

**EMPOWERMENT OF WOMEN WITH MICRO
CREDIT: A STUDY OF WOMEN SELF HELP
GROUPS IN GANJAM DISTRICT OF ODISHA**

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**By
Mr. Sangram Charan Panigrahi**

Under the Supervision of
Dr. Deepak Shah

**Gokhale Institute of Politics and Economics, India
Deemed to be University
Pune-411004
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SANGRAM CHARAN PANIGRAHI@2014

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Name of Research Student : Sangram Charan Panigrahi

Name of Principal Supervisor : Dr. Deepak Shah
Associate Professor

Degree : Doctor of Philosophy in Economics

Name of University : Gokhale Institute of Politics and Economics

Month and Year of Submission : March 2014

Dr. Deepak Shah
Associate Professor
Agro Economic Research Center
GIPE, Pune- 411004

CERTIFICATE

(FORM 'A')

CERTIFIED that the work incorporated in this thesis entitled “Empowerment of women with micro credit: A study of women self help groups in Ganjam district of Odisha” submitted by Sangram Charan Panigrahi was carried out by candidate under my supervision. It is an original contribution and has not been submitted elsewhere for the award of any degree. Such material as has been obtained from other source has been duly acknowledged in this thesis. I recommended that the thesis should be considered for the award of the degree of ‘Doctor of Philosophy’.

Date:

Place: Pune – 411004

Dr. Deepak Shah

(Research Guide)

DECLARATION BY THE CANDIDATE

I, Sangram Charan Panigrahi, hereby declare that this thesis on the topic entitled “Empowerment of Women with Micro credit: A Study of Women Self Help Groups in Ganjam District of Odisha” is submitted for the award in Degree of Doctor of Philosophy in Economics to the Gokhale Institute of Politics and Economics, Pune.

It is an original contribution and has been completed during my tenure as a research scholar at Gokhale Institute of Politics and Economics, Pune.

This thesis has not been submitted by me elsewhere for the award of any degree or diploma part or full. The information gathered by me elsewhere for the thesis is original, true and factual. Such material as has been obtain from other source has been duly acknowledged in the thesis. I hereby request, to consider the thesis for the award of the degree of ‘Doctor of Philosophy’.

March, 2014

Sangram Charan Panigrahi

ABSTRACT

EMPOWERMENT OF WOMEN WITH MICRO CREDIT: A STUDY OF WOMEN SELF HELP GROUPS IN GANJAM DISTRICT OF ODISHA

By Sangram Charan Panigrahi

Access to credit is widely accepted as a means to improve the welfare of individuals and households, both in the short and the long run. The efficient method of providing credit through formal financial institutions helps to meet adverse economic shocks and poverty eradication. In India, the mismatch between demand for formal financial institutions to sanction credit and lack of fulfillment of demand compels poor people to borrow from informal sources with exorbitant rate of interest. Credit inaccessibility in rural areas impedes the development of rural sector, which potentially decelerates the development of India's rural economy. The provision of credit to the bottom of pyramid i.e. poor and deprived section of the society through SHGs is considered as a win-win model, which has become more sustainable. Micro credit not only helps in providing employment and reduction of poverty but also focuses on empowerment of women. However, the impact of micro credit on Indian households shows mixed results. The optimistic group of researchers explored the benefits of micro credit and supported the provision of credit through SHGs. On the other hand, the pessimistic group found the adverse effect of micro credit on members and opposed the programme. Keeping the contentious issues relating to the effect of group credit, the present research attempts to examine the impact of micro credit on economic status of rural households, which is measured in terms of type of dwelling house, asset position and consumption pattern etc. The economic status of rural households has been evaluated through principal component analysis (PCA), whereas logistic regression analysis is used to examine the role of credit in increasing the economic status of households. This research also emphasises on the role of SHGs in empowering women, which is measured in terms of 29 proxy variables related to participation in decision making, power of work independency, level of awareness and attitudes towards wife beating etc. In addition, it examines the key factors that influence the accessibility of micro credit and determinants of informal credit of rural households in India. Primary data has been collected from female household respondents who are living

below poverty line (BPL) in rural areas (members and non members of SHGs). The impact of credit has been examined based on comparative approach with respect to three groups' i.e. old members (who have joined SHGs 4 to 7 years ago), new member (who have joined SHGs 1-4 years ago) and non members (who never joined SHGs).

One of the findings of this investigation is that the provision of credit through SHGs helps to raise the economic status of rural households. Similarly, association with SHGs allows women to participate in decision making process, raise their work independency and change their attitude towards wife beating. The members of SHGs are found to gain more knowledge not only in terms of banking activity but also in terms of financial activities like, calculation of rate of interest, profit etc. The result also shows a significant decline in supply of informal loan, number of migrants and degree of marital control in the borrower households as against non borrower households. However, the outcome also reveals that long term association with credit programme is insignificantly related to high economic status. Similarly, participation in SHGs is not seen to raise the awareness of women in rural areas due to their high illiteracy and lack of exposure to media. One of the recommendations of this study is in favour of providing training and entrepreneurial skill to members regarding use of credit for non-agricultural purposes. This would help in solving the problem of seasonal unemployment in the rural area. Besides, this research also recommends quick supply of loan and removal of middle-men in the SHGs programme for better transparency.

Key Words: Micro Credit, Self help Groups, Micro Finance, Economic Status, Women Empowerment, Principal Component Analysis, Factor Analysis, Logistic Regression

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“Dedicated to the hundreds of Women Self Help Group member residing below poverty line houses in rural area of India. Today the micro credit provides a ray of hope for future”

ACRONYMS

BPL	Below poverty line
BMASS	Block Mahila Achanlik Sahayika Sangha
CGAP	Consultative Group to Assist the Poorest
DMASS	District Mahila Anchalik Sahayika Sangha
DRDA	District Rural Development Agencies
HES	High Economic Status
LES	Low Economic Status
MANOVA	Multivariate Analysis of Variance
MFI	Micro Finance Institutions
NABARD	National Bank for Agriculture and Rural Development
OR	Odds Ratio
PCA	Principal Component Analysis
SBLP	Self Help Groups Bank Linkage Programme
SEP	Socio Economic Position
SHGS	Self help groups
SPSS	Statistical Package for Social Science
WSHGs	Women Self Help Groups

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CHAPTER 1

INTRODUCTION

1.1 Background

Finance is the root of economic growth and credit considers it as its branch. The latter grows vertically, which helps former to inflate horizontally. In other words, rapid growth of financial system depends upon strong and sound system of credit policy in an economy. Credit is a basic lubricant that helps to provide a push to the development process (Singh, 2000). It is a fourth basic prerequisite after food, cloth and shelter for the development of people. The Provision of credit to the needy people on right time at the right place leads to accelerate rural development and poverty alleviation (Pitt and Khandker, 1998). Delivery of credit at the doorsteps of those who are not covered by the formal banking business coupled with capacity building is one of the superior instruments to look poverty into a museum (Yunus, 2009). In a developing country like India, where majority of the population resides in rural areas, rural development becomes imperative for the economic development, and for the rural development, poverty reduction needs to be the focus of all development programmes. Though Government of India has initiated various poverty alleviation programmes since independence, not much progress has been marked. The root cause of the problem of poverty has been the economic dependence and lack of access to the credit. Most of the poor people living in rural areas are considered to be non-bankable and deprived from basic financial services due to lack of saving and collateral facilities offered to the finance provider, specifically the banking institutions (Arora and Meenu, 2010). As a result, low demand for credit has been observed in rural area, especially among backward caste, small farmers and people belonging to north east region (Rangrajan, 2008).

In India, insofar as the rural credit system is concerned, both formal and informal sectors play a leading role in providing access to financial services. The formal financial sector, consisting of the central bank, commercial banks, development banks, saving banks and insurance companies, is usually active in the organized urban-oriented systems, serving the monetized modern sector. On the other hand, the informal financial sector includes individuals such as moneylenders, relatives, friends, neighbors, landlords, traders, etc. who deal with the traditional, rural, subsistence-oriented branch of the economy. The existence of the informal financial sector may be a response to the shortcomings of the formal financial sector due to various restrictions imposed by the governments on the activities of such institutions. The informal financial system is not only characterized by a high degree of

flexibility and ease of transactions but also puts emphasis on personal relationships. As a result, poor people prefer to borrow from informal channels of finance like private money lenders, who generally exploit them in the name of financial help and make them lifetime indebted. This leads to limp down the growth rate of rural economy with chronic poverty.

Micro financing is one such intervention that aims at poverty reduction by providing basic financial services to the underserved section of the society at affordable terms. The objective is to ease the credit constraint of households or to provide them with capital to initiate an activity, thereby increasing their income and consumption. Micro credit programmes are also being used to target the poor, especially women, to involve them in income-generating activities (Khandker, et.al, 1998). Cheston and Kuhn (2002) study found that some 74 per cent of micro credit borrowers in the world are women. The rationale behind lending to women is that most of women borrowers have been proven to be more creditworthy than men, in addition to the best ability of controlling the use of loans (Garikipati, 2006; Ang, 2004). The poorest, especially women, when receive credit, they become economic actors, and with power, they can improve not only their own lives but in a widening circle of impact, the lives of their families, their communities, and their nations. The small amount of loan helps in self employment and a thriving little business generating enough income to feed the family, send kids to school, and build decent housing (Bakhtiari 2006). In India, the provision of credit through Self Help Groups (SHGs) approach by National Bank for Agricultural and Rural Development (NABARD) was started in 1992, which not only helps to improve the village economy but also make the rural financial system to move towards more inclusive and sociable development for common people. An attempt has been made in this research to examine the impact of credit through Women Self Help Groups (WSHGs) on the households living below the poverty line¹ (BPLs) in rural areas of Odisha. The provision of credit facilities through Self Help Group helps to increase economic status, access to formal credit and empowerment of women households living below poverty line. As a result, most of the people living in rural areas have joined in SHGs to get credit, making it the largest and fastest network of financial inclusion.

¹ As per the recommendation of the Government of Odisha 2002, a household with an annual income of less than Rs.20,000 is considered as poor and remains below poverty line. There are 46.40 per cent people who live below poverty line in Odisha. Further, as per the recommendation of planning commission based on uniform recall period in Odisha (2005), monthly per capita expenditure of Rs.325.79 for rural areas and Rs.528.49 for urban areas is considered as people living below poverty line. However, there are 27.50 per cent people in India who live below poverty line based on per capita expenditure of Rs.356 for rural and Rs.538 for urban area.

1.2 India's Financial Inclusion: An Overview

The provision of different financial services from formal sources to the poor people living in rural area has led to initiate the mission of financial inclusion in India. Financial inclusion has been defined as the “*provision of affordable financial services*” (RBI, 2006) to those who have been left unattended or under-attended by formal agencies of the financial system. These financial services include “*payments and remittance facilities, savings, loan and insurance services*”. The process of financial inclusion ensures an access to financial services, timely and adequate credit needed by vulnerable groups such as weaker sections and low-income groups at an affordable cost (Rangarajan, 2008). It generally helps the financially excluded sections, largely comprising of marginal farmers, landless laborers, self employed and unorganized sector enterprises, urban slum dwellers, migrants, ethnic minorities, senior citizens and women (Thorat, 2007). The major reasons for financial exclusion include: (a) a low-income status, (b) unemployment, (c) belonging to an ethnic group, (d) living in remote or interior areas, (e) suffering from illness or disability, (f) lack of awareness, (g) illiteracy and (h) social segregation (Reynolds, 2003; Thorat, 2007). Further, countries with the highest level of income inequality and people with a history of bad debts have the highest levels of banking exclusion (Kempson et. al, 2004). Different supply-side factors such as ineffective government intervention, procedural rigidities, refusal by banks, identity requirements, onerous terms and conditions, bank charges, etc. are the main reasons of financial exclusion in developing countries (Ferrari, 2007). In India, since the beginning/ inception of national plans, successive governments have emphasized the role of finance in promoting equitable growth. With the overwhelming majority of Indian poor living in rural areas, policies aimed at financial inclusions have understandably focused on the rural economy.

In order to include poor people residing in rural areas, various institutions like commercial banks, Regional Rural Banks (RRBs) and Cooperative societies were established at the national, state, district and village levels to intermediate savings and credit for investment. The objectives of broad based financial development would allow financial institution to mobilize savings and allocate it to agriculture and small industry through low price loans. This has led to the expansion of financial institutions as more than 1,50,000 rural credit outlets cater to the requirements of 680 million of rural population, giving a population per credit outlet ratio of 4,155 in 2006-07 (Karmakar, 2008). It overwhelmingly shows more inclusive approach of Indian banking towards common people. However, majority of the rural population still do not appear to have access to finance from formal sources, and the poor, in particular, face serious problem in getting finance.

Although no official survey of rural financial access was conducted since 1991, the World Bank and the National Council of Applied Economic Research (NACER) conducted Rural Finance Access Survey (RFAS) in 2003 and covered 6,000 households in the states of Andhra Pradesh and Uttar Pradesh. The results from the above survey show that some 59 per cent of rural households do not have a deposit account and 79 per cent of rural households have no access to credit from a formal source. Indeed, a bank's branch in a rural area appears to serve primarily the needs of rich borrowers. This is concomitant from the fact that while some 66 per cent of large farmers have a deposit account, 70 per cent of marginal farmers do not have even a bank account. Further, while 44 per cent of large farmers have access to credit, 87 per cent of marginal farmers do not have access to credit from a formal source. There are cases where households or clients have paid bribes to get loans. For instance, 27 per cent of clients from RRBs, 27 per cent from commercial banks and 10 per cent from credit cooperatives have paid bribes to get loan. The procedures for opening an account or seeking a loan are cumbersome and costly with high rejection rates. It takes, on an average, 33 weeks for a commercial bank to approve loan. Longer processing times for loans together with bribes have led the small borrowers to seek loan from informal sources of credit due to cost ineffectiveness of loan from formal sources.

The survey also found that the bulk of rural account holders (51 per cent) belong to commercial banks as compared to 34 per cent of account holders belonging to Regional Rural Bank (RRBs). The cooperative sector accounts for only 12 per cent share in total rural account holders, whereas the post office system, despite having a very wide network of branches and close proximity to rural clients, surprisingly accounted for only 2 per cent share in total rural account holders. Further, it is noticed that about 87 per cent of borrowers of commercial banks and 89 per cent of RRBs provided collateral while seeking loan. About 44 per cent of the households, mainly poor and small farmers, are found to borrow loans from informal sources during the last at an annual rate of interest of 48 per cent. The main source of informal borrowing is noticed to be moneylenders since 56 per cent of informal borrowers took loan from this source of lending, followed by 31.36 per cent from friends and relatives, and the remaining 13 per cent seeking loan from various micro finance agencies (through SHGs or NGOs) and other informal sources. About 29 per cent of informal borrowers used their loans for meeting "family emergencies" and 19 per cent used it towards social expenses such as births, marriages, deaths, etc., followed by 25 per cent investing it on land, building and towards other household expenses. The flexible repayment of informal loans, their shorter duration (as compared to formal loans), and the frequency with which they can be

accessed appear to be significant features that make such loans more attractive to the poor (Basu, 2006).

According to NSSO 59th round data, 51.4 per cent of farmer households are financially excluded from both formal and informal sources (459 lakh out of 893 lakh). Of the total farmer households, only 27 per cent have the access to formal sources of credit; one third of this group also borrows from non-formal sources. Altogether, about 73 per cent of the farmer households have no access to formal sources of credit. The north-eastern region has the highest non-indebted farmer households (80.4 per cent), both from formal and informal sources, as compared to eastern region (60 per cent), central region (58.4 per cent) and northern region (48.7 per cent). However, the southern region has the lowest non-indebted households with 27.3 per cent, followed by western region with 46.3 per cent, both from formal and informal sources. The farm households do not access credit from formal sources since the proportion of households not seeking loan to total farm households works out at 95.91 per cent for north eastern region, 81.26 per cent for eastern region and 77.59 per cent for central region. In terms of an absolute number, these regions put together account for 64 per cent of farm households who do not access credit from formal sources (415 lakhs out of 649 lakhs). Most of the non-indebted farmer households are noticed to be in northern, north-east and central regions. However, all the states in the southern and western region are beset with indebted households, indicating more financial inclusion in these regions.

1.3 What Is Micro Credit/ Micro Finance?

In recent years, micro credit has become as a fulcrum for development initiatives for the poor, particularly in the developing countries. Micro credit is the process of lending capital in small amounts to poor people who are traditionally considered unbankable; enable them to invest in small enterprises for self-employment (Kasim and Jayasooria, 2001). The World Bank (2006) describes micro credit as “*a process in which poor families borrow large amounts (or lump sums) of money at one time and repay the amount in a stream of small, manageable payments over a realistic time period using social collateral in the short run and institutional credit history in the long run*”. The loans are given for the purpose of supporting income generating activities in the informal economy, often through self-employment. This type of credit programme creates an image of women as ‘ideal, dutiful, hardworking, resourceful, responsible and efficient’, single handedly and smilingly carries the burden of the family, community, nation and assumes that all women are ‘budding entrepreneurs’ (Wagh, 2009). It is best known as the “*Grameen Bank*”, founded by the Nobel Prize winner Professor Muhammad Yunus, and is defined as loan distribution and recovery based on

mutual trust, accountability, participation, and creativity. Rather than providing collateral, borrowers must make regular savings as a precondition for getting such loans (Grameen Bank 2004; Yunus 2004).

Compared to traditional lending, loans from the micro credit programmes are usually in small amounts and have relatively shorter repayment recycles. The access and efficient provision of micro credit enables the poor to smooth their consumption, better manage their risks, gradually build their assets, develop their micro enterprises, enhance their income earning capacity, and enjoy an improved quality of life (Bakhtiari, 2006). Added to this, micro finance provides a broad range of financial services such as deposits, loans, payment services, money transfers, insurance (ADB, 2004; NABARD, 2000) and non-financial services, including skill upgradation, entrepreneurship development rendered to the poor, low-income households and their micro enterprises (Sarkar and Singh, 2006; Khandewal, 2007; RBI, 2011). It is considered as a “silver bullet” or “Golden Stick” that helps the poor to avoid distress sales of assets and replace productive assets (Kalpana 2000). Different micro finance institutions/NGOs provide both financial as well as social intermediation to their clients (Ledgerwood, 1999; Robinson, 2002). The financial intermediation includes the provision of savings, credit and insurance services, while social intermediation involves organizing groups to voice their aspirations, raise concerns for consideration by policy makers and develop their self-confidence. Thus, the micro finance institutions are providing following services to their customers:

Micro credit: It is a small amount of money loaned to a client by a bank or other institution. Micro credit can be offered, often without collateral, to an individual or through group lending.

Micro-savings: These are those deposit services that allow one to save small amounts of money for future use. Often without minimum balance requirements, these savings accounts allow households to save in order to meet unexpected expenses and plan for future investments.

Micro-insurance: It is a system by which people, businesses and other organizations make a payment to share risk. Access to insurance enables entrepreneurs to concentrate more on developing their businesses while mitigating other risks affecting the property, health or the ability to work.

Remittances: These are transfers of funds from people in one place to people in another, usually across borders to family and friends.

1.3.1 Characteristics of Micro Finance

Compared to traditional lending, micro credit has its own vivid characteristics. Loans from the micro credit programmes are usually in small amounts and have relatively shorter repayment recycles. Swaminathan (2007) explored that the micro credit is usually associated with: (a) very small loans (b) no collateral (c) the formation of borrower groups (d) borrowers from among the rural and urban poor (e) loans for income generation through market-based self-employment, and (f) privatisation, generally through the mechanism of NGO control over disbursement and determination of the terms and conditions attached to each loan. The followings are the main characteristics of micro finance:

Access to finance to the poor

The only difference between micro-finance and the formal banking system is that the latter has been geared to rich urban clients, while the market for micro-finance services consists primarily of poor rural people who need a credit in order to pursue their small enterprises. The main target group of micro finance projects consists of a fraction of those who need the credit. This target group is generally at below a line of absolute poverty as determined by national estimates. In addition, micro finance emphasizes lending to poor women who are disproportionately represented by disadvantaged groups in accessing conventional financial services from formal financial institutions.

Basic financial services

The micro finance provides basic financial services like small loans, savings and insurance to those people who are bypassed by the formal financial institutions. They have no access to financial services through formal financial organizations such as banks, non-bank financial institutions, financial cooperatives, credit unions and finance companies. The provision of financial services can lead to income generation, repayment of loans, savings, and building of assets, etc.

No collateral

Microfinance involves loans without collateral. Collateral is always a compulsory requirement in traditional lending as a way of minimizing default risk anticipated by lenders. Such collateral requirement becomes more rigid if borrowers are economically poor. However, the poor usually do not own valuable assets which can be used as appropriate collateral when applying for loans from traditional financial institutions, and, as a result, poor people are historically considered non credit worthy and precluded from the traditional credit markets. Microfinance is an innovative idea that challenges the traditional lending wisdom of

‘no collateral means no credit’. It deems the poor as credit worthy as the rich, and provides collateral free loans to the poor to develop entrepreneurial activities.

Group-credit

Micro credit loans are generally advanced to individuals who are members of groups. The group (or SHG) is, in fact, viewed as standing in the place of collateral (Hashemi and Morshed, 1997). The presence of a group has been called a form of “social collateral” on the loans, which reduces the costs of screening and monitoring borrowers, and ensures timely repayments for lenders (Anderson and Nina, 2000; Besley and Coate, 1995; Johnson and Rogaly 1997). However, each individual borrower assumes responsibility for the loan repayment of his or her group, which means all group members are jointly liable. As a result, the principle of joint liability creates an incentive mechanism by which individual borrowers are stimulated to select credible members in group and to enforce repayment in case a group member fails to fulfill his or her obligation. The formation of groups has the double advantage of lowering transaction costs and improving repayment (NABARD, 2000).

Development of micro enterprises

The main objectives of micro-finance services are to create a self-employment opportunity through the development of micro enterprise for the poor people. The easy access to credit helps the poor women to start a tiny industry based on the available local resources and contribute little income to the households. The growth of small industry enlarges employment facilities in the rural area and develops entrepreneurship skill, financial literacy and management.

1.3.2 Difference between Micro Credit and Micro Finance

The concept of micro finance emerged in the early 1990s with the recognition that poor people needed a wide range of financial services, covering credit, savings and insurance. Both micro finance and micro credit are usually used interchangeably. However, micro credit is always dovetailed with thrift and hence micro finance is a more appropriate expression rather than credit. Micro finance includes the whole gamut of financial services like thrift, credit, insurance, leasing of equipment, remittance, etc. required by the poor (Manikalai, 2004). It covers a wide variety of loans for consumption as well as production such as housing loans, education loans, agricultural loans and loans for small enterprises. There are some conceptual and functional differences between micro credit and micro-finance.

The first concerns the profit motive. NGOs or non-profits that run micro credit programmes do not, by definition, seek to make a profit. Most micro credit programmes are run by NGOs, which are by definition voluntary, non-profit development organizations that

depend on external sources of finance. Micro-finance, however, is a for-profit private venture. By contrast, micro-finance programmes seek to generate enough profit for self-financing.

The second fundamental difference concerns the means by which the operations are financed. Micro credit programmes that are run by non-profits depend upon external finance, whereas micro-finance programmes set out to make a profit and must eventually be self-financed. They do not approach either national or international donor agencies for investment funds. Thus different national and international development agencies cannot help MFIs to pursue their lending ventures for obvious reasons.

The third basic functional difference between micro credit and micro-finance programmes concerns the type of service that they provide. Micro credit programmes provide mainly one kind of service: loan distribution, collection, financial and organizational activities associated with such operations. Micro-finance programmes provide a range of financial and organizational services, including credit, savings, insurance, and community development. In other words, micro-finance programmes provide all kinds of financial service, including micro credit.

Lastly, micro credit programmes provide 'product centered' services, as they find customers to match the demands of their product (small loans), rather than developing products to match the demands of their customers. The key methods used in micro credit schemes are: a standardised and limited set of products and services, group lending, social collateral, forced savings, small initial loan size, loan size tied to savings, standardized loan repayment and disbursement schedules, frequent repayments (Khandakar and Rahman, 2006). The proponents of the micro finance revolution recommend to replace the product-centered approach to the customer-centered approach. This new approach involves developing and providing financial services that the customers want. Evidence suggests that the product-centered orientation is becoming increasingly dysfunctional (Woller, 2002).

1.3.3 Origin of Micro Credit/ Micro Finance

The concept of micro credit was originated by Noble laureate (2006) and Medal of Freedom' award (2009) winner Prof Muhammad Yunus of Bangladesh. The history of micro credit movement dates back to 1976 when Mohammed Yunus had initiated the Grameen Bank experiment at the outskirts of Chittagong University, Bangladesh. He is recognized as the father of Micro credit (Mahajan, 2005). The year 2005 was declared as "*International year for micro credit*". The Norwegian Nobel Committee awarded the Nobel Peace Prize for 2006, divided into two equal parts, to Professor Muhammad Yunus and Grameen Bank for

their efforts to create economic and social development. The success of a number of institutions, particularly the well-publicized achievements of the Grameen Bank of Bangladesh, Bank Rakyat in Indonesia and BancoSol in Bolivia, have shown that there are different more commercially oriented ways to help the poor.

In case of India, the first official interest in informal group lending took shape during 1986-87 on initiative of the National Bank for Agriculture and Rural Development (NABARD). As a part of this broad mandate, NABARD initiated certain research projects on Self-Help Groups (SHGs) as a channel for delivery of microfinance in the late 1980s (Satish, 2005). Amongst these the Mysore Resettlement and Development Agency (MYRADA) sponsored action research project on “Savings and credit management of SHGs” was partially funded by NABARD in 1986-87. During 1988-89, in collaboration with some of the member institutions of the Asia-Pacific Rural and Agricultural Credit Association (APRACA), NABARD undertook a survey of 43 NGOs in 11 states in India to study the functioning of micro finance SHGs and their collaboration possibilities with the formal banking system. Both these research projects threw up encouraging possibilities and NABARD initiated a pilot project called the SHG bank linkage project. However, by then micro financing through ‘non-formal’ financial organizations had already started on a cooperative principle in 1974 in Gujarat. Self Employed Women’s Association (SEWA) was established for providing banking services to the poor women employed in the unorganized sector in Ahmedabad. It has been providing financial services to the poor and self-employed working as hawkers, vendors, domestic servants, etc. The provision of credit to ‘bottom of the pyramid’, i.e. women, poor, rural and deprived section of the society through SHGs was considered as win-win models, which became more sustainable. The model not only ensures employment opportunities but also helps in reducing poverty, besides focusing on empowerment of women.

1.3.4 Who Provides Micro Credit?

There are several micro financing institutions (MFIs), non government organizations (NGOs), self-help groups (SHGs), banks and other institutions, which are actively engaged in micro financing activities with innovative methods. In India, there are two main models of micro credit viz. ‘Micro Finance Institution (MFI) model’ and ‘Banking model’ (Planning Commission, 2007). In the ‘MFI model’, SHGs are formed and financed by the MFIs that obtain resource support from various channels. These informal institutions that undertake micro finance services as their main activity are generally referred to as Micro Finance Institutions (MFIs).

