# FACTORS INFLUENCE SUSTAINABLE ACCESS TO RURAL FINANCIAL SERVICES

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# FACTORS INFLUENCE SUSTAINABLE ACCESS TO RURAL FINANCIAL SERVICES

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# CERTIFICATE

This is to certify that the thesis entitled, **"Factors Influence Sustainable Access to Rural Financial Services"** submitted to the faculty of Agriculture, Sher-e-Bangla Agricultural University, Dhaka, in partial fulfillment of the requirements for the degree of **Master of Science (MS) in Agricultural Extension,** embodies the result of a piece of bona fide research work carried out by **Md. Faysal Adnan**, Registration No. 09-03432, under my supervision and guidance. No part of this thesis has been submitted for any other degree or diploma.

I further certify that any help or sources of information, as has been availed of during the course of investigation have been duly acknowledged.

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# DEDICATION

**DEDICATED TO MY BELOVED PARENTS**

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# LIST OF ABBREVIATIONS AND GLOSSARY

| Aabbreviation | Full word |
|---|---|
| Ag. Ext. and Info. Sys. | Agricultural Extension and Information System |
| ANOVA | Analysis of Variance |
| B | Multiple regression |
| BBS | Bangladesh Bureau of Statistics |
| BEC | Bangladesh Economic Census |
| BRAC | Bangladesh Rural Advancement Committee |
| DAE | Department of Agriculture Extension |
| *et. al* | All Others |
| FAO | Food and Agriculture Organization |
| MoYS | Ministry of Youth and Sports |
| OLS | Ordinary Least Squares |
| SAAO | Sub Assistant Agriculture Officer |
| SPSS | Statistical Package for Social Science |

# FACTORS INFLUENCE SUSTAINABLE ACCESS TO RURAL FINANCIAL SERVICES

## ABSTRACT

Access to rural financial services is crucial to eradicate poverty by promoting rural economic growth. The objectives of the study were to understand the purpose of credit use and to estimate the contribution of selected factors to sustainable access to rural financial services. A structured questionnaire was employed for collecting data from three villages, namely, Sarker para, Shaha para, and Durgapur of Mithapukur upazila, Rangpur district. Data were collected from 102 respondents from January 18 to 25 February, 2017. The concept of 'sustainable access to rural financial services' is operationalised and measured by following established literature, e.g., World Bank study. Descriptive statistics, Pearson Product Moment Correlation (r), and multiple regressions (B) were used for data analysis. Results indicate that (i) the highest 22.55 percent of respondents were used credit for opening small businesses, (ii) an overwhelming majority (92.2 percent) of the respondents had moderately to highly sustainable access to rural financial services, and (iii) strongly correlated and important contributing factors were ICT access (0.765), needs of credit (0.737) and others. The findings concluded that sustainable access to rural financial services can be achieved by enhancing women's access to ICT. The study recommended that improving women's ICT access can be an important strategy for promoting sustainable access to rural financial services.

**Key words:** Rural financial service; Women access; Financial institution, and Rural Economy.

# CHAPTER I

# INTRODUCTION

## 1.1 General Background

Rural financial services is about providing financial services- secure savings, credit, financial transactions, money transfer services for remittance and insurance-in rural areas (Islam & tenaw, 2009). Rural financial service plays an important role in rural economy in Bangladesh. Finance is a powerful intervention for economic growth especially in a resource-constrained developing country like Bangladesh. Access to finance especially to the poor is essential for promoting inclusive economic growth and eradicating poverty in the country. The country's development strategy recognizes that socioeconomic opportunities and development in Bangladesh will be undermined if expanded financial services are not available especially to the poor and other disadvantaged groups who are deprived of access to these services and who need these services. An inclusive financial system provides a number of benefits to the economy. It makes available more resources for investment especially for the promotion of small and medium enterprises (SMEs). It creates employment opportunities, ensures economic and financial stability through reducing vulnerability and contributes to poverty reduction. Access to a well–functioning financial system can economically and socially empower individuals, in particular poor people and women, allowing them to better integrate into the economy and actively contribute to development. In an inclusive financial system, no segment of the population remains excluded from accessing financial services.

In Bangladesh, financial services are provided by a variety of financial intermediaries that are part of the country's financial system. There are three broad types of providers of financial services-formal, quasi-formal and informal, the distinction is based primarily on whether there is a legal infrastructure that provides recourse to lenders and protection to depositors.

Although the formal financial services are provided by financial institutions licensed by the government and subject to banking regulations and supervision, quasi-formal financial services are not regulated by the banking authorities. These institutions are usually licensed and supervised by other government agencies. On the other hand, informal financial services are provided by individuals and institutions outside the structure of government rules, regulation and supervision.

The poor often lack access to formal financial services that other households may take for granted. There are a number of reasons why the poor households tend to be unbanked. Financial institutions frequently require different documents to open an account, set high minimum account balances, and have high fees and other requirements that are ill-suited to the poor households. The availability of few low-cost and easily accessible savings instruments, credit constraints, and higher cost financial products increases the economic challenges of these households. The quasi-formal financial institutions and the informal market are among the alternative financial services that complement the formal financial sector for the poor households. Though expensive, they are often more convenient and easier to use than the formal financial services. The study suggests that existing financial, credit and payment systems do not serve the poor well, imposing significant costs and reducing opportunities of these households. Many households use both quasi-formal and informal channels to meet their financial service needs which put these households at great disadvantages to improve their livelihood.

The lack of commercial microfinance institutions, which is common in developing countries, is also a contributing factor that forces small farmers to go to informal lenders, even if it is less expensive to borrow from a commercial microfinance institution (Robinson, 2001). It is true that informal moneylenders provide important financial services to the poor households, but they charge very high interest rates (Robinson, 2001). In some cases, a lack of credit also is a problem in the rural areas because there is no rural bank and the

private banks avoid lending due to the risks they are going to face of default payments which will lead to their unprofitability (Yaron *et al.,* 1997). Rural finance comes in three major forms:

i. Informal financial institutions which are not regulated by banking sector such as rotating and savings groups, church or similar groupings of people.
ii. Semi-formal institutions which are not regulated by banking sector but are usually licensed and supervised by another government agency such as self-help groups, NGOs involved in provision of financial services and microfinance organizations (in some instances).
iii. Formal institutions which are subject to banking regulations and supervision such as microfinance institutions, banks. In order to enhance the quality of rural livelihoods a more holistic approach to development is needed. Governments need to design and implement agriculture friendly policies that will encourage the development of financial sector and market oriented enterprises. Governments and donors need to invest into human and institutional development in rural areas.

Microfinance refers to financial services (savings, credit, payment transfers, insurance) for the poor and low-income people whereas Agricultural finance refers to the sub-set of rural finances dedicated to financing agriculture-related activities, such as input supply, production, distribution, wholesaling and marketing. Financial services for the rural poor are represented by the shaded overlap of microfinance with rural and agricultural finance. It includes financial services for all purposes and from diverse sources tailored to the needs of poor people in rural areas. Providers include both financial institutions, such as banks, credit unions and non-financial mechanisms. State-owned banks include agricultural development banks, regional development banks, savings banks, and postal banks. Often, they have extensive rural networks of branches or outlets. Privatized state banks may also have significant rural outreach, although in many cases the privatization process has

reduced rural branch coverage. Important factors of sustainable financial institutions:

- Mobilization of own resources through savings
- Working through savings based member-owned (self help group) SHGs operating at low costs
- Serving rural clients engaged in both farm and non-farm activities
-High repayment rates
- Covering costs from operational income
- Earning enough profits to offset effects of inflation
- Financing expansion from profits and savings mobilized.

Apart from national and international consideration, the grass root population needs to understand the meaning and concept of factors influence sustainable access to rural financial services. In a state like Bangladesh, where most people depend on farming for living, they need to have full idea being discussed about factors influence sustainable access to rural financial services. It is quite pertinent and necessary to know the extent of sustainable access to rural financial services. But a very limited research work has been done on this aspect. Therefore, the researcher felt necessity to conduct a research entitled 'Factors Influence Sustainable Access to Rural Financial Services'. The access is sustainable when the people are satisfied, convinced and well-facilitated as their financial needs are met. (Chaulagain, 2015). Sustainable access to rural financial services helps to sustain the involvement of people in financial services by providing them with the necessary financial knowledge, skill and trust. (World Bank, 2015; Chaulagain, 2015).

## 1.2 Statement of the Problem

Agricultural credit is one of the important interventions to solve rural poverty, and plays an important role in agricultural development (Llanto, 1993; Meyer and Nagarajan, 2000). Expanding the availability of agricultural credit has been widely used as a policy to accelerate agricultural and rural development (ADB, 1998; Binswanger and Khandker, 1995; WorldBank, 2000). It is traditionally

employed as a tool for providing the priority sectors with access to production inputs and enabling production to be increased (Llanto, 1993).

Moreover, it is believed that expansion of credit programmes will have beneficial effects on agricultural production of small holders and rural incomes because credit could facilitate the purchase of costly inputs and the adoption of alternative crops (Zeller *et al.,* 1998). Small farmers need production capital, a scarce resource, to improve their production. The provision of credit can encourage the farmers to use modern technologies, and procure inputs for farm use, thus bringing them to a higher level of productivity and increasing their incomes (Llanto, 1987). As such, increases in household incomes are much needed for improving food security and eventually will come from the gains in agricultural productivity through better technology and more productive crops. Therefore, farm households' access to financial markets is important in influencing farm production and income (Zeller *et al.,* 1998). In order to formulate suitable strategic measures for the improvement of the study on factors influence sustainable access to rural financial services, this study focuses on socio-economic characteristics of women and their extend of sustainable (i.e. able to continue over a period of time) access to rural financial services. This was finished by looking for answers to the accompanying queries:

- What is the purpose of credit use of rural women?
- What were the characteristics of the women/ credit receivers?
- Was there any contribution of selected characteristics/ variables/ factors of the women to their sustainable access to rural financial services?

In order to get a clear view of the above questions, the investigator undertook a study entitled 'Factors Influence Sustainable Access to Rural Financial Services'.

## 1.3 Objectives of the Study

The purpose of the study was to explore the extent of sustainable access to rural financial services. The following specific objectives were formulated that supposed provide proper direction and to the study:

i. To understand the purpose of credit use of rural women
ii. To describe the following selected characteristics of the women:
    - Education
    - Farm size
    - Annual family income
    - Pluriactivity (i.e. multiple income sources other than agriculture)
    - Social capital
    - Contact with extension organization
    - Needs of credit
    - Participation in household decision making
    - Market access and
    - Information and Communication Technologies (ICTs) access
iii. To determine the sustainable access to rural financial services
iv. To estimate the contribution of selected characteristics of women to their sustainable access to rural financial services

## 1.4 Justification of the study

There is a growing evidence of beneficial impact of access to financial services on all aspects of social and economic outcomes at the household and firm level (King and Levine, 1993, Beck *et al*., 2000, Beck and Demirgue-Kunt, 2004, Levine, 2005, Demirgüc-Kunt *et al*., 2008). It is generally felt that past agricultural credit programs, though important, still remained in effective in meeting the needs of the majority of the small farmers. Furthermore, several formal credit programs are not accessible to small farmers because they are poor and cannot afford to travel to far distant centers, and they do not have collateral or regular incomes (Yaron *et al.*, 1997). Also, in some cases their

lack of education makes them afraid to borrow from formal institutions, leaving them instead to borrow from informal lenders for agricultural production use (Chowdhury and Garcia, 1993).

So, it is logical to investigate about sustainable access to rural financial services. The finding of the study will be especially applicable to the Sarker para, Shaha para and Durgapur villages under Durgapur union of Mithapukur upazila in Rangpur district. The findings will also have implications and applicability for other areas of the country, having similarities in physical, socio-economic and socio-cultural conditions with the study area. Thus, the findings are expected to be useful to extension workers and planners for their preparation of extension programmers for rapid action on sustainable access to rural financial services. The findings of the study are also therefore, expected to be conducive to the researchers, academicians and policy makers who are concerned with sustainable access to rural financial services. The present study will be undertaken to assess the extent of sustainable access to rural financial services entitled 'Factors Influence Sustainable Access to Rural Financial Services'.

### 1.5 Assumptions of the study

The researcher considered the following assumptions in mind while undertaking this study:

i. The respondents had enough capability to furnish proper answers to the questions contained in the interview schedule.
ii. Views and opinions provided by the respondents included in the sample were representative of the whole population of the study area.
iii. The data collected by the researcher were free from any bias and they were normally distributed.
iv. The responses furnished by the respondents were reliable. They express the truth while passing their opinions and providing information.

v. The information sought reveals the real situation to satisfy the objectives of the study.

vi. The researcher was well adjusted to himself with the social contiguous of the study area. Hence, the collected data from the respondents were free from favoritism.

vii. All the data concerning the independent and dependent variables were normally and independently distributed with their respective means and standard deviation.

viii. The findings of the study will have general applications to other parts of the country with similar personal, socio-economic and cultural conditions.

