knowledge	Score	0-24	7-24	Low (≤ 8)	08	07.3	14.42	3.89
				Medium (9-14)	67	60.9		
				High (>14)	35	31.8		
Attitude towards participation	Score	0-40	9-24	Low (≤ 11)	17	15.5	17.20	4.41
				Medium (12-22)	79	71.8		
				High (>22)	14	12.7		

4.1.2 Education qualification

Exposure to formal education is very important for shaping-up the behavior of an individual. The family educational scores of the tribal women were ranged from 0 to 15, the mean being 2.28 years and standard deviation was 3.62. Based on educational qualification scores, the tribal women were classified into five categories i.e. can't read and write (0), can sign name only (0.5), primary education (1-5), secondary education (6-10) and higher secondary (above10) which has been present in (Table 4.1). Data presented in Table 4.1 indicated that about 27.3 percent tribal women can't read and write, 45.5 percent tribal women can sign name only category, 10 percent of them had primary, 14.5 percent had secondary education and 2.7 percent had higher secondary education. Literacy rate in Bangladesh is 61.54 percent (CRI, 2014). But in the study area, the literacy rate is 72.7 percent due to different GOs and NGOs activities those effected to increase the literacy rate.

4.1.3 Family size

The family size of the respondents ranged from 2 to 9 with an average of 4.18 and a standard deviation of 1.64. On the basis of their family size scores, the tribal women were classified into three categories namely 'small' (2 to 4), 'medium' (5 to 6) and 'large' (above 6). The distribution of the tribal women according to their family size is shown in Table 4.1. Data presented in Table 4.1 indicate that overwhelming of the tribal women (66.4 percent) percent have small sized family. On the other hand 23.6 percent had medium family and 10.0 percent had large family. The findings indicate that 90 percent of the respondents had small to medium family. Family is a fundamental social unit or social groupings. The members of which are united by bonds of kinship. The importance of the family in determining the character and structure of the society is tremendous. Family background directly or indirectly influences a person's behavior, social position and outlook of life. It could be a good source of tribal women through participation in agricultural activities.

4.1.4 Farm size

Farm size of the respondents of the study area ranged from 0.02 to 2.79 hectare. The mean of farm size was 0.21 hectare with standard deviation of 0.39 hectare. Depending on the farm size, the tribal women were classified into three categories namely 'marginal' (0.02 to 0.2 ha), 'small' (0.21-1.0 ha) and 'medium' (1.01-3.0 ha) are presented along with their distribution in Table 4.1. Data presented in Table 4.1 show that the majority of the

respondents were marginal farm sized (81.8 percent), 4.5 percent had medium farm sized and 13.6 percent operate small farm. This means that majority of the women of the study area was marginal farmers.

4.1.5 Annual income

The annual income of the tribal women ranged from 17 to 130 with a mean of 59.90 and standard deviation of 19.02. On the basis of annual income the respondents were divided into three categories namely 'low' (up to 55.00), 'medium' (55.01 to 95.00) and 'high' (above 95.00) income category. The distribution of the tribal women according to their annual income is shown in Table 4.1. Data indicated that the highest proportion (54.5 percent) of the respondents had medium income, while 41.8 percent had low and only 3.6 percent had high annual income. However majority (96.3 percent) of the respondents belonged to low to medium income categories. Findings revealed that the annual income of the respondents were low to medium because most of the respondents possessed marginal to small farms.

4.1.6 Training experience

The training experience score of the respondents ranged from 0 to 30 days with a mean of 5.95 days and standard deviation of 32.04 days. The respondents were classified into three categories namely 'No' (0), 'weekly' (1-7) and 'more than weekly' (above 8). The distribution of the tribal women on the basis of the training experience scores is shown in Table 4.1. The highest proportion (89.1 percent) of the respondents had no training experience while 2.7 percent had weekly training experience and 8.2 percent having training experience more than weekly, respectively. The result might be due to that the participants might not have enough opportunity to take training from different organization.

4.1.7 Extension media contact

The extension media contact scores could range from 0 to 30. However, the scores of the respondents ranged from 2 to 27 with average scores of 9.04 and standard deviation of 3.57. The respondents were classified into three categories namely 'low' (up to 9), 'medium' (10-18) and 'high' (19-27) according to their responses as shown in Table 4.1. The data in Table 4.1 indicates that most of the respondent women (67.3 percent) had low contact with different extension media as compared to 30.0 percent had medium contact and only 2.7 percent had high contact. The findings of the study revealed that an

overwhelming majority of the respondents (97.3 percent) had medium to low contact with different extension media.

4.1.8 Organizational participation

The observed scores of organizational participation of the respondent tribal women ranged from 0 to 15 years. The average scores were 2.37 and standard deviation was 3.67. The respondent tribal women were classified into three categories namely 'low' (up to 5), 'medium' (6-10) and 'high' (above 11) according to their responses as shown in the Table 4.1. Data contained in Table 4.1 shows that the highest proportion (75.5 percent) of the respondents had low organizational participation followed by 23.6 percent had medium and a minimum portion (0.9 percent) had high organizational participation. The finding indicates that the tribal women of the study area were not adequately participated with different types of organizations.