MFIs Model and Legal Forms

The MFIs in India can be broadly sub-divided into three categories of organizational forms as given in Table 1.1. While there are no published data on private MFIs operating in the country, the number of MFIs has been estimated at around 800. However, not more than 10 MFIs are reported to have an outreach of 100,000 micro finance clients (Karmakar, 2008). An overwhelming majority of MFIs is operating on a smaller scale with clients ranging from 500 to 1500 per MFIs. It is estimated that the MFIs account for 8 per cent share in the total micro credit portfolio of formal and informal institutions (Satish, 2005).

Table 1.1 Legal Forms of MFIs in India		
Types of MFIs	Estimated Number*	Legal Acts under which Registered
Not for Profit MFIs		
A) NGO - MFIs	400 to 500	Societies Registration Act, 1860 or similar Provincial Acts, Indian Trust Act, 1882
B) Non-profit Companies	10	Section 25 of the Companies Act, 1956
Mutual Benefit MFIs		
C) Mutually Aided Cooperative Societies (MACS) and similarly set up institutions	200 to 250	Mutually Aided Cooperative Societies Act enacted by State Government
For Profit MFIs		
D) Non-Banking Financial Companies (NBFCs)	6	Indian Companies Act, 1956 Reserve Bank of India Act, 1934

Total=700 – 800 *Estimated number includes only those MFIs, which are actually undertaking lending activity. Source: (Satish, 2005)

NGO MFIs: There are large numbers of NGOs that have undertaken the task of financial intermediation. The majority of these NGOs are registered as a Trust or Society. Many NGOs have also helped SHGs to organise themselves into federations, and these federations are registered as Trusts or Societies. Many of these federations perform non-financial and financial functions like social and capacity-building activities, facilitate training of SHGs, undertake the internal audit, promote new groups, and some of these federations are engaged in financial intermediation. The NGO MFIs vary significantly in their size, philosophy and approach and bylaws of these institutions are generally restrictive in allowing any commercial operations.

Mutual Benefit MFIs: The State Cooperative Acts did not provide for an enabling framework for the emergence of business enterprises owned, managed and controlled by the

members for their own development. Several State Governments, therefore, enacted the Mutually Aided Co-operative Societies (MACS) Act for enabling promotion of self-reliant and vibrant co-operative societies based on thrift and self-help. MACS enjoys the advantages of operational freedom and virtually no interference from government because of the provision in the Act that societies under the Act cannot accept share capital or loan from the State Government. Many of the SHG federations, promoted by NGOs and development agencies of the State Government, have been registered as MACS. Reserve Bank of India, even though may be providing financial service to its members, does not regulate MACS.

For Profit MFIs: Non Banking Financial Companies (NBFC) are companies registered under the Companies Act, 1956 and regulated by Reserve Bank of India. Earlier, NBFCs were not regulated by RBI but in 1997 it became obligatory for NBFCs to apply to RBI for a certificate of registration and for this certificate NBFCs were supposed to have minimum Net Owned funds of Rs 25 lakhs and this amount has been gradually increasing. The RBI has introduced a new regulatory framework for those NBFCs who want to accept public deposits. All the NBFCs accepting public deposits are subject to capital adequacy requirements and prudential norms. There are only a few MFIs in the country registered as NBFCs. Many MFIs view NBFCs as more preferred legal form and are aspiring to be NBFCs but finding it difficult to meet the requirements stipulated by the RBI. The number of NBFCs having an exclusive focus on MF is negligible.

Banking Model

In case of the banking model, self-help groups are formed and financed by banks. In some cases SHGs are formed by formal agencies/NGOs and financed by banks. Various apex institutions like National Bank for Agriculture and Rural Development (NABARD), Small Industries Development Bank of India (SIDBI) and Rashtriya Mahila Kosh (RMK) help to provide micro credit services through formal financial institutions and MFIs. Various Commercial Banks, Regional Rural Banks (RRBs) and Cooperative Banks have been providing micro credit services to SHGs. These formal financial institutions also assist funds to MFIs for on-lending to poor clients with minimum rate of interest. In India, the majority of micro credit activity is under the 'Banking model' (NABARD's Bank-SHG Linkage) and 10-15 per cent of the activity is through 'MFI model'. According to the report of the RBI, the SHG-Bank linkage Model accounts for about 58 per cent of the outstanding loan portfolio. Similarly, the Non-Banking Finance Companies (NBFCs) is accounting for about 34 per cent of the outstanding loan portfolio and others, including trusts, societies, etc, account for the remaining 8 per cent of the outstanding loan portfolio (RBI, 2011).

1.3.5 SHG-Bank Linkages programme—Indian Experience:

The Indian concept of micro finance encourages on access of SHGs to banks, both as a means of savings and providers of loan services. The linkages between self-help groups (SHGs) and bank, pioneered by NABARD in 1992, aimed at providing a cost-effective mechanism of financial services to the “enriched poor”. Under this model, women in a village are encouraged to form a self-help group (SHG) and members of the group regularly contribute small savings to the group. These savings, which form an ever growing nucleus, are lent by the group to members, that later get supplemented by loans provided by banks for income generating activities and other purposes of sustainable livelihood promotion. The Group engages weekly/ monthly meetings by when new savings come in, and recoveries are made from members towards their loans from the SHGs, their federations, and banks. NABARD provides grants, training and capacity-building assistance to Self Help Promoting Institutions (SHPI), which, in turn, acts as facilitators/ intermediaries for the formation and credit linkage of the SHGs. Today, the SHG concept is a resounding success in India and has become one of the most successful programmes run by NABARD (Majumdar, 2003). It has been looked upon as an important means of financial inclusion to provide basic financial services in India (RBI, 2006). The provision of financial services proactively should not just be as a means of financial inclusion but it has to work towards reducing dependence of poor borrowers on various informal sources of credit that are often notorious for the onerous terms at which they offer credit.

The self-help group bank linkage programmes revived life of the rural financial system by providing the taste of credit and opportunity of saving to the “Common man” living in rural areas. As a result, the total amount of saving of Rs 7,016 crore has been collected from 74.62 lakh SHGs as on March 2011 covering 97 million families, making largest and fastest financial network in the world. There were 11.96 lakh SHGs who have been provided with bank loans of Rs 14,547 crore in 2010-11. The average loan amount outstanding is Rs 65,223 per group and Rs 5,017 per member as on March 2011. The growth of SHGs leads to reduction of poverty in rural areas with the empowerment of women in an enthusiastic approach (Kumar and Golait, 2009).

1.3.6 Impact of micro credit on poverty eradication and empowerment

The appropriateness of micro credit as a tool for reducing poverty depends on local circumstances. Poverty is often the result of low economic growth, high population growth, and extremely unequal distribution of resources. In many countries, such as in India, poverty is caused by lack of both physical and human capital. Consequently, the best way to reduce

poverty is to deal with the problems; increasing productivity by creating employment and developing human capital. Lack of savings and capital make it difficult for many poor people who want jobs in the farm and non-farm sectors to become self-employed and to undertake productive employment generating activities. Providing credit seems to be a way to generate self-employment opportunities for the poor. Micro credit programmes are able to reach the poor at affordable cost and thus helping the poor to become self-employed. It helps the women by providing chances of extra income using their local resources and knowledge within the house. The earning through credit increases bargaining power, awareness, power of work independence and participation in decision making of the women. The positive changes are noticed in the attitude of husbands towards their wife as now she can contribute to the economic aspect of the family. It improves the position of women from a bread maker to the bread earner for the households. Moreover, participation in SHGs increases their voices against illegal activities in the society, create leadership quality, awareness about financial terms and acquaintance with banking procedures (Sanyal, 2009; Wagh, 2009).

1.4 Research Problem

A large number of households in India are still trapped in poverty. A major cause of poverty among rural people is lack of access to productive assets with respect to both individuals and communities. This is caused by the fact that the formal credit institutions that function smoothly in developed urban areas cannot cater to the credit needs of rural poor due to lack of information about the borrowers, lack of proper collateral among the poor people, which are acceptable to the formal financial institutions. There are also enforcement problems in case of default. The inadequate credit supply to rural people impedes the development of the rural sector, which potentially decelerates the development of India's rural economy. Alternatively, people have to rely on informal credit source to support their production and consumption activities by accepting credit at a much higher rate of interest, which leaves them in a 'vicious debt circle' with little hope to shake off poverty. The failure of formal lending institutions and the apparent success of Bangladesh's Grameen Bank in reaching the rural poor have recently inspired numerous non-governmental organizations (NGOs) and governments of less developed countries to establish a group-lending scheme to deliver credit at low cost and reasonable interest rates to small-scale rural entrepreneurs (Coleman, 1999). India is not an exception to this phenomenon.

Micro credit was introduced in India as an efficient anti-poverty programme, aiming to facilitate credit access to rural households and mitigate the rural poverty. However, in spite of the efforts made by the Indian government to support and popularise the implementation of

micro credit, empirical studies on Indian clients' accessibility to micro credit show mixed results (Ray, 2008; Basu and Srivastav, 2005; Torri, 2010). On the other hand, empirical studies examining the social potential of micro credit such as reducing poverty and empowering women are limited in India. Different socio economic impacts of micro credit on the livelihoods of India's rural households are not well documented. The purpose of this research is to assess the impact of micro credit in rural India, specifically focusing on two aspects viz. household's economic status and women's empowerment. The lack of formal credit facilities is considered as the major constraint in improving Indian poor client's livelihoods. Thus, it is reasonable to assume that micro credit, which targets rural households for the provision of credit, could have a positive impact on households' possession of assets and consumption, resulting in increasing the households' economic status. Gender disparity and discrimination are essential characteristics of rural society in India. The prevalence of gender inequality still exists in almost all social aspects including political power, education, health, employment, asset possession, and the problem is far more serious in rural, poverty-stricken areas where women usually lack sources of income (Kumar, 2006; Dutt and Samanta 2006). Therefore, it is believed that micro credit can contribute to the empowerment of rural women in India by enabling them to be financially independent (GOI, 2007). In addition to the impact assessment, the study identifies different determinants of participation in SHGs to access micro credit.

This research focuses on the impact of micro credit on women household members living below the poverty line (BPL) in rural areas of Ganjam district of Odisha. The members receiving loans under the "Swarnjayanti Gram Swarajgar Yojana²" (SGSY) and Block Mahila Swaynsahayak Sangha³ (BMASS) programme during the period of 2009-2011 are selected/ considered as the sampled households. The Government initiated self-employment programme named as "Swarnjayanti Gram Swarajgar Yojana" (SGSY) to provide assistance to the BPL households for establishing micro-enterprises through bank credit and government subsidy to augment income generating assets. The objective of SGSY is to bring assisted family above the poverty line within three years by providing them income generating assets

² SGSY is holistic Scheme covering all aspects of self-employment such as organization of the poor into Self Help Groups, training, credit, technology, infrastructure and marketing. The scheme came into being on 1st April, 1999 in rural areas of India. The scheme will be funded by the financial institutions, Panchayat Raj Institutions, District Rural Development Agencies (DRDAs), Non Government Organisation (NGOs), and Technical institutions in the district. They will be involved in the process of planning, implementation and monitoring of the scheme.

³ The village level SHGs are federated at Block to form B-MASS. It is a registered body under Society Registration Act 1860. It acts as an interface between SHGs and the nodal Bank.

through a mix of bank credit and Government subsidy.⁴ The rural poor such as those with land, landless labour, educated unemployed, rural artisans and disable person are covered under the scheme. However, another credit programme BMASS is also helping in providing credit to the SHGs through commercial bank in the district. The SGSY programme provides credit under the guidance of District Rural Development Organization (DRDO), and BMASS is providing credit under the guidance of DMASS.⁵ It makes the programmes more successful with the highest number of SHG being formed in Ganjam district as compared to other district in Odisha as on March 2010.

1.5 Research Objectives

The broad objectives of the study are to understand the economic and empowerment impacts of micro credit on women households living below poverty line in Ganjam district of Odisha, India. The specific objectives are:

1. To compare the economic status of borrowers and non-borrowers of micro-credit.
2. To examine the factors influencing economic status of BPL households living in rural areas.
3. To measure the relationship between participation of members in SHGs and empowerment of women.
4. To analyse the determinants of participation of women in SHGs to avail credit.
5. To find out factors affecting loan borrowed by households from informal sources.
6. To investigate awareness of women regarding banking related activities, marital control and operations of SHGs.

1.6 Methodology and Data

The present research uses descriptive analysis viz. graphs, averages, ratios and percentages with respect to secondary information collected on empowerment of women and growth of SHGs bank linkage programmes in India. This study has examined Indian Human Development Survey (IHDS, 2005) to identify the factors determining empowerment of women in India. Information on various parameters relating to type of housing, consumption pattern and availability of household assets has been collected and used as proxy indicators to measure the economic status of households (Henery et.al, 2003). The economic status score

⁴ Subsidy under SGSY will be uniform at 30 per cent of the prospect cost, subject to a maximum of Rs. 7,500/-. In respect of SC/ST it will be 50 per cent of the project cost to a maximum of Rs. 10,000 /-. For groups of Swarozgaris (SHGs) the subsidy would be at 50 per cent of the cost of the project, subject to a ceiling of Rs. 1.25 lakhs.

⁵ It is the apex body at district level for all MASS, which is also registered separately under the Societies Registration Act. 1860. It sensitizes the poor functioning of MASS, motivates them and prepares different strategies for its improvement.

of each sampled household is calculated through principal component analysis (PCA) technique using the proxy variables (Henery et.al, 2003; Filmer and Pritchett, 1998; Sahn and Stifel, 2000; Henery, 2003; McKenzie, 2005; Moser and Felton, 2007). The sampled households have been divided into two categories based on the economic status score and logistic regression is applied to find out the key determinants of higher economic status (Amaza et.al, 2009; Achia, et.al, 2010). A detailed analytical framework is provided in Chapter 5. The application of PCA would help to measure relative poverty of households, whereas the use of logistic regression would help to examine the impact of credit to raise the economic status of clients. Further, information has also been collected from the female respondents with respect to their decision making process, power of work independency, awareness of different social issues and their attitude towards 'wife beating'. These parameters have been used in factor analysis to construct the empowerment factors (Rogers et.al, 1998; Kishor, 2003, 2005; Vijayanthi, 2002; Lather et.al, 2009), and multivariate analysis of variance (MANOVA) is applied to examine the role of SHGs in empowerment of women. The study has applied logistic regression to find out the key factors influencing rural women's ability to participate in SHGs (Li, 2011; Kumar, 2009; Anjugam, and Ramasamy, 2007). The information gathered from the household survey included household characteristics such as age, gender, family size, etc., which were hypothesized to influence the households' accessibility to micro credit. These household characteristics also served as control variables in the impact analyses.

Primary data were collected from BPL women household members and non-members of SHGs using well structured questionnaire. The members of SHGs were treated as treatment group and non-members as control group. The impact of credit is examined by comparing three groups viz. old members of SHGs who joined the group more than 4 years ago, new members of SHGs who joined the group from 1-4 years, and non-members of SHGs. Secondary data were collected from the offices of BMASS located in the selected blocks, which comprised of information on household characteristics (viz. age, amount of loan and subsidies sanctioned, etc.) of borrowers receiving credit under SGSY and BMASS programmes during the period of 2009-11. The structured interview schedules were administered in Ganjam district of Odisha to collect relevant information on various parameters.

There are 30 districts in the state of Odisha of India. Ganjam is one of the major agricultural districts of Odisha. It is broadly divided into two divisions viz. the coastal plain area in the east and hill and tablelands in the west. The Per Capita Net District Domestic

Product (NDDP) of Ganjam was estimated at Rs.13,076 in 2006-07 at 1999-2000 constant prices as against Rs.15,760 for the state of Odisha for the same year. The Gross District Domestic Product (GDDP) of Ganjam stood at 6.97 per cent of the total GSDP of the State during 2006-07 at 1999-2000 constant prices. During the same year, the Net District Domestic Product (NDDP) of Ganjam was estimated at 7.14 per cent of the total GSDP of the state (Economic Survey, 2011). This district has secured 11th position on district-wise living conditions composite index constructed through Taxonomic method by taking into account 18 socio-economic indicators, which promote the living condition of the people (Reddy, 1977; Behera and Mitra, 1996)⁶. There are about three lakh families in the district who live below the poverty line. The families living in interior pockets have a vulnerability to ill health, economic distortion and natural calamities. The credit and deposit ratio of the District is 37 per cent as against the minimum norm of 60 per cent as stipulated by the RBI. The district has the largest financial exclusion of the households from formal sources (RBI, 2009). The sampled BPL households, both members and non-members, drawn from the rural area of Ganjam district have helped in providing information relating to the causes of loan sought from informal sources and the impact of credit received from the formal sources and their benefits. The impact of credit on the level of empowerment of women in BPL families would help in designing the programmes aimed towards welfare oriented approach through self-employment in the rural area.

1.7 Research Questions

In the present research, an attempt has been made to examine the economic and empowerment impacts of micro credit on the women households. In this context, a number of questions related to the impact of micro credit on group formation by the women members have been raised that need to be addressed empirically. The relevant questions in this respect revolve around: whether member households enjoy higher economic status as compared to their non-member counterparts? Does participation in SHGs increase decision making power and work independency of members? Is there any relationship between participation in SHGs and consequently rise in awareness of borrowers? Does rise in awareness impact living standard of member households? Is there any change occurring in the attitude of women members towards gender discrimination? Whether participation in SHGs has led to reduce the degree of marital control, migration and informal credit supply in rural areas. Has the

⁶ http://planningcommission.nic.in/plans/stateplan/sdr_orissa/sdr_orich8.pdf

group formation by members increased their knowledge about bank related activities and access to information?

1.8 Research Hypothesis

To understand and examine the above research questions, the present study has formulated following research hypothesis:

- (i) The availability of credit through WSHGs helps to improve the economic status of borrowers as compared to non-borrowers.
- (ii) Micro credit significantly reduces the share of informal credit and migration level of borrowing households as compared to non borrowers.
- (iii) The old members of SHGs are better off than new members and non-members in terms of the decision making and awareness about social issues.
- (iv) Participation in SHGs significantly changes the attitude of women towards 'wife beating' and raises their power to do certain activities independently.
- (v) The supply of credit to the members through SHGs helps in increasing access to formal financial services. It also increases their exposures regarding financial matters and bank related activities.
- (vi) The women members have lesser degree of marital control by their husbands and have more exposure to media as compared to non- members.
- (vii) Greater association with SHGs helps to improve knowledge about various operations of the groups.

1.9 Importance of the Research

The development of micro credit in India still lags far behind as compared to other developing countries like Bangladesh, Bolivia, China and Nepal, etc. Micro credit programmes in India are constrained by many factors such as lack of technological support and strong regulatory frameworks. The findings of present research would streamline the technique of reformation of the modus operandi of micro credit and possible lacunae in the system to redesign the plans and finally to co-ordinate it for women development policy of the Government. It will provide useful information pertaining to the roles of micro credit in poverty reduction and women's empowerment, which would have reflection with respect to the influence of the micro credit programmes on India's rural economy and social development. In addition, the findings of this research will provide relevant information to policy makers in establishing supportive regulatory environments to sustain a viable micro credit sector. It would be appropriate for the policy makers to liberalize regulations and restrictions, which have bottlenecked the development of Indian micro credit to a large

extent. Besides, an understanding of change in members' lives through the provision of micro credit or financial services would help to initiate appropriate actions towards reforming the rural financial system. It would also enhance member's accessibility to credit, which could potentially accelerate the development of India's rural economy.

The present study also focuses on the problems and difficulties relating to the operations and management of SHGs. This would help in deciding the methods and plans that should be incorporated in the linkages for further development of the programme with a livelihood approach in a sustainable manner. The empirical evidences of the impact of micro credit on poverty carried out for Bangladesh as well as for a number of other countries in Asia, Africa and Latin America are very mixed (Hossain, 1988, Sebstad and Chen, 1996; Morduch, 1998, 1999; Edgecomb and Barton, 1998; Coleman, 1999; Sharma and Buchenrieder, 2002). Some impact/ evaluation studies have found the positive impact of micro credit on the living standards of poor households. However, other studies have found that poverty is not reduced through micro credit – poor households simply become poorer through the additional burden of debt. This research would help to examine the empirical impact of micro credit on poverty at household levels and empowerment of women at individual levels in India.

1.10 Chapters of the Research

The thesis is organised in seven chapters. After providing introduction in the first chapter, the second chapter is devoted to review of relevant literature on women empowerment, including level of women empowerment in India. This chapter also discusses the role of SHGs in promoting empowerment using data/ estimates furnished in secondary sources. The third chapter deals with the development of SHG bank linkage programme in India. An insight into various theoretical/ empirical studies examining the impact of micro credit on economic, social and empowerment aspects of borrowers is brought out in the fourth chapter. In the fifth chapter, empirical models, estimation techniques and data collection procedures are illustrated. An analysis of data and discussion of empirical results is presented in the sixth chapter. The major findings of the study along with policy implications are summarized in the seventh chapter. This chapter also deals with limitations of the research and suggestions for the future research.

CHAPTER 2

WOMEN EMPOWERMENT IN INDIA – A SNAPSHOT

This chapter provides an overview on empowerment of women in India, including the definition, indicators, factors determine empowerment of women, and the role of SHGs in empowering women through credit facilities. It would help to develop a suitable indicator for measuring the empowerment of women for the present investigation. Therefore, this chapter chiefly focuses on meaning and need of women empowerment in India, conceptualization and definition of women empowerment, various indicators to measure women empowerment at the global level, various literature relating to past studies conducted on measurement of empowerment, the levels of women empowerment and factors determining empowerment, necessity to organise groups for women empowerment, etc.

2.1 Meaning of Women Empowerment

The concept of empowerment has evolved over the years since the 19th century. In a broader sense, empowerment means expansion of freedom of choice and action, which comes with increasing one's authority and control over the resources and decisions that affect one's life. It is a process of change by which individuals or groups gain power¹ with the ability to take control over their lives that lead to increased well-being, access to resources and raising self-confidence. The World Bank defines empowerment as *“the process of increasing the capacity of individuals or groups to make choices and transform those choices into desired actions and outcomes. Central to this process is actions which build both individual and collective assets, improve the efficiency and fairness of the organizational and institutional context which govern the use of these assets”*.² It also identifies four key elements of empowerment to draft institutional reforms: access to information; inclusion and participation; accountability and local organizational capacity. Empowerment is more closely related to the people who are disempowered or powerless due to some socio economic and cultural barriers in the society of which they are part. The practice of empowerment in the human services has emerged from efforts to develop more effective and responsive services for women, people of colour, and other oppressed groups. Among them, women are more

¹ Empowerment is consisting of the prefix “em” is attached to the noun “power” to create a verb. This prefix is used to form verbs meaning “to make, make into or like, cause to be. Thus “to empower” is to make or cause power.

² <http://Inweb18.worldbank.org/ESSD/sdvext.nsf/68byDocName/whatisempowermentfourareasof practice>

vulnerable and discriminated, both inside and outside of the households. The male dominated society always oppresses the women in socio economic aspects, which reduce the power and restrict their choices. It leads to limit the independency of women and disempowered them within the society. Thus, there is an urgent need for empowerment of women to act on their own behalf; to achieve a greater control over their lives and destinies. In order to bring women into the mainstream of development, the Government of India has declared 2001 as the "Year of Women Empowerment".

2.2 Definition of Women Empowerment

Various researchers have defined women empowerment in varied ways to formulate policies and programmes for the development of women. Karl (1995) points out that empowerment of women means gaining control over their lives, and participation in decisions that affects them in the home and community, government and international development policies. According to Pillai (1995), women empowerment is an active, multi-dimensional process which enables women to realise their full identity and powers in all spheres of life. Power is neither a commodity to be transacted nor can it be given away as alms. Power has to be acquired, and once acquired it needs to be exercised, sustained and preserved. Kabeer (1999) emphasises that power within is crucial as a primary step of empowerment, which arises out of reflections and analysis of women's subordination and acts as a new form of consciousness. It helps women to make strategic life choices, which are crucial to their lives. Thus, she believes that the change in the self-perception that involves undoing negative social construction, believing in oneself as having the capacity and the right to act is an essential element of empowerment. The Secretariat of the United Nations defines women's empowerment as having five components: first, a belief in individual self-worth; second, the right to take decisions; third, the power to access opportunities and resources; fourth, the ability to control their public and private lives; and fifth, the opportunity to engage within society in order to influence nations and the world.³ Rowlands (1997) defines empowerment as a process whereby women develop ability to organize themselves to increase their own self-reliance, assert their right to make independent choices and control resources, which will assist them in challenging and eliminating their own subordination. She states that the idea of power is at the root of the term 'empowerment'. The power can be understood in a number of ways.

³ Secretariat of the United Nations, Guidelines on Women Empowerment, <http://www.un.org/popin.unfpa/taskforce/guide/iatfwemp.gdl.html>

Power within: Enabling women to articulate their own aspirations and strategies for change. It is a personal or psychological power in the minds of the people which focuses on their sense of self-confidence, self-esteem, self-respect and helps in raising consciousness.

Power to: Enabling women to develop the necessary skills and access the necessary resources to achieve their aspirations. It involves capacity building, supporting individual decision making and leadership.

Power with: Enabling women to examine and articulate their collective interests, to organize and to achieve them and to link with other organizations for change. It involves social mobilization, building alliances and coalitions. It is a collective force where people cooperate with each other to solve problems and to achieve goals.

Power over: Enabling women to change the underlying inequalities in power and resources, which constrain women's aspirations and their ability to achieve them.

Thus, the 'power over' is controlling power; 'power to' is generative or productive power creating new possibilities and actions; 'power with' is relational and 'power within' is seen in terms of self-reliance and self-esteem. The three levels of empowerment which are closely interlinked such as 'power within', 'power to' and 'power with' help women to tackle 'power over'. Personal empowerment or 'power within' is the key to the entire empowerment process as it plays a very important role in bringing about a change in gender conditioning and renegotiating her role within the family and the community through collective empowerment i.e. "power with" (Rowlands, 1997).