### 1.6 Scope and Limitations of the study

Considering the limitation of time, money, communication facilities and other necessary resources available to the researcher and to make the study manageable and meaningful, it became necessary to impose certain limitations as mentioned bellow-

i. The research was confined to only three villages namely Sarker para, Shaha para and Durgapur of Mithapukur upazila in Rangpur district which may fail to represent the actual scenario of the whole situation as people develop their strategies according to the concrete situation they face.

ii. Data were collected from a small group of respondents taken as the sample of the study because of time and resource constrains.

iii. It is difficult to get exact information on sustainable access to rural financial services by the women as many of them are illiterate.

iv. There are many characteristics of the respondent but only ten of them were selected for this study.

v. The women always remain very busy with household works and often they were not encouraged to provide household information without consulting their husbands or guardians. So, efforts were made to incorporate that

information which was within their easy reach. Sometimes actual information is not possible to get due to illiteracy of women in Bangladesh.

vi. The researcher was a male and the respondents were females. Some initial difficulties were faced in interviewing the female respondents due to cultural barriers. However, this gender problem was subsequently overcome by creating proper rapport with the beneficiaries in association with different NGO staff.

### 1.7 Definition of the terms

A number of terms, concepts and variables have been used throughout the study with specific meaning. In order to avoid the undesired confusions of the meaning, these are defined and interpreted as follows:

- **Education**

Education is referred to the ability of the respondents to read and write or having formal education received up to a certain standard. Education is measure on the basis of class a woman had passed from formal education institution.

- **Farm size**

It referred to that land area from which farmers may gain through effective use of that target land. Such as homestead land including pond area, own land under own cultivation, land taken from others on sharecropping, land given to others on sharecropping, land taken on lease etc.

- **Annual Family Income**

Annual family income was referred to the total earnings of a respondent and the members of her family from agricultural and non-agricultural sources (business, services, daily labor etc.) during the previous year.

- **Pluriactivity**

Pluriactivity is also known as multiple job holding. Having job other than agriculture is called Pluriactivity (Roy, 2015). It may be government job,

private job, business, seasonal business, labor to mill/factory/another house etc.

- **Social Capital**

Social capital is a form of economic and cultural capital in which social networks are central, transactions are marked by reciprocity, trust, and cooperation, and market agents produce goods and services not mainly for themselves, but for a common good. The term generally refers to a resources, and the value of these resources, both tangible (public spaces, private property) and intangible ("actors", "human capital", people), the relationships among these resources, and the impact that these relationships have on the resources involved in each relationship, and on larger groups.

- **Contact with extension organization**

Contact with extension organization refers to how frequent a farmer contact with an extension organization to be updated for his farming activities (Roy, 2015).

- **Needs of credit:**

Needs of credit refers to in what purpose and how frequent the farmers need to receive credit from different financial service.

- **Participation in household decision making**

Participation in Household Decision Making refers to the participation of women in various household activities. It may be in Daily family expenditure, Increase in family income, Family saving, Education of the children, Family health care and treatment, Family planning, Marriage of children, Crop production etc.

- **Market access**

Market access refers to the accessibility of women in local market. Accessibility in local market is in two forms, buying and selling. It deals with the status of buying and selling their product in local market.

- **Information and Communication Technologies (ICTs) access**

It is referred to the exposure of respondent women to different information media through different Information and Communication Technologies that broadcast, publish and circulate in different times. Information and Communication Technologies included mobile phone, internet connection, television, Radio, computer and telephone.

- **Rural financial services**

Financial services offered and used in rural areas by farm and non-farm population of all income levels through a variety of formal, informal and semiformal institutional arrangements and diverse type of products and services, such as loans, deposits, insurance, and remittances. Rural finance includes agriculture finance and microfinance and is a sub sector of the larger financial sector.

- **Access to finance**

Access to finance is the ability of individuals or enterprises to obtain financial services, including credit, deposit, payment, insurance, and other risk management services. Accumulated evidence has shown that financial access promotes growth for enterprises through the provision of credit to both new and existing businesses. It benefits the economy in general by accelerating economic growth, intensifying competition, as well as boosting demand for labor. The incomes of those in the lower end of the income ladder will typically rise hence reducing income inequality and poverty.

The lack of financial access limits the range of services and credits for household and enterprises. Poor individuals and small enterprises need to rely on their personal wealth or internal resources to invest in their education and businesses, which limits their full potential and leading to the cycle of persistent inequality and diminished growth.

# CHAPTER II

# REVIEW OF LITERTURE

The chapter deals with a review of the related literatures having relevance with the present study. The purpose of the chapter was to present a review of the relevant previous studies done in brief and to construct a framework that will be appropriate for having clear conception of the research. This was mainly concerned with 'sustainable access to rural financial services'. The researcher tried to review literatures related to general review of factors influences sustainable access to rural financial services and relationship of selected characteristics of the respondents with sustainable access to rural financial services. However, the researcher made utmost efforts to collect the necessary information through extensive search of the available literatures and formulated a conceptual framework at the end of this chapter.

## 2.1 General review of literature on access to finance

Access to finance is a crucial issue in the productivity of agriculture in Bangladesh. If the farmers in Bangladesh are categorised based on land ownership, then we will find that most of the farmers are either marginal farmer or land less farmers producing crop by taking land lease from the affluent people. So, sometimes it is extremely difficult for the marginal farmers to get access to credit as the credits are not collateral free. The lack of deposit facilities force households to rely on inefficient and costly alternatives. The lack of access to medium- and long-term finance inhibits investment by a majority of small and marginal agricultural households in Bangladesh. This inadequate fund of marginal farmers has negative impact on the agricultural productivity of the whole country. In addition capitalists groups are reluctant to invest on agriculture as return from investing is double/triple in other sectors compared to agriculture. Micro credit has been successful in reaching the rural poor with credit for self-employment, supporting women's empowerment and

significantly contributing to poverty alleviation. Nevertheless, micro credit has only had a marginal impact in the agriculture sector as microfinance institutions (MFIs), to a great extent, limit their lending to those possessing less than half an acre of land (the functionally landless). Poor farmers' access to agricultural credit remains very limited. They are usually missed by regular credit facilities. As a result marginal and small farmers are frequently termed as “missing middle." (Raman and Husain, 1995).

For many reasons, credit markets for the low-income borrowers are special. Yaron, McDonald and Piprek (1997) and Yaron, McDonald and Charitonenko (1998) summarize the most common characteristics of a credit market for the LIHs. These characteristics are associated with high transaction costs and high credit risks. First, most low income clients (both households and small entrepreneurs) experience great difficulty in accessing the formal financial sector due to poor physical and financial infrastructure. The client dispersion in rural areas and typically small loan amounts lead to relatively high financial transaction costs both for banks and borrowers, and increase the perception of high risks, which banks usually associate with small clients. Moreover, most of the low-income clients do not have any previous relationship (such as savings or payment services) with banks so that they cannot be screened properly. As a result, asymmetric information problems are often seen greater for small clients (Ed Mayo and Mullineux, 1998), and thus induce the banks to ration credit.

Due to these factors, the costs of reaching micro clients and small entrepreneurs are high for financial institutions, which charge high interest rates when compared to market rates in the formal banking sector. A discussion and summary of the above reasons is well presented in Ed Mayo and Mullineux (1998). More than recognizing the difficulties, they argue that relatively high fixed transaction costs induce the banks prefer to make larger loans, unless small borrowers are likely to take up other financial products as well. This in some senses suggests that a combination of financial services to the small borrowers could be visible.

Jafee and Stiglitz (1990), Besley and Coate (1995), Mosley (1996), Morduch (1999) show that the access to further and higher loans crucially dependent on the repayment of all borrowers in the group creates incentive for peer monitoring, peer support and peer pressure among borrowers. The main idea here is that because the group members want to keep the probability of default of the whole group as low as possible, they therefore not only keep their own probability of default low but also the probability of their peers by monitoring the other group members to ensure that the projects are carried out in the most profitable way as agreed on before the loan disbursement. Also, it is expected that group members will support each other with financial means, with information and with other means in the case one or more group members face the problem of repayment. As a result, the moral hazard problem is reduced as much as possible for the lender in the sense that it is transferred from the lender to the borrowing group.

Bond and Rai (2002), study the use of collateral substitutes in microfinance markets and find that social sanctions and credit denial, which are generally seen as incentive effect in group lending, can serve the role of collateral. This, together with previous findings (Ghatak, 2000; Aghion and Gollier, 2000), ensures us to think that group lending may produce a "collateral effect" in either the form of joint liability or the social sanctions and credit denial. Besides, it is worth to recognize that lending to a group is a good way to minimize transaction costs, compared to individual lending.

Jaffee and Russell (1976) consider a credit market where they assume two types of borrowers: honest borrowers, who accept loans if and only if they expect to repay, and dishonest borrowers, who default whenever the costs of default are sufficiently low. Dishonest borrowers are assumed to prefer larger loans than honest borrowers do. The bank knows the proportion of honest and dishonest borrowers in the market, but it cannot distinguish the type of each individual borrower. Because both types of borrowers are indistinguishable, i.e. adverse selection, the bank limits the amount of loan granted to reduce the

probability of default and to induce the self-selection of borrowers. Self-selection occurs because the incentive for dishonest borrowers to engage in a loan contract decreases when the amount of loan decreases.

Williamson (1986, 1987, and 1988) discusses about this possibility by providing some theoretical examples. He emphasis on the verification and monitoring costs, and thus in some sense refers to economies of scale, as reasons for credit rationing. He argues that the bank could respond to an excess demand for credit by increasing the interest rate on its loans, thereby increasing its expected return in non-default cases, but an increase in its interest rate would also raise the probability of default and thus increase expected verification costs. The net effect of an increase in interest on the bank's expected return is therefore ambiguous, and if the net effect is to reduce the bank's expected return, the bank will respond to an excess demand for credit by rationing credit.

It is generally an accepted view that agricultural credit program can be successful only if they are part of an "integrated approach" to rural development problems (Brake and Lins, 1994; FAO, 1975; Rashid *et al.,* 2004). Granting production loans to small farmers is viewed as a means to augment food production pursued by many donors and governments in developing countries (Irungu *et al.*, 2005; Zeller *et al.,* 1997).

The majority of poor small farmers in developing countries are left out of agricultural extension and credit systems (Lal *et al.,* 2003). These households are characterized by landholdings of less than 1 hectare and very low crop yields. These rural households are unable to grow enough food to feed themselves even though they focus much effort on producing food crops (Lal *et al.,* 2003). Most of the farmers are too poor and cash-strapped to be able to benefit from any kind of access to credit (Diagne and Zeller, 2001).

Access to credit is limited in rural areas although a high demand for it exists (Sahu *et al.,* 2004). Thus, establishing formal credit institutions in rural areas for small farmers is considered an adequate financing strategy to help improve

their income and livelihood strategies (Heidhues, 1995). Also, the proximity of formal credit institutions in the rural areas encourages financial savings from the small farmers and discourages their borrowing from informal lenders (Rosenzweig, 2001). Designing sustainable rural financial systems could provide an adequate financing strategy for small farmers. A better understanding of existing informal institutions at the household and community levels could provide the key to designing sustainable rural financial systems that serve the poor (Panin *et al.,* 1996; Zeller *et al.,* 1997).

About 90% of the people in developing countries lack access to financial services (Robinson, 2001). A large proportion of the rural population is denied access to formal financial institutions for reasons like incomplete information about rural access and the viability of the credit services. Also, there is a problem of limited influence by poor households who require credit, but who are unable to communicate their demands to the formal credit markets or meet their collateral requirements, so the services are not provided (Robinson, 2001).

The lack of financial institutions in rural areas is also attributed to some problems that jeopardize the sustainability of the credit institutions. In some cases, government financial institutions provided subsidized credit but did not reach the poor households because it was taken by the local elites, thereby causing the unsustainability of the financial institutions in giving the services (Robinson, 2001). Another problem is loan recovery, thus greater attention should be given to the clients' preferences so that there will be a better rate of loan recovery (Meyer and Nagarajan, 2000).

## 2.2 Review concerning the relationship between selected characteristics of the respondent and their sustainable access to rural financial services

### 2.2.1 Education and access to finance

There are two opinions about the role of education in accessing credit. The first holds that education is not a useful predictor of accessing credit Kimuyu and Omiti (2000). This is because it impedes attainment of entrepreneurial outcomes by reducing curiosity, vision and the willingness to take risks.

Formal education is thought to foster conformity and low tolerance for ambiguity and thus is an impediment to entrepreneurship.