4.1.9 Agricultural knowledge

The agricultural knowledge scores of the respondents ranged from 7 to 24, against the possible range of 0 to 24. The mean is 14.42 and standard deviation is 3.89 (Table 4.1). On the basis of agricultural knowledge scores the tribal women were categorized into three groups namely 'low' (up to 8), 'medium' (9-14) and 'high' (above 14) as shown in Table 4. Data presented in Table 4.1 shows that highest proportion (60.9 percent) of the respondents had medium agricultural knowledge while 31.8 percent having high agricultural knowledge and 7.3 percent had low agricultural knowledge. It can be clearly seen from the findings that an overwhelming majority of the tribal women had either medium to high knowledge in different agricultural aspects. Such findings are quite logical because most of the respondent tribal women are closely attached with farming activities and these experiences increase their agricultural knowledge.

4.1.10 Attitude towards participation in agricultural activities

The attitude scores of the respondents ranged from 9 to 24, against the possible range of 0 to 40. The mean is 17.20 and standard deviation is 4.408 (Table 4.1). The respondent tribal women were classified into three categories namely 'low' (up to 11), 'medium' (12-22) and 'high' (above 22) according to their responses is shown in the Table 4.1. The table shows that the highest proportion (15.5 percent) of the respondents had low organizational participation followed by 71.8 percent had medium and 12.7 percent had high

organizational participation. The finding indicates that the tribal women of the study area were adequately participated with different types of agricultural activities.

4.2 Achievement of Livelihood Aspirations

This section deals with the achievement of livelihood aspiration of participants in each of the five dimensions viz. achievement of productivity, achievement of access to market opportunity, achievement of household food security, achievement of well-being, achievement of sustainable use of farm resource base. The findings are presented in Table 4.2.

Table 4.2 Distribution of the tribal women based on their different dimensions of achievement of livelihood aspirations (N=110)

Livelihood achievement	Range		Respondents			Mean	Std. deviation
	Possible	Observed	Category	Frequency	Percent		
Achievement of productivity	0-15	0-15	Low (≤ 5)	25	22.7	8.30	3.46
			Medium (6-10)	47	42.7		
			High (11-15)	38	34.5		
Achievement of access to market opportunity	0-15	0-14	Low (≤ 5)	63	57.3	5.26	3.44
			Medium (6-10)	39	35.5		
			High (11-15)	08	07.3		
Achievement of household food security	0-15	7-15	Low (≤ 5)	00	00	10.57	1.76
			Medium (6-10)	57	51.8		
			High (11-15)	53	48.2		
Achievement of well –being	0-15	0-12	Low (≤ 5)	46	41.8	6.42	2.41
			Medium (6-10)	59	53.6		
			High (11-15)	05	04.5		
Achievement of sustainable use of farm resource base	0-15	0-13	Low (≤ 5)	53	48.2	6.43	3.03
			Medium (6-10)	42	38.2		
			High (11-15)	15	13.6		

4.2.1 Achievement of productivity

The possible range of achievement of aspiration related to productivity of the tribal women could range from 0 to 15 while the observed range is 0 to 15 with a mean of 8.30 and standard deviation of 3.46, respectively (Table 4.2). The respondents were classified into three categories namely ‘low’ (up to 5), ‘medium’ (6-10), and ‘high’ (11-15). The highest proportion (42.7 percent) of the respondents had medium status of achievement of productivity followed by 22.7 percent had low and 34.5 percent had high achievement of productivity.

4.2.2 Achievement of access to market opportunity

The possible range of achievement of aspiration related to the access to market opportunity of the tribal women could range from 0 to 15 while the observed range is 0 to 14 with a mean of 5.26 and a standard deviation of 3.44, respectively (Table 4.2). The tribal women were classified into three categories namely 'low' (up to 5), 'medium' (6-10), and 'high' (11-15). The highest proportion (57.3 percent) of the respondents had low status of access to market opportunity followed by 35.5 percent had medium achievement and 7.3 percent had high achievement of aspiration related to the access to market opportunity.

4.2.3 Achievement of household food security

The possible range of achievement of aspiration related to the household food security of the tribal women could range from 0 to 15 while the observed range is 7 to 15 with a mean of 10.57 and a standard deviation of 1.76, respectively (Table 4.2). The women were classified into three categories namely 'low' (up to 5), 'medium' (6-10) and 'high' (11-15). The highest proportion (51.8 percent) of the respondents had medium status of achievement of household food security followed by 48.2 percent had high achievement and 0.00 percent had low achievement of aspiration related to the household food security.

4.2.4 Achievement of well-being

The possible range of achievement of aspiration related to the well-being of the women could range from 0 to 15 while the observed range is 0 to 12 with an average of 6.42 and a standard deviation of 2.405, respectively (Table 4.2). The tribal women were classified into three categories namely 'low' (up to 5), 'medium' (6-10) and 'high' (11-15). The highest proportion (53.6 percent) of the respondents had medium achievement of well-being followed by 41.8 percent had low achievement and 4.5 percent had high achievement of aspiration related to the achievement of well-being.

4.2.5 Achievement of sustainable use of farm resources

The possible range of achievement of aspiration related to the sustainable use of farm resources of the tribal women could range from 0 to 15 while the observed range is 0 to 13 with a mean of 6.43 and a standard deviation of 3.03, respectively (Table 4.2). The tribal women were classified into three categories namely 'low' (up to 5), 'medium' (6-10) and 'high' (11-15). The highest proportion of (48.2 percent) of the respondents had low achievement of sustainable use of farm resources followed by 38.2 percent had medium

improvement and 13.6 percent had high achievement of aspiration related to the achievement of sustainable use of farm resources.