2.3 Measurement of Women's Empowerment

Despite empowerment of women and elimination of gender disparities being one of the Millennium Development Goals (MDGs), no major efforts have been made so far to develop a rigorous method for measuring and tracking changes in the levels of empowerment (HDR, 2003). At the global level, United Nations Development Programme's (UNDP's) Human Development Report (HDR) of 1995 introduced Gender Development Index (GDI) and Gender Empowerment Measure (GEM) to capture the empowerment of women. The Gender Development Index (GDI) takes into account inequality in achievements between women and men with respect to life expectancy at birth, adult literacy rate and estimated earned income for different countries. On the other hand, the GEM evaluates women's share of seats in the parliamentary assemblies, the share of supervisory posts, high administrative posts and technical posts assumed by women, and the estimated share of income from work of women compared to that of men. The GDI focuses on the extension of capabilities,

whereas the GEM is concerned with the use of those capabilities to take advantage of the opportunities of life. The HDR takes into account some aspects of female empowerment like economic participation, political participation and power over the economic resources, and to certain extent, it explains the degree of their empowerment. The UNDP found a very strong relationship between GEM and GDI and its Human Development Index. For instance, the HDI score of India increased from 0.584 in 1996 to 0.648 in 2006. Similarly, the GDI score increased from 0.568 in 1996 to 0.633 in 2006. The aggregate score of GEM for India was 0.413 in 1996, which slightly increased to 0.451 in 2006 (WCD, 2009).⁴

Besides GDI and GEM, there are various other aspects that decide the level of women empowerment. Though a woman is literate and working, she may not be exercising her power relating to domestic decision-making, financial autonomy (e.g. control over the resources), mobility/freedom of movement, work independency, child-related issues (e.g. well-being, schooling, health, marriage, etc.), and participation in the modern sector. Due to this, different micro level research studies used various indicators to measure the empowerment of women. The available literature measured women empowerment by developing various indicators based on both theoretical and empirical research findings. The theoretical group of researchers developed a conceptual model to understand the empowerment of women. On the other hand, the empirical group of researchers believed to have measured empowerment of women through empirical studies. The present research reviewed both theoretical and empirical research for developing suitable indicator to measure empowerment of women and applied logistic regression to trace factors influencing women empowerment in Indian context.

2.4 Review of Literature

Empowerment literally means 'becoming powerful'. However, in social work, it means much more since it embraces both theory and method. Thomas and Pierson (1995) define empowerment as concerned with how people can be enabled to "*gain collective control over their lives so as to achieve their interest as a group and a method by which social workers seek to enhance the power of people who lack it*". It may also be defined as a process and result of the process whereby the powerless or less powerful members of a society gain greater access and control over material and knowledge resources, challenges the

⁴ Bihar occupied the lowest rank on both HDI and GDI in both 1996 and 2006 among the 35 States/UTs. Andhra Pradesh secured the highest score on GEM in 2006 with 0.509 and Jammu Kashmir secured the lowest GEM of 0.304 in 2006.

ideologies of discrimination and subordination, which justify this unequal distribution (Batliwala, 1994). Cheston and Kuhn's empowerment framework for the microfinance study includes material change (increases in income, employment opportunities, nutrition, education, health care, access and control over ownership of assets and income, etc.), perceptual change (increases in ability to plan for future, own abilities and capacities, own interest and values with the increase in recognitions and respect for individual value and contribution), relational change (increase in the role of decision making, self-reliance, bargaining power, etc.), and participation in organizational strength (Cheston and Kuhn, 2002).

In the feminist paradigm, empowerment goes beyond economic betterment and well-being to strategic gender interests. It is a process of internal change, or power within, augmentation of capabilities, or power to, and collective mobilization of women, and when possible men, or power with, for the purpose of questioning and changing the subordination connected with gender, or power over (Mayoux, 1998). This process can be explored through three closely interrelated dimensions: agency, resources and achievements. Agencies represent the processes by which choices are made and put into effect. Resources are the medium through which agency is exercised; and achievements refer to the outcomes of the agency. The provision of three 'resources' such as education, employment and political participation of women is considered as essential element to achieve gender equality and women's empowerment (Kabeer, 2005). The women empowerment matrix identifies six spheres viz. physical, socio-cultural, religious, political, legal and economic, and six levels viz. individual, household, community, state, region and global (Charmes and Wieringa, 2003). Considering this matrix, the authors argue that the GEM fails to include issues related to the body and sexuality, as well as legal, cultural and religious issues. Empowerment is not primarily an outcome, but a process; as such, there are elements such as the legal and regulatory framework, women's social and economic rights and societal attitudes, which are already widely recognized but have not been taken into account in the GEM (Beteta, 2006).

The empirical researchers developed various project specific indicators to measure women empowerment, which vary from study to study. Some studies have constructed an index, while others used specific indicator to examine empowerment of women. Goetz and Sen Gupta (1996) built an index of managerial control, ranging from no control (no knowledge of the use of the loan) to full control of the use of the loans (full control over the entire production process, including marketing) to measure women empowerment. The study

found that micro credit has not contributed to increase the level of empowerment. Hashemi, Schuler and Riley (1996) have investigated women empowerment using eight criteria: mobility, economic security, ability to make small purchases, large purchases, involvement in major household decisions, relative freedom from domination by the family, political and legal awareness, participation in public protests and political campaigns. Amin, Becker and Bayes (1998) split the concept of women's empowerment into three components: Interspouse consultation index, which seeks to represent the extent to which husbands consult their wives in household affairs; Individual autonomy index, which represent women's self-reported autonomy of physical movement outside the house and in matters of spending money; and the Authority index, which reports on actual decision-making power, which is traditionally in the hands of the patriarch of the family. Biswas (1999) developed a suitable composite index, which includes women's mobility, decision-making power, autonomy, freedom from domain, awareness, participation in public protections, political campaigns and development programmes, to capture empowerment of women. All these surveys found that micro credit has significantly increased empowerment level of women.

Women's empowerment refers to the women's acquisition of resources and capacities and the ability to exercise agency in a context of gender inequality. Once a resource, capacity or form of agency becomes a common place, it no longer distinguishes more empowered women from less empowered women. Political and legal awareness, economic security, mobility, making larger purchases, involvement in major decisions, participation in public protests and political campaigning, freedoms from the domination of the family, etc. are the best indicators to measure empowerment. Any change in social, economic and political dimension affects the measurement of women's empowerment. Therefore the measurement of empowerment must change and adapt to keep up with this elusive phenomenon (Schuler et.al. 2010). Malhotra and Mathur (1997) used different indicators like financial domestic decision, social and organizational domestic decisions to measure empowerment of 577 currently married women residing in Kalutara district of Sri Lanka. They found that women who control one of these aspects of family decisions do not necessarily control the other aspect. Interestingly, they found that while education plays an important role in determining women's input in financial decisions, it is largely immaterial in determining household decisions related to social and organizational matters. The variables like socio-economic status, wife's age, number of child and household size play a significant role in social and organizational domestic decisions (Malhotra and Mather, 1997).

The process of empowerment can be measured through awareness and participation in decision-making by women at the household level. Participation in community and self-development programmes through an organization is the only way for improving the status of voiceless women. It is the group action with saving habits and imparting instruction in the management of issues related to water, sanitation, health, child and family welfare that have served as intervention strategies for realising the paradigm of sustainable development. A study conducted by Vijyanthi (2002) used data collected from 102 women households living in the slums of Chennai city of Tamil Nadu. The study found that the formation of SHGs serves as an agent of change since it helps in capacity building, generate resources, and seeks help from the government for social, economic and physical development of communities. Women's participation in household decision-making and their attitudes regarding specific inequalities in gender roles provide the base to measure power of women. Increases in access to higher education, paid employment, and media exposure have strong positive correlation with empowerment indicators. Furthermore, policies that discourage the traditional practices of early marriage and marriages between very young girls and much older men enable married women to be better empowered as individuals, spouses, and mothers. This was the outcome from reports that measured women's participation in decision making and women's acceptance of 'wife-beating' attitudes in 23 developing countries for measuring empowerment of women (Kishor and Lekha, 2008). Women making decisions alone or with husband on their own health care, large purchases, small purchases, and visit to family are noticed to be more empowered than those who do not participate in decision making process. In most countries, the decisions, most commonly made alone, are about health care and small household purchases. An increase in age, education of women, employment status and urban status are the main determinants of women's participation in decision making (Kishor, 2000; Kishor and Lekha, 2005; EDHS, 2005).

Acharya et.al, (2010) used Nepal Demographic Health Survey (NDHS, 2006) to examine the empowerment of women through women's decision making on their own health care, major household purchases, purchase for daily household needs and visits to their family or relatives. In this study, women's autonomy in decision making was found to be positively associated with their age, employment and number of living children. The increase in women's education was positively associated with autonomy in terms of their decision making on own health care. Interestingly, rich women were less likely to have autonomy to make a decision on their own health care.

Kishor and Gupta (2004) constructed an index of indicators based on evidence, source and setting to measure empowerment in different states of India using the National Family Health Survey (NFHS) data. The ‘evidence’ of empowerment can be measured by decision making, mobility and acceptance of ‘wife-beating’. The ‘source’ of empowerment can be measured by education, exposure to mass media and employed for cash. The ‘setting’ of empowerment can be measured by median of age, living in nuclear families, the age difference between husband and wife and education of the husband. The states having very poor empowerment status are Uttar Pradesh, Bihar, Rajasthan, Madhya Pradesh and Odisha. These states also have poor rankings on the ‘evidence’ and ‘sources’ indicators, but not so poor on the ‘settings’ indicators. Different states like Bihar, Uttar Pradesh, Madhya Pradesh, Andhra Pradesh and Karnataka have secured lowest score in ‘setting’ indicator.

Although empowerment literally means “to invest with power”, in the context of women’s empowerment the term has come to denote women’s increased control over their own lives, bodies, and environments. In discussions of women’s empowerment, emphasis is often placed on women’s decision making roles, their economic self-reliance, and their legal rights to equal treatment, inheritance and protection against all forms of discrimination, in addition to the elimination of barriers to access such resources as education and information (Germaine and Kyte, 1995; United Nations, 1995). Following from the definition of empowerment provided earlier, evidence of empowerment must be sought in terms of indicators that measure women’s control, both extrinsic and intrinsic, over various aspects of their lives and environments. Such measures include women’s participation in household decision making, as well as measures that suggest a rejection of the gender-based subordination of women (Kishor and Lekha 2008). Since 1999-2000, the Demographic and Health Surveys (DHS) and National Family Health Survey (NFHS) have been collecting information on three sets of women’s empowerment variables that qualify as evidence of empowerment in Kishor’s framework (2000): one that measures women’s participation in decision making and two others that measure women’s acceptance of gender-role that endorse the control of women by men.⁵ By examining the distribution and correlates of the evidence of empowerment variables, the present research aims to provide a better understanding of women’s empowerment in terms of their decision making roles and gender-role attitudes across India.

⁵ Measure DHS is an excellent website for measuring women empowerment (<http://www.measuredhs.com/topics/Womens-Status-and-Empowerment.cfm>.)

2.5 Empowerment of Women in Asia with Reference to India

In order to measure empowerment of women at global level, this study analyses DHS report published in 2008. Similarly, the study also makes use of National Family Health Survey (NFHS-3) report published in 2006 to examine empowerment women in India with specific reference to Odisha. The NFHS-3 covered 1,24,385 women in India and 4,540 women from Odisha as sampled respondents in the age group of 14-49 years. Both the surveys have measured empowerment of women through new techniques related to women's decision-making in the households, freedom of movement and gender-role attitudes. These attitude questions are aimed at capturing the views of women with regard to gender equality and empowerment.

2.5.1 Decision Making of Women

The ability of women to take decisions that affect the circumstances of their own lives is an essential aspect of empowerment. In order to assess women's decision-making autonomy, DHS and NFHS-3 collected information on participation of currently married women with respect to four different types of decision: their own health care, making large household purchases, making household purchases for daily household needs, and visiting their family or relatives. Women were asked who usually makes each decision: mainly you, mainly your husband, you and your husband jointly, or someone else? The participations in decision-making by women alone or with husband are considered as more empowered than others at the household levels (Acharya et.al, 2010; Kishore and Gupta, 2009).

Part-1 Items	Per cent age of Women's decide alone or with husband on	Asia 2003	India 2006	Odisha 2006
1	Own Health care	45	62.2	64.7
2	Major household purchases	19	52.9	57.8
3	Purchases for daily household needs	59	60.1	61.3
4	Visits to her family or relatives	18	60.5	63.6
5	On all of the above four decisions	-	36.7	41.8
6	None of the above four decisions	-	20.5	17.1
Part.2	Per cent age of women			
1	Have Money that they can Decide how to use	-	45.0	36.2
2	Have a Bank or Savings Account that they use	-	15.0	9.8
3	Own earning used (Women employed for cash)	-	80.9	82.7
4	Husbands earning are used (women who use husband earning)	-	68.2	68.0
5	Have idea about the micro credit programmes	-	38.6	69.4
6	Have taken a loan from a micro credit	-	4.0	6.9

Source- DHS (2008), NFHS-3 (2006)

Table 2.1 shows proportion of currently married women who usually make specific decisions alone or jointly with husbands for Asia, India and Odisha. India shows higher proportion of women participation in decision making with respect to various activities as compared to Asia. For instance, about 52 per cent of women in India are noticed to participate in decision relating to major household purchases as against 19 per cent of women in this respect in Asia. Similarly, as against Asia, India has shown higher proportion of women participation with respect to decisions relating to activities like health care, purchases for daily needs, and visit to family or relatives. Women participation in various decision making activities is noticed to be higher in the state of Odisha as compared to India as a whole. About 42 per cent of women belonging to Odisha are seen to participate in decisions relating to all major four activities enlisted in Table 2.1 as against 37 per cent of women in this respect in India. On the other hand, about 21 per cent of women in India and 17 per cent in Odisha are not seen to participate in decisions relating to any of the four major activities. The decision making process increases with the increase in age, employment, urban status of women, and their number of children. However, caste and education do not have any influence on decision making process of women (NFHS, 2006).

Table 2.1 also provides an insight into the participation of women on financial matters/ dimensions for Odisha and India. A lower proportion of women participation is noticed in terms of utilization of money and its savings in Odisha as against India. For instance, about 15 per cent of women are seen to have savings account in India as against 10 per cent of women in Odisha. However, the proportionate variation in terms of utilization of own earnings and husband's earnings is seen to be low between Odisha and India. The proportion of women having knowledge about micro credit programme is seen to be much higher in Odisha as compared to India. Similarly, the proportion of women taking loan from micro credit institutions is seen to be higher in Odisha as against India. The success of micro credit programmes and consequent rise in economic and social empowerment have helped in reducing poverty in Odisha (Panda, 2009).

2.5.2 Women's Acceptance of Wife beating

A fundamental element of empowerment is the rejection of the ascription of seemingly immutable and essentially unequal rights and privileges based on the sex of an individual. One such 'right' often negatively ascribed to men, is the right of husbands to regulate and control 'their' women's behavior, and if that necessitates the use of force, then let it be. Women who justify beating of wives by husbands are less empowered than women

who think otherwise (Kishor and Gupta, 2004, United Nations, 1995). In order to assess the attitudes related to acceptance of normative gender roles, NFHS-3 asked women (15-49 years) about their opinion regarding whether a husband is justified in hitting or beating his wife on account of seven situations: if she goes out without telling him, if she neglects the house or children, if she argues with him, if she refuses to have sex with him, if she does not cook food properly, if he suspects her of being unfaithful, and if she shows disrespect for her in-laws. Women who agree that a husband is justified in hitting or beating his wife for any of the specified reasons are less empowered than those who protest or reject beating of wife.

Table 2.2 shows percentage of women who agree with the specific justification for wife beating, as well as percentage of women who agree with at least one of the justifications. The proportions of women agreeing to wife beating on account of varied reasons are brought out for Asia, India and Odisha. The proportion of women who support or accept beating of wife is higher in India as against Asia. For instance, while 29 per cent of women in India agree to the statement that the husband has the right to beat if she goes without telling him, this proportion in this respect stands at only 17 per cent for Asia. Women’s support to beating of wife is more pronounced in India than in Asia when she neglects child, argues with husband, does not cook, refuses sex, and remains unfaithful. In this sequel, women’s support to beating of wife is much more pronounced in the state of Odisha since 61 per cent of women in Odisha and 54 per cent of women in India agree with at least one of the specified reasons for beating of wife by husbands. Women’s support in terms of beating of wife on account of disrespect shown to in-laws is quite high in Odisha as against India.

Items	Attitude of women who agree that a husband is justified in hitting or beating his wife if:	Asia 2003	India 2006	Odisha 2006
1	She goes out Without telling him	17	29.0	38.1
2	She Neglects the house or children	24	34.7	40.4
3	She Argues with husband	10	30.3	39.8
4	She doesn’t cook properly	6	20.4	22.6
5	She shows Disrespect for in-laws	-	40.6	50.4
6	She refuses to have sexual intercourse with him	6	14.1	13.7
7	He Suspects she is unfaithful	-	25.1	35.9
8	Agree with at least one specified reason of husband beating	-	54.4	61.2

Source- DHS (2008), NFHS-3 (2006)

Women’s acceptance of beating of wife do not vary much with their age, number of children and household structure but declines sharply with rise in their education and wealth quintile. Women’s acceptance of beating of wife is lower in urban than in rural areas. It is

also low among women who were not employed during the last 12 months as compared to employed, and among never married women as compared to married women (NFHS, 2006).

2.5.3 Women's freedom of Movement

The freedom of movement is one of the indicators to measure empowerment of women. It reflects the power of women to perform certain activities alone without depending upon others. Women's freedom of movement is not directly reported in NFHS-3. Instead women were asked whether they needed permission to go alone to different destinations: to the market, health center, and to the house of friends or relatives.

Table 2.3 Women's freedom of movement			
Items	Per cent age of women allowed to go alone to:	India 2006	Odisha 2006
1	The market	51.4	27.6
2	The health center	47.7	26.4
3	Places outside the village/ community/relatives	37.7	22.3
4	All three places	33.4	18.7

Source- NFHS-3 (2006)

Table 2.3 shows the proportion of women allowed to move alone to different specified places in India and Odisha. The proportion of women allowed to move alone is noticed to be significantly high for India as against the state of Odisha. For instance, proportion of women allowed to visit market works out at 51 per cent for India and 28 per cent for Odisha. Similarly, about 33 per cent of women in India are allowed to visit all the three places as against only 19 per cent for Odisha. In general, women in Odisha have less freedom of movement as compared to India. The freedom of movement varies positively with age, employment for cash, nuclear family, urban residence and wealth quintile.

2.6 Empowerment of Women in India with Reference to Ganjam

This study has used Indian Human development Survey (IHDS) of 2005 to measure the empowerment of women at district level. The IHDS dataset was produced by the National Council of Applied Economic Research (NCAER), New Delhi, and the University of Maryland. The survey has collected data related to income, employment, women empowerment, etc. from 41,554 households across India. It covered 2,064 households in Odisha with 113 households belonging to Ganjam district. The survey incorporated a few questions related to decision making, wife beating in the community and freedoms of movement of the women covering all districts in India.

2.6.1 Decision Making of Women

In order to assess women's decision-making autonomy, IHDS-2005 collected information on women's participation with respect to five different types of decisions: what

to cook, large household purchases, number of children, what to do if the child falls sick and son's or daughter's marriage. Women were asked as to whom mostly makes each decision: mainly they, mainly their husband, the senior male, the senior female or others.

Items	Per cent age of women mostly take decisions alone on	India	Odisha	Ganjam
1	What to cook on a daily basis	74.58	78.48	79.01
2	Expensive household purchases like T.V/Fridge	11.01	9.22	20.99
3	How many children you have	19.62	21.87	32
4	What to do if the child feel sick	30.57	25.53	81.33
5	To whom your son or daughter should marry	10.33	8.20	12

Source: Computations are based on figures obtained from IHDS (2005)

Table 2.4 shows the proportion of women making decisions alone on different aspects at the household level in India, Odisha and the reference district of Ganjam. The women belonging to the district of Ganjam are seen to have higher participation in all types of decisions as compared to women in general belonging to Odisha and India. For instance, the proportion of women taking decision alone on expensive household purchases works out at 11 per cent for India, 9 per cent for Odisha, and 21 per cent for the district of Ganjam. As against Odisha and India, the district of Ganjam shows much higher proportion of women taking decisions relating to cooking, number of children, child's sickness, and son's or daughter's marriage.

2.6.2 Factors Determining Women's Decision Making

The present investigation applies logistic regression on the data collected by IHDS-2005 at all India levels to find out different factors influencing decision making of women within households. Decision made by women on account of different specific reasons is considered as dependent variable and assigned the code "1" when decision made alone, and "0" when decision made jointly, i.e. otherwise (Acharya, 2010). The independent variables included in the analysis are age, education of women, female headed house, possession of bank account, rural and urban status of women, religion, caste, etc. The independent variables included in the analysis have predicted the likelihood of women to make decision alone in the house. Table 2.5 shows factors influencing decision making of women in terms of odd ratios. The coefficients having value of more than 1 predict more likelihood and less than 1 predict less likelihood of women making decision alone on account of different specified reasons (Madala, 1992).

The age of women, membership with SHGs, women being head of the household and urban status of women have significantly influenced decision making of women with respect

to specified dimensions. Age is seen to have positive relation with decision making process of women with respect to various outcomes. Younger women are less likely to take a decision alone than older women. Women headed households are more likely to take a decision alone with respect to all five outcomes as compared to the male headed households. The membership with SHGs is also likely to significantly increase the decision making of the women as compared to non-membership. From the residential view point, rural women are less likely to participate in the decision making process. However, women who belong to OBC and general caste and have Hindu status and more number of children are less likely to take a decision alone on specific reasons.

Table 2.5: Factors influencing decision making of women alone in terms of Odds ratio in India					
Factors ¹	Daily cooking	Major purchase	Number of children	Child disease	Wedding of son or daughter
Age in years 15-25 R					
26-35	1.91*	1.84*	1.37*	1.38*	1.64*
36-50	2.81*	2.35*	1.47*	1.54*	2.31*
Education Illiterate R					
Primary	1.11*	1.07	1.17*	1.26*	1.17*
Secondary plus	1.07*	0.98	1.23*	1.27*	1.13*
Male headed house R					
Female headed house	5.82*	23.42*	7.45*	15.25*	18.08*
Less than 2 Child R					
More than 2 Child	1.03	0.70*	0.80*	0.92*	0.69*
Not SHGs member R					
SHGs member	1.12*	1.24*	1.08	1.40*	1.36*
No Bank account R					
Bank account	0.87*	1.01	1.14*	1.27*	0.94
No media R					
Any media (T.V, Radio etc)	0.91*	0.99	1.01*	1.24*	1.18*
Household variables					
Rural R					
Urban	1.58*	1.48*	1.35*	1.15*	1.28*
Religion Non Hindu R					
Hindu	0.88*	1.23*	1.13*	1.36*	1.52*
Caste SC/ST R					
OBC	0.89*	0.79*	0.91*	0.83*	0.66*
General	0.89*	0.66*	0.80*	0.87*	0.66*
Poor R					
Non poor	0.94	0.91	0.81*	0.78*	0.96
Constant	1.953	0.06	0.13	0.21	0.05

¹Women's decision making alone=1 Otherwise=0 on Daily cooking, Major purchase Number of children, Child disease and the Wedding of son or daughter, R= Reference category, Level of Significance *<.05 **<.10, Source- Authors own calculation

Age and Education of Women

There has been a significant positive association between women's age and autonomy in decision making with respect to all five measures. The increase in age of women leads to

increase in decision making at household level with respect to all aspects. The younger women (26-35 years) and older women (35-50) are 1.91 times and 2.81 times more likely to take decision alone on what to cook at home as compared to the reference group (15-25 years). Similarly, there is a higher probability of taking decision alone by older women on major purchases, number of children, child disease and marriage of son and daughter as compared to the reference category (15-25 years). A newly married daughter-in-law has less decision-making power in the household, and she is expected to perform household duties under the supervision of her mother-in-law who is the primary decision maker (Dali et.al, 1999). The issues of security and fulfillment of desire also become less important as women get older and loose contact with their natal kin and become more likely to be independent in decision making. Highly educated women are more likely to take a decision alone in all types of decision making except the major purchase, which is insignificant. The women having primary level education and secondary level education are 1.17 times and 1.23 times more likely to take a decision regarding number of children as compared to illiterate women Education may impart feelings of self-worth and self-confidence, which is more important in taking a decision alone at the household level.

Head of the House and Number of children

The female-headed households have more power than other members of the family to take a decision alone with respect to different specified reason. For instance, women heading households are 7.45 times more likely to take decision regarding number of children after marriage. Similarly, the female headed households are 18.08 times more likely to take decisions on marriages of a son or daughter in the house. Increase in the number of children leads to reduce the level of participation in the decision making process. Women with more children are less likely to take a decision alone, except daily cooking. The probabilities of taking decision alone with respect to major purchases are 0.70 times less for women with more than two children as compared to reference groups (less than 2 children).

SHGs Members and Bank Account

Women's ability to make household decisions is enhanced due to association with Self Help Groups (SHGs). The members of SHGs are 1.24 times more likely to take a decision with respect to major purchases as compared to non members. Similarly, participation of women in SHGs helps to increase decision making power with respect to daily cooking, number of children, child diseases and marriage of son or daughter as compared to non-members. The relationship between SHGs and women's autonomy in decision making shows

that women in employment are more likely to take decision as compared to those who are not in paid employment (Becker et.al, 2006). In India, men often control the household's cash, making it difficult for women to take a decision alone regarding various activities. The provision of credit based employment appears to empower married women to develop thinking towards participation in decision making. The women owning bank account have more decision making power with respect to number of children and child diseases.

Residence and Religion

The women living in urban areas are more likely to take a decision than rural women. For instance, the urban women are 1.48 times more likely to take decision on major purchases as compared to reference group (rural women). Many rural women live in severe poverty without any means of improving conditions for themselves and their families, which hinder them from making purchases for household needs. A South Asian study has also mentioned that rural women are less likely to be involved in decision making than urban women (Senarath and Gunawardena, 2009). In India, the traditional customs and practices of the family put obstacles in women's decision making approach. The women belonging to the Hindu family are more likely to take a decision alone except daily cooking as compared to non-Hindu family. The Hindu women are 0.88 times less likely to take a decision alone regarding daily cooking as compared to the reference category.

Caste, Poverty and Media

The women belonging to general and OBC castes are less likely to take a decision with respect to all specified reasons. The women belonging to OBC and general category are 0.79 and 0.66 times less likely to take decision on major purchases. The women belonging to poor families⁶ are less likely to take a decision regarding number of children and child diseases. However, there has been an insignificant relationship between decisions making with respect to other items and poverty status of the households. On the other hand, women's access to media like T.V, radio or news paper enhance their decision making power with respect to three outcomes viz. number of children, child diseases and marriage of son/daughter. For instance, the women having access to media have 1.18 times greater decision making power for the marriage of their son or daughter.

⁶ IHDS calculated household poverty based on the monthly consumption per capita and the official Planning Commission poverty line as of 2005. Poor is a dichotomous (0/1) variable indicating whether the household is below this poverty line or not.

2.6.3 Prevalence of Wife beating

The IHDS-2005 raised five questions to the women regarding prevalence of ‘wife beating’ in the community (not in their house) by the husbands on following five situations: if she goes out without telling him, if her natal family does not give expected money or jewelry, if he suspects her having a relationship with another man, if she neglects the house or children, or if she does not cook food properly. Table 2.6 presents the proportions of women who agree on the prevalence of ‘wife beating’ in their community on account of five given specified reasons for India, Odisha and the district of Ganjam.