The second opinion argues that education helps to distinguish entrepreneurs who access credit and those who do not Lore (2007). In this respect, education increases a person's stock of information and skills. Due to lack of other sources of information in developing countries such as Kenya, education remains the only useful source of new knowledge. Education and skills are needed to run small and medium enterprises. Research shows that majority of the lot carrying out SMEs in Kenya are not quite well equipped in terms of education and skills. Study suggests that those with more education and training are more likely to be successful in the SME sector King and McGrath (2002). Zeller(1994) established that highly educated persons preferred loans from informal markets than formal ones. In general, more educated persons were less constrained according to Marge Sults(2003). Therefore, education may enhance access to credit.

### 2.2.2 Farm size and access to finance

Schiffer and Weder (2001) show that SMEs find accessing finance more difficult than larger firms. They rank all the obstacles firms face in doing business and find that financing is a top problem for SMEs, which rate is higher than larger firms.

### 2.2.3 Annual income and access to finance

Zeller *et al.* (2001) presents evidence that credit access has a significant and strong effect on income generation and food and calorie consumption. According to his study, every 100 taka of credit access generates an additional 37 taka of annual household income for Association for social Advanced (ASA) and Bangladesh Rural Advancement committee (BRAC) members.

Khandker (1998) finds that for all the three programs in Bangladesh that he surveyed, household 22 net worth did increase, and the impact was much stronger for men than for women. He further finds that Grameen bank's

practice of providing larger loans allowed the bank to gain higher returns on capital and the effect of borrowing on household net worth was greater.This implies that the size of loans matters and larger loans may be needed for sustained poverty reduction.

### 2.2.4 Social capital and access to finance

Mwangi and Ouma (2012) the role of social capital on access to credit and found a positive relationship, the study recommends two main issues. First, credit institutions should factor in the role of social capital in designing credit products since this information helps in reducing information asymmetry between credit institutions and individuals and substitutes for traditional, tangible collateral and hence benefits increased financial inclusion. Secondly, besides harmonizing the information gathered by the various credit reference bureaus, the bureaus should ensure that they obtain borrower information from all relevant sources including informal groups which serve to provide alternative sources of credit from formal providers based on in-depth information on borrowers and their web of networks, which is embodied on social capital.

Guiso *et al.* (2004), we hypothesize that the magnitude of the positive effect of social capital on access to credit may vary according to certain individual and household-level characteristics. In the Ugandan context, we expect that level of household wealth, education and gender might affect the importance of the individual-level social capital variable for access to institutional credit.

### 2.2.5 Needs of credit and access to finance

Evidence from Asia and Latin America illustrates that the major constraint for accessing credit was product design; as such products need to be tailored specifically to the needs of the borrowers (Meyer, 2002).

According to Hudon (2004), the poor require flexible and inexpensive products that match their capacity to borrow, and address their needs for them to cope with crisis thus there is a strong need for credit.

Bass *et al*.(2000) stated that challenge for MFI's was to design credit products tailored to respond to different client needs. Similarly, these products should be easily accessible (opening hours and proximity), with reasonable interest charged and more attractive terms than what they already accessed informally.

### 2.2.6 Household decision making anaccess to finance

In Bangladesh Khandker *et al.* (1998) found that program participation has positive impact on household income, production and employment particularly in rural non-farm sector and that the growth in self-employment was achieved at the expense of wage employment which implies an increase in rural wages.

### 2.2.7 Several selected characteristics of respondents and their sustainable access to rural financial services

There was found a very little or no review on pluriactivity, contact with extension organization, participation in household decision making, market access, Information and Communication Technologies (ICTs) access and their sustainable access to rural financial services.

## 2.3 Conceptual framework of the study

According to Rosenbarg and Hovland (1960) the conceptual framework is kept in mind while framing the structural arrangement for the dependent and independent variables. In scientific research, selection and measurement of variables constitute an important task. This study is concerned with the 'factors influence sustainable access to rural financial services'. Thus, sustainable access to rural financial services was the dependent variable and 10 selected characteristics of the respondents were considered as the independent variables under the study. A simple conceptual framework for the study is shown in Figure 2.1.

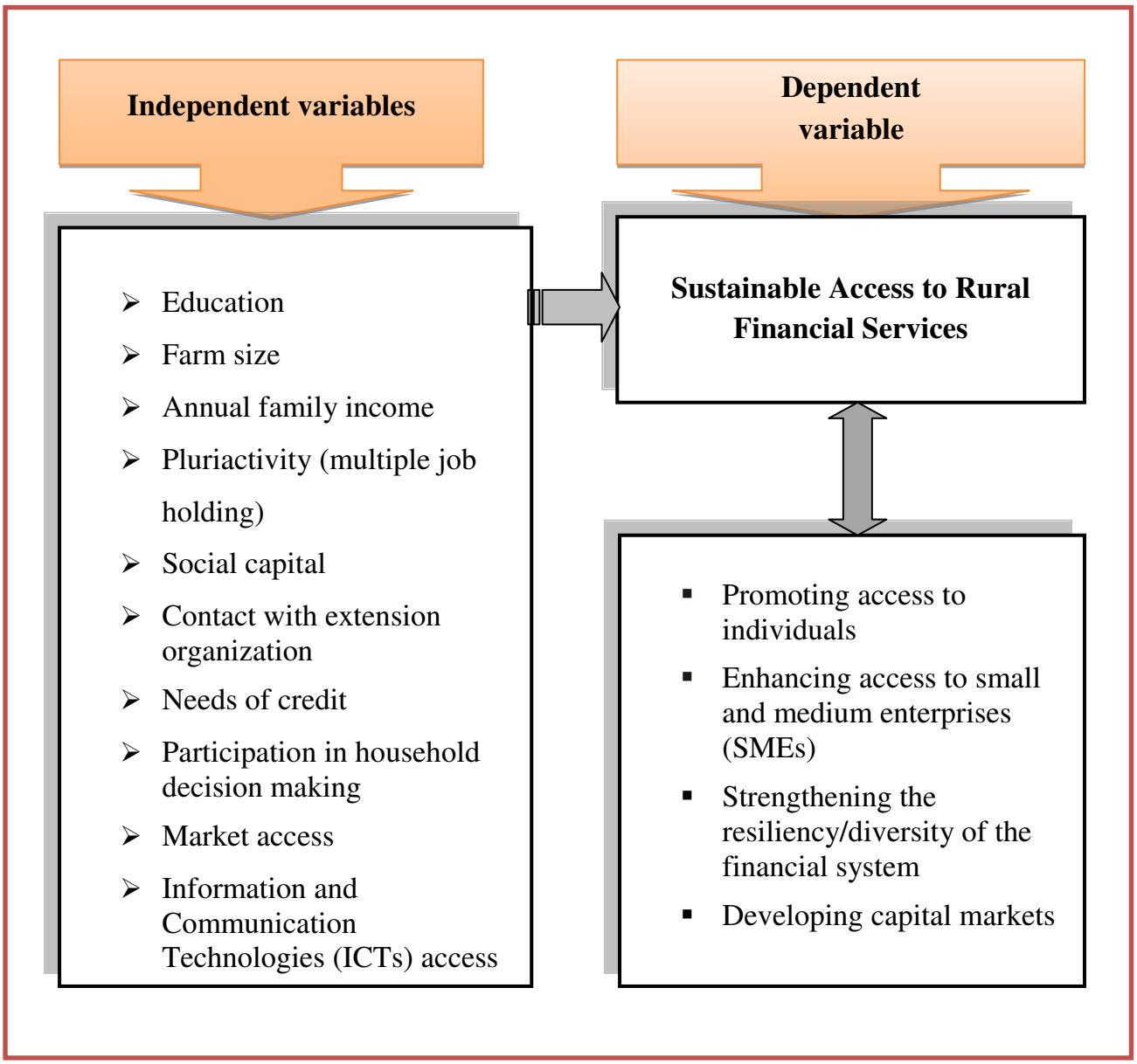


**Figure 2.1** The conceptual framework of the study

# CHAPTER III

# MATERIALS AND METHODS

In conducting a research study, methodological issue is one of the prime considerations for yielding of valid and reliable findings. Appropriate methodology used in research helps to collect valid and reliable decision. This Chapter delineates the locale of the study followed by source of data, research design, and variables of the study, measurement of variables, categorization and statistical treatment.

## 3.1 Locale of the study area

The locale of the study included three selected villages namely Sarker para, Shaha para and Durgapur under Durgapur union of Mithapukur upazila under Rangpur district. The villages are in the south of the upazila headquarters and about 3 kilometers far from the upazila headquarters. Again, Mithapukur is situated in the south corner of Rangpur district and about 20 kilometers from the district headquarters. In the study area, there are three youth clubs, five cultural organizations, four government primary schools, two non-government primary schools, five NGOs, adult education schools, one high school, one madrasa, one college, two bazaars and so many others.

The present study was conducted at Durgapur union of Mithapukur upazila based on the population size in the selected area. The women of the study area are involved with different NGO are the population of the study. The number of women who involves in NGO activities in the study area are 318.

The map of the Rangpur district has been presented in Figure 3.1. and specific study location namely Mithapukur upazila have also been shown in Figure 3.2.


**Figure 3.1** Map of Rangpur district showing the study area-Mithapukur upazila


**Figure 3.2** Map of Mithapukur upazila showing the study area- Durgapur union

### 3.2 Population and sample of the study

Women who permanently reside in the selected villages of Durgapur union constituted the active population of this study. As all population of the study area could not possible to measure, women of different NGOs of Sarker para, Shaha para and Durgapur villages of Mithapukur upazila under Rangpur district were the population of the study. However, representative sample from the population were taken for collection of data following random sampling technique. Updated lists of all women of different NGOs of the selected villages were prepared with the help of different NGO workers. A random sampling procedure was followed to select one district from the whole of Bangladesh, and the same method was used to select the area of the district as well as the villages as the study group. 318 women from Sarker para, Shaha para and Durgapur village under the Durgapur union which constituted the population of the study. Thus, 318 women constituted the respondent of the study which is shown in the following table 3.1.

**Table 3.1** Population of the study area

| Name of the selected upazila | Name of the selected union | Name of the selected village | Number of the respondents |
|---|---|---|---|
| Mithapukur | Durgapur | Sarker para | 87 |
| | | Shaha para | 126 |
| | | Durgapur | 105 |
| Total | | | 318 |

### 3.2.1 Determination of sample size

To determine the sample size, Yamane (1967) formula was used. The formula is:

$$n = \frac{z^2 P(1-P)N}{z^2 P(1-P) + N\,(e)^2}$$

Where,

n = Sample size;

N, Respondent size = 318;

e= The level of precision = 8%;

z = the value of the standard normal variable given the chosen confidence level (e.g., z = 1.96 with a confidence level of 95 %) and

P, The proportion or degree of variability = 50%;

The sample size (n) is = 102.

### 3.2.2 Distribution of the population, sample size and reserve list

Thus, 102 respondents constituted the sample size of the study from the study respondents according to Yamane's formula. A reserve list of 10 women (ten percent of the sample size) were also prepared so that the women of this list could be used for interview if the women included in the original sample were not available at the time of conduction of interview. The distribution of the population, the number of sample size and number of respondents along with the reserve list are given in the following Table 3.2.

**Table 3.2** Distribution of the rural women involved with different financial services according to population and reserve list

| Selected upazila | Selected union | Selected villages | Respondent | Sample size | Reserve list |
|---|---|---|---|---|---|
| Mithapukur | Durgapur | Sarker para | 87 | 28 | 3 |
| | | Shaha para | 126 | 40 | 4 |
| | | Durgapur | 105 | 34 | 3 |
| Total | | | 318 | 102 | 10 |

### 3.3 Instrument for Collection of Data

In a social research, preparation of an interview schedule for collection of information with very careful consideration is necessary. Keeping this fact in mind the researcher prepared an interview schedule carefully for collecting data from the respondents. Objectives of the study were kept in view while preparing the interview schedule. The initially prepared interview schedule was pre-tested among 15 respondents of the study area. Those 15 respondents were excluded while selecting sample. The pretest was helpful to find out gaps and to locate faulty questions and statements. Alterations and adjustments were made in the schedule on the basis of experience of the pretest. English version of the interview schedule is shown in appendix-A.

### 3.4 Time and Procedure of Data Collection

The researcher himself collected data from the respondent through the personal interview during January 18 to February 25, 2017. Before starting collection of data; the researcher met the respective Upazila Agricultural Extension Officers (UAO), Agricultural Extension Officers (AEO), Field Monitoring Officers (FMO) and the officers of grameen bank and BRAC. The researcher also discussed the objectives of the present study with the respondents and DAE personnel and requests them to provide actual information. The researcher established desired rapport with the respondents so that they did not feel hesitate at the time of interview. However, if any respondents failed to understand any question, the researcher took necessary care to explain the issue as far as possible.