A comparative observation of the Table 4.2 gives a clear idea that the highest variation among the participant tribal women existed regarding achievement of aspiration related to the productivity having a standard deviation of 3.46. On the contrary, the lowest variation of standard deviation 1.76 was in achievement of aspiration related to the household food security.

4.2.6 Overall achievement of livelihood aspirations

The observed score of overall livelihood achievement of livelihood aspirations the respondents ranged from 0 to 75 percent while the possible range is 18 to 60 (Table 4.3).

Table 4.3 Distribution of different categories of tribal women based on their overall achievement of livelihood aspirations score

Range		Categories	Frequency	Percentage	Mean	Std. deviation
Possible	Observed					
0-75	18-60	Low (≤ 25)	07	06.4	37.0	8.73
		Medium (26-50)	95	86.4		
		High (51-75)	08	07.3		

The mean score of achievement of livelihood aspiration status is 37.0 with standard deviation of 8.73. Based on the possible range of achievement of livelihood aspiration of the tribal women, they were classified into three categories namely ‘low’ (up to 25), ‘medium’ (26-50) and ‘high’ (51-75). It was found that among the respondents 86.4 percent belonged to medium status of achievement of livelihood aspiration while 6.4 percent had low status of achievement of livelihood aspiration and 7.3 percent had high status of achievement of livelihood aspiration. The findings implied that most of the respondents were clustered around the medium category of achievement of livelihood aspiration. This indicates that achievement occurred regarding livelihood aspiration status among the tribal women. But still it is possible to achieve the livelihood aspiration of the tribal women because only 7.3 percent of the tribal women had highly achieved livelihood aspiration.

4.3 Relationships between the Selected Characteristics of Tribal Women and Their Achievement of Livelihood Aspiration

This section deals with the findings of the relationships between the selected characteristics of tribal women and their achievement of livelihood aspiration. The selected characteristics of the tribal women farmers are: age, educational qualification, family size, farm size, annual income, training experience, extension media contact, organizational participation, agricultural knowledge and attitude towards participation in agricultural activities. The focus issue was achievement of livelihood aspiration of the tribal women through participation in agricultural activities. Pearson's Product Moment Correlation co-efficient (r) was used to determine the relationships between the selected characteristics and focus issue. Five percent (0.05) and one percent (0.01) level of significance was used on the basis for acceptance or rejection of a null hypothesis. A summary of the correlation analysis is presented in Table 4.4 and the correlation matrix in the Appendix B.

Table 4.4 Correlation coefficients of the selected characteristics of tribal women and their achievement of livelihood aspirations

Dependent variable	Independent variables	Computed values of 'r' with 108 df.	Tabulated value of 'r'	
			0.05 level	0.01 level
Livelihood achievement	Age	0.164	±0.187	±0.245
	Education qualification	-0.007		
	Family size	0.032		
	Farm size	0.324**		
	Annual income	0.098		
	Training experience	0.058		
	Extension media contact	0.391**		
	Organizational participation	-0.007		
	Agricultural knowledge	0.331**		
	Attitude towards participation in agricultural activities	0.202*		

*Correlation is significant at the 0.05 level and ** Correlation is significant at the 0.01 level.

4.3.1 Relationships between age and achievement of livelihood aspirations of the tribal women

The computed correlation coefficient between age of the participants and their achievement of livelihood aspiration status is 0.164 (Table 4.4). Based on the computed 'r' value the relationship between age and achievement of livelihood aspiration of

participation was not significant. Hence, the concerned null hypothesis could not be rejected. The researcher concluded that age had no significant relationship with the achievement of livelihood aspiration of the tribal women.

4.3.2 Relationships between education and achievement of livelihood aspirations of the tribal women

The computed correlation coefficient between education of the respondents and their achievement of livelihood aspiration status is -0.007 (Table 4.4). Based on the computed 'r' value the relationship between education and achievement of livelihood aspiration of respondents was not significant. Hence, the concerned null hypothesis could not be rejected. The researcher concluded that education had no significant relationship with the achievement of livelihood aspiration of the tribal women.

4.3.3 Relationships between family size and achievement of livelihood aspirations of the tribal women

The computed correlation coefficient between family size of the tribal women and their achievement of livelihood aspiration is 0.032 (Table 4.4). Based on the computed 'r' value the relationship between family size and achievement of livelihood aspiration of the respondents was non-significant. Hence, the concerned null hypothesis could not be rejected. From the above result, it could be concluded that family size had no significant relationship with the achievement of livelihood aspiration of the tribal women.

4.3.4 Relationships between farm size and achievement of livelihood aspirations of the tribal women

The computed correlation coefficient between farm size of the respondents and their achievement of livelihood aspiration is 0.324 (Table 4.4). Based on the computed 'r' value the relationship between farm size and achievement of livelihood aspiration of respondents is significant at 0.01 level of significance with 108 df. and followed a positive trend. Hence, the concerned null hypothesis could be rejected. Thus, it could be said that there is a positive correlation between the farm size of the respondents with their achievement of livelihood aspiration.

4.3.5 Relationships between annual income and achievement of livelihood aspirations of the tribal women

The computed correlation coefficient between annual income of the respondents and their achievement of livelihood aspiration is 0.098 (Table 4.4). Based on the computed 'r' value the relationship between annual income and achievement of livelihood aspiration of respondents is not significant. Hence, the concerned null hypothesis could not be rejected. The researcher concluded that annual income had no significant relationship with the achievement of livelihood aspiration of the tribal women.