	Women who agree on beating of wife by husband	India	Odisha	Ganjam
1	She goes out without telling him (GOOUT)	36.22	40.45	62.96
2	Her family does not give expected money or jewelry (MONEY)	25.98	26.41	55.56
3	He suspects her having relation with another man (SUSPECT)	83.23	93.83	90.12
4	She Neglects the house or children (CHILD)	31.99	25.70	8.64
5	She doesn’t cook properly (COOK)	26.52	21.13	6.17

Source- Authors own calculation using IHDS (2005)

The estimates shown in Table 2.6 reveal higher prevalence of ‘wife beating’ on account of reasons like going out, money matters and suspicion for the district of Ganjam as against for the state of Odisha and India. For instance, there are 63 per cent of women in Ganjam, 40 per cent in Odisha and 36 per cent in India who have agreed that their husband beat them if they go out without telling him. However, lower level of prevalence of ‘wife beating’ is noticed in Ganjam district as compared to Odisha and India on account of negligence with respect to children and improper cooking. About 9 per cent of women in Ganjam district have agreed on ‘wife beating’ by the husband if they neglect children as compared to 26 per cent for Odisha and 32 per cent for India. In general, the prevalence of ‘wife beating’ is higher in Odisha as compared to India, except on two accounts relating to negligence towards house or children and improper cooking.

2.6.4 Women’s freedom of movement

In order to assess the empowerment of women, the IHDS-2005 raised few questions related to the freedom of movement, which encompassed as to whether they can go alone to the health center, friend’s or relative's house and grocery shop. Besides, the survey also collected data on permission needed by the women from their husbands or any senior person from home to visit above places. The estimates relating to proportion of women allowed to visit various places alone or with permission for India, Odisha and the district of Ganjam are shown in Table 2.7.

The proportion of women allowed to visit relative's house and grocery shop is noticed to be higher in the district of Ganjam as compared to India since this proportion works out at 93 per cent for Ganjam district and 72 per cent for India in the case of visit to relative's house, and 79 per cent for Ganjam district and 76 per cent for India with respect to visit to grocery shop. However, in case of visit to health centre, the freedom of movement of women is much higher in India as a whole as against the district of Ganjam of Odisha.

Part-1	Per cent age of women can go alone to:	India	Odisha	Ganjam
1	The local health center	70.05	68.74	65.43
2	The home of relatives or friends in the nearby village	71.87	80.54	92.59
3	The grocery shop	75.80	76.75	78.75
Part-2	Women need permission from husband or others to visit			
1	The local health center	74.24	76.17	66.67
2	The home of relatives or friends in the nearby village	75.24	70.01	40.74
3	The grocery shop	54.09	57.45	17.46

Source- Authors own calculation using IHDS (2005)

It is to be further noted that the women belonging to the district of Ganjam require less permission from others to visit various places. This is concomitant from the fact that only 41 per cent of women belonging to Ganjam district require permission to visit relative's house as against 70 per cent in Odisha and 75 per cent in India. Similarly, only 17 per cent of women belonging to the district of Ganjam require permission to visit grocery shop as against 57 per cent in Odisha and 54 per cent in India. However, in case of visit to health centre, about 67 per cent of women of Ganjam district require permission from others as against 76 per cent in Odisha and 74 per cent in India. Thus, in general, the women belonging to the district of Ganjam enjoy greater freedom of movement to visit various places as compared to Odisha and India. This freedom of movement of women is on both counts, moving alone or moving with permission from others.

2.6.5 Factors Influencing Women's Freedom of Movement

The influence of various factors on freedom of movement of women to various places is brought out in Table 2.8. The freedom of movement of women to visit various places is evaluated through odd ratios, where women's movement alone and with permission from others is considered as dependent variables. The permission needed by women from others to visit various places decreases with the increase in their age, education, membership in SHGs, urban status and access to media.

Table 2.8 Factors influencing women's freedom of movement: Odds ratios						
Factors	¹ Women need permission=1 Otherwise=0 to visit			¹ Women can go alone=1 Otherwise=0 to visit		
Individual Variables	Health center	Friends house	Grocery shop	Health center	Friends house	Grocery shop
Age in years 15-25 R						
26-35	.55*	.70*	.79*	2.28*	2.06*	1.88*
36-50	.41*	.57*	.72*	2.96*	2.81*	2.37*
Education Illiterate R						
Primary	.82*	.92**	.89*	1.36*	1.30*	1.08*
Secondary plus	.68*	.83*	.83*	1.77*	1.66*	1.31*
Male headed house R						
Female headed house	.11*	.12*	.21*	3.48*	3.10*	2.64*
Less than 2 Child R						
More than 2 Child	1.20*	1.14*	1.14*	.88*	.90*	.89*
No Bank account R						
Bank account	.82*	.98	.97	1.20*	1.13*	1.51*
Not SHGs member R						
SHGs member	.80*	.73*	.85*	1.48*	1.61*	1.32*
Household variables						
Rural R						
Urban	.67*	.83*	.83*	1.64*	1.25*	1.40*
Religion Non Hindu R						
Hindu	.99	1.08*	.87*	.90*	1.01	.92**
Caste SC/ST R						
OBC	1.14*	1.07**	1.00	.77*	.77*	.71*
General	1.07**	.97	.88*	.75*	.81*	.74*
Poor R						
Non poor	.98	.88*	1.13*	.83*	1.13*	1.07**
No media R						
Any media	.87*	.82*	.80*	1.14*	1.26	1.28*
Constant	8.62	6.32	2.18	.85	.97	1.53

¹Dependent variable, Level of Significance *<.05 **<.10, Source- Authors own calculation using IHDS (2005)

Determinants to Visit Health Center

The permission needed to visit the health center by women depends upon individual and household factors. The women are less likely to require permission to visit health centre with the increase in their age, education, ownership of bank account, membership in SHGs, access to media and their urban status. For instance, with the membership in SHGs, women are 0.80 times less likely to seek permission to go to the health center. The permission needed to visit the health center increases for women who have more than 2 children and belong to OBCs and general caste. The women belonging to OBC category and general caste are 1.14 times and 1.07 times more likely to seek permission to visit health centre as compared to the reference group (SC/ST). However, religion and poverty do not have any influence on women's permission to visit health centre.

Factors influences on Visit Friend's House

The need of women's permission to visit friend's/relative's house has a strong significant association with social-background characteristics. A rise in age and education of women, women being head of the house, membership in SHGs, urban status, living standard (non-poor households) and access to media make women less likely to require/seek permission to visit a friend's house. For instance, the women who have joined SHGs are 0.73 times less likely to seek permission to visit a friend's house as compared to reference group (non-members). The probability of permission required to visit increases with increase in the number of children, women belonging to OBC category and status of women belonging to Hindu religion. The probability of seeking permission to visit friend's/relative's house is 1.14 times greater for women having more than 2 children as against reference group (less than 2 children).

Determinants to Visit Grocery Shop

The probability of seeking permission to visit a grocery shop decreases with the increase in age and education of women, their status as head of the household, membership in SHGs, urban status, status as belonging to Hindu religion and caste status with respect to general category. The members of SHGs are noticed to be 0.85 times less likely to seek permission to visit a grocery shop as compared to non members. The women having more than two children and belonging to non-poor households are more likely to seek permission to visit grocery shop. For instance, women belonging to non-poor households are 1.13 times more likely to seek permission from their home to visit a grocery shop as compare to reference category, i.e. poor households.

The factors influencing women's empowerment with respect to visit to health centre, friend's house and grocery shop are also analysed in terms of odd ratios in Table 2.8. An increase in age and education of women, their status as head of the household, ownership of bank account, member of SHGs, urban status and status as belonging to Hindu religion has significantly increased the empowerment of women to visit the health center. The women members of SHGs are 1.48 times more likely to go alone to the health center as compared to non-members. On the other hand, an increase in the number of children, women's status as belonging to OBC/General caste and their poor household status reduces the probability of visiting the health center. For instance, the women belonging to General caste are 0.75 times less likely to go alone to the health center as compared to SC/STs.

Similarly, an increase in age and education of women leads to more likelihood of them to go alone to the friend's or relative's house. The women being head of the household, having a bank account in their name, possessing membership of SHGs, living in urban areas and belonging to non poor households are more empowered to visit friend's or relative's house. For instance, women belonging to non poor households are 1.13 times more likely to go alone to the friend's or relative's house as compared to the reference category (poor households). Further, women belonging to SHGs are 1.13 times more likely to go alone to the friend's/ relative's house as against non-members. The women who have more than two children and belonging to OBC and General category are less empowered to visit friend's or relative's house.

The factors like the age and education of women, being head of the household, having a bank account, membership with SHGs, living in an urban area belonging to non-poor households, and access to media are found to be positively associated with women's freedom to go alone to grocery shop. The women who participated in SHGs are 1.32 times more likely to go alone to the grocery shop as compared to non-members. However, women having more children, belonging to OBC caste and General caste, and Hindu religion are less likely to go alone to the grocery shop. For instance, women with more than two children are 0.89 times less likely to visit a grocery shop alone as compared to the reference group (less than two children). The probability of going alone to grocery shop reduces for women belonging to Hindu religion as compared to non-Hindu religion.

2.7 Organizing Women for Empowerment

In conclusion, it can be stated that there are different factors like age, education, area of living, employment through SHGs, caste, religion and number of children, which play an important role in improving women's decision-making power and freedom of movement. Besides, age of marriage, spouse's age difference, husband's education, current employment status, etc. are additional variables that might have influence on empowerment of women. With the above brief conceptual understanding of empowerment, what strategies can be used effectively to empower women is the major issue that needs to be addressed? Some direct interventions have to be made in the economy for organizing the women and enhancing their collective strength. Their strength lies in numbers and, thus, this needs to be brought together. Organizing is a slow and continuous process to enabling a group of people to perceive common interest and act collectively. A group is not just a collection of people who come together for some time, but they have to jointly decide to do something together, which is

impossible for individuals due to lack of power. Thus, group formation is the antidote for giving power to powerless women in rural area and makes them empowered women in the society. In many developing countries, especially in South Asia, one strategy which has been found to be promising is participatory institution building in the self-help groups, often coupled with savings and micro-credit loans. In modern economy, the micro credit approach for women is considered as the best strategy to empower women economically. The correlation between credit and empowerment is always positive, which has been established in various research studies (Hasmi et.al, 1996; Rogers, 1998; Pitt, et.al, 2003; 2006; Vijayanthi, 2002; Li, 2010). However, empowerment cannot be achieved through the handling of just money, as credit by itself does not bond women together enough to unleash a process of empowerment. Other social and development concerns are required to cement groups so that they can metamorphose into vehicles of empowerment.

CHAPTER 3

PROGRESS OF SHGs IN INDIA

This chapter evaluates the progress and performance of Self Help Groups (SHGs) bank linkage programmes (SBLP) in India with focus on meaning, objective, origin, characteristics and different models of SHGs operating in India, their cumulative growth, loan disbursement, loan outstanding and amount of saving during different years across various regions of India. The state-wise average loan outstanding to saving ratio of SHGs bank linkage programmes is also examined in this chapter.

3.1 What is Self-Help Group?

In India, micro finance service is generally routed through small groups commonly known as self-help groups (SHGs). Self-help groups (SHGs) are informal associations consisting of 10-20 members created for the purpose of enabling them to reap the economic benefits out of mutual help, solidarity and joint responsibility (Hussain et.al, 2010). The members of the group generally comprise of small/marginal farmers, landless agricultural labourers, rural artisans, women folk and other micro entrepreneurs who organize themselves to achieve socio-economic development by raising resources at their level initially and linking with the bank subsequently with the help of NGOs (Manimekalai, 2004). They are usually formed by joint liability, come together for mutual assistance in satisfying a common need, overcoming a common handicap or life-disrupting problem, and bringing about desired social or personal change (Katz and Bender, 1976). The concept of joint liability embedded in the SHGs enables the members to overcome the problem of collateral security - a major barrier to obtaining credit from formal institutions. The group-based approach not only enables poor women to accumulate capital by way of small savings but also facilitates their access to formal credit facilities by establishing relationship with banking (Shylendra, 1998) that improves the rate of loan recoveries (Stiglitz, 1993).

The SHGs fix a minimum amount for their members in the form of group saving. They deposit their savings in nearest commercial or Regional Rural Bank or Cooperative Bank in the name of the group. After three months of savings, the saved money is withdrawn from the Bank (barring the minimum balance), and given to a very needy member in the Group as a loan with minimum interest. After six months of successful operation, the bank examines the group and sanctions credit to the group. This fund is sanctioned based on the Group's record of regular

functioning and not with any collateral security at market interest rates. The members of the group gather once in a month at their convenient time to discuss their current issues related to finance, health, gender bias, amenities, etc. and find the means to resolve them by themselves. Minutes of the meeting are recorded by one of the group members. The NGO (The Guide) then motivates the Group to use this money to start Micro Enterprises such as Breakfast shop, Petty Shop, Vegetable Shop, Dairy Units, Departmental Stores, and Export Garment Manufacturing Unit etc and repay the bank installments using the income generated from them.

3.1.1 Characteristics of SHGs

Some basic characteristics of SHGs encompassing small size of membership, homogeneity of composition, etc. bring about cohesiveness and effective participation of members in the functioning of the group which leads to long-term sustainability of the programmes (Fernandez, 1994). In India, SHGs have following characteristics:

Small and Homogeneous membership: Generally, the size of the group is between 15 and 20, which makes the members to participate in all the activities of SHGs. In a smaller group, members get the opportunity to speak openly and freely. The membership of SHGs comprises people from the homogeneous socio-economic background, known to each other, coming from the same village, community and even neighborhood. However, the membership may not be too small that financial transactions turn out to be insignificant.

Regular Attendance: Total participation in periodic group meetings lends strength to the effectiveness of SHGs. To achieve this, the SHGs place strong emphasis on regular attendance at the group meetings. At a periodic meeting, besides collecting money, social and economic issues are also discussed. Defaults are rare due to group pressure and transparency about the end use of credit.

Transparency in Functioning: The group evolves a flexible system of working and manages pooled resources in a democratic way. It considers a loan request in periodic meeting and competing claims on limited resources are settled by consensus. This promotes trust, mutual faith and confidence among its members. Maintenance of books of accounts, as also other records like the minute book, attendance register, etc., are important. Group member usually creates a common fund by contributing the small savings regularly.

Thrift: The habit of thrift (small savings) is fundamental to the SHG and helps in building up a strong common fund. Loans are given mainly on trust with minimum documentation and without

security. The loan amounts are small, frequent, for short duration and are mainly for the unconventional purpose. The rate of interest varies from group to group and also depends on the purpose of the loan. The rates are higher than the banks but much lower than that of the money lenders.

Utilizing Savings for Loaning: Once an SHG has accumulated a sizeable amount in the form of savings say for a period of about 3-6 months, the members may be allowed to avail loans against their savings for emergent consumption and supplementary income generating credit needs.

3.1.2 Objectives of SHGs

The formation of Self-Help Groups and its link with Micro-Finance institutions leads to create an atmosphere for the growth of micro-enterprises that provide employment to economically and socially backward families. The general objectives of the SHG programme in India relate to social empowerment (equal status, participation in decision-making, etc.), economic empowerment (access to and control over resources, reduced vulnerability and increase in income), and capacity building (increased skills, knowledge, self- and mutual help, and leadership roles) (TNCDW, 2000). The specific objectives of the group are:

- (a) To provide credit and self-employment opportunities in the rural area which would help in raising the per capita income of rural poor.
- (b) To enable availing of loan for productive purposes and repaying the same over a period of time, and in the process, gain economic prosperity and improve living standard of the households.
- (c) To mobilize saving of the group members, which leads to strengthening the unity and self-confidence among the members.
- (d) To save the rural poor from the clutches of money lenders and provide access to finance from a formal source in India.
- (e) To inculcate savings, banking habits among the poor and secure them with financial, technical and moral strengths.

3.1.3 Models of SHGs in India

The SHGs system was developed and promoted by NABARD that took initiatives for developing linkage between SHGs and NGOs on the one hand, and the banks on the other. Several models of SHG-Bank linkage programmes were tried out. As a result of these

experiments, five most commonly used models throughout the country came into existence (Manimekalai, 2004). These models are briefly explained as follows:

Model I: SHGs Formed and Financed by Banks

In Model I, the SHGs were organized and promoted directly by banks. Here, the banks themselves act as Self Help Promoting Institutions (SHPIs) in forming and nurturing groups, opening their saving accounts and providing them with bank credit. NABARD provides refinance assistance to the lending bank. In this Model, there is no involvement of NGOs. As on March 2006, about 20 per cent of SHGs were financed under this category.

Model II: SHGs Formed by NGOs and Formal Agencies but Directly Financed by Banks

This appears to be the most popular model amongst the bankers and called as NGO facilitated SHGs. Here, the NGO stands only as a support to both, the bank and the SHGs, for monitoring and evaluation of the projects, proper functioning of the SHGs, repayment of the loans, providing training to members of SHGs, etc. NABARD provides refinance to the lending bank. Banks in due course link these groups by directly providing loans to them. This model constitutes the major share with 74 per cent of the total number of SHGs financed under this category as on 31st March 2006.

Model III: SHGs Financed by Banks Using NGOs as Financial Intermediaries

In this model, NGOs take on the dual role of facilitators and financial intermediaries. They help in the formation of SHGs, nurturing them, training them in thrift and credit management. Eventually, the NGOs approach banks for bulk loan assistance for lending to these SHGs. The NGO is fully responsible for making sure on repayment of the loan to the bank with proper monitoring and evaluation of the projects as well as the proper functioning of the SHG, and training of members of SHGs. NABARD provides cent per cent refinance to the lending bank.

Model IV: NGO Guided but Self-Supported SHGs

This category of SHGs is entirely formed and supported by the group members but they neither get any assistance and support from the bank nor from NGOs.

Model V: Completely Self-Supported SHGs

Yet, another category of SHGs very rarely found have been the SHGs formed and initiated by the NGOs that are guided by them on the rules and regulations, accounts to be maintained, etc. Here, no financial support either directly or through the linkage with banks is arranged but only the savings of the members are used for internal lending as well as for starting an enterprise.

3.1.4 Origin of SHGs in India

The emergence of the concept of self-help groups (SHGs), as we know it today in India, is an outcome of several experiments conducted at the Savings and Credit Management Groups (SCMG), sponsored by Mysore Resettlement and Development Agency (MYRADA¹). After experimenting with the cooperatives in some projects, MYRADA felt that a shift to an alternative credit system for the poor was required along with the efforts to make the existing credit delivery system more efficient. It was in this MYRADA project that NABARD experimented with the pilot project for the development of SHG system in India. In 1986-87, NABARD supported and funded an action-research project on SCMG of MYRADA for assessing its adequacy as an instrument to help the target groups. The main objective of this pilot project was to evolve supplementary credit strategies for meeting the credit needs of the poor by combining flexibility, sensitivity, and responsiveness of the informal credit system with the financial resources of the formal credit institutions. This experiment of NABARD achieved great success to cater to the micro credit needs of the rural poor through SHGs. During 1991-92, NABARD launched 92 pilot projects by linking SHGs with Banks in various parts of the country. In 1992, detailed guidelines were issued to the commercial banks, explaining the modalities of the pilot project. Later, in May 1993, the scheme was made applicable to RRBs and Cooperative Banks. The NABARD guidelines to banks for implementation of the pilot project allowed ample flexibility to the participating banks towards innovative responses and observed variations in the grassroots level situations. It aimed at providing credit to the informal SHGs of rural poor through the banking system with minimal documentation and simplified procedures.

Today, the SHG concept has turned out to be a resounding success in India and is one of the most successful programmes run by NABARD (Majumdar, 2003). The NABARD's corporate mission was to reach micro finance services to one million SHGs by the year 2007. This translates to about 100 million rural poor or 1/3rd of the total poor who are provided formal financial services. With the whole-hearted support and concerted endeavour of associating partners in this mission, the one million SHG mark has been reached well ahead of the schedule. In all, 498 banks (50 commercial banks, 96 RRBs and 352 co-operative banks) are now actively

¹MYRADA was originally the acronym of the Mysore Resettlement and Development Agency, but the official name is now MYRADA. It is a large NGO with 487 staff working directly with 1.5 million poor people. MYRADA has founded a micro finance institution (MFI) called Sanghamithra, which lends exclusively and directly to SHGs.

involved in the operation of this programme. In India, the SHGs bank linkage programmes have come a long way since 1992, passing through stages of the pilot projects (1992-95), mainstreaming (1995-98), expansion phase (1998 onwards) and emergence as the biggest micro finance programme in terms of attracting and linking 75 lakh groups as on March 2011.

3.2 Performance of SHGs bank linkage programme (SBLP) in India

The SHG-Bank linkage model is the indigenous model of micro credit evolved in India and has been widely acclaimed as a successful model. It is considered a promising approach to reach the poor and has since its inception made rapid strides exhibiting considerable democratic functioning and group dynamism. There are, however, many more SHGs in India than those to which the banks have advanced loans. Many banks have lent to SHGs but have not asked for NABARD refinancing because they have ample funds or can mobilize funds at lower rates of interest. Many of the SHGs that are functioning well have not approached banks for their own reasons – some, for example, have adequate savings and grants provided by NGOs to meet their requirements. Hence, the number of SHGs is greater than that reported in the NABARD annual report. However, the provision of credit through SHGs bank linkage programme initiated by NABARD is considered as the fastest and largest network in providing formal financial services in rural areas. The progress of the SHGs bank linkage programme in India is shown in Table 3.1.

Year	No of SHGs linked		Bank Loan (Amount in Crore)		Average loan size in Rs
	During the year	Cumulative	During the year	Cumulative	
1993-94	365	620	0.36	0.65	NA
1995-96	2635	4757	3.62	6.06	NA
1998-99	18678	32996	33.31	57.07	NA
1999-2000	81780	114778	138.91	192.98	NA
2000-1	149050	263825	287.89	480.87	NA
2001-2	197653	461479	545.47	1026/34	22,919
2002-3	255882	717360	1022.33	2048.76	27,005
2003-4	361731	1079091	1855.53	3904.20	32,013
2004-5	539365	1618456	2994.26	6898.46	32,019
2005-6	620109	2238565	4499.00	11397.46	37,574
2006-7	1105749	NA	6570.00	NA	44,343
2007-8	122770	NA	8849.25	NA	45,960
2008-9	1609586	NA	12253.51	NA	NA
2009-10	1586822	NA	14453	NA	NA
2010-11	1196134	NA	14547	NA	NA

Source: RBI

Note: 1. Data relates to Commercial Banks, RRBs and Co-operative Banks. NA- Not Available

2. From 2006-07 onwards, data on number of SHGs financed by banks and bank loans are inclusive of 'Swarnajayanti Gram Swarozgar Yojna' (SGSY) SHGs and existing groups receiving repeat loans. Owing to this change, NABARD discontinued the publication of data on a cumulative basis from 2006-07.

Table 3.1 provides an insight into the progress of SHGs bank linkage programme initiated by NABARD in India encompassing the period from 1993 to 2011. The SHGs bank linkage programme started in the year 1991-92 as an experimental phase in India, which turned out to be a landmark for the evolution of SHGs. In the year 1995-96, the programme crossed operational phase by sanctioning loan of Rs.3.62 crores to 2,635 SHGs in India. Thereafter, there has been increasing group formation, shifting the linkages to an expansion phase. During the last one decade, the number of SHGs linked to banks has gone up from 81,780 in 1999-2000 to 12 lakhs in 2010-11. The high growth of SHGs has led to increase in the amount of credit from Rs. 138.91 crores in 1999-2000 to Rs.14,547 crores in 2010-11. The fastest growth in bank loans to SHGs has led to almost doubling the average loans per SHG from Rs.22,919 in 2001-02 to Rs. 45,960 in 2007-08, including the repeat loan. The linkage of SHGs cuts down the transaction cost of banks (Satish, 2005), and longer programme exposure has positive impact on consumption, nutritional intake and asset accumulation (Liu & Deininger, 2009). By December 2007, approximately 3,150 micro finance institutions were servicing about 150 million clients across the world. India's share in the global micro credit market in 2005 was 15 per cent of all clients and 20 per cent of the poorest clients - thanks to the SHG Bank linkage programme of NABARD. India, thus, is the home of the largest micro credit programme in the world (Karmakar, 2008). During the last five years, there is an impressive growth of the programme, both in terms of SHGs linked with the bank and their financial performance.

The performance of SHGs bank linkage programme in terms of loans outstanding and savings as on March 2011 is shown in Table 3.2. The total amount of outstanding loan has increased from Rs.12,366 crores in 2007 to Rs.31,221 crores in 2011. Similarly, as on March 2007, nearly 42 lakh SHGs saved Rs.3,513 crores, which included 5.8 crores poor households. The amount of total savings generated by 75 lakh SHGs increased to Rs.7,016 crores in 2011, which included 9.07 crores poor households.

Year	SHGs in lakh	Loan outstanding in crore	SHGs in lakh	Saving in crore	Household covered in crore
2007	28.94	12366	41.60	3513	5.8
2008	36.25	16999	50.09	3785	7.01
2009	42.24	22679	61.21	5545	8.06
2010	48.51	28038	69.53	6198	9.07
2011	47.87	31221	74.62	7016	9.07

Source: NABARD

In general, the estimates presented in Table 3.2 show a steady and tremendous increase in savings during the last five years. This has led to increase in financial services, making the unbankable households to become bankable customers. On the demand side, the easy access to credit without collateral attracts the poorest households to link with formal financial organizations. However, on the supply side, the low transaction cost and high repayment create confidence among financial organizations and change their attitude about the credit worthiness of poor borrowers. This has led to the fastest linkage of formal financial network around the world. A better performance in the total financial status leads to better achievement in the average financial status of the programme.

Table 3.3 shows estimates relating to year-wise average loans disbursed, loans outstanding, savings and ratio of loans outstanding to savings per group during the period between 2006-07 and 2010-11.

Year	Average loans Disbursed during the year (in Rs)	Average loans Outstanding as on March (in Rs)	Average Savings as on March (in Rs)	O/S (Loan to savings ratio)
2006-07	59,420	42,724	8,469	5.04
2007-08	72076	46884	7556	6.20
2008-09	76128	53,689	9060	5.93
2009-10	91083	57,795	8951	6.46
2010-11	121637	65223	9402	6.93

Source: Author's own calculation, O/S= Average loan outstanding / Average saving

The average loan disbursement per group is seen to have increased from Rs.59,420 in 2006-7 to Rs.12,1637 in 2010-11. The increase in loan disbursement has led to rise in per group outstanding loan from Rs.42,724 in 2006-07 to Rs.65,223 in 2010-11. The savings per group has grown from Rs.8,469 in 2006-07 to Rs.9,402 in 2010-11. Due to impressive increase in savings, the ratio of outstanding loan to savings has grown from 5.04 in 2006-07 to 6.93 in 2010-11. The use of loan for unproductive purposes viz. marriage, health, repayment old debt, etc. might be the main cause of increase in loan outstanding to savings ratio. However, the increase in outstanding loan to saving ratio puts a question mark on the long run sustainability of the programme since an increase in amount of loan outstanding would push the members towards macro debt trap and collapse the entire credit linkages. Thus, for the long term sustainability of the programme, there is necessity of strong policies, which check the rise in average savings to loans outstanding ratio. There has also been significant inequality in the progress of SHGs - bank linkage programme

across different regions of India. Table 3.4 shows region-wise performance of SHGs - bank linkage programme in India as on March 2010.