### 3.5 Variables and their measurement techniques

The variable is a characteristic, which can assume varying, or different values in successive individual cases. A research work usually contains at least two important variables viz. independent and dependent variables. An independent variable is that factor which is manipulated by the researcher in his attempt to ascertain its relationship to an observed phenomenon. A dependent variable is

that factor which appears, disappears or varies as the researcher introduces, removes or varies the independent variable (Townsend, 1953). In the scientific research, the selection and measurement of variable constitute a significant task. Following this conception, the researcher reviewed literature (Mujeri, 2015; Roy and chan, 2015; FAO, 2015; Roy *et al*, 2014) to widen this understanding about the natures and scopes of the variables relevant to this research. Based on literature review, 12 variables were selected. The independent variables were: education, farm size, annual family income, pluriactivity, social capital, contact with extension organization, needs of credit, participation in household decision making, market access, Information and Communication Technologies (ICTs) access. The dependent variable of this study was the 'sustainable access to rural financial services'. The methods and procedures in measuring the variables of this study are presented below:

### 3.5.1 Measurement of independent variables

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

#### 3.5.1.1 Education

Level of education was measured on the basis of the respondent's ability to read or write or attending classes in the formal education system. It was expressed in terms of years of successful schooling. If the respondent could not read or write he/she was given a score of zero. If the respondent could sign his/her name only then he/she was given a score of 0.5. One score was given to a respondent for passing the final examination of each level in the formal education institution. For example, if the respondent farmer passed the final examination of class eight (VIII), his/her educational score was given 8.

Based on the available information cited by the women, they were classified into five categories.

| Category | Education (year of schooling) |
|---|---|
| Can't read & write | 0 |
| Can sign only | 0.5 |
| Primary education | 1 to 5 |
| Secondary education | 6 to 10 |
| Above secondary | > 10 |

### 3.5.1.2 Farm size

Farm size refers to the total cultivated area either owned by a farmer or obtained from others on share cropping system or taken from others as mortgage/borga where he/she used to do his/her farming operations during the period of this study. A closed question was asked to the respondent to determine her farm size. There were five categories of farm size, they are:

| Category | Area (hectare) |
|---|---|
| Landless | ≤ 0.020 |
| Marginal | 0.021 to 0.20 |
| Small | 0.21 to 1.00 |
| Medium | 1.01 to 3 |
| Large | > 3 |

Respondent will scored 1 if she was land less, score 2 was given for marginal farm size, score was 3 if she had small farm size, score 4 was given for medium farm size and score was 5 if she had large farm size. This categorization was done according to (Roy *et al.,* 2015)

### 3.5.1.3 Annual family income

The term annual income refers to the annual gross income of respondent and the members of his family from different sources. It was expressed in taka. In measuring this variable, total earning taka of an individual respondent was converted into score. Among four type of income respondent had to choose

one. Respondent was scored 1 if her annual income was under 50,000 BDT. If her income was 50,001 to 1,00,000 BDT then she will score 2. Respondent will score 3 if her income was 100,001 to 150,000 BDT. If her income was over 1,50,000 BDT then she will score 4. This variable appears in item number 3 in the interview schedule as presented in Appendix-I. Based on the available information cited by the women, they were classified into three categories (Mean ± Standard Deviation) namely 'low', 'medium' and 'high' annual family income.

#### 3.5.1.4 Pluriactivity

Pluriactivity means family income sources other than farming (Roy *et al.,* 2015). Pluriactivity of a woman was determined by adding the total number of income sources. A score of one (1) was assigned for each income source. Six types of income sources were found for measuring the pluriactivity in the study area like Government job, private job, business, seasonal business, labor to mill/factory/other house and others. Thus, Pluriactivity of a woman could range from 0 to 6, where zero indicated no pluriactivity and six indicated highest level of pluriactivity. This variable appears in item number 4 in the interview schedule as presented in Appendix-I. Based on the available information cited by the women, they were classified into three categories (Mean ± Standard Deviation) namely 'low', 'medium' and 'high' pluriactivity of women.

#### 3.5.1.5 Social capital

Social capital of a respondent was measured on the basis of the nature of his/her involvement in different organizations and contact with that organization during the time of interview as well as how much confidence they have in selected question (Roy *et al.,* 2015). Firstly, social capital score was computed 0 if she was not involved with the organization. Otherwise, the woman was involved in organization then her contact with organization was computed through score against weekly, monthly and yearly contact. It was computed 3 if she contacted weekly, computed 2 if contacted monthly and

computed 1 if contacted yearly with the organization. Eight types organization were selected for measuring the score of contact with organization. Secondly, it was also measured how confidence did she had with some selected institution. It was scored 4 (four) for a great deal, scored 3 (three) for quite a lot, scored 2 (two) for average, scored 1 (one) for not very much and scored 0 (zero) for not at all respectively. Finally, the sore of contact nature with an organization were added with the score of confidence against some selected institution and subsequently social capital score was computed for a respondent. Thus, combining the score of two parts the range possible score of social capital was 0 to 40, where zero indicated no social capital and 40 (forty) indicated highest level of social capital. This variable appears in item number five (5) in the interview schedule as presented in Appendix-I. Based on the information cited by the women, they were classified into three categories (Mean ± Standard Deviation) namely 'low', 'medium' and 'high' social capital.

#### 3.5.1.6 Contact with extension organization

Contact with extension organization was defined as one's extent of exposure to contact with different extension organization. Contact with extension organization of a respondent was measured by computing contact with extension organization score on the basis of their nature of contact with four extension organization (Roy, 2015). Respondent will score 3 for 4 times and above, score 2 for 2 to 3 times, score 1 for once and 0 for no visit in the past year. Thus, contact with extension organization score of a respondent could range from 0 to 12, where zero indicated no contact and twelve indicated highest level of contact with extension organization. This variable appears in item number 6 (six) in the interview schedule as presented in Appendix-I. Based on the available information cited by the respondents, they were classified into three categories (Mean ± Standard Deviation) i.e. 'low', 'medium' and 'high' contact with extension organization.

### 3.5.1.7 Needs of credit

Needs of credit was measured how frequently and in which purpose the respondent need to receive credit. There were 5 categories to measure needs of credit. A respondent was computed a score of 4 if s/he needed credit within 1 month. It was considered as more frequently. A respondent was computed a score of 3 if she needed credit within more than 1 month but less than 6 months. It was considered as frequently. A respondent was computed a score of 2 if s/he needs credit within more than 6 months but less than 1 year. It was considered as average. A respondent was computed a score of 1 if s/he needs credit within more than 1 year. It was considered as rarely. A respondent was computed a score of 0 if he never needed of credit. The above-mentioned score was provided for each item against four selected items on needs of credit. Thus, needs of credit score of a respondent could range from 0 to 16, where zero indicated no needs of credit and sixteen indicated highest level of needs of credit. This variable appears in item number 7 (seven) in the interview schedule as presented in Appendix-I. Based on the available information cited by the women, they were classified into three categories (Mean ± Standard Deviation) namely 'low', 'medium' and 'high' needs of credit.

### 3.5.1.8 Participation in household decision making

Participation in decision making process is measured by using 4-point rating scale. A respondent was computed a score of 3, 2, 1 and 0 fully participation, partially participation, rare participation and no participation in household decision making respectively on the basis of the nature of participation with eight items on decision making (Khatun, 2015). Thus, participation in household decision making score of a respondent could range from 0 to 24, where zero indicated no participation in household decision making and twenty-four indicated highest level of participation in household decision making. This variable appears in item number 8 (eight) in the interview schedule as presented in Appendix-I. Based on the available information cited by the respondents, they were classified into three categories (Mean ± Standard

Deviation) namely ‘low’, ‘medium’ and ‘high’ participation in household decision making.

#### 3.5.1.9 Market access

Market access refers to the ability of a farmer to buy and sell goods and services in different types of market. Market access was measured by computing the score (FAO, 2015). A respondent was computed a score of 1 (yes) or 0 (no)for answering each question against eight selected questions in which four questions for buy a goods or services and four questions for sell a goods or services. An open question was also asked about buying and selling. Maximum score 1 was given if she responses with this question and if she did not response to this question she scored 0. Thus, market access score of a respondent could range from 0 to 16, where zero indicated no market access and maximum sixteen indicated highest level of market access. This variable appears in item number 9 (nine) in the interview schedule as presented in Appendix-I. Based on the available information cited by the respondents, they were classified into three categories (Mean ± Standard Deviation) namely ‘low’, ‘medium’ and ‘high’ market access.

#### 3.5.1.10 Information and Communication Technologies (ICTs) access

Information and communication technologies access refers to the access to technologies that provide information through telecommunications. It was similar to Information Technology (IT), but focused primarily on communication technologies (Roy, 2015). This included the Internet, wireless networks, cell phones, and other communication mediums. A respondent was computed a score of 2 if she had own and used technologies. A farmer will score 1 if he only used technology but not own. A respondent was computed score 1 if she only owned technologies but not use. A respondent was computed score 0 if she did not have any ICTs items and used no technologies. Also an open question was asked about the purposes of use of ICT. Maximum score 1 was given if she response with the question and score 0 was given if

she did not response with the question. Six selected technologies were counted to measure the Information and Communication Technologies (ICTs) access. Thus, Information and Communication Technologies (ICTs) access score of a respondent could range from 0 to 18, where zero indicated no Information and Communication Technologies (ICTs) access and eighteen indicated highest level of Information and Communication Technologies (ICTs) access. This variable appears in item number 10 (ten) in the interview schedule as presented in Appendix-I. Based on the information cited by the respondents, they were classified into three categories (Mean ± Standard Deviation) i.e. 'low', 'medium' and 'high' Information and Communication Technologies (ICTs) access.

### 3.5.2 Sustainable access to rural financial services

Factors influence sustainable access to Rural Finance Services is the dependent variable of the study. To measure this access, the researcher considered four components: Promoting assess to individual, enhancing access to small and medium enterprises, strengthening the resiliency/diversity of the financial system and developing capital market (World Bank, 2015; Chaulagain, 2015). All the major components were measured by using 5-point rating scale. The respondents were asked to indicate their involvement with financial services/institutions, over the last 3 years what impacts/changes have you noticed. The method of assigning scores to the four alternatives in each statement was as follows:

| Impacts/Changes | Scores assigned |
|---|---|
| A great deal | 4 |
| Quite a lot | 3 |
| No opinion | 2 |
| Not very much | 1 |
| Not at all | 0 |

Sixteen selected items were counted to measure the sustainable access to rural financial services. Thus, sustainable access to rural financial services score of a respondent could range from 0 to 64, where zero indicated no sustainable access to rural financial services and sixty-four indicated highest level of sustainable access to rural financial services. This variable appears in item number 11 (eleven) in the interview schedule as presented in Appendix-I. Based on the available information cited by the respondents, they were classified into four categories, namely, not sustainable access, moderately sustainable access, reasonably sustainable access and highly sustainable access to rural financial services (Royal London, 2017)

### 3.6 Statement of the Hypothesis

As defined by Goode and Hatt (1952) a hypothesis is "a proposition which can be put to test to determine its validity. It may seem contrary to, or in accord with common sense. It may prove to be correct or incorrect. In any event, however, it leads to an empirical test." In 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:

"Each of the 10 selected characteristics (education, farm size, annual family income, pluriactivity, social capital, contact with extension organization, needs of credit, participation in household decision making, market access, Information and Communication Technologies (ICTs) access) of the respondents has significant contribution to their sustainable access to rural financial services."

#### 3.6.2 Null hypothesis

A null hypothesis states that there is no contribution between the concerned variables. The following null hypothesis was formulated to explore the contribution of the selected characteristics to their sustainable access to rural

financial services. Hence, in order to conduct tests, the earlier research hypothesis was converted into null form as follows:

"There is no contribution of the selected characteristics (education, farm size, annual family income, pluriactivity, social capital, contact with extension organization, needs of credit, participation in household decision making, market access, Information and Communication Technologies (ICTs) access) of respondents to their sustainable access to rural financial services."

### 3.7 Data processing

#### 3.7.1 Coding and tabulation

Having consulted with the research supervisor and co-supervisor, the investigator prepared a detailed coding plan. In case of qualitative data, suitable scoring techniques were followed by putting proper weight age against each of the traits to transform the data into quantitative forms. These were then tabulated in accordance with the objective of the study.

#### 3.7.2 Categorization of data

Following coding operation, the collected raw data as well as the respondents were classified into various categories to facilitate the description of the independent and dependent variables. These categories were developed for each of the variables by considering the nature of distribution of the data and extensive literature review. The procedures for categorization have been discussed while describing the variables under consideration in chapter iv.

### 3.8 Statistical analysis

The computer software SPSS (Statistical Packages for Social Science) was used for the analysis of data. Various statistical measures like number and percentage distribution, range, mean, standard deviation, coefficient of variation (CV). were calculated for describing selected independent and dependent variables. Multiple regression analysis was conducted to examine

the contribution of the independent variables to the factors influences sustainable access to rural financial services.