4.3.6 Relationships between training experience and achievement of livelihood aspirations of the tribal women

The computed correlation coefficient between training experience of the respondents and their achievement of livelihood aspiration is .058 (Table 4.4). Based on the computed 'r' value the relationship between training experience and achievement of livelihood aspiration of respondent is not significant. Hence, the concerned null hypothesis could not be rejected. The researcher concluded that training experience had no significant relationship with the achievement of livelihood aspiration of the tribal women.

4.3.7 Relationships between extension media contact and achievement of livelihood aspirations of the tribal women

The computed correlation coefficient between extension media contact of the respondents and their achievement of livelihood aspiration is 0.391 (Table 4.4). Based on the computed 'r' value the relationship between extension media contact and achievement of livelihood aspiration of respondents is significant at 0.01 level of significance with 108 df. and followed a positive trend. Hence, the concerned null hypothesis could be rejected. Thus, it could be said that there is a positive correlation between the extension media contact of the respondents with their achievement of livelihood aspiration.

4.3.8 Relationships between organizational participation and achievement of livelihood aspirations of the tribal women

The computed correlation coefficient between organizational participation of the respondents and their achievement of livelihood aspiration is 0.007 (Table 4.4). Based on the computed 'r' value the relationship between organizational participation and achievement of livelihood aspiration of respondents is not significant. Hence, the concerned null hypothesis could not be rejected. The researcher concluded that

organizational participation had no significant relationship with the achievement of livelihood aspiration of tribal women.

4.3.9 Relationships between agricultural knowledge and achievement of livelihood aspiration of the tribal women

The computed value of coefficients of correlation between the agricultural knowledge and achievement of livelihood aspiration is 0.331 (Table 4.4). Based on the computed 'r' value the relationship between agricultural knowledge and achievement of livelihood aspirations of the respondents is significant at 0.01 level of significance with 108 df. and followed a positive relationship. Hence, the concerned null hypothesis could be rejected. Thus, it could be said that there is a positive correlation between the agricultural knowledge of the respondents with their achievement of livelihood aspirations.

4.3.10 Relationships between attitude and achievement of livelihood aspirations of the tribal women

The computed value of coefficients of correlation between the attitude and achievement of livelihood aspiration is 0.202 (Table 4.4). Based on the computed 'r' value the relationship between attitude and achievement of livelihood aspiration of the respondents is significant at 0.05 level of significance with 108 df. and followed a positive relationship. Hence, the concerned null hypothesis could be rejected. Thus, it could be said that there is a positive correlation between the attitudes of the respondents with their achievement of livelihood aspiration.

4.4 Problems Faced by the Tribal Women in Agricultural Activities and Their Suggested Solutions

Tribal women face several problems in achieving livelihood aspirations by participation in agricultural activities. For easy understanding of the problems faced by the tribal women and their suggestions to overcome the problems are listed in this section with their number of citation, percent and rank order.

4.4.1 Problems faced by the tribal women in agricultural activities

The problem scores of the respondents ranged from 9 to 27, against the possible range of 0 to 30. The mean is 19.7 and standard deviation is 4.33 (Table 4.5). The respondents were classified into three categories namely 'low problem faced' (up to 10), 'medium problem

faced' (11-20) and 'high problem faced' (21-30) is shown in the Table 4.5. Data presented in table 4.5 shows that the highest proportion (49.1 percent) of the respondents faced medium problem followed by 47.3 percent faced high and 3.6 percent faced high problem.

Table 4.5 Distribution of the tribal women farmers according to their problems

Categories	Tribal women		Observed range	Mean	SD
	Number	Percent			
Low problem faced (up to 10)	04	03.6	9-27	19.7	4.33
Medium problem faced (11-20)	54	49.1			
High problem faced (21-30)	52	47.3			

4.4.2 Rank orders of problems faced by the tribal women in agricultural activities

The tribal women were asked to mention the specific problems they faced in agricultural activities. The problems were ranked and are listed below according to their extent of responses (Table 4.6).

Table 4.6 Rank order of problems faced by the tribal women in agricultural activities

Problems		Extent of problems				PCI	Rank order
		High	Medium	Low	Not at all		
1.	Lack of necessary agricultural land	99	6	4	1	313	1
2.	Lack of knowledge on modern production technologies	57	33	19	1	256	4
3.	Unavailability of sufficient fertilizers	61	34	11	4	262	3
4.	Unavailability of sufficient Insecticides	52	23	30	5	232	6
5.	Lack of quality seeds	63	18	22	7	247	5
6.	Lack of proper support from agricultural extension personnel	44	17	34	15	200	7
7.	Lack of proper marketing facilities	33	33	17	27	182	8
8.	Lack of enough capital for agricultural activities	77	9	15	9	264	2
9.	Family restriction for agricultural Activities	19	5	48	38	115	9
10.	Social constraints for agricultural Activities	10	5	56	39	96	10

The total Problems Confrontation Index (PCI) ranged from 96 to 313 with possible range of 0 to 330. It was found that the achievement of livelihood aspiration was mostly hindered due to lack of necessary agricultural land followed by lack of enough capital for agricultural activities, unavailability of sufficient fertilizers, lack of knowledge on modern production technologies, lack of quality seeds, unavailability of sufficient insecticides, lack of proper support from agricultural extension personnel, lack of proper marketing facilities, family restriction and social constraints for agricultural activities, respectively.