S.I	Region	SHGs link	Loan disbursed 2009-10	Loan Outstanding As on March 2010	Saving As on March 2010
1	Southern	54.11	76.39	67.85	51.21
2	Eastern	19.5	10.66	13.18	18.07
3	Western	10.81	4.48	4.88	14.95
4	Central	8.73	4.37	8.78	8.29
5	Northern	3.52	2.12	2.91	5.52
6	North East	3.4	1.99	2.40	1.96
	Total in %	100	100.00	100.00	100.00

Source: Author's own calculation

The region-wise distribution of SHGs linked with bank credit, loan disbursement, outstanding loans and savings reveal that southern region of India alone accounts for 54.11 per cent of SHGs, 76.39 per cent of loan disbursement, 67.85 per cent of outstanding loans and 51.21 per cent of savings. A substantial loan disbursement in southern region has led to rise in savings in this region. The next in order comes in the eastern region, which accounts for 19.5 per cent of SHGs of India, 10.66 per cent of loan disbursement to them, 13.18 per cent of outstanding loan and 18.07 per cent of savings generated by these SHGs in India. The third in order comes in the western region with 10.81 of SHGs, 4.48 per cent of loan disbursement, 4.88 per cent of outstanding loan and 14.95 per cent of savings generated by these SHGs in India. In terms of progress of SHGs in India, north-east region comes in the bottom, next only to northern region, with 3.4 per cent of SHGs linked with bank credit in India, 1.99 per cent of total loan disbursement to these SHGs, 2.40 per cent of outstanding loans and 1.96 per cent of savings generated by these SHGs vis-à-vis total savings generated by SHGs in India.

The slow progress of SHGs bank linkage programme is noticed in the north-east region (NABARD, 2010). The overall result shows that an increase in loan disbursement through SHG bank linkage programme leads to higher outstanding loan as well as higher amount of savings. The benefit of the programme is largely skewed towards southern region, followed by the eastern region as compare to other regions. These two regions have dominated with 75 per cent of total SHG bank linkages and contribute to about 70 per cent of the total savings generated by the SHGs in India (RBI, 2009). Various formal financial institutions operating in India have played a pivotal role to make the SHG bank linkage programme a success over the last two decades.

Table 3.5 shows agency-wise proportion of SHG linkages, loan disbursal, outstanding loan and savings in India as on March 2010.

Table 3.5 Agency Wise Financial status of SBLP in percentage				
Agency	SHGs link	Loan disbursed 2009-10	Loan Outstanding As on March 2010	Saving As on March 2010
Commercial Banks	62.2	67.7	71.9	59.3
RRBs	24.2	23.1	21.9	21.0
Cooperative Banks	13.6	9.3	6.2	19.7
Total	100	100	100	100

Source: Author's own calculation

The commercial banks have linked 62.2 per cent of SHGs and disbursed 67.7 per cent of the total loan to SHGs in 2009-10 with an outstanding loan to the tune of 71.9 per cent and savings of the order of 59.3 per cent as on March 2010. The Regional Rural Banks (RRBs) also linked 24.2 per cent of SHGs and disbursed 23 per cent of the total loan with an outstanding loan of the order of 21.9 per cent and savings to the tune of 21.0 per cent. The cooperative banks have shown better performance in terms of savings as compared to RRBs. The cooperative banks have linked 13.6 per cent of SHGs with a savings of 19.7 per cent of the total savings generated by SHGs in India. However, the loan disbursement is seen to be only 9.3 per cent of the total loan disbursement to SHGs in India. Similarly, the cooperative banks are seen to account for only 6.2 per cent of total outstanding loans as against 21.9 per cent outstanding loan for RRBs and 71.9 per cent for commercial banks. The share of loan disbursed to SHGs in total bank credit is noticed to be the highest in southern region (4 per cent), followed by north-eastern region (2.4 per cent), eastern region (2 per cent), central region (1.3 per cent), northern region (0.3 per cent) and western region (0.2 per cent). Given the relatively small size of SHG bank linkage programme compared to the overall credit disbursed by banks, it cannot be expected to have any significant impact on poverty reduction at the macro level (Kumar and Golait, 2009). Table 3.6 shows region-wise status of SHG-bank linkage programme with focus on average loan disbursed, outstanding loan, savings and outstanding loan to savings ratio as on March 2010. It is to be noted that, in southern region, Pondicherry shows the highest outstanding loan to savings ratio (17.45), followed by Andhra Pradesh (9.21). However, the states like Karnataka, Kerala and Tamil Nadu of this region show the lowest outstanding loan to savings ratio.

	Region and State	Average loan Disbursed in (2009-10)	Average loan Outstanding as on March 2010	Average Saving as on March 2010	O/S Loan to savings ratio*
		In Rs	In Rs	In Rs	
Southern	Pondicherry (UT)	215214	113876	6525	17.45
	Andhra Pradesh	118893	79791.1	8667	9.21
	Karnataka	108539	68342	11729	5.83
	Kerala	81770.8	39389.6	9527	4.13
	Tamil Nadu	98830.4	7533.26	10931	0.69
	Total	110880	73671.78	9848	7.48
Eastern	A & N Islands	40874.2	28428.3	2467	11.52
	Orissa	56870	40684.3	7248	5.61
	Jharkhand	92995.6	45614.5	9344	4.88
	West Bengal	43249.9	26131.8	9193	2.84
	Bihar	92874.4	6784.32	6064	1.12
	Total	55513	35957.7	8151	4.41
Western	Maharashtra	46500.7	31273.9	7373	4.24
	Goa	142581	71698.1	54103	1.33
	Gujarat	29330.7	20439.7	19140	1.07
	Total	43383.3	29935.7	9799	3.05
Central	Madhya Pradesh	58278.8	57863.7	5695	10.16
	Chhattisgarh	49733.9	37853	6648	5.69
	Uttaranchal	84121.8	60676.2	16297	3.72
	Uttar Pradesh	99484.4	4834.76	6157	0.79
	Total	81198.6	4945.34	6705	0.74
Northern	Punjab	108634	66783.3	8099	8.25
	New Delhi	107260	85629.2	10718	7.99
	Rajasthan	71876.2	48155.7	6683	7.21
	Himachal Pradesh	100648	38946.9	6956	5.60
	Haryana	116076	98135.9	29276	3.35
	Jammu & Kashmir	85776.3	62015.6	41658	1.49
	Total	81962.1	53454.5	9723	5.50
North east	Manipur	55974	42196.3	2017	20.91
	Assam	50114.2	48916.9	3370	14.51
	Meghalaya	46658.6	41987.8	3056	13.74
	Arunachal Pradesh	34617	33359	2569	12.98
	Nagaland	105776	34234.2	5642	6.07
	Tripura	115611	66442.3	10640	6.24
	Sikkim	NA	29561.7	5847	5.06
	Mizoram	111959	11091.6	4932	2.25
	Total	58241.2	50340.3	4164	12.09
	India	91083.3	57794.7	8914	6.48

*O/S= Average loan outstanding per SHGs/Average saving per SHGs, Source: Author's own calculation,

The average outstanding loan to savings ratio for southern region works out at 7.48 as against 6.48 at all India level. In the case of eastern region, Andaman and Nicobar island shows the highest outstanding loan to savings ratio (11.52), followed by Odisha (5.61), Jharkhand (4.88), W.B. (2.84), and Bihar (1.12). The overall outstanding loan to savings ratio for eastern region works out at 4.41, which stands lower than the national average in this respect. As for the western region, all the states belonging to it show much lower outstanding loan to savings ratio than the national average of the same. Similarly, in the central region, except for Madhya Pradesh, all the states belonging to it show very low ratio of outstanding loans to savings. In fact, Madhya Pradesh is next only to Pondicherry which has shown significantly high ratio of outstanding loan to savings. However, northern region shows varying ratio of outstanding loans to savings with Punjab, New Delhi and Rajasthan showing higher ratio than the national average and Himachal Pradesh, Haryana and J&K showing lower ratio than the national average with an overall average ratio estimated at 5.50 for the northern region.

Like northern region, the north east region also shows significantly high varying ratio of outstanding loan to savings across states with states like Manipur, Assam, Meghalaya and Arunachal Pradesh showing very high ratio of outstanding loan to savings than the national average and states like Nagaland, Tripura, Sikkim and Mizoram showing very low ratio of outstanding loan to savings. Due to very high ratio of outstanding loan to savings shown by Manipur, Assam, Meghalaya and Arunachal Pradesh, the overall average ratio of outstanding loan to savings for north east region stands at 12.09, which is excessively high as compared to national average of the same.

Thus, there is a need to initiate suitable and appropriate policy measures, imparting training and capacity building to raise savings of SHGs for different states falling under the north-east region (Rangarjan, 2008). The negative correlation of -0.25 between SHG spread (measured in terms of the number of SHGs per lakh population) and the poverty ratio implies that the States where the SHG spread is better there has been lower poverty ratio. However, a positive correlation (0.31) existing between SHGs spread (measured in terms of the number of SHGs per lakh population) and Per Capita Income of States emphasizes the lower spread of SHGs in poorer regions of the country. One policy implication that may emerge from the above analysis is that the SHG spread needs to be intensified in the States where the poverty is higher and which is lacking in terms of development at present (Kumar and Golait, 2009).

3.2.1 Progress of SBLP in Odisha

The SHGs bank linkage programmes are highly successful in providing credit and employment through group formation in Odisha. Table 3.7 shows the year wise progress of SHGs bank linkage programmes and SGSY programmes in Odisha.

Table 3.7 Progress of SHGs in Odisha			<i>Amount in crore</i>		
Year	Under SBL Programme		Under SGSY Programme		
	No of SHGs linked	Bank Loan in crore	Coverage of Families	Credit in crore	Subsidy in crore
2003-4	35316	76.44	59259	NA	NA
2004-5	45668	124.31	65712	97.50	59.40
2005-6	57640	223.67	63904	NA	NA
2007-8	103544	567.04	87171	177.38	78.56
2008-9	93433	540.02	106271	209.92	95.40
2009-10	117226	666.66	131334	276.34	116.6
2010-11	71843	574.92	NA	NA	NA

NA: Not Available, Source: Indianstat.com & ES

It could be discerned from Table 3.7 that in 2003-04, Rs.76.44 crores of bank loans was sanctioned to 35,316 SHGs in Odisha. The amount of bank loan increased to Rs.574.92 crores covering 71,8443 SHGs in 2010-11. With the launching of the SGSY programme in 1999 and formation of Mission Shakti² in 2001, a significant growth in SHG-bank linkage programme was seen. Odisha has linked 3.35 lakh SHGs with bank loan outstanding of Rs.1579.48 crores by the end of March 2011 (NABARD, 2010). All the 8 Regional Rural Banks, 17 Districts Central Co-operative Banks and 35 Commercial Banks in the state took part in the SHG bank linkage programme (Behera, 2010). It has led to generating the saving amount of Rs.353.54 crores with respect to 5.21 lakh SHGs as on March 2011. There is an increase in families assisted, credit and subsidy disbursed to the BPL households under SGSY programme in Odisha. The total number of families assisted under SGSY has increased from 59,259 in 2003-04 to 1.31 lakhs in 2009-10. It has led to increasing the amount of credit with subsidy to beneficiaries under this programme (Table 3.7). The rise in group formation in Odisha is seen to have a positive impact on Ganjam district in terms of generating employment through credit.

² The Mission Shakti programme has started in 2001 for building up cluster at the Gram Panchayat (GP) level, federation at the block level and federation at the district level to strengthen the potential of women collectives. Through Mission Shakti, the Government's efforts have been in the areas of promotion, capacity building and enhancing marketing opportunities for women entrepreneurs so that they would be able to enhance their income generation opportunities. The Mission had an objective of empowering women through formation and promotion of over two lakh women SHGs by 2008 and strengthening the already existing ones by providing capacity building support and facilitating credit linkages for income generation.

3.2.2 Progress of SHGs in Ganjam

In 1998-99, Ganjam district administration conceptualized the idea of formation of WSHGs in each and every village and expanded it to the block level through the “Mahila Sanchayika Sangha” (MASS) or (B-MASS). All the Block MASS at the district level constitutes the District MASS or D-MASS, which is registered under the Societies Registration Act, 1860. Table 3.8 shows the cumulative progress of SHGs formed under BMASS programme in Ganjam district of Odisha.

Year	Cumulative progress		Under SGSY Programme (During the year)		
	SHGs link	Credit	Coverage of Families	Credit	Subsidy
2004-5	7328	18.5	5633	6.25	4.88
2005-6	10310	32.5	NA	NA	NA
2006-07	NA	NA	4659	8.41	3.96
2007-08	15058	91.0	5766	9.61	4.75
2008-9	16141	119.7	7246	12.20	5.95
2009-10	17104	154.7	8746	17.82	8.65
2010-11	17791	189.6	8437	16.00	7.89

NA: Not Available, Source: BMASS, DRDA & ES

As can be witnessed from Table 3.8, the amount of loan has increased from Rs 18.5 crores financed to 7328 SHGs in 2004-05 to Rs 189.6 crores financed to 17791 SHGs in 2010-11 under BMASS programme. The total savings of SHGs in the district has increased from Rs.39.39 crores in 2007-8 to Rs.63.40 crores in 2010-11. However, the total number of SHGs stood at 21,343 in the district, covering 2,64,527 members as in March 2011 (including ICDP/DWCRA SHGs). Another programme i.e. Swarna Jayanti Swarojgar Yojna (SGSY), also provides credit and subsidy facilities to the household living below the poverty line (BPLs) in this district. The higher growth of loan and subsidy provided to the BPL households under SGSY programme has led to changing the standard of living of people in Ganjam district. For instance, Rs.6.25 crores credit was sanctioned to 5,633 families under the SGSY programme in 2004-05. The amount of credits has increased with Rs.16 crores disbursed to 8,437 families in 2010-11. The provision of subsidy also helps in improving the living standards of BPL households through this programme. The group members are taking responsibility of mid-day meal in school, public distribution system and providing nutritious food to pre-school children's center. In some villages, the members of SHGs compel their leader to participate in local election, calling strike against corruption and save the family from economic shocks.

CHAPTER 4

REVIEW OF LITERATURE

4.1 Introduction

This chapter analyses the impact of micro credit through empirical and theoretical findings from past research in international perspective with specific reference to India. Since the concept of SHGs is more than 20 years old, major studies have examined the impacts of micro finance services based on their theoretical and empirical research findings. Over a period, theoretical literatures helped develop conceptual models in order to measure the impact of micro credit on the members. However, empirical researchers investigated the effect of credit, substantiated by evidence-based studies. As noted above, we make an effort here to review a few of them, highlight the pros and cons of the programmes both in international and national perspectives.

4.2 Theoretical Review

The theoretical literature has demonstrated different aspects of group formation such as self selection, socio economic cohesion among members within the group and peer monitoring is 'pareto superior outcome' as compared to individual lending (Zeller, 1998; Wydick, 1999; Ghatak and Maitresh, 1999; Morduch, 1999; Stiglitz, 1990; Besely and Coate, 1995). It helps to overcome the problem of gender disparity, raise social and economic empowerment, increase the bargaining power along with gender empowerment of the members both at individual and community level (Mauoux, 2002; Hoque and Itohara, 2009; Kabeer, 1998; Ngo and Wahhaj, 2008). The pillar of micro finance lies on three fundamentally different approaches (i.e. financial sustainability, feminist empowerment and poverty alleviation). Access to savings and credit leads to initiate or at times strengthen a series of interlinked and mutually reinforcing 'virtuous spirals' of empowerment (Mayoux, 2000). Women are able to earn an independent income and contribute financially to their households as by now they have capital in their hands (Mayoux, 1999). The income earning opportunity from own economic activity leads to increase in income, saving and control over own income (Mayoux, 2001). The participation in SHGs provide more equitable status of women in the family and community, which further increases the political power, rights, self-esteem and voices of women (Cheston and Kuhn, 2002).

However, these changes are not an automatic resultant of savings and credit alone and/or of group formation. Some services could be supported particularly in form of information, organizational and leadership skills, gender training, male support and also in

the actual strategies in which they decide to use credit. In this process, NGOs not only act as a bridge between banks and the poor but also performing a role of financial intermediaries in unbanked and backward areas. The efforts of NGOs helps to develop thrift habits among the poor, provide access of finance, equality, self-reliance and empowerment among the members along with upgradation of their skills (Shah, 2006; Nikkhah and Redzuan, 2010).

Formal financial institutions in India don't supply credit to the poor households due to the fear of credit risk, absence of land tenure for financing, irregular flow of income because of seasonality and unacceptable collaterals such as crops, utensils etc. The provision of credit facilities through a group approach is the only ray of hope for the marginalized section. The solidarity of group pressure and sequential lending provide strong motivation for timely repayment, thereby producing low default rates. Briefly, it enhances the (i) creditworthiness of the poor (ii) enabling poor to borrow long-term credit and (iii) makes poor as "bankable" to formal financial institutions (Vetrivel and Kumarmangalam, 2010). The access and efficient provision of micro credit enables the poor to ease their consumption, better manage their risks, gradually build their assets, develop their own micro enterprises, enhance their income capacity and thus enjoy an improved quality of life (Bakhtiari, 2006). The system of loan distribution and recovery is based on mutual trust, accountability, participation and creativity, all leading to sustainable improvements in livelihoods and strengthen group solidarity. Monthly meeting of members builds social cohesion, trustful human relation; additionally, the access to credit only strengthens the growth of these groups towards more autonomy. Participation in the SHG programme develops self confidence and moves them further towards social and economic empowerment. Besides bridging a financial gap and enabling the participants to earn more, experience shows that micro-credit can in fact act as a tool for participatory human development (Gutberlet, 2009).

Khandewal (2007) found that the micro credit programme has changed many lives in diverse societal settings across the globe and is being used as a tool of financial liberation for the underdeveloped, developing and evenly developed countries. It tries to create a more inclusive financial universe for the whole society enabling poor and low income people to gain access to credit, insurance, remittances and savings products. Karmakar (2009) observed that the presence of SHG members within the house helps to spend much more on education, better school attendance and lower dropout rates than non-member households. Group credit increases overall the empowerment level of women by enhancing their contribution to the household income and giving them better control over decisions that affect their lives. In certain areas, micro finance has reduced child mortality, improved maternal health and ability

of the poor to combat diseases through better nutrition, housing and health—especially among women and children. Sarkar and Singh, (2006) concluded that the access to micro finance has increased employment opportunities for the non-bankable person on a sustainable basis both in the developing and underdeveloped economies of the world. Further, the whole gamut of micro-financial activities such as a group approach, savings, saving-based credit, blocked savings, peer pressure, joint appraisal and joint recovery could be effectively initiated through micro level institutions.

4.3 Empirical Review

Theoretical investigation of impact study on micro finance led to start an empirical research in this area. Different empirical group of researchers have examined the impacts of micro credit from a field study through in-depth interviews or structured questionnaires collected from sample households. Some studies have used a pre-post design to examine the impact of micro credit on the members. However, other studies preferred to use the control (Non-members) and treatment (Members) group to know about the effect of group credit programmes. Similarly, optimistic researchers have strongly supported the provision of micro credit based on their positive outcomes. On the other hand, pessimistic researchers found the adverse effect of micro credit on the members. Based on their findings, the present study has divided the outcomes of empirical research on four domains (i.e. economic, empowerment, social and negative) and its impact of micro credit on the clients.

4.4 Economic Impact of Micro credit to Poor Households

Different international research studies found the provision of micro credit to help increase the levels of income, saving, employment, consumption, small scale enterprises, etc. Simultaneously, there was also a decline in the amount of informal loan, poverty level and migration of the borrower as compared to non-borrower households. Choudhury (2005) assessed the reduction in objective and subjective poverty (2.5% and 6.5% respectively) per micro credit programme year. Bashir and Naeem (2010) interviewed 80 members and 80 non-members who received micro credit, and concluded that the small credit was giving a chance to earn a livelihood, help to live with esteem and reduce financial exploitation. An increase in loan by Rs.1 leads to an increase in the income by about Rs.429 of the loaner controlling other variables. The increase in income reflects on reducing the level of poverty by 1.604 times. Khandker et al., (1998) observed that micro credit and capital provide self employment opportunity in the non-farming sector to the participants as against non-participants. The increase in daily employment gradually led to a rise in the volume of production at the village level which further increased the income of participants receiving

micro credit. Their study included 1538 targeted and 260 non-targeted households' from rural Bangladesh, which in turn reveals that the participating household uses more family labour and derive more income from rural non-farming sources than their non-participating counterparts.

4.4.1 Income Earning Opportunity

Khan (1999) argued that the status of women has increased within the family due to their financial contribution in income of households. Married women claimed that their husbands valued their economic contributions and this had changed the perception towards wives' paid and domestic work. On the other hand, the income of women tended to delay their marriage, made them independent and self-reliant, lower dowry payments and gave them a greater voice in the family. It is the women's income in cash that encourages men to take on women's responsibilities; and it is interesting that the timing and terms of sexual encounters are changing as women are no longer unconditionally available to their husbands. Datta and Raman (2001) through their research, showed the lesser dependence of SHG on various external resources, higher education of the members, higher loan provided in the current year and lower expenditure, all ultimately contributing to the higher SHG net income of the member per se.

This just goes to reiterate the fact that the growth of the micro credit sector has contributed immensely to greater access of credit for the lower categories of an income distribution group, which has both positive and negative implications. On the positive side, lower income groups now have access to finance that was previously not available (or available in more limited ways), and so have greater scope to enhance their consumption. The increase in indebted households positively moves with increases in income and employment. On the flip side, there's a lack of awareness among consumers regarding the use of debt, combined with rapid growth of industry, which could potentially cause people to become over-indebted (Daniels, 2004). Micro finance is not a magic skyhook that reaches down to pluck the poor out of poverty. However, it can be a strategic vital platform which the poor can use to raise their own prospects and escape from the poverty trap. The MFIs focused on identifying poverty, reaching the poor, attracting the poor and discouraging or excluding the non-poor. The first 'micro finance revolution' has shown that the 'poor are bankable'—the second revolution is faced with the challenge to offer a set of financial services to the poor that meet their complex livelihood needs (Matin et al., 2002). A study of a consultative group to assist poor (CGAP) (1998) assessed the MFIs emphasis on identifying, reaching and attracting the poor, which lies at the heart of the financial service-outreach framework.

Barboza and Trejos (2009) attempted to explain the services provided by MFI's change in common beliefs of many formal lending institutions (i.e. poor are capable of borrowing money, developing successful entrepreneurship ideas, making regular repayments and successfully completing a full lending–borrowing cycle). The provision of credit allows urban borrowers to complete the borrowing cycle faster, progress to higher loan levels and consequently escape from poverty more rapidly. At the margin, an increase in income has a much larger positive effect at initial low levels of income of the households. Examining the impact and sustainability of micro finance interventions of Bangladesh Rural Advance Committee (BRAC), covering 419 members and 91 non-members, Halda (2003) estimated that the supply of credit reduced poverty at the annual rate of 1.75 per cent among member households. Sinha (2005) noted that MFIs helps in terms of accessibility, capability in providing loans to meet the borrower's demand, willingness to lend without security and flexibility of repayment schedule. The micro credit groups are doing well in processing, distributing farm loans. Thus, MFIs should increase the fund size to such groups for speedy development of programmes.

4.4.2 Saving and Expenditure of Beneficiaries

The supply of credit enabled women to make a contribution in the household finance and use loans for more immediate needs such as food and education (Hulme and Moseley, 1996; Hunt and Kasynathan, 2002). Male entrepreneurs who availed the credit for themselves tended to divert a greater percentage of profits to reinvest in their enterprises, whereas their women counterparts allocated a greater share of their profit for food, clothing, health, children's need and other family expenditures (Wydick, 2002; Pitt and Khandekar, 1998; Kabeer, 1998). The members invested the credit facility extended to them in new economic activities and/or strengthening the old activities. The non-agricultural activities undertaken by the women helped the households to obtain income from low risk activities; all the above efforts jointly led to reduction in dependence of moneylenders and the intensity of poverty (poverty gap) among the poor (Galab and Rao, 2003).

Basically, members compulsorily saving from their monthly income has significantly increased the post-group average saving of the families. The average income of group members has increased but the inequality of distribution of income is higher among the group members than that of the non-group members (Banerjee, 2009). Most of the women have joined in the SHGs for getting loan and promote their personal savings, in addition to gaining the social status. The timely repayment of the loan with increase in saving seems to convey that the economic activity of SHGs was successful. The pre and post evaluation study of 134

members in Tamilnadu explored that the participation in SHGs helped increase the income and expenditure of members, contributing more to their household needs and getting opportunity in an independent economic activity (Vinaygamoorthy, 2007).

4.4.3 Determinants of Repayment of Credit

Mkpado and Arene (2006) recommended a suitable policy and planning for long term existence of micro credit programmes providing basic financial services to the poor. They found the long term sustainability of the MFIs to depend on the loan repayment capacity and the level of participation of women borrowers. Different factors like number of members per group, size of fund, fund allocation method with a plurality of membership has significantly influenced the repayment of a loan. However, variables like meeting schedule per month, gender composition and age of groups in experiencing group lending has insignificant effect on the repayment of a loan. On the other hand, Paul and Woldmichael (2000) argued the timely repayment of loans depends upon the profit/loss of the clients and where they invested their money. Different factors like the average loan amount, field of investment and tier that a particular client belongs to determine the average amount of loss or gain of the borrowers. The study has selected 153 clients from 9 villages in the central region of Eritrea in east Africa and found that the sex and literacy of clients had a less significant role over the output from the loan.