The model used for this analysis can be explained as follows:

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + b_5x_5 + b_6x_6 + b_7x_7 + b_8x_8 + b_9x_9 + b_{10}x_{10} + e;$$

Where, Y= is the sustainable access to rural financial services;

Of the independent variables, $x_1$ is the education of respondent, $x_2$ is farm size, $x_3$ is annual family income, $x_4$ is pluriactivity, $x_5$ is social capital, $x_6$ is contact with extension organization, $x_7$ is needs of credit, $x_8$ is participation in household decision making, $x_9$ is market access and $x_{10}$ is Information and Communication Technologies (ICTs) access. On the other hand, $b_1$, $b_2$, $b_3$, $b_4$, $b_5$, $b_6$, $b_7$, $b_8$, $b_9$, and $b_{10}$ are regression coefficients of the corresponding independent variables, and e is random error, which is normally and independently distributed with zero mean and constant variance.

# CHAPTER IV

# RESULTS AND DISCUSSION

The findings of the research have been presented in this chapter in the following three sections: a) Understanding the purpose of credit use of rural women b) Selected characteristics of the women c) Contribution of selected characteristics of women to their sustainable access to rural financial services.

## 4.1 Understanding the purpose of credit use of rural women

Researcher tries to explore the use of credit of the rural women in the study area. Study found that rural women use credit in 8 categories.

**Table 4.1** Distribution of the purpose of credit use

| SI No. | Purpose of credit use | No. of participant | Percentage |
|---|---|---|---|
| 1. | Open small business | 23 | 22.55 |
| 2. | Household use | 21 | 20.59 |
| 3. | Crop production | 18 | 17.65 |
| 4. | Livestock raring | 13 | 12.75 |
| 5. | Vegetable production | 12 | 11.76 |
| 6. | Poultry farming | 8 | 7.84 |
| 7. | Establishing handloom | 4 | 3.92 |
| 8. | Establishing fruit garden | 3 | 2.94 |
| | Total | 102 | 100 |

Table 4.1 shows that highest number of women used credit for opening small business (22.55 percent) and lowest only (2.94 percent) of women used credit for establishing fruit garden.

## 4.2 Characteristics of the respondents

Behavior of an individual is determined to a large extent by one's personal characteristics. There were various characteristics of the respondents that might have consequence to sustainable access to rural financial services. But in this study, ten characteristics of them were selected as independent variables, which included their education, farm size, annual family income, pluriactivity, social

capital, contact with extension organization, needs of credit, participation in household decision making, market access, Information and Communication Technologies (ICTs) access that might be greatly influenced the sustainable access to rural financial services are presented below-

### 4.2.1 Education

The level of educational scores of the respondents ranged from 0.50 to 12. Based on the educational scores, the respondents were classified into five categories. The distributions of respondents according to their level of education are presented in Table 4.2.

**Table 4.2** Distribution of the respondents according to their level of education

| Category | Range | | Respondents | |
|---|---|---|---|---|
| | Score | Observed | Number | Percent |
| Can't read and sign | 0 | 0.5-12 | 0 | 0 |
| Can sign only | 0.5 | | 6 | 5.9 |
| Primary education | 1-5 | | 23 | 22.5 |
| Secondary education | 6-10 | | 67 | 65.7 |
| Above secondary | >10 | | 6 | 5.9 |
| Total | | | 102 | 100.0 |

Data represent in table 4.2 shows that respondents under secondary education category constitute the highest proportion (65.7 percent) followed by primary education (22.5 percent). On the other hand, the no respondents were in can't read category where can sign only category constituted with 5.9 percent and also 5.9 percent respondents were above secondary category. Education broadens the horizon of outlook of respondents and expands their capability to analyze any situation related to confrontations against sustainable access to rural financial services. To adjust with same, they would be progressive minded to confront against sustainable access to rural financial.

### 4.2.2 Farm size

The farm size of the respondents ranged from 1 to 4 score with a mean and standard deviation of 1.92 and 0.67, respectively. Based on their farm size, the respondents were classified into five categories following the categorization according to (Roy *et al.,* 2015). The distribution of the respondents according to their farm size is presented in Table 4.3.

**Table 4.3** Distribution of the respondents according to their farm size

| Category | Range | | Respondents | | Mean | SD |
|---|---|---|---|---|---|---|
| | Score (ha) | Observed | Number | Percent | | |
| Landless | ≤0.02 | 1 to 4 | 26 | 25.5 | 1.92 | 0.67 |
| Marginal | 0.021-0.20 | | 59 | 57.8 | | |
| Small | 0.21-1.00 | | 16 | 15.7 | | |
| Medium | 1.01-3.0 | | 1 | 1.0 | | |
| Large | >3 | | 0 | 0 | | |
| Total | | | 102 | 100.0 | | |

Data represent in table 4.3 indicates that the marginal farm holder constituted the highest proportion (57.8 percent) followed by landless farm holder (25.5 percent). The findings of the study reveal that most of the respondents were landless to marginal sized farm holder. Besides, the small farm holder constituted with 15.7 percent respondents followed by medium farm holder (1.0 percent).

### 4.2.3 Annual family income

Annual family income of the respondents ranged from 1 to 4 score with a mean and standard deviation of 2.48 and 0.69, respectively. On the basis of annual income, the respondents were classified into three categories (Mean ± Standard Deviation) namely ‘low’, ‘medium’ and ‘high’ annual income. The distribution of the respondents according to their annual family income is presented in Table 4.4.

**Table 4.4** Distribution of the respondents according to their annual family income

| Category | Range | | Respondents | | Mean | SD |
|---|---|---|---|---|---|---|
| | Score | Observed | Number | Percent | | |
| Low income | ≤ 1 | 1-4 | 2 | 2.0 | 2.48 | 0.69 |
| Medium income | 2-3 | | 90 | 88.2 | | |
| High income | > 3 | | 10 | 9.8 | | |
| Total | | | 102 | 100.0 | | |

Data revealed that the respondents having medium annual income constitute the highest proportion (88.2 percent), while the lowest proportion in low income (2.0 percent) and high income category constituted with 15.60 percent respondents. Overwhelming majority respondents have medium to high level annual family income.

### 4.2.4 Pluriactivity

Score of pluriactivity of the respondents could range from 0 to 2 with mean and standard deviation of 0.85 and 0.53, respectively. On the basis of pluriactivity scores, the respondents were classified into three categories (Mean ± Standard Deviation) namely 'low, 'medium' and 'high' pluriactivity. The distribution of respondents according to their pluriactivity is given in Table 4.5.

**Table 4.5** Distribution of the respondents according to their pluriactivity

| Category | Range | | Respondents | | Mean | SD |
|---|---|---|---|---|---|---|
| | Score | Observed | Number | Percent | | |
| Low pluriactivity | ≤1 | 0-2 | 94 | 92.2 | 0.85 | 0.53 |
| Medium pluriactivity | 2 | | 8 | 7.8 | | |
| High pluriactivity | >3 | | 0 | 0 | | |
| Total | | | 102 | 100.0 | | |

Table 4.5 reveals that the majority (92.2 percent) of the respondent fell in low pluriactivity category, whereas only 7.8 percent in medium pluriactivity category. No respondents were found in high pluriactivity category.

### 4.2.5 Social capital

Social capital score of the respondents ranged from 9 to 23 with a mean and standard deviation of 17.12 and 2.62, respectively. Based on the social capital score, the respondents were classified into three categories (Mean ± Standard Deviation) namely 'low', 'medium' and 'high' social capital. The distribution of the respondents according to their social capital is presented in Table 4.6.

**Table 4.6** Distribution of the respondents according to their social capital

| Category | Range | | Respondents | | Mean | SD |
|---|---|---|---|---|---|---|
| | Score | Observed | Number | Percent | | |
| Low social capital | ≤ 14 | 9-23 | 16 | 15.7 | 17.12 | 2.62 |
| Medium social capital | 15-20 | | 79 | 77.5 | | |
| High social capital | > 20 | | 7 | 6.9 | | |
| Total | | | 102 | 100.0 | | |

Data represent in table 4.6 indicates that the highest proportion 77.5 percent of the respondents had medium social capital compared to 15.7 percent in low social capital and the lowest 6.9 percent in high social capital category, respectively.

### 4.2.6 Contact with extension organization

The observed score of contact with extension organization of the respondents ranged from 0 to 8 against a possible range of 0 to 12. The average score of the respondents' contact with extension organization was 3.78 with a standard deviation 1.60 (Table 4.7). The respondents were classified into three categories on the basis of their contact with extension organization scores and distribution of the three categories (Mean ± Standard Deviation) namely 'low', 'medium' and 'high' contact of the respondents.

**Table 4.7** Distribution of the respondents according to their contact with extension organization

| Category | Range | | Respondents | | Mean | SD |
|---|---|---|---|---|---|---|
| | Score | Observed | Number | Percent | | |
| Low contact | ≤3 | 0-8 | 27 | 26.5 | 3.78 | 1.60 |
| Medium contact | 4-6 | | 72 | 70.6 | | |
| High contact | >6 | | 3 | 2.9 | | |
| Total | | | 102 | 100.0 | | |

Data showed that the highest proportion (70.6 percent) of the respondents had medium contact and lowest contact was 2.9 percent of them having high contact and 26.5 percent fell in low contact with extension organization (Table 4.7).

### 4.2.7 Needs of credit

The observed score of needs of credit of the respondents ranged from 6 to 14 against a possible range of 0 to 16. The average score of the respondents' needs of credit was 10.18 with a standard deviation 1.09 (Table 4.8). The respondents were classified into three categories on the basis of their needs of credit, they were classified into three categories (Mean ± Standard Deviation) namely 'low', 'medium' and 'high' needs of credit of the respondents.

**Table 4.8** Distribution of the respondents according to their needs of credit

| Category | Range | | Respondents | | Mean | SD |
|---|---|---|---|---|---|---|
| | Score | Observed | Number | Percent | | |
| Low needs of credit | ≤8 | 6-14 | 16 | 15.7 | 10.18 | 1.09 |
| Medium needs of credit | 9-12 | | 68 | 66.7 | | |
| High needs of credit | >12 | | 18 | 17.6 | | |
| Total | | | 102 | 100.0 | | |

Data showed that the highest proportion 66.7 percent of the respondents had medium needs of credit, lowest 15.7 percent of them having low needs of credit and 17.6 percent fell in high needs of credit.

### 4.2.8 Participation in household decision making

Participation in household decision making score of the respondents ranged from 11 to 24 with a mean and standard deviation of 15.87 and 2.42, respectively. Based on participation in household decision making score, the respondents were classified into three categories (Mean ± Standard Deviation) namely low, medium and high participation in household decision making. The distribution of the respondents as per their participation in household decision making is presented in Table 4.9.

**Table 4.9** Distribution of the respondents according to their participation in household decision making

| Category | Range | | Respondents | | Mean | SD |
|---|---|---|---|---|---|---|
| | Score | Observed | Number | Percent | | |
| Low participation | ≤13 | 11-24 | 16 | 15.7 | 15.87 | 2.42 |
| Medium participation | 14-19 | | 76 | 74.5 | | |
| High participation | > 19 | | 10 | 9.8 | | |
| Total | | | 102 | 100.0 | | |

Data reveals that the highest proportion 74.5 percent of the respondents had medium participation in household decision making, while 15.7 percent had low participation in household decision making and the lowest 9.8 percent had high participation in household decision making. It might be logical because the respondents of the study area were suppressed by her male counterpart. Hence, the high participation in household decision making in the study area were low.

### 4.2.9 Market access

Market access scores of the respondents ranged from 4 to 14 against possible score of 0 to 16. The average score and standard deviation were 8.14 and 2.09,

respectively. Based on the market access scores, the respondents were classified into three categories (Mean ± Standard Deviation) namely low, medium and high market access.

**Table 4.10** Distribution of the respondents according to their market access

| Category | Range | | Respondents | | Mean | SD |
|---|---|---|---|---|---|---|
| | Score | Observed | Number | Percent | | |
| Low market access | ≤ 6 | 4-14 | 21 | 20.6 | 8.14 | 2.09 |
| Medium market access | 7-10 | | 65 | 63.7 | | |
| High market access | > 10 | | 16 | 15.7 | | |
| Total | | | 102 | 100.0 | | |

Table 4.10 reveals that 63.7 percent of the respondents had medium market access, 20.6 percent had low market access and 15.7 percent had high market access. Thus, an overwhelming majority 84.3 percent of the respondents had low to medium market access.

### 4.2.10 Information and Communication Technologies (ICTs) access

Information and Communication Technologies (ICTs) access scores of the respondents ranged from 5 to 14 against possible score of 0 to 18. The average score and standard deviation were 8.14 and 1.53 respectively. Based on the Information and Communication Technologies (ICTs) access scores, the respondents were classified into three categories (Mean ± Standard Deviation) namely low, medium and high Information and Communication Technologies (ICTs) access.