In view of the urgent need for achieving livelihood aspiration, adequate steps should be taken on a priority basis to remove various problems causing hindrance to the agricultural practices. Utmost effort should be made to take action to remove or minimize these problems.

4.4.3 Suggestions offered by the tribal women to overcome the problems

Nine suggestions were offered by the tribal women to overcome the problems in achieving livelihood aspirations (Table 4.7).

Table 4.7 Rank order of suggestions offered by the tribal women to overcome the problems in agricultural activities

Suggestions	No. of citation	Percent	Rank order
Supply sufficient cultivated land	60	54.55	1
Support from Sub Assistant Agricultural Officer	33	30.00	2
Provide loan	29	26.36	3
Supply agricultural instruments at accurate time	28	25.45	4
Organizing training program	21	19.09	5
Provide suggestion about agricultural activities	15	13.63	6
Provide technological knowledge	5	4.55	7
Provide support by the government	3	2.73	8
Provide marketing facilities	1	0.91	9

It is noted from the data in Table 4.7 that the foremost (54.55 percent) suggestion cited by the tribal women was 'supply sufficient cultivated land'. This implies that more will be the cultivated land more will be achievement of livelihood aspirations of the tribal women. Sufficient cultivated land is more helpful for achieving livelihood aspiration.

'Support from Sub-Assistant Agricultural Officer' was the second most important (30 percent) suggestion offered by the tribal women. This is due to that more the communication with SAAOs more easily information will be transferred.

'Provide marketing facilities' (0.91 percent) was suggested by the tribal women as the least important suggestion. The result might be due to that the tribal women are easily selling the product in their local market.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This Chapter deals with the summary of findings, conclusions and recommendations which are chronologically given as below:

5.1 Summary of Findings

The present study was undertaken with the objectives, to determine the achievement of livelihood aspirations of tribal women, to determine the selected characteristics of tribal women participants and to explore the relationships between the achievements of the livelihood aspirations of the tribal women with their selected characteristics, to determine the extent of problems faced by the tribal women in achieving livelihood aspirations and their suggested solutions to overcome the problems. The study was conducted in two unions namely Chandipur and Mostafapur of Parbatipur upazila of Dinajpur district. The total numbers of tribal women farmer were 250 and they constituted the population for the study. A total of 44 percent tribal women of 110 women farmers were randomly selected as sample by using simple random sampling method. Data were collected by the researcher herself during 27 October to 15 November, 2016. In this study, achievement of livelihood aspirations of the tribal women was the focus issue. The selected characteristics of those tribal women were considered are age, education, family size, farm size, annual income, training experience, extension media contact, organizational participation, agricultural knowledge and attitude .

5.1.1 Selected characteristics of the tribal women farmers

Age of the tribal women was found to vary from 20 to 60 years with the mean of 40.74 years and a standard deviation of 11.82 years. It was found that 44.5 percent of the respondents had young aged while 38.2 percent had medium aged and 17.3 percent had old aged, respectively. The family educational scores of the tribal women ranged from 0 to 15, the mean being 2.28 years of education and a standard deviation of 3.62. In education 27.3 percent can't read and write, 45.5 percent respondents can sign their name only, 10.0 percent had education of primary level, 14.5 percent had secondary education and only 2.7 percent respondents had higher secondary education.

The family size of the respondents ranged from 2 to 9 with an average of 4.18 and a standard deviation of 1.64. The respondents belonging to small family category was 66.4

percent, 23.6 percent under medium family and 10.0 percent under large family category. Farm size of the respondents of the study area ranged from 0.02 to 2.79 hectare. The mean of farm size was 0.21 hectare with standard deviation of 0.39 hectare. It was found that 81.8 percent of the tribal women belonging to marginal farm sized category compared to 13.6 percent had small farm and 4.5 percent had medium farm size, respectively.

The annual income of the tribal women ranged from 17 to 130 with a mean of 59.90 and standard deviation of 19.02. In annual income 54.5 percent of the respondent farmers had medium income followed by 41.8 percent having low income and 3.6 percent high annual income. The training experience score of the respondents ranged from 0 to 30 days with the mean of 5.95 days and standard deviation of 32.04 days. It was found that 89.1 percent of the respondents had no training experience while 2.7 percent had weekly training experience and 8.2 percent had more than weekly training experience, respectively. The extension media contact scores could range from 0 to 27 with a mean of 9.04 and standard deviation of 3.57. Sixty seven point three (67.3) percent of the respondents had low contact with different extension media compared to 30.0 percent had medium contact and 2.7 percent had high contact.

The observed scores of organizational participation of the respondent tribal women ranged from 0 to 15 years. The mean of organizational participation was 2.37 with a standard deviation of 3.67. It was revealed that 75.5 percent of the respondents had low organizational participation followed by 23.6 percent had medium and 0.9 percent had high organizational participation. The agricultural knowledge scores of the respondents ranged from 7 to 24 with the mean of 14.42 and standard deviation of 3.89. The highest proportions (60.9 percent) of the respondents had medium agricultural knowledge while 31.8 percent had high agricultural knowledge and 7.3 percent had low agricultural knowledge. The attitude scores of the respondents ranged from 9 to 24, against the possible range of 0 to 40 with the mean of 17.20 and a standard deviation of 4.41. The highest proportions (71.8 percent) of the respondents had medium attitude towards participation in agricultural activities while 12.7 percent had high attitude and 15.5 percent had low attitude.