4.4.4 Impact of SHG-Bank Linkage programme (SBLP)

In India, different impact assessment supports providing credit through MFIs, due to negative attitude of formal financial institutions in sanctioning credit to the poor. Thus there's a need to strengthen all the available channels such as SHG-Bank Linkage programmes (SBLP), Micro Finance Institutions, Cooperative Banks, Regional Rural Banks and Primary Agricultural Credit Societies to provide credit to the poor (Shah, 2001; Planning Commission, 2007). The linkage between banks and SHGs is a mechanism for channeling credit to the poor on a sustained basis. There are numerous potential advantages involved in the linkages between banks and SHGs with NGOs acting as facilitators or financial intermediaries. From the banks' perspective, the advantages of the linkage approach between banks and SHGs include reduction in transaction cost, mobilization of small savings, assured timely repayment of loan, leading to faster recycling of funds, opportunity for expansion of business and coverage of the poor clients (Shah, 2006; Vatta, 2003). Involvement in SHGs has significantly increased self-confidence of the participating women enabling them to improve the overall economic and social empowerment of rural poor (Puhazhendi and Satyasai, 2001). Due to initiation of SHG-Bank linkage programme, there have been

perceptible and wholesome changes in the living standards of the SHG members, especially in terms of their ownership of assets, savings and borrowing capacity, income generation activities and income level (Shah, 2005). Similarly, the average value of assets and the average saving increased (1.72 times and 2.14% respectively) in the post SHGs period as compared to the pre SHGs period. The employment level increased to 17 per cent and the share of households among the SHGs living below the poverty line declined from 42 per cent to about 22 per cent in the post-SHG period (Puhazhendi and Satyasai, 2000; Puhazhendi and Badatya, 2002).

A more recent study regarding the impact of the SBLP on SHGs reported that the net household income of SHGs registered a significant growth of 6.1 per cent per year in between the pre and post-SHG periods. Average savings per household registered an annual growth of 14.2 per cent and the average loan amount per household registered an annual growth rate of 20.5 per cent between 2002 and 2006. The share of households living below the poverty line has decreased from 58.3 per cent in 2002 to 33.0 per cent in 2006, and about 96.4 per cent of borrower households made regular repayments on their loans (NCEAR, 2008). The SBLP satisfies the needs of small entrepreneurs of MFIs where they encounter problems in getting loans from formal finance institutions. This in turn, helps them overcome problems, since as and when the SHGs clients graduate to a level of small and medium entrepreneurs; they may switch over from being SHG members to regular clients of the financing bank (Srinivasan and Satish, 2001). The group lending practices lead to reduction in transaction costs to nearly 48.5 per cent and risk costs within 0.03 per cent to 0.27 per cent as compared to 8.06 per cent of risk cost in normal lending (Satish, 2005).

4.4.5 Factors Influencing Sustainability of SHGs

The long term sustainability of SHGs programmes helps to provide formal financial services and improves the living standard of the poorest households. Different factors that determine sustainability of SHGs in India includes recovery of loans, per capita savings and linkage with SHG federation. The above outcomes based on data from a survey of 961 SHGs (out of which 95 are male, 811 are female and 55 are mixed) carried out in six states of India on 2002. All-female SHGs were sustainable because they are more focused and united, adhere to two basic objectives of groups, utilise borrowed funds for different productive activities, and are highly concerned about the well-being of their children and family members. The female SHGs are extremely sound in financial management practices such as maintaining book of accounts, passbooks and updating them regularly. Further, the female SHG members took membership in the group as a means to educate themselves and confront

social, political, and economic problems. On the other hand, members of all-male SHGs have ego problems, work for their own interest, and do not follow the basic objectives and goals of the group formation. As a result, they are most irregular in loan repayments and perform badly in economic and managerial activities (Parida and Sinha, 2010).

On the other hand, long term access of credit depends upon saving, amount of loan and use of credit. Here, the marital status of the members acts as a cause in both the savings of the members in groups, deposits they accumulate with the groups and their use of the credit facility. The age and family size is negatively related to saving deposits. Similarly, marital status, duration of membership, age of the member and the number of adult males are significantly determining the total amount of loan availed by the members. As a result, married women have more interest to avail credit through group formation (Sooryamoorthy, 2005). An increase in the growth rate of SHGs positively increases the growth rate of accounts per 1,000 females, which in turn confirms that there is a significant relationship between the two variables. The provision of financial service by micro finance SHGs in India inculcate banking habits and financial literacy in rural people, especially the women (Varman, 2005).

4.4.6 Role of Non Government Organisation (NGOs)

There is the need for intervention by NGOs or SHGs federation to solve different problems (i.e. internally or externally) of members related to the credit facility. The linkage of SHGs and NGOs are reported to have not only reduced transaction costs but also ensured better repayment performance. Another studies conducted in Maharashtra has shown cent per cent recovery of loans through SHGs despite having excessively high rates of interest (24-36 per cent per annum) on their loan advances (Kshirsagar and Shah, 2002). Moreover, the intervention of NGOs (i.e. Rotating of Savings and Credit Associations (Rosca)) on group formation procedures, loan sequencing, peer monitoring improved the loan repayment habits of poor borrowers in West Bengal. The study found that the member's demand for loans arises from three reasons: (i) working capital for production activities (ii) unforeseen consumption needs and (iii) repayment of previous loan borrowed at higher rates of interest. The members use this loan for lumpy consumption needs and for unforeseen expenditure such as illness, school admission etc. The timely repayment made by the borrower and less number of default increase the surplus fund, which in its turn shows the financial sustainability of the Rosca in providing long run service to the poor people (Guha and Gupta, 2005). The lower transaction cost and high rate of recovery from SHGs makes it necessary for credit cooperatives and commercial banks to study the mechanism of new generation

lending institutions in terms of their pattern of loan recovery and interest rate structure (Shah, 2007). Madheswaran and Dharmadhikary (2001) found that micro credit scheme using SHGs enabled the poor to have an easy and continued credit facility without burdening the banking system. Shah's (2001) study urged the provision of micro finance services to the borrowers of primary agriculture credit societies (PACS) for reactivating and revitalizing inefficient functioning of PACS.

Nair (2005) concluded that the existence of SHGs federation provide all essential services like auditing, capacity building like training the SHG members, leaders, SHG accountants, and forming a common forum for reviewing the performance of SHGs. The federations also help in resolving conflicts among SHG members, between SHGs and between SHGs and banks. They provide micro-insurance services and social services such as education, health and livestock support. Ghate (2006) observed that the groups formed by government agencies tend to be the weakest thereby reducing their share relative to those promoted by NGOs and even banks, which could enhance the overall programme quality. The prospects of group's achieving equity, longevity and reduction of dropout rates lie in improving its bookkeeping, capacity, formation of clusters and federations. Members are now getting the benefit through participation in social and organised activities, receiving new skills/training and better access to credit facilities. Whereas the major problem encountered by borrowers in conducting their production activities were loan not received in time, difficulty in getting raw materials along with problem of labour and marketing (Nirmala et al., 2004).

4.4.7 Provision of Group Credit in Odisha

Different surveys carried out in Odisha found a positive relation between group-based credit programme and income, asset position, savings, employment and literacy rate of the beneficiaries etc. Panda (2009) pointed out that higher income and employment levels as a result of micro finance interventions led to a reduction of migration in the member households. The treatment group has increased their expenditure under all heads (i.e. food, personal consumables, medicine and health treatment, education, entertainment, social responsibility, productive assets and household consumables) over those of the control group. Meher's (2008) study used the head count index to find the impact of credit on the level of poverty, while including 77 members of 5 SHGs formed in Koraput district of Odisha. Approximately, 7 per cent to 23 per cent of borrowers in different groups crossed the poverty line, and the poverty gap is also lower in the groups formed by the district level organization than state level organization. The provision of credit has also increased the asset amount of

borrowers as against non-borrowers. However, members are very poor in terms of empowerment measured through economic, social and political aspects.

Behera's (2010) recent study in Odisha concluded that the organization of SHGs, especially for micro finance and micro enterprise development programme not only provides financial services to the rural poor but also acts as a launching pad for livelihood intervention and poverty reduction. Apart from this, weekly meetings, discussions, participation in planning, social and cultural activities conducted under SHGs with community based organizations helps to enhance the confidence/capacity of rural poor. Moreover, thrift and credit operations under micro finance/ micro enterprises enhance the economic status of the rural poor in a family and society, which in its turn helps to eradicate poverty from the root. However, Ray (2008) pointed that the participation in SHGs helped to increase independent income, ability to spend money independently, regular savings, freedom of movement, knowledge of financial activities etc. There is a decrease in migration of male family members, borrowing from a money lender and physical abuse by husband due to the provision of credit. On the other hand, different factors like involvement of brokers, utilization of loan for more than one purpose, delay in release of loan etc. led to none of members above the poverty line even after three years of credit assistance from SHGs. Inadequate backward and forward linkages including the non availability of raw materials, improper and inadequate storage facilities for machinery, raw material and livestock, lack of adequate marketing avenues jointly make the losses in business. Slow progress has been observed in the areas of mobility, literacy, exposure of information, access to institutional credit, freedom from money lender and increase in ability to raise emergency fund on their own.

4.5 Empowerment Impact of Micro credit on Women

Increased income has been conceptualized as the primary pathway through which micro credit could improve the power and position of women, both within and outside of the households. The additional income of the women helps to increase the bargain power, which in turn allows her to participate in decision making processes, all of which could positively influence in the overall empowerment level of women associated with SHGs. There is no coherent definition or measurement index to understand the term women's empowerment in literature. Different studies examining the relation of credit and empowerment vary not only in terms of variables to measure women's empowerment but also in terms of the manner the researchers have defined women's empowerment. Literature available on micro credit and women empowerment provides a number of empowerment measures including a borrower's

control over her loans (Goetz et al., 1996; Montgimery et al., 1996), her knowledge of enterprise accounts (Ackerly, 1995), her mobility, intra-household decision making power and general attitudes about her children's lives (Amin and Pebley, 1994; Hashemi et al., 1996) as well as her control over resources and incidences of domestic violence (Naved, 1994). The formation of SHGs for collective savings, group consumption credit, integrating social and economic goals among group has the potential not only for financial deepening in the rural areas but also for the empowerment of women particular (Nambodiri and Shiyani, 2001).

4.5.1 Participation in Decision Making Process

Hashemi et al., (1996) found that the credit provided through Grameen Bank and Bangladesh Rural Advancement Committee (BRAC) has significant positive effects on women's empowerment and reduced domestic violence in Bangladesh. They created an 'empowerment index' and found that the longer a woman is involved in a credit programme, it leads to the likelihood of her being more empowered as compared to non-members. Moreover, member's of SHGs protests against beating of wife by the man, divorcing or abandoning wife, unfair prices, unfair wages, misappropriation of relief goods, misbehavior of police or government officials. Members are more frequently visit to market place for buying products, medical center for medication, cinema hall for watching movies, other houses in the village, and outside of village. Mizan (1993) has used a similar approach to construct Household Decision Making (HHDM) scale and found that the number of years of borrowing from the Grameen Bank had a positive and significant effect on the HHDM score. Rahman et al., (2009) examined relationships between micro credit and women empowerment with the help of 'economic security index' (ESI), 'purchase decision index' (PDI), 'control over assets index' (COAI), 'mobility index' (MI) and finally 'awareness index'. They concluded that non-borrowers are equally empowered as micro credit borrowers, may be due to the demonstration effect. The age and education levels of women, amount of assets, age and education of male partner are significant influences on empowerment.

The overall empowerment status of the women respondent is poor. However, the NGO women who are involved with micro-credit for a long period and are operating the money by own self are better empowered. The study used the contribution to household income, access to resources, participation in family decision making process, perception on gender awareness as proxies of empowerment and divided the respondents based on the status of empowerment. The result of the study found that women's institutional

participation, media exposure and family land holdings are very important for women empowerment. Micro credit use by own self, duration of micro credit use and monitoring by the concerned NGO are equally found to be significant factors for women empowerment, especially the ones who are associated with the micro-credit programme (Hoque and Itohara, 2009). Moreover, women in the credit programme villages have a joint role in decision-making on food, crop production and children's school expenditure as compared to women in non-programme villages. Additionally, participants spent proportionately more time on income-earning work, more likely to be using contraceptives compared to non-participants. Evidence shows that micro credit programme participation expands women's access to resources like self employment and mobility into certain public spaces (i.e. NGO office and health centre) (Mahmud, 2003).

Women members in micro credit programmes are playing a pivotal role in household decision making, access to financial and economic resources, social networks and bargaining power as compared to their husbands. Female credit has also tended to increase spousal communication in general about family planning and parenting concerns. However, male credit had a negative effect on several arenas of women's empowerment including physical mobility, access to savings, economic resources and power to manage some household transactions (Pitt et al., 2003). The provision of credit through membership in SHGs is useful for gaining employment which, leads to better recognition in the family and society of the women with disability (WWD). The formation of SHGs not only provides employment, but also gives them a chance to be connected with the outside world. The members are getting out of the house, doing their own shopping, going to the cinema once in a while, and using local transport to visit friends by attending regular meetings of SHGs. Group formation creates an opportunity for WWDs to be in the public arena (i.e. celebrating International Day for Disabled Persons, involving them in community affairs, performing a cultural programme, publishing a quarterly magazine, speaking in the national media etc). Such public appearances have enabled women to be articulate in the communities, and have proved to be an effective instrument for fostering women's social empowerment at the grassroots (Dhungana and Kusakabe, 2010).

Kelkar et al., (2004) found that the access of credit changed the concept like 'man as a bread winner' and helped women to value their independent income, education, mobility, professional engagement and work outside the home. Amongst some of the changes observed are for example in access to ownership of assets, acquiring the new land in wife's name or jointly with husbands etc. all due to the increase in the overall income level. All these

changes enhance women's agency in daily life, and give them a greater voice in deciding household affairs. Mamun et al., (2001) used participation in the decision making process, mobility outside the home, participation in group action and attitude towards daughter's education as a proxy to measure the impact of credit on social empowerment of women. They supported the concept of providing more amount of credit through group lending scheme to further increase the social empowerment of women members.

4.5.2 Increase in Bargain Power and Self-Confidence

Different studies carried out in India reveals that the credit through SHGs contributed a leading role to improve the position of women by raising their level of empowerment. The supply of credit through SBLP leads to positive economic impact and empowers women, while allowing for the possibility that some members might have been more empowered than others. Swain and Wallentin (2010) applied structural equation model to measure empowerment of women including 805 members and 156 non-members of SHGs in India. By examining the data collected in 2000 and 2003, the study found that there is a significant increase in the empowerment of women associated with SHG. No such significant change is observed for the members of the control group. The SHG programmes help members with better access to loans, enable them to generate income thereby, increasing their bargaining power within the household. Several SHGs also provide training or workshops that tend to create greater awareness amongst women and also give them the opportunity to update and learn new skills.

Moyle, Dollard and Biswas (2006) observed the members achieved both economic and personal empowerment in terms of collective efficiency, pro-active attitudes, self-esteem and self efficacy after joining SHGs. In case of personal empowerment, more than 90 per cent of women believed that 'self-help group members are always able to discuss problems and the group as a whole will be able to solve it'. Similarly, more than 80 per cent of members believed that 'I have confidence that our group members can perform the tasks that are assigned to them'. In terms of perceived efficacy to solve problems as a group, 60 per cent believed that 'as members of this group, we are able to tackle the most difficult situations because we are all committed to the same collective goals'. In case of proactive attitude, 63 per cent of the women believed exactly true that 'I feel responsible for my own life' and 93 per cent believed that they were 'able to choose their own actions'. In terms of 'self esteem', 91 per cent of women strongly felt that they had good qualities, and 71 per cent strongly agreed that they had a positive attitude towards themselves.

Hussain's (2010) recent study assessed the increase in self-respect and confidence of women associated with SHGs due to interaction with other women, visiting local markets, undertaking economic transactions (when buying inputs or selling products), and interacting with municipality officials in the Poverty Eradication Cell. These factors are also important in increasing the ability to protest against domestic violence. Puhazhendin and Satyasai (2000) found that the sense of self worth and self confidence of women was enhanced through SHG activities. The members were also very confident of confronting the various social evils and problems they faced in their everyday lives. The formation of groups in linkage models involving NGOs as either facilitator or financial intermediary, recorded better performance than others.

4.5.3 Role of Intermediate Organization on Women Empowerment

Holvoet's (2005) study examined the empowerment level of the member's who participated in two types of credit programmes in Tamilnadu, India. It has shown that direct bank-borrower credit delivery does not challenge the existing decision-making patterns, regardless of whether men or women receive the credit. These findings change when credit is combined with financial and social group intermediation. The membership of SHGs seriously shifts the overall decision-making patterns of single male decision-making to more joint and final decision-making. Long-term group membership, more intensive training and group meetings strengthen the use of loan, money management and time allocation patterns. Members felt that their position in the household had improved as they secured access to long-term financial resources through their personal savings account and the group fund. As such they were involved in extra-household bargaining with the community, thereby strengthening their individual fallback position within the household.

Rogers et al., (1998) observed the women who got credit assistance through cooperative development (CD) programmes by the Dairy development board, which makes them more empowered as compared to others who didn't participate in such programme in Maharashtra. The study used factor analysis model and found that the average scores on 11 out of 12 decision making items were significantly higher in the four CD villages than non-CD villages. The CD Programme, (perhaps in part) through an increase in female empowerment of women dairy farmers, led to more effective village-level dairy marketing cooperatives, as indicated by increased memberships, higher milk production, etc. Similarly, Lyngdoh, (2008) noted the initiative to provide a loan by International Fund for Agricultural development (IFAD) to the SHGs helps in income generating activities resulting in the improvement of livelihood. Economic resource has led to the empowerment of women and

has brought about changes to their social status, self-esteem and decrease in social stigma. Economic empowerment has enabled the women in bringing about the structural change in their livelihood.

4.5.4 Improvement in Status of Social Excluded Group

Kayser et al., (2010) studied 109 widows who participated in SHGs and found that the group credit approach has improved the overall well being index comprising of economic, communal, familial, and psychological aspects. The amounts of loan and investment patterns of SHGs were insignificantly related to the women's well-being at large. However, more recently formed groups have significantly a greater impact on women's well-being. Leach and Sitaram (2002) found that the access to credit makes them more independent through self employment in micro enterprises to the socially excluded women in the society. The participation of scheduled caste women in the silk-reeling industries through micro finance perceived an increase in their economic and social status, stemming from the fact that they were now earning their own income. Some members acquired a business sense, an awareness of how the silk industry operated, familiarity with handling funds, and a recognition of the importance of savings and book keeping. Nidheesh (2009) explored the formation of SHGs by tribal women in Kerala helped in changes the identity towards working collectively. Members organised in community and social action programmes, both at the local level and by joining with bodies/organisations beyond the local. The participation of women in different aspect (i.e. economic, social, and political) of life within the village captures the startling extent of empowerment outcomes. Different facilities provided by NGOs to SHGs including training and support, assume the strengths of the women to be active citizens in their own communities.

Meena et al., (2008) noted that the provision of training facilities to members participating in SHGs leads to change in the attitude especially in areas of socio-economic upliftment, marketing and entrepreneurship qualities, technology adoption and banking aspects. The organisation of monthly meetings has contributed in exchange of experiences, ideas, feelings, operational problems and conflicts as well as resolutions of members. Groups could be used as an effective mechanism for information dissemination, social and mutual learning, institutionalised process of capacity building, empowerment, along with sustainable and equitable development. Putnam's 2000 study (as cited in Meena et al., 2008) observed that the linkage of SHGs with savings and credit, has enabled women to benefit economically by monetizing their contributions, and in the process empowering them to become change agents. Training enhances the skills and efficiency of individuals in their profession. The

members of SHGs need to be trained in managerial skills as well as in technological capabilities for augmenting their entrepreneurial endeavours (Chesler, 1991; Mok, 2001; Nylund, 2000).

4.6 Social Impact of Micro credit to Households

The increase in employment and income through participation in SHGs has been conceptualised as the primary pathway through which micro credit could bring revolutionary changes in the social aspect. Different studies highlighted the social impact of micro credit in terms of enhancing banking knowledge, entrepreneurial skill, health awareness, children's health and educational status of borrowers as compared to non borrowers (Galab and Rao, 2003). First, additional income to the family could allow households to purchase more or better quality food, medicines when necessary, or add structural improvements to their homes, all of which could positively influence health and reduce stressors. The increased income could allow participants to invest in income-generating activities – such as those promoted in traditional micro credit programmes – and these in their turn could alleviate stress relating to sources of future income (Fernald et al., 2008). The group power has led to other development outcomes like prevention of liquor sales on market, improved functioning of the schools by ensuring that the teacher attends the school regularly, encouraged children enrollment in schools, controlling school dropouts, etc (Lyngdoh, 2008).

Yunus (2004) urged to provide micro credit to the bottom half of the world population and halving the world poverty by 2015. In his noble lecture shared own experience regarding the origin of micro credit, which started by lending of \$ 27 for 42 poor people in 1976 and that led to start the launch of Grameen bank, although he had no intention to create a bank for the poor (Yunus, 2009). Today Grameen communications is taking internet services in rural areas to bring education, knowledge and business opportunities to the poor. Grameen energy is bringing solar energy in villages to provide energy for mobile phones, lighting for shops and homes. Grameen bank has also introduced a pension fund for the poor, loan insurance for borrowers, which is leading both members and the bank to greater self reliance. The members of Grameen Bank have a higher adoption of family planning practices, and therefore lower birth rate than non-members.

4.6.1 Knowledge about Financial Literacy

Singh and Singh (2008) supported the argument that the existing micro credit system provides four facilities like (i.e. saving, internal loaning, micro enterprise and micro insurance), which help to improve the condition of small borrowers in the rural areas. Easier and quicker internal loaning leads to increase the feeling of security, recognition in society,

enhance the knowledge level about entrepreneurial activities and leadership qualities, desire to work more, save more and improve the overall standard of living of the members. The inter-loaning process helped members about loan management (i.e. positive utilisation, timely repayment of loan) among the members. Rahman's (2010) recent study estimated that three in every four (75%) clients agreed that the micro finance services helps to increase economic solvency, social dignity, self-confidence, business knowledge, communication skills and Knowledge on business computation.

Tesoriero (2005) confirmed that the participation in SHGs helps the members to work independently, speak to outsiders, increase confidence, knowledge about saving, borrowing and debts, along with decrease in dependence on money lenders and discrimination in caste etc. Chandrashekar and Lokesh (2009) reported SHG's movement as stemming from people's desire to meet their needs and determine their own destinies through the principle "by the people, for the people and of the people". Participation in the group helps to increase the income, gain political knowledge and develop interpersonal relationship and help with participating in political activities.

Hossain, (1988) and Rahman (1999) found that members are now earning independently and contributing to their family which leads to a decrease in vulnerability to the threat of abandonment. Access of credit reflects on the positive impact in household income, employment, non-agricultural investment, labour force participation rate, economic empowerment, household expenditure, consumption pattern and social empowerment. Galab and Rao (2003) noted that the women could establish access and control over their labour (to some extent), access to resources (credit, savings and income), mobility and interaction, leadership positions, and reproduction choices in association with SHGs. Micro credit has enabled the poor to make more effective use of skills that they already possessed rather than developing a skill inducing a demand for credit.

4.6.2 Improvement in Gender Empowerment and Children Education

More women reported that association with SHGs has provided power on collective intervening in order to arbitrate the domestic conflicts and rescue women from violence. The group membership also has helped to interfere against illegal issues (i.e. husband's extramarital affairs, annulling an underage marriage, external domestic violence against women, men's sexually permissive behavior, attempted polygamy, community-wide anti-liquor campaign, anti-gambling campaign and organising community events). Based on the above findings, the author supported the point that micro finance institutions have the potential to promote women's social capital and normative influence, and in turn facilitating

women's collective empowerment (Sanyal, 2009). The Mahila Sarvangeen Utkarsh Mandal (MASUM), (Association for the Development of all Facets of Women, Maharashtra) provides awareness on gender issues, citizenship rights, structures of class, caste and ethnicity constrain to the citizen through SHGs. The organisation started a democratic campaign against male alcoholism with the support from SHGs. Within a short period, this campaign gained in momentum and finally succeeded in their missions, reducing considerably violence against women in the households (Wagh, 2009).

Credit entering to households through women leads to increase in children education about one to one-and-half years longer in school compared to children whose father or mother received credit directly. The supply of credit to women borrowers reflected on increases about 3.2 to 3.9 times more probable in enrollment to private school. About 3.8 to 5 times more probable that girl's are sent to school rather than being kept at home, with 7 to 9 times more likely they will become literate. Similarly, girl students have benefited from 2.4 to 3.3 additional years of schooling in India and about 2.7 to 3.5 times more probable that they will be able to read and write (Holvoet, 2004; Kabeer, 2001). Izugbara (2004) reported that the average number of schools-age children in households of benefiting women stood roughly at five, while for non-benefiting women it stood at three. Benefiting households also reported enjoying reduced poverty-related stress, improved nutrition, higher net income and better health status than non-benefiting ones. The provision of employment due to credit increases the income, enables women to send their children to school reflecting an increase in the literacy rate.

4.6.3 Micro credit and Awareness of Health

Some studies also found an increase in health awareness of the rural women through interactions with their group members and health workers. Amin et al., (1994) observed that the exchange of ideas with other woman household, group formation and interactions led to encourage rural women to use more contraceptives. Schular et al., (1997) noted that the economic contribution of women to her family leads to provide freedom of mobility, freedom from domination by the family, better control of her body and birth control methods. Free movement in the village and traveling outside the village helps women to seek family planning information, birth control methods and other types of assistance related to fertility. Srinivasan and Bardhan (1990) and Hossain (1986) acknowledged the positive impact of micro credit programmes resulting in improvement in nutrition, health conditions of the rural women and their family members as compared non-participants. However, Strobach and Zaumseil (2007) found that the early joiner women borrowers have more knowledge on

nutrition, hygiene, immunisation and diseases as compared to late joiners of micro credit programmes. Hadi (2001) observed that mandatory health check up for each credit recipient at the time of receiving services leads to an increase in knowledge about prenatal care (i.e. tetanus vaccines, vitamin supplement and medical checkup).

There was a significant decline in the medical expenditure and the school dropout rates in member households as compared to non-members' households. The fall in average family health related expenditure signifies that the economic empowerment of women must have created an awareness among them, which is reflected in better hygienic habits and more optimal allocation of food expenditure among the family members (Banerjee, 2009). Mahmoodi and Bahmanpour (2010) recent study noted that the efforts made by Non-Government Organizations (NGOs) to spread education, health care and empowerment of poor household developed the concept of "we win I win". The involvement of NGO has increased in number of school/college going children and reduction in children's school dropout rate especially the girl's dropout rates. Besides, the members took the full advantage of government schemes, were aware about Balwadi, child health care, and nutrition programmes for the mother and child. Subsequently this has reflected in improvement in housing, health, education, durable consumer goods of credit beneficiaries.

4.7 Negative Impact of Micro credit

The multidimensional impact of micro credit has put questions on different study, as another group of researcher found adverse effect of credit supported by their empirical findings. Besides, various prior studies have also highlighted about different problems related to credit that makes the programmes less successful. Coleman (2001) reported that households belonged in rich section are more likely join in SHGs as against the poor. Similarly, wealthiest villagers are almost twice as likely to participate in micro credit programme as compared to the poorer villagers. Another issue, hotly contested by NGO staff and donors, relates to the targeting of beneficiaries. Hulme (2000), Kabeer (1998) and Morduch (1998), for instance, found that introduction of SHGs in a region did improve income levels, but not of the poorest households. The focus on ensuring high repayment rates often leads to the exclusion of poor households as the risk of non-recovery is very high (Satish, 2001; Hulme and Mosley, 1996; Montgomery, 1996; Krishnaraj and Kay, 2002 and FAO, 2002). In fact, in some cases, entry of large organisations has led to the squeezing out of smaller organisations with a record of successfully targeting the poorer households (Arn and Lily, 1992; Ebdon, 1994).