**Table 4.11** Distribution of the respondents according to their Information and Communication Technologies (ICTs) access

| Category | Range | | Respondents | | Mean | SD |
|---|---|---|---|---|---|---|
| | Score | Observed | Number | Percent | | |
| Low ICTs access | ≤ 6 | 5-14 | 7 | 6.9 | 8.14 | 1.53 |
| Medium ICTs access | 7-9 | | 90 | 88.2 | | |
| High ICTs access | > 10 | | 5 | 4.9 | | |
| Total | | | 102 | 100.0 | | |

Table 4.11 reveals that 88.2 percent of the respondents had medium Information and Communication Technologies (ICTs) access, 6.9 percent had low Information and Communication Technologies (ICTs) access and the lowest 4.9 percent had high Information and Communication Technologies (ICTs) access.

### 4.3 Sustainable access to rural financial services

Sustainable access to rural financial services scores of the respondents ranged from 13 to 53 against possible score of 0 to 64. The average score was 35.92. Based on the sustainable access to rural financial services scores, the respondents were classified into four categories namely not sustainable access, moderately sustainable access, reasonably sustainable access and highly sustainable access to rural financial services. This following categorization is according to Royal London (2017).

**Table 4.12** Distribution of the respondents according to their sustainable access to rural financial services

| Category | Range | | Respondents | | Mean |
|---|---|---|---|---|---|
| | Score | Observed | Number | Percent | |
| Not sustainable access | ≤ 15 | 13-53 | 8 | 7.8 | 35.92 |
| Moderately sustainable access | 16-31 | | 24 | 23.5 | |
| Reasonably sustainable access | 31-47 | | 49 | 48.1 | |
| Highly sustainable access | ≥ 48 | | 21 | 20.6 | |
| Total | | | 102 | 100.0 | |

Table 4.12 reveals that 48.1 percent of the respondents had reasonably sustainable access to rural financial services, 23.5 percent had moderately sustainable access to rural financial services, 20.6 percent had highly sustainable access to rural financial services and the lowest 7.8 percent had not sustainable access to rural financial services. Thus, an overwhelming majority (92.2 percent) of the respondents had moderately sustainable access to rural financial services.

## 4.4 Correlation between sustainable access to rural financial services and some important independent variables

i. A coefficient of r=.620 indicates that the two variables, namely, 'needs of credit' and 'sustainable access to rural financial services' are strongly positively correlated, so as needs of credit increases, sustainable access to rural financial services increases by a proportionate amount.

ii. A coefficient of $r = .579$, $p < .01$ indicates that the 'ICT access' and 'sustainable access to rural financial services' have positive and moderately significant relationships, so as ICT access increases, the sustainable access to rural financial services increases by a proportionate amount.

iii. Table 4.13 shows that annual family income is positively correlated to 'sustainable access to rural financial services', with a coefficient of $r$=.588, which is significant at $p < .01$. This coefficient value indicates as the amount of women's annual family income increases, improved and sustained access to rural financial services increases.

**Table 4.13** Correlations among dependent and independent variables

| | $X_1$ | $X_2$ | $X_3$ | $X_4$ | $X_5$ | $X_6$ | $X_7$ | $X_8$ | $X_9$ | $X_{10}$ | $X_{11}$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| $X_1$ | 1 | | | | | | | | | | |
| $X_2$ | 0.355(**) | 1 | | | | | | | | | |
| $X_3$ | 0.322(**) | 0.567(**) | 1 | | | | | | | | |
| $X_4$ | 0.197(*) | -0.282(**) | 0.005 | 1 | | | | | | | |
| $X_5$ | 0.306(**) | 0.427(**) | 0.306(**) | -.0106 | 1 | | | | | | |
| $X_6$ | 0.221(*) | 0.574(**) | 0.296(**) | -0.304(**) | 0.378(**) | 1 | | | | | |
| $X_7$ | 0.288(**) | 0.103 | 0.425(**) | 0.411(**) | 0.066 | 0.114 | 1 | | | | |
| $X_8$ | 0.225(*) | 0.195(*) | 0.258(**) | 0.261(**) | 0.261(**) | 0.194 | 0.436(**) | 1 | | | |
| $X_9$ | 0.102 | 0.204(*) | 0.201(*) | 0.079 | 0.257(**) | 0.192 | 0.088 | 0.084 | 1 | | |
| $X_{10}$ | 0.447(**) | 0.325(**) | 0.545(**) | 0.121 | 0.197(*) | 0.158 | 0.497(**) | 0.297(**) | 0.084 | 1 | |
| $X_{11}$ | 0.297(**) | 0.468(**) | 0.588(**) | 0.252(*) | 0.313(**) | 0.260(**) | 0.620(**) | 0.492(**) | 0.154 | 0.579(**) | 1 |

** Correlation is significant at the 0.01 level (2-tailed).
* Correlation is significant at the 0.05 level (2-tailed).

**Legends:**
$X_1$=education, $X_2$=farm size, $X_3$=annual family income, $X_4$=pluriactivity, $X_5$=social capital, $X_6$=contact with extension organization, $X_7$=needs of credit, $X_8$=participation in household decision making, $X_9$=market access, $X_{10}$=Information and Communication Technologies (ICTs) access, $X_{11}$=sustainable access to rural financial services

## 4.5 Relationship between sustainable access to rural financial services and its component

To justify the conceptualization of sustainable access to rural financial services, the inter relationships among the selected components of sustainable access to rural financial services, were shown in the Table 4.14.

**Table 4.14** Coefficient of correlation of the component of sustainable access to rural financial services

| | $X_1$ | $X_2$ | $X_3$ | $X_4$ | Y |
|---|---|---|---|---|---|
| $X_1$ | 1 | | | | |
| $X_2$ | 0.382(**) | 1 | | | |
| $X_3$ | 0.417(**) | 0.413(**) | 1 | | |
| $X_4$ | 0.350(**) | 0.368(**) | 0.775(**) | 1 | |
| Y | 0.661(**) | 0.751(**) | 0.782(**) | 0.778(**) | 1 |

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

$X_1$= promoting access to individuals
$X_2$=enhancing access to small and medium enterprises (SMEs)
$X_3$=strengthening the resiliency/diversity of the financial system
$X_4$=developing capital markets
Y=sustainable access to rural financial services

### 4.5.1 Relationship between sustainable access to rural financial services and promoting access to individuals

A coefficient of r =.661 indicates that the two variables, namely, 'promoting access to individuals' and 'sustainable access to rural financial services' are strongly positively correlated, so as promoting access to individuals increases, sustainable access to rural financial services increases by a proportionate amount.

### 4.5.2 Relationship between sustainable access to rural financial services and enhancing access to small and medium enterprises (SMEs)

A coefficient of $r$ =.751, $p$ < .01 indicates that the 'enhancing access to small and medium enterprises (SMEs)' and 'sustainable access to rural financial services' have positive and moderately significant relationships, so as enhancing access to small and medium enterprises (SMEs) increases, the

sustainable access to rural financial services increases by a proportionate amount.

### 4.5.3 Relationship between sustainable access to rural financial services and strengthening the resiliency/diversity of the financial system

Table 4.14 shows that strengthening the resiliency/diversity of the financial system is positively correlated to 'sustainable access to rural financial services', with a coefficient of $r$ =.782, which is significant at $p < .01$. This coefficient value indicates as the amount of strengthening the resiliency/diversity of the financial system increases, improved and sustained access to rural financial services increases.

### 4.5.4 Relationship between sustainable access to rural financial services and developing capital markets

A coefficient of r =.778 indicates that the two variables, namely, 'developing capital markets' and 'sustainable access to rural financial services' are strongly positively correlated, so as developing capital markets increases, sustainable access to rural financial services increases by a proportionate amount.

### 4.6 Factors related to the sustainable access to rural financial services

In order to estimate the contribution of selected characteristics to sustainable access to rural financial services, multiple regression analysis was used which is shown in the Table 4.15.

**Table 4.15** Multiple regression coefficients of contributing factors related to sustainable access to rural financial services

| Dependent variable | Independent variables | B | *p* | $R^2$ | Adj. $R^2$ | F | *p* |
|---|---|---|---|---|---|---|---|
| Sustainable access to rural financial services | Education | -.216 | 0.044* | 0.661 | 0.624 | 17.730 | 0.000** |
| | Farm size | 0.101 | 0.001** | | | | |
| | Annual family income | 0.547 | 0.009** | | | | |
| | Pluriactivity | 0.460 | 0.020* | | | | |
| | Social capital | 0.164 | 0.159 | | | | |
| | Contact with extension organization | -.045 | 0.831 | | | | |
| | Needs of credit | 0.737 | 0.000** | | | | |
| | Participation in household decision making | 0.262 | 0.037* | | | | |
| | Market access | -.087 | 0.736 | | | | |
| | Information and Communication Technologies (ICTs) access | 0.765 | 0.007** | | | | |

** Significant at $p < 0.01$;  * Significant at $p < 0.05$;

Table 4.15 shows that there is a significant contribution of respondents' education, farm size, pluriactivity, needs of credit, participation in household decision making, Information and Communication Technologies (ICTs) access. Of these, annual family income, farm size, needs of credit, Information and Communication Technologies (ICTs) access were the most important

contributing factors (significant at the 1% level of significance). Education, pluriactivity, participation in household decision making (significant at the 5% level of significance while coefficients of other selected variables don't have any significant contribution on factors influence sustainable access to rural financial services.

The value of $R^2$ is 0.661, which tells us that the selected characteristics can account for 66.1% of the variation in sustainable access to rural financial services. This means that around 34% of the variation in providing sustainable access to rural financial services cannot be explained by the selected variables, which might be other variables that can explain this variation (Table 4.15). The F value indicates that the model is significant ($p<0.000$). So the regression model overall predicts sustainable access to rural financial services significantly well.

ICT access (b=0.765) this unstandardised coefficient indicates that as ICT access increases by one unit, sustainable access to rural financial services increases by 0.765 units. This interpretation is true only if the effects of other variables are held constant.

Needs of credit (b=0.737) this value indicates that as Needs of credit increases by one unit, sustainable access to rural financial services increases by 0.737 units. This interpretation is true only if the effects of other variables are held constant.

Annual family income (b=0.547) this value indicates that as Annual family income increases by one unit, sustainable access to rural financial services increases by 0.547 units. This interpretation is true only if the effects of other variables are held constant.

So, most contributing factors of sustainable access to rural financial services were ICT access, needs of credit and annual family income. It is therefore, can be said that sustainable access to rural financial services can be improved by investing on ICT access, needs of credit and annual family income of women.

# CHAPTER V

# SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents summary of major findings, conclusion and recommendation of the study.

## 5.1 Summary of major Findings

### 5.1.1 Purpose of credit use of rural women

Study found that highest number of women used credit for opening small business (22.55 percent) and lowest only (2.94 percent) of women used credit for establishing fruit garden.

### 5.1.2 Selected characteristics of the respondents

**Education:** Secondary education constituted the highest proportion (65.7 percent) and the no respondents were in can't read and sign category.

**Effective farm size:** The marginal farm holder constituted the highest proportion (57.8 percent), whereas the large farm holder was not found in the study sample.

**Annual family income:** Medium annual family income constituted the highest proportion (88.2 percent), while the lowest proportion is low income (2.0 percent) category among the respondent of the study area.

**Pluriactivity:** The majority (92.2 percent) of the respondent fell in low pluriactivity category, whereas only (7.8 percent) in medium pluriactivity category. No respondents were found in high pluriactivity category.

**Social capital:** The highest proportion (77.5 percent) of the respondents had medium social capital and lowest (6.9 percent) in high social capital category.

**Contact with extension organization:** The highest proportion (70.6 percent) of the respondents had medium contact and lowest contact was (2.9 percent) of them having high contact with extension organization.

**Needs of credit:** The highest proportion (66.7 %) of the respondents had medium needs of credit and lowest (15.7) percent of respondents having low needs of credit.

**Participation in household decision making:** The highest proportion (74.5 percent) of the respondents had medium and the lowest (9.8 percent) had high participation in household decision making.

**Market access:** The highest (63.7 percent) of the respondents had medium market access and lowest (15.7 percent) had high market access.

**Information and Communication Technologies (ICTs) access:** The highest (88.2 percent) of the respondents had medium Information and Communication Technologies (ICTs) access and the lowest (4.9 percent) had high Information and Communication Technologies (ICTs) access.

### 5.1.3 Sustainable access to rural financial services

Study found that highest (48.1 percent) of the respondents had reasonably sustainable access to rural financial services, (23.5 percent) had moderately sustainable access to rural financial services, (20.6 percent) had highly sustainable access to rural financial services and the lowest (7.8 percent) had not sustainable access to rural financial services.