5.1.2 Achievement of livelihood aspirations according to five dimensions

The highest proportion (42.7 percent) of the respondents had medium status of achievement of aspiration related to the productivity followed by 22.7 percent had low and 34.5 percent had high achievement of aspiration related to the productivity and the mean is 8.30 with the standard deviation is 3.46, respectively. About three fifths (57.3 percent) of the respondents had low status of achievement of aspiration related to the access to market opportunity followed by 35.5 percent had medium achievement and 7.3 percent had high achievement of aspiration related to the access to market opportunity and the mean is 5.26 with the standard deviation of 3.44, respectively. The highest proportion (51.8 percent) of the respondents had medium status of achievement of aspiration related to the household food security followed by 48.2 percent had high achievement and 0.0 percent had low achievement of aspiration related to the household food security and the mean is 10.57 with the standard deviation of 1.76, respectively. More than half (53.6 percent) of the respondents had medium achievement of aspiration related to the well-being followed by 4.5 percent had low achievement and 41.8 percent had high achievement aspiration related to the well-being and the mean is 6.42 with the standard deviation of 2.41, respectively.. The highest proportion is (48.2 percent) of the respondents had low achievement of aspiration related to the sustainable use of farm resources base followed by 38.2 percent had low achievement and 13.6 percent had high achievement of aspiration related to the sustainable use of farm resource base and the mean is 6.43 with the standard deviation of 3.03, respectively.

5.1.3 Overall achievement of livelihood aspirations

The observed score of overall achievement of livelihood aspiration of the respondents ranged from 18-60 while the possible range was 0 to 75. The mean score of achievement of livelihood aspiration is 37.0 with a standard deviation of 8.73. Among the respondents 86.4 percent had medium achievement of livelihood aspiration while 7.3 percent had high achievement of livelihood aspiration and 6.4 percent had low achievement of livelihood aspiration.

5.1.4 Relationship between selected characteristics and livelihood aspiration of the tribal women

Four (4) out of ten (10) selected characteristics of the tribal women are farm size, extension media contact, agricultural knowledge and attitude towards participation agricultural activities had significant positive relationships with their achievement of livelihood aspiration. On the other hand age, educational qualification, family size, annual income, training experience, and organizational participation had no significant relationship with their achievement of livelihood aspiration.

5.1.5 Problems faced by the tribal women in achievement of livelihood aspirations

The observed score of problems of the tribal women ranged from 9 to 27 while the possible range was 0 to 30. The mean score of the problems was 19.7 with a standard deviation of 4.33. The highest proportions (49.1 percent) of the respondents had medium problems faced in agricultural activities while 47.3 percent had high problems and 3.6 percent had low problems. It was found that the achievement of livelihood aspiration was mostly hindered due to lack of necessary agricultural land followed by lack of enough capital for agricultural activities, unavailability of sufficient fertilizers, lack of knowledge on modern production technologies, lack of quality seeds, unavailability of sufficient insecticides, lack of proper support from agricultural extension personnel, lack of proper marketing facilities, family restriction and social constraints for agricultural activities, respectively.

5.1.6 Suggestions offered by the tribal women to overcome the problems

Supply sufficient cultivated land (54.55 percent), supply agricultural instruments at accurate time (25.45 percent), provide loan (26.36 percent), organizing training program (19.09 percent), provide technological knowledge (4.55 percent), provide support from Sub Assistant Agricultural Officer (30 percent), provide suggestion about agricultural activities (13.63 percent), provide support by the government (2.73 percent), provide marketing facilities (0.91 percent) are the suggestions offered by the tribal women farmers to overcome their problems in agricultural activities.

5.2 Conclusions

On the basis of the findings of the study and their logical interpretations the following conclusions were drawn:

1. The variation regarding different assets of livelihood was minimum, the highest status of achievement of livelihood aspirations was observed in case of (achievement of household food security) and that was the lowest in case of (achievement of access to market opportunity). Findings indicate that the tribal women's knowledge and skill on agricultural practices, working ability in adverse condition, top down agricultural technology dissemination had been improved by agricultural activities.

2. The findings indicate that 81.8 percent of the respondents had marginal farm size. So, it could be concluded that more the larger the farm size, the greater the achievement of livelihood aspirations of the tribal women.

3. The findings indicate that 67.3 percent of the respondents had low extension media contact. So, it could be concluded that more the extension media contact, the greater the achievement of livelihood aspirations status of the tribal women.

4. The findings also indicate that 60.9 percent of the respondents had medium agricultural knowledge. It can be concluded that agricultural knowledge of the tribal women farmers not much satisfactory and need to be boosted-up.

5. The findings also indicate that 71.8 percent of the respondents had medium attitude towards agricultural activities. So, it can be concluded that tribal women possessed positive attitude towards agricultural activities and they need to be supported in the same for improvement of the situation of achievement of livelihood aspirations.

6. Among the ten selected characteristics of tribal women participants, four characteristics namely; farm size, extension media contact, agricultural knowledge and attitude towards agricultural activities had positive significant relationship with their achievement of livelihood aspirations of the tribal women. So, these are the important indicators for achievement of livelihood aspirations of the tribal women. In case of age, educational qualification, family size, annual income, training experience, and organizational participation of the tribal women had no significant relationship with their achievement of livelihood aspirations.