4.7.1 Women's are "Post boxes"

Hoquea (2004) analysed the negligible impact of credit on poverty reduction in terms of monthly total consumption expenditures (i.e. food and non-food consumption) per adult equivalent of households. Hunt and Kasynathan (2002) noted that many women are merely 'postboxes' passing on the full amount of their loans directly to their husbands, sons or sons-in-law, with little or no access to the income generated and receiving back only enough money to make weekly loan repayments. There is an increase in dowry practice, violence against women and threatening to ask for further dowry payments if she did not bring in more credit. Mallick (2002) reported that, when a woman fails to make her installment on time, she experiences humiliation through verbal aggression from fellow members and bank workers in the loan centre. Such humiliation of women in a public place creates negative attitudes towards SHGs and in the long run a bad reputation. Since patriarchy demands that women complete their household chores, the SHG members generally sacrifice their leisure hours to undertake SHG activities in the afternoon and evenings. This led to over-work, fatigue and even malnutrition (Ackerly, 1995).

4.7.2 Low Level of Empowerment

Kabeer (1998) found that the micro finance programme has a positive impact in increasing incomes and assets, although certainly not in the poorest households. She noted that women tend to spend their income on household consumption and 'security-related assets' such as homestead land, whereas male borrowers are more likely to invest in further productive activities. Many women continue to register land and productive assets in their husband's name, because of inheritance laws (i.e. assets will be inherited by sons if registered in the husband's name and by daughters if registered in the wife's name). This raises questions about any assumed automatic links between credit and transformation in gender relations. However, Goetz and Sen Gupta's (1996) study explored the inverse relationship between loan amount and control (used as a proxy for empowerment). The control on loans diminishes beyond a threshold level of membership. It is only 37 per cent of loans provided by four different Bangladeshi credit organisations which were either fully or significantly controlled by women, and where significant control does not include control over marketing, and thus may have little control over the income generated.

Montgomery et al., (1996) has also expressed that micro credit reinforces the existing gender discrimination, inequalities and contributes little to alter the social status of women. Martin and Rab (1997) and Rahman (1999) pointed out that the access of micro finance may increase the vulnerability and insecurity of the family as women often depend on their

husbands or male relatives to help with repayment. Izugbara (2004) found that the women benefiting from micro-lending schemes have little awareness and readiness to challenge gender inequality, patriarchy, lack of control over their personal circumstances and community resources. Thus the 'empowerment' that the scheme promotes, rarely goes beyond marginal improvements in women's life with limited resources and within the conditions permitted by local patriarchal structures.

4.7.3 Absence of Credit Support Services

The provisions of micro credit facilities had some benefits in improving the profitability of micro enterprises run by rural poor women, but there seems to be little long-term effects as measured by increases in household assets. It is only one quarter of the loan recipients who notice any change in these social benefits as a result of getting loans, and the other three-quarters indicated that they remained as they were before and after receiving the loan (Sendi et al., 2009). In the supply side, the lack of confidence in the return of money laid less attention on sanction of credit to borrowers with disabilities. On the demand side, the inaccessible infrastructure, lack of appropriate adaptive equipment resources and market make it more difficult for women with disabilities to run micro enterprises (Lewis, 2004). The amount of credit was inadequate for the members to pursue their income generating activities smoothly. Different factors viz., lack of training facilities to upgrade their skills, low level of technical knowledge, delay in receiving credit for investment and very short gestation period of repaying the investment are major hurdles for the members. Majority of the respondents (78 per cent) mentioned that sometimes they needed to start repaying their borrowed money even before investing the money, which led to producing of false vouchers to be shown to the banks (Rahman, 2010). Different problems of the creditors related to low proportion of loan used for non-farm activities, lack of technical training, marketing the products, problem of bribery, insufficient amount of loan, delay in sanction of loan and lack of publicity etc obstruct the growth of several SHGs (Madheswaran and Dharmadhikary, 2001; Bashir and Naeem, 2010).

4.7.4 Disband of SHGs

In India, where the SHG movement has gained momentum, the poorest still remain poor. Despite the proliferation of SHGs across the state in Andhra Pradesh, statistical analysis found an insignificant relationship between the village level poverty indicators and number of SHGs, though more remote areas are likely to have fewer SHGs (Basu and Srivastav, 2005). As a result, most of the SHGs were not operating efficiently in India. The survival of SHGs depends upon number of first time attendees, average group meeting attendance, length of

group existence, leadership diversification and outreach to potential group members along with support from national and local organisations. Different factors lead to the disbanding of SHGs are attendance problems, problems/changes in leadership, and/or the group was no longer needed, finding a meeting place and/or different problems in between the SHG members (Wituk et al., 2002).

The dominant nature of the group leader, power and control dynamics exercised by external members, problems relating to raw materials, marketing, infrastructure etc were some of the major causes which lead to the closure of SHGs. The control of women's involvement in the public sphere has been often strongest at the family level viz., husbands prevented women from going out of their home; using domestic quarrels, violence and other forms of intimidating behavior, or tried to splurge women's savings etc resulting in irregular payments in the group. Lack of coordination and communication between group members, lower caste and social status have further inhibited entry into group entrepreneurial occupations, which in turn limited their economic activities leading to ultimate closure of the groups (Torri, 2010).

Hunt and Kasynathan (2002) emphasised that the largest micro credit programmes – the ones that are being replicated internationally in the name of poverty alleviation – do not, and cannot, reach the poorest people. It is because the poorest people will never be able to meet weekly inflexible repayment rates at 10–15 per cent interest, or they are excluded by group members, for the same reason. Chavan and Birajdar (2009) reported that the irregularity in repayments of loans is a major cause for dropouts among SHG members. The continued dependence of women members belonging to mature SHGs on informal sources, as revealed from primary data, further corroborates the point regarding the limited spread of micro finance. As a result, less than one per cent of the total bank credit from scheduled commercial banks is sanctioned to SHGs. The falling trend in the percentage share of bank credit and loan accounts held by SHGs, regional disparity in terms of the spread of micro finance in India further makes the programme less successful. Ray-Bennett (2010) noted that the irregularities in the monthly repayment of credit due to poverty were met with verbal abuse and fiery arguments. The respondents who were already poor were now overburdened with debt. Therefore, the economic empowerment of these respondents remained a far-fetched concept. Nevertheless, the respondents showed their keenness to keep the SHG intact, because the SHGs gave them the opportunity to get together and share their experiences during the meetings—something which did not occur in their daily lives.

Kar (2008) found that the borrowers are not able to utilise the funds properly so as to help themselves out of the poverty level due to absence in marketing of the local products to local people with minimum profit. Lack of guidance to use the funds and absence of supervision in the sustainable development of the groups is among the major obstacles in the road of the group formation. Dutt and Samanta (2006) observed that the concept of caste, class, ethnic and religious hierarchies further create diversities among women, which makes the programme even a bigger failure at the local level. Different problems of SHGs (i.e. lack of trust upon the leader, misunderstanding between leader and members, low level of education of the leader, political interference and religious difference among the member's) led to the splitting of the group. They concluded that the prevalence of hierarchy, and/or caste location neither provided long-term security and nor brought about real empowerment to the women member.

4.8 Identified Gaps in Literature

From the above analysis we can say that, measuring the impact of micro credit is quite complex based on research outcomes. The optimistic group supports micro credit programme and they found the positive impact of credit specifically on women both inside and outside of the households. However, the pessimistic groups have found adverse effects of micro credit both at individual and household levels. From the review of literature concerning the subject, we came across several gaps:

- A large number of studies have examined the impact of micro credit on the level of poverty through monetary indicators. In other words, all the previous studies have taken income and expenditure as the proxy of measuring economic impact of micro credit on the member households. However, the present study made an attempt to fill this gap in literature by including non-monetary indicators (i.e. housing, assets and consumption) to measure the economic impact of micro credit.
- Another point that differentiates the present study from the earlier ones is the concept of empowerment, which has been included and explained here in a systematic manner. Most previous studies constructed an index approach for measurement of empowerment. However, to study the level of empowerment in real sense, it becomes very necessary to pay attention to the correlation of the variables (i.e. indicators used in the measurement of empowerment). The present study has also applied factor analysis technique to measure the level of empowerment and used it for further analysis.

- So far, there is no study covering the factors influencing women living in the BPL households to join in SHGs programmes. It is interesting to study the determinants, as there are a good number of studies analysing non BPL women's participation in SHGs.
- There is ample research attempting to examine about the determinants of loan from formal sources, but hardly any attention has been given to find the factors influencing the borrowing of loan from informal sources. The present research will fill this gap in literature, as specified in objectives.
- This study has highlighted the degree of marital control, operation of SHGs and knowledge about banking activities of sample participants, which was lacking in all the earlier studies.

4.9 Conclusion

In short, the present study highlights the economic and empowerment impact of credit on women living in the BPL households in India. The economic impact of credit measures the wealth status of borrowers at household levels. However, the empowerment impact will provide information on the power of women at individual levels due to provision of credit. Thus, this would be a modest attempt at studying the economic and empowerment impact of credit on women living in the BPL households in India.

CHAPTER 4

REVIEW OF LITERATURE

4.1 Introduction

This chapter analyses the impact of micro credit through empirical and theoretical findings from past research in international perspective with specific reference to India. Since the concept of SHGs is more than 20 years old, major studies have examined the impacts of micro finance services based on their theoretical and empirical research findings. Over a period, theoretical literatures helped develop conceptual models in order to measure the impact of micro credit on the members. However, empirical researchers investigated the effect of credit, substantiated by evidence-based studies. As noted above, we make an effort here to review a few of them, highlight the pros and cons of the programmes both in international and national perspectives.

4.2 Theoretical Review

The theoretical literature has demonstrated different aspects of group formation such as self selection, socio economic cohesion among members within the group and peer monitoring is 'pareto superior outcome' as compared to individual lending (Zeller, 1998; Wydick, 1999; Ghattak and Maitresh, 1999; Morduch, 1999; Stiglitz, 1990; Besely and Coate, 1995). It helps to overcome the problem of gender disparity, raise social and economic empowerment, increase the bargaining power along with gender empowerment of the members both at individual and community level (Mauoux, 2002; Hoque and Itohara, 2009; Kabeer, 1998; Ngo and Wahhaj, 2008). The pillar of micro finance lies on three fundamentally different approaches (i.e. financial sustainability, feminist empowerment and poverty alleviation). Access to savings and credit leads to initiate or at times strengthen a series of interlinked and mutually reinforcing 'virtuous spirals' of empowerment (Mayoux, 2000). Women are able to earn an independent income and contribute financially to their households as by now they have capital in their hands (Mayoux, 1999). The income earning opportunity from own economic activity leads to increase in income, saving and control over own income (Mayoux, 2001). The participation in SHGs provide more equitable status of women in the family and community, which further increases the political power, rights, self-esteem and voices of women (Cheston and Kuhn, 2002).

However, these changes are not an automatic resultant of savings and credit alone and/or of group formation. Some services could be supported particularly in form of information, organizational and leadership skills, gender training, male support and also in

the actual strategies in which they decide to use credit. In this process, NGOs not only act as a bridge between banks and the poor but also performing a role of financial intermediaries in unbanked and backward areas. The efforts of NGOs helps to develop thrift habits among the poor, provide access of finance, equality, self-reliance and empowerment among the members along with upgradation of their skills (Shah, 2006; Nikkhah and Redzuan, 2010).

Formal financial institutions in India don't supply credit to the poor households due to the fear of credit risk, absence of land tenure for financing, irregular flow of income because of seasonality and unacceptable collaterals such as crops, utensils etc. The provision of credit facilities through a group approach is the only ray of hope for the marginalized section. The solidarity of group pressure and sequential lending provide strong motivation for timely repayment, thereby producing low default rates. Briefly, it enhances the (i) creditworthiness of the poor (ii) enabling poor to borrow long-term credit and (iii) makes poor as "bankable" to formal financial institutions (Vetrivel and Kumarmangalam, 2010). The access and efficient provision of micro credit enables the poor to ease their consumption, better manage their risks, gradually build their assets, develop their own micro enterprises, enhance their income capacity and thus enjoy an improved quality of life (Bakhtiari, 2006). The system of loan distribution and recovery is based on mutual trust, accountability, participation and creativity, all leading to sustainable improvements in livelihoods and strengthen group solidarity. Monthly meeting of members builds social cohesion, trustful human relation; additionally, the access to credit only strengthens the growth of these groups towards more autonomy. Participation in the SHG programme develops self confidence and moves them further towards social and economic empowerment. Besides bridging a financial gap and enabling the participants to earn more, experience shows that micro-credit can in fact act as a tool for participatory human development (Gutberlet, 2009).

Khandewal (2007) found that the micro credit programme has changed many lives in diverse societal settings across the globe and is being used as a tool of financial liberation for the underdeveloped, developing and evenly developed countries. It tries to create a more inclusive financial universe for the whole society enabling poor and low income people to gain access to credit, insurance, remittances and savings products. Karmakar (2009) observed that the presence of SHG members within the house helps to spend much more on education, better school attendance and lower dropout rates than non-member households. Group credit increases overall the empowerment level of women by enhancing their contribution to the household income and giving them better control over decisions that affect their lives. In certain areas, micro finance has reduced child mortality, improved maternal health and ability

of the poor to combat diseases through better nutrition, housing and health—especially among women and children. Sarkar and Singh, (2006) concluded that the access to micro finance has increased employment opportunities for the non-bankable person on a sustainable basis both in the developing and underdeveloped economies of the world. Further, the whole gamut of micro-financial activities such as a group approach, savings, saving-based credit, blocked savings, peer pressure, joint appraisal and joint recovery could be effectively initiated through micro level institutions.

4.3 Empirical Review

Theoretical investigation of impact study on micro finance led to start an empirical research in this area. Different empirical group of researchers have examined the impacts of micro credit from a field study through in-depth interviews or structured questionnaires collected from sample households. Some studies have used a pre-post design to examine the impact of micro credit on the members. However, other studies preferred to use the control (Non-members) and treatment (Members) group to know about the effect of group credit programmes. Similarly, optimistic researchers have strongly supported the provision of micro credit based on their positive outcomes. On the other hand, pessimistic researchers found the adverse effect of micro credit on the members. Based on their findings, the present study has divided the outcomes of empirical research on four domains (i.e. economic, empowerment, social and negative) and its impact of micro credit on the clients.

4.4 Economic Impact of Micro credit to Poor Households

Different international research studies found the provision of micro credit to help increase the levels of income, saving, employment, consumption, small scale enterprises, etc. Simultaneously, there was also a decline in the amount of informal loan, poverty level and migration of the borrower as compared to non-borrower households. Choudhury (2005) assessed the reduction in objective and subjective poverty (2.5% and 6.5% respectively) per micro credit programme year. Bashir and Naeem (2010) interviewed 80 members and 80 non-members who received micro credit, and concluded that the small credit was giving a chance to earn a livelihood, help to live with esteem and reduce financial exploitation. An increase in loan by Rs.1 leads to an increase in the income by about Rs.429 of the loaner controlling other variables. The increase in income reflects on reducing the level of poverty by 1.604 times. Khandker et al., (1998) observed that micro credit and capital provide self employment opportunity in the non-farming sector to the participants as against non-participants. The increase in daily employment gradually led to a rise in the volume of production at the village level which further increased the income of participants receiving

micro credit. Their study included 1538 targeted and 260 non-targeted households' from rural Bangladesh, which in turn reveals that the participating household uses more family labour and derive more income from rural non-farming sources than their non-participating counterparts.

4.4.1 Income Earning Opportunity

Khan (1999) argued that the status of women has increased within the family due to their financial contribution in income of households. Married women claimed that their husbands valued their economic contributions and this had changed the perception towards wives' paid and domestic work. On the other hand, the income of women tended to delay their marriage, made them independent and self-reliant, lower dowry payments and gave them a greater voice in the family. It is the women's income in cash that encourages men to take on women's responsibilities; and it is interesting that the timing and terms of sexual encounters are changing as women are no longer unconditionally available to their husbands. Datta and Raman (2001) through their research, showed the lesser dependence of SHG on various external resources, higher education of the members, higher loan provided in the current year and lower expenditure, all ultimately contributing to the higher SHG net income of the member per se.

This just goes to reiterate the fact that the growth of the micro credit sector has contributed immensely to greater access of credit for the lower categories of an income distribution group, which has both positive and negative implications. On the positive side, lower income groups now have access to finance that was previously not available (or available in more limited ways), and so have greater scope to enhance their consumption. The increase in indebted households positively moves with increases in income and employment. On the flip side, there's a lack of awareness among consumers regarding the use of debt, combined with rapid growth of industry, which could potentially cause people to become over-indebted (Daniels, 2004). Micro finance is not a magic skyhook that reaches down to pluck the poor out of poverty. However, it can be a strategic vital platform which the poor can use to raise their own prospects and escape from the poverty trap. The MFIs focused on identifying poverty, reaching the poor, attracting the poor and discouraging or excluding the non-poor. The first 'micro finance revolution' has shown that the 'poor are bankable'—the second revolution is faced with the challenge to offer a set of financial services to the poor that meet their complex livelihood needs (Matin et al., 2002). A study of a consultative group to assist poor (CGAP) (1998) assessed the MFIs emphasis on identifying, reaching and attracting the poor, which lies at the heart of the financial service-outreach framework.

Barboza and Trejos (2009) attempted to explain the services provided by MFI's change in common beliefs of many formal lending institutions (i.e. poor are capable of borrowing money, developing successful entrepreneurship ideas, making regular repayments and successfully completing a full lending–borrowing cycle). The provision of credit allows urban borrowers to complete the borrowing cycle faster, progress to higher loan levels and consequently escape from poverty more rapidly. At the margin, an increase in income has a much larger positive effect at initial low levels of income of the households. Examining the impact and sustainability of micro finance interventions of Bangladesh Rural Advance Committee (BRAC), covering 419 members and 91 non-members, Halda (2003) estimated that the supply of credit reduced poverty at the annual rate of 1.75 per cent among member households. Sinha (2005) noted that MFIs helps in terms of accessibility, capability in providing loans to meet the borrower's demand, willingness to lend without security and flexibility of repayment schedule. The micro credit groups are doing well in processing, distributing farm loans. Thus, MFIs should increase the fund size to such groups for speedy development of programmes.

4.4.2 Saving and Expenditure of Beneficiaries

The supply of credit enabled women to make a contribution in the household finance and use loans for more immediate needs such as food and education (Hulme and Moseley, 1996; Hunt and Kasynathan, 2002). Male entrepreneurs who availed the credit for themselves tended to divert a greater percentage of profits to reinvest in their enterprises, whereas their women counterparts allocated a greater share of their profit for food, clothing, health, children's need and other family expenditures (Wydick, 2002; Pitt and Khandekar, 1998; Kabeer, 1998). The members invested the credit facility extended to them in new economic activities and/or strengthening the old activities. The non-agricultural activities undertaken by the women helped the households to obtain income from low risk activities; all the above efforts jointly led to reduction in dependence of moneylenders and the intensity of poverty (poverty gap) among the poor (Galab and Rao, 2003).

Basically, members compulsorily saving from their monthly income has significantly increased the post-group average saving of the families. The average income of group members has increased but the inequality of distribution of income is higher among the group members than that of the non-group members (Banerjee, 2009). Most of the women have joined in the SHGs for getting loan and promote their personal savings, in addition to gaining the social status. The timely repayment of the loan with increase in saving seems to convey that the economic activity of SHGs was successful. The pre and post evaluation study of 134

members in Tamilnadu explored that the participation in SHGs helped increase the income and expenditure of members, contributing more to their household needs and getting opportunity in an independent economic activity (Vinaygamoorthy, 2007).

4.4.3 Determinants of Repayment of Credit

Mkpado and Arene (2006) recommended a suitable policy and planning for long term existence of micro credit programmes providing basic financial services to the poor. They found the long term sustainability of the MFIs to depend on the loan repayment capacity and the level of participation of women borrowers. Different factors like number of members per group, size of fund, fund allocation method with a plurality of membership has significantly influenced the repayment of a loan. However, variables like meeting schedule per month, gender composition and age of groups in experiencing group lending has insignificant effect on the repayment of a loan. On the other hand, Paul and Woldmichael (2000) argued the timely repayment of loans depends upon the profit/loss of the clients and where they invested their money. Different factors like the average loan amount, field of investment and tier that a particular client belongs to determine the average amount of loss or gain of the borrowers. The study has selected 153 clients from 9 villages in the central region of Eritrea in east Africa and found that the sex and literacy of clients had a less significant role over the output from the loan.

4.4.4 Impact of SHG-Bank Linkage programme (SBLP)

In India, different impact assessment supports providing credit through MFIs, due to negative attitude of formal financial institutions in sanctioning credit to the poor. Thus there's a need to strengthen all the available channels such as SHG-Bank Linkage programmes (SBLP), Micro Finance Institutions, Cooperative Banks, Regional Rural Banks and Primary Agricultural Credit Societies to provide credit to the poor (Shah, 2001; Planning Commission, 2007). The linkage between banks and SHGs is a mechanism for channeling credit to the poor on a sustained basis. There are numerous potential advantages involved in the linkages between banks and SHGs with NGOs acting as facilitators or financial intermediaries. From the banks' perspective, the advantages of the linkage approach between banks and SHGs include reduction in transaction cost, mobilization of small savings, assured timely repayment of loan, leading to faster recycling of funds, opportunity for expansion of business and coverage of the poor clients (Shah, 2006; Vatta, 2003). Involvement in SHGs has significantly increased self-confidence of the participating women enabling them to improve the overall economic and social empowerment of rural poor (Puhazhendi and Satyasai, 2001). Due to initiation of SHG-Bank linkage programme, there have been

perceptible and wholesome changes in the living standards of the SHG members, especially in terms of their ownership of assets, savings and borrowing capacity, income generation activities and income level (Shah, 2005). Similarly, the average value of assets and the average saving increased (1.72 times and 2.14% respectively) in the post SHGs period as compared to the pre SHGs period. The employment level increased to 17 per cent and the share of households among the SHGs living below the poverty line declined from 42 per cent to about 22 per cent in the post-SHG period (Puhazhendi and Satyasai, 2000; Puhazhendi and Badatya, 2002).

A more recent study regarding the impact of the SBLP on SHGs reported that the net household income of SHGs registered a significant growth of 6.1 per cent per year in between the pre and post-SHG periods. Average savings per household registered an annual growth of 14.2 per cent and the average loan amount per household registered an annual growth rate of 20.5 per cent between 2002 and 2006. The share of households living below the poverty line has decreased from 58.3 per cent in 2002 to 33.0 per cent in 2006, and about 96.4 per cent of borrower households made regular repayments on their loans (NCEAR, 2008). The SBLP satisfies the needs of small entrepreneurs of MFIs where they encounter problems in getting loans from formal finance institutions. This in turn, helps them overcome problems, since as and when the SHGs clients graduate to a level of small and medium entrepreneurs; they may switch over from being SHG members to regular clients of the financing bank (Srinivasan and Satish, 2001). The group lending practices lead to reduction in transaction costs to nearly 48.5 per cent and risk costs within 0.03 per cent to 0.27 per cent as compared to 8.06 per cent of risk cost in normal lending (Satish, 2005).

4.4.5 Factors Influencing Sustainability of SHGs

The long term sustainability of SHGs programmes helps to provide formal financial services and improves the living standard of the poorest households. Different factors that determine sustainability of SHGs in India includes recovery of loans, per capita savings and linkage with SHG federation. The above outcomes based on data from a survey of 961 SHGs (out of which 95 are male, 811 are female and 55 are mixed) carried out in six states of India on 2002. All-female SHGs were sustainable because they are more focused and united, adhere to two basic objectives of groups, utilise borrowed funds for different productive activities, and are highly concerned about the well-being of their children and family members. The female SHGs are extremely sound in financial management practices such as maintaining book of accounts, passbooks and updating them regularly. Further, the female SHG members took membership in the group as a means to educate themselves and confront

social, political, and economic problems. On the other hand, members of all-male SHGs have ego problems, work for their own interest, and do not follow the basic objectives and goals of the group formation. As a result, they are most irregular in loan repayments and perform badly in economic and managerial activities (Parida and Sinha, 2010).

On the other hand, long term access of credit depends upon saving, amount of loan and use of credit. Here, the marital status of the members acts as a cause in both the savings of the members in groups, deposits they accumulate with the groups and their use of the credit facility. The age and family size is negatively related to saving deposits. Similarly, marital status, duration of membership, age of the member and the number of adult males are significantly determining the total amount of loan availed by the members. As a result, married women have more interest to avail credit through group formation (Sooryamoorthy, 2005). An increase in the growth rate of SHGs positively increases the growth rate of accounts per 1,000 females, which in turn confirms that there is a significant relationship between the two variables. The provision of financial service by micro finance SHGs in India inculcate banking habits and financial literacy in rural people, especially the women (Varman, 2005).

4.4.6 Role of Non Government Organisation (NGOs)

There is the need for intervention by NGOs or SHGs federation to solve different problems (i.e. internally or externally) of members related to the credit facility. The linkage of SHGs and NGOs are reported to have not only reduced transaction costs but also ensured better repayment performance. Another studies conducted in Maharashtra has shown cent per cent recovery of loans through SHGs despite having excessively high rates of interest (24-36 per cent per annum) on their loan advances (Kshirsagar and Shah, 2002). Moreover, the intervention of NGOs (i.e. Rotating of Savings and Credit Associations (Rosca)) on group formation procedures, loan sequencing, peer monitoring improved the loan repayment habits of poor borrowers in West Bengal. The study found that the member's demand for loans arises from three reasons: (i) working capital for production activities (ii) unforeseen consumption needs and (iii) repayment of previous loan borrowed at higher rates of interest. The members use this loan for lumpy consumption needs and for unforeseen expenditure such as illness, school admission etc. The timely repayment made by the borrower and less number of default increase the surplus fund, which in its turn shows the financial sustainability of the Rosca in providing long run service to the poor people (Guha and Gupta, 2005). The lower transaction cost and high rate of recovery from SHGs makes it necessary for credit cooperatives and commercial banks to study the mechanism of new generation

lending institutions in terms of their pattern of loan recovery and interest rate structure (Shah, 2007). Madheswaran and Dharmadhikary (2001) found that micro credit scheme using SHGs enabled the poor to have an easy and continued credit facility without burdening the banking system. Shah's (2001) study urged the provision of micro finance services to the borrowers of primary agriculture credit societies (PACS) for reactivating and revitalizing inefficient functioning of PACS.