### 5.1.4 Factors related to the sustainable access to rural financial services

There was a significant contribution of respondents' education, annual family income, farm size, pluriactivity, needs of credit, participation in household decision making, Information and Communication Technologies (ICTs) access. Among these ICT access, needs of credit and annual family income are the most important factors in sustainable access to rural financial services.

## 5.2 Conclusions

On the basis of findings of the present study and their logical interpretations relevant the researcher has drawn the following conclusions:

i. The findings revealed that highest number of women uses credit for opening small business (22.55 percent) and lowest only (2.94 percent) of women uses credit for establishing fruit garden.

ii. An overwhelming majority (92.2 percent) of the respondents had moderately to highly sustainable access to rural financial services.

iii. Study revealed that information and communication technologies (ICTs) access of the respondents was the most contributing factor to the sustainable access to rural financial services. Therefore, it may be concluded that information and communication technologies (ICTs) access of the respondents had influenced to sustainable access to rural financial services by the respondent.

iv. Needs of credit was also an important contributing factor to the sustainable access to rural financial services by the respondent. Therefore, it may be concluded that needs of credit encourages respondents to sustained access to rural financial services.

v. Annual family income of the respondents showed the important contributing factor to the sustainable access to rural financial services by the respondent. This means that annual family income had influenced in sustainable access to rural financial services.

## 5.3 Recommendations

### 5.3.1 Recommendations for policy implications

On the basis of the findings and conclusion of the research some recommendations have been formulated. These are following:

i. An increased rate and extent of sustainable access to rural financial services are vitally important for increasing the livelihood of the respondents. It is, therefore, recommended that an effective step should be taken by the Department of Agricultural Extension (DAE) and Non-Government Organizations (NGOs) for strengthening the respondents' qualities in favor of sustainable access to rural financial services.

ii. Information and Communication Technologies (ICTs) access was important contributing factors to the sustainable access to rural financial services by the respondents. Therefore, it is recommended that the concern authorities should work with the respondents and prioritize the Information and Communication Technologies (ICTs) access factor which influenced sustainable access to rural financial services.

iii. Needs of credit was important contributing factors to the sustainable access to rural financial services by the respondents. Therefore, it is recommended that the concern authorities should work with the respondents and prioritize the needs of credit factor which influenced sustainable access to rural financial services.

iv. Annual family income was important contributing factors to the sustainable access to rural financial services by the respondents. Therefore, it is recommended that the concern authorities should work with the respondents and prioritize the annual family income factor which influenced sustainable access to rural financial services.

### 5.3.2 Recommendations for further study

Considering the scope and limitations of the study, the following recommendations are made for further study:

i. The present study was conducted in Sarker para, Shaha para and Durgapur villages under Durgapur union of Mithapukur upazila under Rangpur district. It is recommended that similar studies should be conducted in other areas of Bangladesh.

ii. The contribution of ten important characteristics of the respondents with their sustainable access to rural financial services have been investigated in this study viz. education, farm size, annual family income, pluriactivity, social capital, contact with extension organization, needs of credit, participation in household decision making, market access, Information and Communication Technologies (ICTs) access. But besides these ten characteristics of the respondents, there might be other factors which influence the sustainable access to rural financial services. Therefore, further research should be conducted to explore the contribution of other characteristics of the respondents to their sustainable access to rural financial services.

iii. The present study was concern only with the extent of sustainable access to rural financial services. It is therefore suggested that future studies should be included more reliable measurement of concerned variable is necessary for further study.

iv. The study was based on the respondents' sustainable access to rural financial services. Further studies may be conducted in respect of other related issues.

v. Sustainable access to rural financial services is the measurement of implementation by the respondents as well as important indicator of agricultural development. It is a continuous process due to change of social system, technologies, human behavior, etc. So, it is suggested that there should be continuous sustainable access to rural financial services in various aspects for agricultural development in Bangladesh.

# REFERENCES


ADB (Asian Development Bank) (1998). ADB Study Urges Rural Development for the Philippines. Retrieved from: http://www.adb.org/ Documents/News/1998/nr1998037.asp.

Aghion and Gollier (2000). Peer group formation in an adverse selection model. *The Econ. J.* **110** (465): 632-643.

Bannan-Rittand, B. (2003). The Role of Design in Research: The Integrative Learning Design Framework. *Educational Res.* **32**(1): 21-24.

Bass, J. and Henderson, K. (2000). 'Microfinance, Labour Markets and Poverty in Africa" *School of Public service, New York University.*

BBS 2016, *Statistical Yearbook of Bangladesh 2015*, Bangladesh Bureau of Statistics, Statistics and Informatics Division, Ministry of Planning, Government of the People's Republic of Bangladesh, Dhaka.

Beck, T. and Demirguc-Kunt, A. (2004). Finance, Inequality and Poverty: Cross-Country Evidence, Policy Research Working Paper 3338, World Bank, Washington D.C

Beck, T., Livine, R. and Loayza, N. (2000). Finance and the Sources of Growth. *J. of Financial Econ.* **58**:261-300.

Begley, C.M. (1996). Using Triangulation in Nursing Research. *J. of Adv. Nursing* **24**(1): 122-128.

Besley, T. and Coate, S. (1995). Group lending, repayment incentives and social collateral. *J. of Dev. Econ.* **46** (2): 1-18.

Binswanger, H. and Khandker, S. (1995). The Impact of Rural Finance on the Rural Economy of India. *J. of Dev. Studies.*

Bogdan, R.C. and Biklen, S.K. (2006). Qualitative Research for Education: An Introduction to Theory and Methods (5th ed.). *Boston: Allyn & Bacon*.

Bond, P. and Rai, A. (2002). Collateral Substitutes in Microfinance. Working paper, Wharton Finance Department, University of Pennsylvania.

Brake, J.R. and Lins, D.A. (1994). Rural credit programs. In Food, agriculture, and rural policy into the twenty-first century: issues and trade-offs. Westview Press Inc., Boulder, Colorado USA.

Bryman, A. (2001). Social Research Methods. *Oxford: Oxford University Press*.

Chaulagain, R.P., Financial Literacy for Increasing Sustainable Access to Finance in Nepal, School of Education, Kathmandu University, Nepal.

Chowdhury, A. and Garcia, M. (1993). Rural Institutional Finance in Bangladesh and Nepal: Review and Agenda for Reforms. *ADB Occasional Papers*, **3**.

Creswell, J.W. (1994). Research Design: Qualitative and Quantitative Approaches. *London: Sage Publications.*

DAE (1999). Agriculture Extension Manual. Department of Agricultural Extension, Ministry of Agriculture, Government of the People's Republic of Bangladesh. Retrieved from: http://www.dae.gov.bd/

Demerguc-Kunt, A., Beck, T. and Honahan, P. (2008). Finance for All - Policies and Pitfalls in Expanding Access, *A World Bank Policy Report*. Washington D.C.

Denzin, N.K. (1978). The Research Act: A Theoretical Introduction to Sociological Methods. *New York: McGraw-Hill*.

Diagne, A. and Zeller, M. (2001.) Access to Credit and Its Impact on Welfare in Malawi. International Food Policy Research Institute, Washington, D.C. USA.

Ezekiel, M. and K.A. Fox. (1959). Method of Correlation and Regression Analysis. ($3^{rd}$ $Ed^{n}$). *John Willey and Sons Inc.* New York, U.S.A.

FAO (Food and Agriculture Organization) (1975). Agricultural Credit for Development. Report on World Conference on Credit for Farmers in Developing Countries, Rome.

FAO, (2015). Self evaluation and holistic assessment of climate resilience of farmers and pastoralists. FAO, Italy: pp.166.

Gerster-Bentaya, M. (2005). Instruments for the Assessment and Analysis of the Food and Nutrition Security Situation at Micro and Meso Level. In: KLENNERT, K. (Ed.): Achieving Food and Nutrition Security. Actions to Meet the Global Challenge a Training Course Reader. *InWEnt, Feldafing*, German.

Ghatak, M. (2000). Screening by the Company you Keep: Joint Liability Lending and the Peer Selection Effect, *The Econ. J.* **110** (465): 601-631

Goode, W.J. and Hatt, P.K. (1952). Methods in social research. *New York: McGraw-Hill Book Company*, Inc.

Guiso, Luigi, Paola Sapienza and Luigi Zingales (2004): 'The *Role of Social Capital in Financial Development*', American Economic Review, 94(3): 526-56.

Gujarati, D.N. (1995). Basic Econometrics, *McGraw-Hill International*.

Heidhues, F. (1995). Rural financial markets - an important tool to fight poverty. *Quarterly J. of Int. Agric.* **34** (2).

Hudon, M. (2004); "New Challenges in Microfinance": The Case for Extending its Range of Financial Services', *Belgian Banking Review.*

IIED (1994). Special Issue on Livestock. PLA Notes CD-ROM. *RRA Notes* **20**: 11-36.

Irungu, C., Zeller, M. and Mburu, J. (2005). Assessing NGDOs' targeting performance and characteristics of households participating in child development programmes in rural eastern Kenya. *J. of Agric. and Rural Dev. in the Tropics and Subtropics* **106**: 119-129.

Islam, Z. and tenaw, S (2009). Rural financial services and effects of microfinance on agricultural productivity and on poverty. Department of Economics and Management, University of Helsinki, Helsinki.

Jaffee, D. and Rusell, T. (1976). Imperfect Information, Uncertainty, and Credit Rationing. *The Quarterly J. of Econ.* 90 (4): 651-666.

Jaffee, D. and Stiglitz, J.E. (1990). Credit Rationing, pp. 838-888 in Friedman, B. and Hahn, F. (eds.), *Handbook of Monetary Economics* **2**, New York: Elseiver Sceince Pub. Co.

Kerlinger, F.N. (1973). Foundations of Behavioral Research, Educational and Psychological Inquiry. *Rinehart and Winston Inc.* Halt, New York, U.S.A.

Khandker, Shahidur R. (1998). *Fighting poverty with Microcredit: Experience in Bangladesh*, New York: Oxford University Press.

Khandker, S.R., Samad, H.A. and Khan, Z.H. (1998). Income and Employment Effects of Micro Credit programs: Village Level Evidence from Bangladesh. Journal of Development Studies 3.

Khatun, H., (2015). Women participation in house decision making process. M. S. Thesis . Department of Agricultural Extension and Information System, Sher-e-Bangla Agricultural University, Dhaka, Bangladesh.

Kimuyu, P.K. and Omiti, J. (2000). Institutional Impediments to Access to Credit by Micro and Small Scale Enterprises in Kenya. Macmillan Publishers, Nairobi, Kenya.

King, R. and Levine, R. (1993). Finance, Entrepreneurship and Growth: Theory and Evidence. *J. of Monetary Econ.* **32**:513-42.

Lal, R., Hansen, D., Uphoff, N. and Slack, S. (2003). Food Security and Environmental Quality in the Developing World CRC Press LLC, United States of America.

Levine, R. (2005). Finance and Growth' in P. Aghion and S.N. Durlauf (eds.), *Handbook of Econ. Growth* **1A**: 865-934.

Liebscher, P. (1998). Quantity with Quality? Teaching Quantitative and Qualitative Methods in an LIS Master's Program. *Library Trends* **46**(4): 668-680.

Llanto, G. (1987). Rural Credit Policy: Do We Need To Target? Agricultural Credit Policy Council, Philippines.

Llanto, G. (1993). Agricultural credit and banking in the Philippines: efficiency and access issues. In Working Paper Series - Philippine Institute for Development Studies.

Meyer, R. (2002); 'the Demand for Flexible Microfinance Products: Lessons from Bangladesh', *Journal of International Development* 14(3): 351-368

Meyer, R. and Nagarajan, G. (2000) Rural Financial Markets in Asia: Policies, *Paradigms and Performance* **2005**.

Miles, J. and Shevlin, M. (2001). Applying Regression and Correlation: A Guide for Students and Researchers. *London: Saga Publications*.

Mingers, J. (2001). Combining IS Research Methods: Towards a Pluralist Methodology. *Info. Sys. Res.* **12**(3): 240-259.

Morduch, J. (1995). Income smoothing and consumption smoothing. *J. of Econ. Perspectives* **9** (3): 103–14.

MoYS (2012). The Population Category in Bangladesh. Ministry of Youth and Sports, Government of the People's Republic of Bangladesh. Retrieved from: http://www.moysports.gov.bd/

Mujeri, M.K., 2015. Improving Access of the Poor to Financial Services. The 7th Five Year Plan (2016-2020) of Bangladesh, Planning commission, Dhaka. Pp. 58.

Mwangi, I.W & Ouma,S .A (2012). *Social capital and access to credit in Kenya.* Am. J. Soc. Mgmt. Sci., 3(1): 8-16

Narayan, D. (1996). Toward Participatory Research. *World Bank Technical Paper No*. 307, Washington DC: World Bank.

Panin, A., Nahabile, M. and Nfila, B. (1996). Sources and effects of rural credit systems on smallholder farming systems in Botswana. *Tropenlandwirt* **97**: 29-34.