5.3 Recommendations

5.3.1 Recommendations for policy makers

1. DAE, local NGOs and other rural advisory service providers should take initiatives to give advisory services to the tribal women emphasizing crop production activities, modern vegetables and fruit cultivation, poultry and livestock rearing etc.
2. Arrangement of proper training by different GOs and NGOs need to arrange for the young to middle aged tribal women on different income generating activities especially on tailoring, preparation of handicrafts, modern poultry raising and modern vegetable production in the homestead area.
3. Different programs should be taken for increasing women's knowledge on pre-harvest and post-harvest activities especially on winnowing, drying, sorting and storing of grains.
4. If all the female family members of the women farmers get proper advisory services and training they will participate more in productive works (both on-farm and off-farm).
5. Initiative need to take to support tribal women with credit and leasing *khash* land (for agricultural production purpose) in easy terms will increase participation of tribal women in agricultural activities.

5.3.2 Recommendations for further study

The study conducted in some specific location cannot provide all the information for proper understanding about tribal women's achievement of livelihood aspirations and related matters. The following recommendations are suggested for further study in this connection:

1. The present study on the achievement of livelihood aspirations was conducted in one selected district of Bangladesh. Findings of this study should be verified by similar research in other areas.
2. This study investigated the relationship of ten selected characteristics of the tribal women with their achievement of livelihood aspirations. Therefore, further research could be conducted to assess the relationships of other characteristics of the tribal women with the same.
3. In this study achievement of livelihood aspirations of tribal women participants have been investigated. There are so many NGOs as well as GOs which are working for agricultural development in the other community of this country. Those organizations should be included in future. The study was conducted only with the tribal women of the study area. It is necessary to conduct similar studies involving all types of tribal women and men.

5. Annual income: Please mention income of your family has earned last year (2015).

Sl. No.	Source of income	Production (local unit)	Seasonally (Taka)	Yearly (Taka)
Agricultural				
1.	Rice			
2.	Wheat			
3.	Maize			
4.	Potato			
5.	Others (if any)			
Non-Agricultural				
1.	Tailoring			
2.	Katha sewing			
3.	Mat making			
4.	Small business			
5.	Others (if any)			
Total income				

6. Training experience: Did you receive any training related to agricultural activities?

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

If yes, please mention the duration of training:.....days.

7. Extension media contact: Please indicate the frequency of your contact with the following media in getting agricultural information.

Communication media		Extent of content			
		Regularly	Occasionally	Very low	Never
Individual contact	Neighbors, friends and relatives	≥5 times/week	3-4 times/week	1-2 times/week	
	Sub Assistant Agricultural Officer	Do	Do	Do	
	NGO personnel	≥6 times/season	4-5 times/season	1-3 times/season	
Group contact	Agricultural fair	≥5 times/year	3-4 times/year	1-3 times/year	
	Group discussion	≥4 times/month	2-3 times/month	1 time/month	
	Farmer's field day	≥2 times/year	1 time/year	1 time/year	
Mass media contact	Listening radio program	Do	Do	Do	
	Watching TV program	≥3 times/year	2 times/year	1 time/year	
	Listening folk song program	≥5 times/week	3-4 times/week	2 times/week	
	Reading daily newspaper	≥4 times/year	2-3 times/year	1 time/year	

8. Organizational participation: Please mention the nature of your participation to the following organizations

Sl. No.	Name of the organization	Nature of participation						
		Not involved	As general member		As executive committee member		As executive officer (chairman/president)	
			Yes	Duration	Yes	Duration	Yes	Duration
1.	Common Interest Group							
2.	NGO group							
3.	School committee							
4.	Market committee							
5.	Masjid/Madrasah committee							
6.	Others							

9. Agricultural knowledge: Please answer the following questions.

Sl. No.	Questions	Total marks	Marks Obtained
1.	Name two crops of green manure fertilizer.	2	
2.	Name two beneficial insects of rice.	2	
3.	Mention two hybrid varieties of winter vegetable.	2	
4.	Name two harmful insects of vegetable.	2	
5.	Why light irrigation is given to wheat cultivation?	2	
6.	Mention the ways and means of increasing soil fertility.	2	
7.	Why fertilizer application is essential in the pond?	3	
8.	Name three chemical fertilizers for crop production.	3	
9.	Why the use of chemical fertilizer is harmful rather than green manure?	3	
10.	How insect infestation in crop field can be minimized without using insecticides?	3	
Total		24	

10. Attitude towards participation in agricultural activities: Please indicate your agreement with the following statements.