Rahman, H.Z. and M. Hossain. (1995). Rethinking Rural Poverty. University Press Ltd., Dhaka.

Rashid, S., Sharma, M., and Zeller, M. (2004). Micro-lending for small farmers in Bangladesh: does it affect farm households' land allocation decision? *J. of Developing Areas* **37**.

Robinson, M. (2001) The Microfinance Revolution, Sustainable Finance for the Poor the World Bank, Washington D.C.

Robinson, M. (2001). The Microfinance Revolution, Sustainable Finance for the Poor, The World Bank, Washington D.C.

Rosenbarg, M. and Hovland, C. I. (1960).Research on communication and Attitude. Attitude and Attitude change John Wiley and Sons, Inc, Publisher, New York.

Rosenzweig, M.R. (2001). Savings behavior in low-income countries. *Oxford Rev. of Econ. Policy* **17**: 40-54.

Roy, R. (2015). Modelling and Policy Integration of Sustainable Rice Farming systems in Bangladesh. PhD Thesis. University Sains Malaysia. pp. 269.

Roy, R., Chan, N.W. and Xenarios, QS (2015). Sustainability of rice production system: an empirical evaluation to improve policy. *Environment, Development and sustainability* **18(1)**: 257-278

Roy, R., Chan, N.W. Determinants of sustainable irrigated and rainfed rice farming in Bangladesh. J of Agricultural Science and Technology, 17: 17: 1421-1435.

Roy, R., Chan, NW. Rainis, R. Rice farming sustainability assessment in Bangladesh. Sustainability Science, 9:31–44.

Royal London. (2017). *Sustainable withdrawals*. 1 Thistle Street, Edinburgh, London.

Sahu, G.B., Madheswaran, S. and Rajasekhar, D. (2004). Credit constraints and distress sales in rural India: Evidence from Kalahandi District, Orissa. *J. of Peasant Studies* **31**: 210-241.

Schmidt, R.H. and Kropp, E. (1987). Rural finance guiding principles. Eschborn, G.T.Z. and Townsend, R. (2008) 'Agricultural Incentives in Africa: Policy Challenges'. Washington DC.

Schiffer, M and Weder, B (2001) *Firm Size and the Business Environment:* Worldwide survey Results. University of Ireland.

Tashakkori, A. and Teddlie, C. (2003). The past and Future of Mixed Methods Research: From Data Triangulation to Mixed Model Designs. In: Tashakkori, A.; Teddlie, C. (eds.): Handbook of Mixed Methods in Social and Behavioural research. Thousand Ocks, London, *New Delhi: Sage*, 671-701.

Townsend, J.C. (1953). Introduction to experimental methods. International Student Edition. *New York: McGraw Hill Book Company*, Inc.

Werner, J. (1993). Participatory Development of Agricultural Innovations, Procedures and Methods of On-Farm Research. *Schriftenreihe der GTZ Nr.* 234. TZ- Verlagsgesellschaft, Roßdorf, Germany.

Williamson, S.D. (1986). Costly monitoring, financial intermediation and equilibrium credit rationing. *J. of Monetary Econ.* 8: 280-289.

Williamson, S.D. (1987). Costly monitoring, loan contracts and equilibrium credit rationing. *Quarterly J. of Econ.* 102 (1): 135-145.

Williamson, S.D. (1988). Liquidity, banking and bank failure. *Int. Econ. Rev.* 29: 25-43.

World Bank (2000). Philippines Rural Development & Natural Resource Management: Trends, Strategy Implementation, and Framework Performance Indicator System. The World Bank Rural Development and Natural Resources Sector Unit.

World bank, (2015). Morocco - Sustainable Access to Finance. 1818 H Street, NW Washington, DC.

Yamane, T. (1967). Statistics: An introductory analysis, 2nd Ed., New York: Harper and Rao.

Yaron, J., Benjamin, M. and Piprek, G. (1997). Rural Finance. Issues, Design, and Best Practices World Bank, Washington, D.C.

Yaron, J., McDonald, B. and Charitonenko, S. (1998). Promoting Efficient Rural Financial Intermediation. *The World Bank Res. Observer* **13** (2): 147- 170.

Yaron, J., McDonald, B. and Piprek, G. (1997). Rural Finance: Issue Design, and Best Practices. *Environmentally and Socially Sustainable Development Studies and Monograph Series* **14**, Washington DC: The World Bank.

Zeller M., Ahmed. A and Rashid S, (2001).*Group Based Financial Institutions for the Rural Poor in Bangladesh-An Institutional and Household Level analysis,* Research Report120, IFPRI, Washington DC.

Zeller, M., Diagne, A. and Mataya, C. (1998). Market access by smallholder farmers in Malawi: implications for technology adoption, agricultural productivity and crop income. *Agril. Econ.* **19**: 219-229.

Zeller, M., Schrieder, J., Von Braun, J. and Heidhues, F. (1997). Rural Finance for Food Security for the Poor. Implications for Research and Policy, International Food Policy Research Institute, Washington, D.C.

# APPENDIX-I

# ENGLISH VERSION OF THE INTERVIEW SCHEDULE

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

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An Interview Schedule for the Study Entitled

## FACTORS INFLUENCE SUSTAINABLE ACCESS TO RURAL FINANCIAL SERVICES

Name of the respondent: ……  Serial No: ……

Union: …….

Village: …….……..….

(Please provide following information. Your information will be kept confidential and will be used for research purpose only)

**1. Education**

Please mention your level of education-

A. Cannot read or write [ ]
B. Can sign only [ ]
C. Study up to class [ ]
D. Participated training program (No. of days) [ ]

**2. Farm size**

Which one of the following categories best describes your farm size?

A. Landless (<0.02 ha of land) [ ]
B. Marginal (0.02-<0.2 ha of land) [ ]
C. Small (0.2-<1 ha of land) [ ]
D. Medium (1-<3 ha of land) [ ]
E. Large (> 3 ha of land) [ ]

**3. Annual family income**

Which one of the following categories best describes your household's annual income (including Husband and son)?

A. Under 50,000 BDT [ ]
B. 50,001 to 100,000 BDT [ ]
C. 100,001 to 150,000 BDT [ ]
D. Over 150,000 BDT [ ]

**4. Pluriactivity**

Do you have any income source other than agriculture?

No [ ] Yes [ ]

If Yes, then answer the following …….

A. Government job [ ]
B. Private job [ ]
C. Business [ ]
D. Seasonal business [ ]
E. Labor to mill/factory/other house [ ]
F. Other (specify) ……

**5. Social capital**

A. How many organizations are you member of?

| SL. No. | Name of Organization | Member | | Number of contact | | |
|---|---|---|---|---|---|---|
| | | Yes | No | Week (3) | Month (2) | Year (1) |
| 1. | Farmers group (e.g., Deep tube-well) | | | | | |
| 2. | NGOs | | | | | |
| 3. | Cooperative (Credit/financial) | | | | | |
| 4. | Club (e.g. women, village) | | | | | |
| 5. | Religious group (e.g., Tablig) | | | | | |
| 6. | Neighborhood/ village association | | | | | |
| 7. | Political group | | | | | |
| 8. | Social development committee | | | | | |

B. How much confidence do you have in the following institution?

| SL. No. | Institution | A great deal (4) | Quite a lot (3) | Average (2) | Not very Much (1) | None at all (0) |
|---|---|---|---|---|---|---|
| 1. | Upazilla agricultural extension organization | | | | | |
| 2. | Local administration (Union parishod) | | | | | |
| 3. | Other Govt. organization (e.g. BRDB, Social Welfare) | | | | | |
| 4. | Input business community / members of community | | | | | |

**6. Contact with extension organization**

Please mention the extent of extension contact in the last year

| SL. No. | Items | Extent of extension contact | | | |
|---|---|---|---|---|---|
| | | ≥ 4 times (3) | 2 to 3 times (2) | Once (1) | No visit (0) |
| 1. | Extension officers visit to farmers | | | | |
| 2. | Farmers visits to extension officers | | | | |
| 3. | Farmers visits to fisheries/livestock officers | | | | |
| 4. | Others (specify): | | | | |

**7. Needs of credit**

Please answer the following questions

| SL. No. | Item | More freq -uently (4) | Frequently (3) | Average (2) | Rarely (1) | Not at all (0) |
|---|---|---|---|---|---|---|
| 1. | Needs of credit for agricultural activities | | | | | |
| 2. | Needs of credit for household use | | | | | |
| 3. | Needs of credit for family members | | | | | |
| 4. | Needs of credit for doing business | | | | | |

**8. Participation in household decision making**

| SL. No. | Items on decision making | Extent of participation | | | |
|---|---|---|---|---|---|
| | | Fully (3) | Partially (2) | Rarely (1) | Not at all (0) |
| 1. | Daily family expenditure | | | | |
| 2. | Increase in family income | | | | |
| 3. | Family saving | | | | |
| 4. | Education of the children | | | | |
| 5. | Family health care and treatment | | | | |
| 6. | Family planning | | | | |
| 7. | Marriage of children | | | | |
| 8. | Crop production | | | | |

## 9. Market access

### A. Buying

| SL. No. | Item | Yes (1) | No (0) | | Please specify |
|---|---|---|---|---|---|
| 1. | Do you buy directly from producers? | | | If yes, for which products? | |
| 2. | Do you have any vegetal product, which you can only access from one available seller? | | | If yes, which crops? | |
| 3. | Are there animal produces, which you can only access from one available seller? | | | If yes, which product? | |
| 4. | Do you have any agreement or binding documents with the seller/provider? | | | If yes, describe your contract or agreement with the buyer | |

### B. Selling

| SL. No. | Item | Yes (1) | No (0) | | Please specify |
|---|---|---|---|---|---|
| 1. | Last year did you sell any of your crops/livestock/ seeds? | | | If yes, which ones? | |
| 2. | Do you sell/trade some of those products directly to consumers? | | | If yes, for which products? | |
| 3. | Do you have any product with only one available buyer? | | | If yes, which products? | |
| 4. | Do you have any agreement or binding documents with the buyer? | | | If yes, please elaborate what kind of agreement? | |

## 10. Information and Communication Technologies (ICTs) access

| SL. No. | Technologies | Do you use? | | Do you own? | | What do you use for? |
|---|---|---|---|---|---|---|
| | | Yes (1) | No (0) | Yes (1) | No (0) | |
| 1. | Mobile phone | | | | | |
| 2. | Internet connection | | | | | |
| 3. | Television | | | | | |
| 4. | Radio | | | | | |
| 5. | Computer | | | | | |
| 6. | Telephone | | | | | |

**11. Sustainable access to rural financial services**

Being involved with financial services/institutions, over the last 3 years what impacts/changes have you noticed?

| SL. No. | Items | Impacts/Changes | | | | |
|---|---|---|---|---|---|---|
| | | AGD (4) | QAL (3) | NO (2) | NVM (1) | NAA (0) |
| **Promoting access to individuals** | | | | | | |
| 1. | Financing Ag. (crops, livestock & poultry) production | | | | | |
| 2. | Alleviating poverty | | | | | |
| 3. | Improving food security | | | | | |
| 4. | Empowering women, girls and youth | | | | | |
| **Enhancing access to small and medium enterprises (SMEs)** | | | | | | |
| 5. | Giving credit for small and medium enterprises | | | | | |
| 6. | Increasing local financial networks | | | | | |
| 7. | Prioritizing youth for giving credit | | | | | |
| 8. | Giving credit on innovative enterprises/businesses | | | | | |
| **Strengthening the resiliency/diversity of the financial system** | | | | | | |
| 9. | Improving members' financial knowledge and uses | | | | | |
| 10. | Supporting diversified agriculture other than crops: fruit gardening | | | | | |
| 11. | Promoting crop diversification | | | | | |
| 12. | Improving sanitary and hygiene | | | | | |
| **Developing capital markets** | | | | | | |
| 13. | Creating local employments/jobs | | | | | |
| 14. | Empowering local economy | | | | | |
| 15. | Supporting high value agriculture, e.g., fruit gardening | | | | | |
| 16. | Promoting private fixed income instruments, e.g. generating local market for handlooms. | | | | | |

[AGD= A great deal; QAL=Quite a lot; NO=No opinion; NVM=Not very much; NAA=None at all]

## Purposes of credit use:

For which purpose do you use credit? Please answer

| SI No. | Purpose of credit use | Yes | No |
|---|---|---|---|
| 1. | Vegetable production | | |
| 2. | Crop production | | |
| 3. | Establishing handloom | | |
| 4. | Livestock raring | | |
| 5. | Fish culture | | |
| 6. | Poultry farming | | |
| 7. | Seasonal business | | |
| 8. | Establishing fruit garden | | |
| 9. | Open small business | | |
| 10. | Household use | | |

Thanks for your kind co-operation.

Dated: (Signature of interviewer)