Sl. No.	Statement	Extent of agreement/disagreement				
		SA	A	U	D	SD
1 (+)	Participation in agricultural training programs are effective to produce more qualitative product					
2 (-)	I feel a bit family restriction to participate in agricultural meetings					
3 (+)	Communication with the peers about agricultural information will improve our agricultural knowledge					
4 (-)	Women cannot use modern agricultural production techniques due to inappropriate technologies					
5 (+)	Women can contribute more to family income by growing natural vegetation around homestead and unused lands					
6 (-)	I rely on my family members to purchase agricultural inputs like seeds, fertilizers, pesticides etc					
7 (+)	Women should be allowed for not only homestead agriculture but also crop land agriculture					
8 (-)	Inappropriate irrigation facilities is a big challenges for my participation in agricultural activities					
9 (-)	Women are not allowed to take credit for agricultural activities in my community					
10(+)	I participate in almost all of the agricultural activities of my family					

SA=Strongly agree, A=Agree, U=Undecided, D=Disagreed, SD=Strongly disagree

11. Achievement of Livelihood Aspirations

a) Achievement of productivity: Please indicate the frequency of using achievement of productivity in the last year compared to previous years

Sl. No.	Achievement of productivity	Extent of achievement			
		High	Medium	Low	Not at all
1.	Use quality seeds collected from credible sources				
2.	Use appropriate planting method(line, bed, pit etc) suitable for a particular crop				
3.	Use balance fertilizer as an optimum blend of macro and micro nutrients				
4.	Use modern varieties, preferably hybrids				
5.	Use selective pesticides in right time at right doses				

b) Achievement of access to market opportunity: Provide the frequency of using achievement of access to market opportunity in the last year compared to previous years

Sl. No.	Achievement of access to market opportunity	Extent of achievement			
		High	Medium	Low	Not at all
1.	Participate in group/co-operative marketing; thus reducing transaction cost				
2.	Grow off-season varieties of selected vegetables to meet year-round demand in the market				
3.	Dispose stored food grains when market price rises				
4.	Process and preserve farm products, vegetables and spices in particular targeting off-season marketing				
5.	Produce high-value crops to exploit increasing demand in the market				

c) Achievement of household food security: Please indicate the frequency of using achievement of household food security in the last year compared to previous years

Sl. No.	Achievement of household food security	Extent of achievement			
		High	Medium	Low	Not at all
1.	Intake adequate cereal carbohydrates; rice and/wheat as stable food				
2.	Assurance of arsenic-free drinking water				
3.	Intake meat/fish/egg/milk as animal protein				
4.	Provide supplementary food for pregnant women and/or growing children				
5.	Have two complete meals and a breakfast to meet daily dietary need for adequate food				

d) Achievement of well-being: Mention the frequency of using achievement of well-being in the last year compared to previous years

Sl. No.	Achievement of well-being	Extent of achievement			
		High	Medium	Low	Not at all
1.	Cultivate own land				
2.	Afford preferred food for household consumption relying on own production and or ability to purchase from the market				
3.	Participate in off-farm income generating activities for productive use of leisure time				
4.	Consult with medical doctors and/ or hospital service for family healthcare				
5.	Operate own draft and/ or irrigation equipments				

e) Achievement of sustainable use of farm resource base: Please indicate the frequency of using achievement of sustainable use of farm resources base in the last year compared to previous years

Sl. No.	Achievement of sustainable use of farm resources base	Extent of achievement			
		High	Medium	Low	Not at all
1.	Diversify crops to maintain species-richness				
2.	Integrate farming of crop-livestock-fisheries-agro forestry to enhance the efficiency of nutrient recycling				
3.	Use organic manure to enhance microbial activity and to improve soil organic matter content				
4.	Incorporate crops residues to aid-biomass in soil				
5.	Practice mulching to conserve soil moisture				

12. a) Problems: Please mention the problems faced in agricultural activities

Sl. No.	Problems	Extent of problems			
		High	Medium	Low	Not at all
1.	Lack of necessary agricultural land				
2.	Lack of knowledge on modern production technologies				
3.	Unavailability of sufficient fertilizers				
4.	Unavailability of sufficient insecticides				
5.	Lack of quality seeds				
6.	Lack of proper support from agricultural extension personnel				
7.	Lack of proper marketing facilities				
8.	Lack of enough capital for agricultural activities				
9.	Family restriction for agricultural activities				
10.	Social constraints for agricultural activities				

b) Suggestions: Please mention the solutions you expect of the above mentioned problems

i)

ii)

iii)

iv)

v)

Thank you for your cooperation.

Signature of interviewer

APPENDIX B

Correlation Matrix between Selected characteristics and Focus issue

	X ₁	X ₂	X ₃	X ₄	X ₅	X ₆	X ₇	X ₈	X ₉	X ₁₀	Y
X ₁	1										
X ₂	-0.368**	1									
X ₃	0.104	0.063	1								
X ₄	0.085	0.075	0.269**	1							
X ₅	0.236*	-0.081	0.456**	0.160	1						
X ₆	0.072	-0.003	-0.124	-0.062	-0.098	1					
X ₇	-0.003	0.076	0.125	0.383**	0.139	-0.027	1				
X ₈	0.140	0.038	-0.147	0.090	-0.187	-0.045	0.086	1			
X ₉	0.077	-0.050	0.063	0.302**	0.037	-0.078	0.329**	-0.106	1		
X ₁₀	-0.101	-0.006	-0.105	0.158	-0.081	-0.054	0.167	0.308**	0.162	1	
Y	0.164	-0.007	0.032	0.324**	0.098	0.058	0.391**	-0.007	0.331**	0.202*	1

** Correlation is significant at the 0.01 level.

* Correlation is significant at the 0.05 level.

X₁=Age

X₂ =Education qualification

X₃ = Family size

X₄= Farm size

X₅= Annual income

X₆= Training experience

X₇= Extension media contact

X₈= Organizational participation

X₉= Agricultural knowledge

X₁₀= Attitude towards agricultural activities

Y= Achievement of livelihood aspiration

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