Nair (2005) concluded that the existence of SHGs federation provide all essential services like auditing, capacity building like training the SHG members, leaders, SHG accountants, and forming a common forum for reviewing the performance of SHGs. The federations also help in resolving conflicts among SHG members, between SHGs and between SHGs and banks. They provide micro-insurance services and social services such as education, health and livestock support. Ghate (2006) observed that the groups formed by government agencies tend to be the weakest thereby reducing their share relative to those promoted by NGOs and even banks, which could enhance the overall programme quality. The prospects of group's achieving equity, longevity and reduction of dropout rates lie in improving its bookkeeping, capacity, formation of clusters and federations. Members are now getting the benefit through participation in social and organised activities, receiving new skills/training and better access to credit facilities. Whereas the major problem encountered by borrowers in conducting their production activities were loan not received in time, difficulty in getting raw materials along with problem of labour and marketing (Nirmala et al., 2004).

4.4.7 Provision of Group Credit in Odisha

Different surveys carried out in Odisha found a positive relation between group-based credit programme and income, asset position, savings, employment and literacy rate of the beneficiaries etc. Panda (2009) pointed out that higher income and employment levels as a result of micro finance interventions led to a reduction of migration in the member households. The treatment group has increased their expenditure under all heads (i.e. food, personal consumables, medicine and health treatment, education, entertainment, social responsibility, productive assets and household consumables) over those of the control group. Meher's (2008) study used the head count index to find the impact of credit on the level of poverty, while including 77 members of 5 SHGs formed in Koraput district of Odisha. Approximately, 7 per cent to 23 per cent of borrowers in different groups crossed the poverty line, and the poverty gap is also lower in the groups formed by the district level organization than state level organization. The provision of credit has also increased the asset amount of

borrowers as against non-borrowers. However, members are very poor in terms of empowerment measured through economic, social and political aspects.

Behera's (2010) recent study in Odisha concluded that the organization of SHGs, especially for micro finance and micro enterprise development programme not only provides financial services to the rural poor but also acts as a launching pad for livelihood intervention and poverty reduction. Apart from this, weekly meetings, discussions, participation in planning, social and cultural activities conducted under SHGs with community based organizations helps to enhance the confidence/capacity of rural poor. Moreover, thrift and credit operations under micro finance/ micro enterprises enhance the economic status of the rural poor in a family and society, which in its turn helps to eradicate poverty from the root. However, Ray (2008) pointed that the participation in SHGs helped to increase independent income, ability to spend money independently, regular savings, freedom of movement, knowledge of financial activities etc. There is a decrease in migration of male family members, borrowing from a money lender and physical abuse by husband due to the provision of credit. On the other hand, different factors like involvement of brokers, utilization of loan for more than one purpose, delay in release of loan etc. led to none of members above the poverty line even after three years of credit assistance from SHGs. Inadequate backward and forward linkages including the non availability of raw materials, improper and inadequate storage facilities for machinery, raw material and livestock, lack of adequate marketing avenues jointly make the losses in business. Slow progress has been observed in the areas of mobility, literacy, exposure of information, access to institutional credit, freedom from money lender and increase in ability to raise emergency fund on their own.

4.5 Empowerment Impact of Micro credit on Women

Increased income has been conceptualized as the primary pathway through which micro credit could improve the power and position of women, both within and outside of the households. The additional income of the women helps to increase the bargain power, which in turn allows her to participate in decision making processes, all of which could positively influence in the overall empowerment level of women associated with SHGs. There is no coherent definition or measurement index to understand the term women's empowerment in literature. Different studies examining the relation of credit and empowerment vary not only in terms of variables to measure women's empowerment but also in terms of the manner the researchers have defined women's empowerment. Literature available on micro credit and women empowerment provides a number of empowerment measures including a borrower's

control over her loans (Goetz et al., 1996; Montgimery et al., 1996), her knowledge of enterprise accounts (Ackerly, 1995), her mobility, intra-household decision making power and general attitudes about her children's lives (Amin and Pebley, 1994; Hashemi et al., 1996) as well as her control over resources and incidences of domestic violence (Naved, 1994). The formation of SHGs for collective savings, group consumption credit, integrating social and economic goals among group has the potential not only for financial deepening in the rural areas but also for the empowerment of women particular (Nambodiri and Shiyani, 2001).

4.5.1 Participation in Decision Making Process

Hashemi et al., (1996) found that the credit provided through Grameen Bank and Bangladesh Rural Advancement Committee (BRAC) has significant positive effects on women's empowerment and reduced domestic violence in Bangladesh. They created an 'empowerment index' and found that the longer a woman is involved in a credit programme, it leads to the likelihood of her being more empowered as compared to non-members. Moreover, member's of SHGs protests against beating of wife by the man, divorcing or abandoning wife, unfair prices, unfair wages, misappropriation of relief goods, misbehavior of police or government officials. Members are more frequently visit to market place for buying products, medical center for medication, cinema hall for watching movies, other houses in the village, and outside of village. Mizan (1993) has used a similar approach to construct Household Decision Making (HHDM) scale and found that the number of years of borrowing from the Grameen Bank had a positive and significant effect on the HHDM score. Rahman et al., (2009) examined relationships between micro credit and women empowerment with the help of 'economic security index' (ESI), 'purchase decision index' (PDI), 'control over assets index' (COAI), 'mobility index' (MI) and finally 'awareness index'. They concluded that non-borrowers are equally empowered as micro credit borrowers, may be due to the demonstration effect. The age and education levels of women, amount of assets, age and education of male partner are significant influences on empowerment.

The overall empowerment status of the women respondent is poor. However, the NGO women who are involved with micro-credit for a long period and are operating the money by own self are better empowered. The study used the contribution to household income, access to resources, participation in family decision making process, perception on gender awareness as proxies of empowerment and divided the respondents based on the status of empowerment. The result of the study found that women's institutional

participation, media exposure and family land holdings are very important for women empowerment. Micro credit use by own self, duration of micro credit use and monitoring by the concerned NGO are equally found to be significant factors for women empowerment, especially the ones who are associated with the micro-credit programme (Hoque and Itohara, 2009). Moreover, women in the credit programme villages have a joint role in decision-making on food, crop production and children's school expenditure as compared to women in non-programme villages. Additionally, participants spent proportionately more time on income-earning work, more likely to be using contraceptives compared to non-participants. Evidence shows that micro credit programme participation expands women's access to resources like self employment and mobility into certain public spaces (i.e. NGO office and health centre) (Mahmud, 2003).

Women members in micro credit programmes are playing a pivotal role in household decision making, access to financial and economic resources, social networks and bargaining power as compared to their husbands. Female credit has also tended to increase spousal communication in general about family planning and parenting concerns. However, male credit had a negative effect on several arenas of women's empowerment including physical mobility, access to savings, economic resources and power to manage some household transactions (Pitt et al., 2003). The provision of credit through membership in SHGs is useful for gaining employment which, leads to better recognition in the family and society of the women with disability (WWD). The formation of SHGs not only provides employment, but also gives them a chance to be connected with the outside world. The members are getting out of the house, doing their own shopping, going to the cinema once in a while, and using local transport to visit friends by attending regular meetings of SHGs. Group formation creates an opportunity for WWDs to be in the public arena (i.e. celebrating International Day for Disabled Persons, involving them in community affairs, performing a cultural programme, publishing a quarterly magazine, speaking in the national media etc). Such public appearances have enabled women to be articulate in the communities, and have proved to be an effective instrument for fostering women's social empowerment at the grassroots (Dhungana and Kusakabe, 2010).

Kelkar et al., (2004) found that the access of credit changed the concept like 'man as a bread winner' and helped women to value their independent income, education, mobility, professional engagement and work outside the home. Amongst some of the changes observed are for example in access to ownership of assets, acquiring the new land in wife's name or jointly with husbands etc. all due to the increase in the overall income level. All these

changes enhance women's agency in daily life, and give them a greater voice in deciding household affairs. Mamun et al., (2001) used participation in the decision making process, mobility outside the home, participation in group action and attitude towards daughter's education as a proxy to measure the impact of credit on social empowerment of women. They supported the concept of providing more amount of credit through group lending scheme to further increase the social empowerment of women members.

4.5.2 Increase in Bargain Power and Self-Confidence

Different studies carried out in India reveals that the credit through SHGs contributed a leading role to improve the position of women by raising their level of empowerment. The supply of credit through SBLP leads to positive economic impact and empowers women, while allowing for the possibility that some members might have been more empowered than others. Swain and Wallentin (2010) applied structural equation model to measure empowerment of women including 805 members and 156 non-members of SHGs in India. By examining the data collected in 2000 and 2003, the study found that there is a significant increase in the empowerment of women associated with SHG. No such significant change is observed for the members of the control group. The SHG programmes help members with better access to loans, enable them to generate income thereby, increasing their bargaining power within the household. Several SHGs also provide training or workshops that tend to create greater awareness amongst women and also give them the opportunity to update and learn new skills.

Moyle, Dollard and Biswas (2006) observed the members achieved both economic and personal empowerment in terms of collective efficiency, pro-active attitudes, self-esteem and self efficacy after joining SHGs. In case of personal empowerment, more than 90 per cent of women believed that 'self-help group members are always able to discuss problems and the group as a whole will be able to solve it'. Similarly, more than 80 per cent of members believed that 'I have confidence that our group members can perform the tasks that are assigned to them'. In terms of perceived efficacy to solve problems as a group, 60 per cent believed that 'as members of this group, we are able to tackle the most difficult situations because we are all committed to the same collective goals'. In case of proactive attitude, 63 per cent of the women believed exactly true that 'I feel responsible for my own life' and 93 per cent believed that they were 'able to choose their own actions'. In terms of 'self esteem', 91 per cent of women strongly felt that they had good qualities, and 71 per cent strongly agreed that they had a positive attitude towards themselves.

Hussain's (2010) recent study assessed the increase in self-respect and confidence of women associated with SHGs due to interaction with other women, visiting local markets, undertaking economic transactions (when buying inputs or selling products), and interacting with municipality officials in the Poverty Eradication Cell. These factors are also important in increasing the ability to protest against domestic violence. Puhazhendin and Satyasai (2000) found that the sense of self worth and self confidence of women was enhanced through SHG activities. The members were also very confident of confronting the various social evils and problems they faced in their everyday lives. The formation of groups in linkage models involving NGOs as either facilitator or financial intermediary, recorded better performance than others.

4.5.3 Role of Intermediate Organization on Women Empowerment

Holvoet's (2005) study examined the empowerment level of the member's who participated in two types of credit programmes in Tamilnadu, India. It has shown that direct bank-borrower credit delivery does not challenge the existing decision-making patterns, regardless of whether men or women receive the credit. These findings change when credit is combined with financial and social group intermediation. The membership of SHGs seriously shifts the overall decision-making patterns of single male decision-making to more joint and final decision-making. Long-term group membership, more intensive training and group meetings strengthen the use of loan, money management and time allocation patterns. Members felt that their position in the household had improved as they secured access to long-term financial resources through their personal savings account and the group fund. As such they were involved in extra-household bargaining with the community, thereby strengthening their individual fallback position within the household.

Rogers et al., (1998) observed the women who got credit assistance through cooperative development (CD) programmes by the Dairy development board, which makes them more empowered as compared to others who didn't participate in such programme in Maharashtra. The study used factor analysis model and found that the average scores on 11 out of 12 decision making items were significantly higher in the four CD villages than non-CD villages. The CD Programme, (perhaps in part) through an increase in female empowerment of women dairy farmers, led to more effective village-level dairy marketing cooperatives, as indicated by increased memberships, higher milk production, etc. Similarly, Lyngdoh, (2008) noted the initiative to provide a loan by International Fund for Agricultural development (IFAD) to the SHGs helps in income generating activities resulting in the improvement of livelihood. Economic resource has led to the empowerment of women and

has brought about changes to their social status, self-esteem and decrease in social stigma. Economic empowerment has enabled the women in bringing about the structural change in their livelihood.

4.5.4 Improvement in Status of Social Excluded Group

Kayser et al., (2010) studied 109 widows who participated in SHGs and found that the group credit approach has improved the overall well being index comprising of economic, communal, familial, and psychological aspects. The amounts of loan and investment patterns of SHGs were insignificantly related to the women's well-being at large. However, more recently formed groups have significantly a greater impact on women's well-being. Leach and Sitaram (2002) found that the access to credit makes them more independent through self employment in micro enterprises to the socially excluded women in the society. The participation of scheduled caste women in the silk-reeling industries through micro finance perceived an increase in their economic and social status, stemming from the fact that they were now earning their own income. Some members acquired a business sense, an awareness of how the silk industry operated, familiarity with handling funds, and a recognition of the importance of savings and book keeping. Nidheesh (2009) explored the formation of SHGs by tribal women in Kerala helped in changes the identity towards working collectively. Members organised in community and social action programmes, both at the local level and by joining with bodies/organisations beyond the local. The participation of women in different aspect (i.e. economic, social, and political) of life within the village captures the startling extent of empowerment outcomes. Different facilities provided by NGOs to SHGs including training and support, assume the strengths of the women to be active citizens in their own communities.

Meena et al., (2008) noted that the provision of training facilities to members participating in SHGs leads to change in the attitude especially in areas of socio-economic upliftment, marketing and entrepreneurship qualities, technology adoption and banking aspects. The organisation of monthly meetings has contributed in exchange of experiences, ideas, feelings, operational problems and conflicts as well as resolutions of members. Groups could be used as an effective mechanism for information dissemination, social and mutual learning, institutionalised process of capacity building, empowerment, along with sustainable and equitable development. Putnam's 2000 study (as cited in Meena et al., 2008) observed that the linkage of SHGs with savings and credit, has enabled women to benefit economically by monetizing their contributions, and in the process empowering them to become change agents. Training enhances the skills and efficiency of individuals in their profession. The

members of SHGs need to be trained in managerial skills as well as in technological capabilities for augmenting their entrepreneurial endeavours (Chesler, 1991; Mok, 2001; Nylund, 2000).

4.6 Social Impact of Micro credit to Households

The increase in employment and income through participation in SHGs has been conceptualised as the primary pathway through which micro credit could bring revolutionary changes in the social aspect. Different studies highlighted the social impact of micro credit in terms of enhancing banking knowledge, entrepreneurial skill, health awareness, children's health and educational status of borrowers as compared to non borrowers (Galab and Rao, 2003). First, additional income to the family could allow households to purchase more or better quality food, medicines when necessary, or add structural improvements to their homes, all of which could positively influence health and reduce stressors. The increased income could allow participants to invest in income-generating activities – such as those promoted in traditional micro credit programmes – and these in their turn could alleviate stress relating to sources of future income (Fernald et al., 2008). The group power has led to other development outcomes like prevention of liquor sales on market, improved functioning of the schools by ensuring that the teacher attends the school regularly, encouraged children enrollment in schools, controlling school dropouts, etc (Lyngdoh, 2008).

Yunus (2004) urged to provide micro credit to the bottom half of the world population and halving the world poverty by 2015. In his noble lecture shared own experience regarding the origin of micro credit, which started by lending of \$ 27 for 42 poor people in 1976 and that led to start the launch of Grameen bank, although he had no intention to create a bank for the poor (Yunus, 2009). Today Grameen communications is taking internet services in rural areas to bring education, knowledge and business opportunities to the poor. Grameen energy is bringing solar energy in villages to provide energy for mobile phones, lighting for shops and homes. Grameen bank has also introduced a pension fund for the poor, loan insurance for borrowers, which is leading both members and the bank to greater self reliance. The members of Grameen Bank have a higher adoption of family planning practices, and therefore lower birth rate than non-members.

4.6.1 Knowledge about Financial Literacy

Singh and Singh (2008) supported the argument that the existing micro credit system provides four facilities like (i.e. saving, internal loaning, micro enterprise and micro insurance), which help to improve the condition of small borrowers in the rural areas. Easier and quicker internal loaning leads to increase the feeling of security, recognition in society,

enhance the knowledge level about entrepreneurial activities and leadership qualities, desire to work more, save more and improve the overall standard of living of the members. The inter-loaning process helped members about loan management (i.e. positive utilisation, timely repayment of loan) among the members. Rahman's (2010) recent study estimated that three in every four (75%) clients agreed that the micro finance services helps to increase economic solvency, social dignity, self-confidence, business knowledge, communication skills and Knowledge on business computation.

Tesoriero (2005) confirmed that the participation in SHGs helps the members to work independently, speak to outsiders, increase confidence, knowledge about saving, borrowing and debts, along with decrease in dependence on money lenders and discrimination in caste etc. Chandrashekar and Lokesh (2009) reported SHG's movement as stemming from people's desire to meet their needs and determine their own destinies through the principle "by the people, for the people and of the people". Participation in the group helps to increase the income, gain political knowledge and develop interpersonal relationship and help with participating in political activities.

Hossain, (1988) and Rahman (1999) found that members are now earning independently and contributing to their family which leads to a decrease in vulnerability to the threat of abandonment. Access of credit reflects on the positive impact in household income, employment, non-agricultural investment, labour force participation rate, economic empowerment, household expenditure, consumption pattern and social empowerment. Galab and Rao (2003) noted that the women could establish access and control over their labour (to some extent), access to resources (credit, savings and income), mobility and interaction, leadership positions, and reproduction choices in association with SHGs. Micro credit has enabled the poor to make more effective use of skills that they already possessed rather than developing a skill inducing a demand for credit.

4.6.2 Improvement in Gender Empowerment and Children Education

More women reported that association with SHGs has provided power on collective intervening in order to arbitrate the domestic conflicts and rescue women from violence. The group membership also has helped to interfere against illegal issues (i.e. husband's extramarital affairs, annulling an underage marriage, external domestic violence against women, men's sexually permissive behavior, attempted polygamy, community-wide anti-liquor campaign, anti-gambling campaign and organising community events). Based on the above findings, the author supported the point that micro finance institutions have the potential to promote women's social capital and normative influence, and in turn facilitating

women's collective empowerment (Sanyal, 2009). The Mahila Sarvangeen Utkarsh Mandal (MASUM), (Association for the Development of all Facets of Women, Maharashtra) provides awareness on gender issues, citizenship rights, structures of class, caste and ethnicity constrain to the citizen through SHGs. The organisation started a democratic campaign against male alcoholism with the support from SHGs. Within a short period, this campaign gained in momentum and finally succeeded in their missions, reducing considerably violence against women in the households (Wagh, 2009).

Credit entering to households through women leads to increase in children education about one to one-and-half years longer in school compared to children whose father or mother received credit directly. The supply of credit to women borrowers reflected on increases about 3.2 to 3.9 times more probable in enrollment to private school. About 3.8 to 5 times more probable that girl's are sent to school rather than being kept at home, with 7 to 9 times more likely they will become literate. Similarly, girl students have benefited from 2.4 to 3.3 additional years of schooling in India and about 2.7 to 3.5 times more probable that they will be able to read and write (Holvoet, 2004; Kabeer, 2001). Izugbara (2004) reported that the average number of schools-age children in households of benefiting women stood roughly at five, while for non-benefiting women it stood at three. Benefiting households also reported enjoying reduced poverty-related stress, improved nutrition, higher net income and better health status than non-benefiting ones. The provision of employment due to credit increases the income, enables women to send their children to school reflecting an increase in the literacy rate.

4.6.3 Micro credit and Awareness of Health

Some studies also found an increase in health awareness of the rural women through interactions with their group members and health workers. Amin et al., (1994) observed that the exchange of ideas with other woman household, group formation and interactions led to encourage rural women to use more contraceptives. Schular et al., (1997) noted that the economic contribution of women to her family leads to provide freedom of mobility, freedom from domination by the family, better control of her body and birth control methods. Free movement in the village and traveling outside the village helps women to seek family planning information, birth control methods and other types of assistance related to fertility. Srinivasan and Bardhan (1990) and Hossain (1986) acknowledged the positive impact of micro credit programmes resulting in improvement in nutrition, health conditions of the rural women and their family members as compared non-participants. However, Strobach and Zaumseil (2007) found that the early joiner women borrowers have more knowledge on

nutrition, hygiene, immunisation and diseases as compared to late joiners of micro credit programmes. Hadi (2001) observed that mandatory health check up for each credit recipient at the time of receiving services leads to an increase in knowledge about prenatal care (i.e. tetanus vaccines, vitamin supplement and medical checkup).

There was a significant decline in the medical expenditure and the school dropout rates in member households as compared to non-members' households. The fall in average family health related expenditure signifies that the economic empowerment of women must have created an awareness among them, which is reflected in better hygienic habits and more optimal allocation of food expenditure among the family members (Banerjee, 2009). Mahmoodi and Bahmanpour (2010) recent study noted that the efforts made by Non-Government Organizations (NGOs) to spread education, health care and empowerment of poor household developed the concept of "we win I win". The involvement of NGO has increased in number of school/college going children and reduction in children's school dropout rate especially the girl's dropout rates. Besides, the members took the full advantage of government schemes, were aware about Balwadi, child health care, and nutrition programmes for the mother and child. Subsequently this has reflected in improvement in housing, health, education, durable consumer goods of credit beneficiaries.

4.7 Negative Impact of Micro credit

The multidimensional impact of micro credit has put questions on different study, as another group of researcher found adverse effect of credit supported by their empirical findings. Besides, various prior studies have also highlighted about different problems related to credit that makes the programmes less successful. Coleman (2001) reported that households belonged in rich section are more likely join in SHGs as against the poor. Similarly, wealthiest villagers are almost twice as likely to participate in micro credit programme as compared to the poorer villagers. Another issue, hotly contested by NGO staff and donors, relates to the targeting of beneficiaries. Hulme (2000), Kabeer (1998) and Morduch (1998), for instance, found that introduction of SHGs in a region did improve income levels, but not of the poorest households. The focus on ensuring high repayment rates often leads to the exclusion of poor households as the risk of non-recovery is very high (Satish, 2001; Hulme and Mosley, 1996; Montgomery, 1996; Krishnaraj and Kay, 2002 and FAO, 2002). In fact, in some cases, entry of large organisations has led to the squeezing out of smaller organisations with a record of successfully targeting the poorer households (Arn and Lily, 1992; Ebdon, 1994).

4.7.1 Women's are "Post boxes"

Hoquea (2004) analysed the negligible impact of credit on poverty reduction in terms of monthly total consumption expenditures (i.e. food and non-food consumption) per adult equivalent of households. Hunt and Kasynathan (2002) noted that many women are merely 'postboxes' passing on the full amount of their loans directly to their husbands, sons or sons-in-law, with little or no access to the income generated and receiving back only enough money to make weekly loan repayments. There is an increase in dowry practice, violence against women and threatening to ask for further dowry payments if she did not bring in more credit. Mallick (2002) reported that, when a woman fails to make her installment on time, she experiences humiliation through verbal aggression from fellow members and bank workers in the loan centre. Such humiliation of women in a public place creates negative attitudes towards SHGs and in the long run a bad reputation. Since patriarchy demands that women complete their household chores, the SHG members generally sacrifice their leisure hours to undertake SHG activities in the afternoon and evenings. This led to over-work, fatigue and even malnutrition (Ackerly, 1995).

4.7.2 Low Level of Empowerment

Kabeer (1998) found that the micro finance programme has a positive impact in increasing incomes and assets, although certainly not in the poorest households. She noted that women tend to spend their income on household consumption and 'security-related assets' such as homestead land, whereas male borrowers are more likely to invest in further productive activities. Many women continue to register land and productive assets in their husband's name, because of inheritance laws (i.e. assets will be inherited by sons if registered in the husband's name and by daughters if registered in the wife's name). This raises questions about any assumed automatic links between credit and transformation in gender relations. However, Goetz and Sen Gupta's (1996) study explored the inverse relationship between loan amount and control (used as a proxy for empowerment). The control on loans diminishes beyond a threshold level of membership. It is only 37 per cent of loans provided by four different Bangladeshi credit organisations which were either fully or significantly controlled by women, and where significant control does not include control over marketing, and thus may have little control over the income generated.

Montgomery et al., (1996) has also expressed that micro credit reinforces the existing gender discrimination, inequalities and contributes little to alter the social status of women. Martin and Rab (1997) and Rahman (1999) pointed out that the access of micro finance may increase the vulnerability and insecurity of the family as women often depend on their

husbands or male relatives to help with repayment. Izugbara (2004) found that the women benefiting from micro-lending schemes have little awareness and readiness to challenge gender inequality, patriarchy, lack of control over their personal circumstances and community resources. Thus the 'empowerment' that the scheme promotes, rarely goes beyond marginal improvements in women's life with limited resources and within the conditions permitted by local patriarchal structures.

4.7.3 Absence of Credit Support Services

The provisions of micro credit facilities had some benefits in improving the profitability of micro enterprises run by rural poor women, but there seems to be little long-term effects as measured by increases in household assets. It is only one quarter of the loan recipients who notice any change in these social benefits as a result of getting loans, and the other three-quarters indicated that they remained as they were before and after receiving the loan (Sendi et al., 2009). In the supply side, the lack of confidence in the return of money laid less attention on sanction of credit to borrowers with disabilities. On the demand side, the inaccessible infrastructure, lack of appropriate adaptive equipment resources and market make it more difficult for women with disabilities to run micro enterprises (Lewis, 2004). The amount of credit was inadequate for the members to pursue their income generating activities smoothly. Different factors viz., lack of training facilities to upgrade their skills, low level of technical knowledge, delay in receiving credit for investment and very short gestation period of repaying the investment are major hurdles for the members. Majority of the respondents (78 per cent) mentioned that sometimes they needed to start repaying their borrowed money even before investing the money, which led to producing of false vouchers to be shown to the banks (Rahman, 2010). Different problems of the creditors related to low proportion of loan used for non-farm activities, lack of technical training, marketing the products, problem of bribery, insufficient amount of loan, delay in sanction of loan and lack of publicity etc obstruct the growth of several SHGs (Madheswaran and Dharmadhikary, 2001; Bashir and Naeem, 2010).

4.7.4 Disband of SHGs

In India, where the SHG movement has gained momentum, the poorest still remain poor. Despite the proliferation of SHGs across the state in Andhra Pradesh, statistical analysis found an insignificant relationship between the village level poverty indicators and number of SHGs, though more remote areas are likely to have fewer SHGs (Basu and Srivastav, 2005). As a result, most of the SHGs were not operating efficiently in India. The survival of SHGs depends upon number of first time attendees, average group meeting attendance, length of

group existence, leadership diversification and outreach to potential group members along with support from national and local organisations. Different factors lead to the disbanding of SHGs are attendance problems, problems/changes in leadership, and/or the group was no longer needed, finding a meeting place and/or different problems in between the SHG members (Wituk et al., 2002).

The dominant nature of the group leader, power and control dynamics exercised by external members, problems relating to raw materials, marketing, infrastructure etc were some of the major causes which lead to the closure of SHGs. The control of women's involvement in the public sphere has been often strongest at the family level viz., husbands prevented women from going out of their home; using domestic quarrels, violence and other forms of intimidating behavior, or tried to splurge women's savings etc resulting in irregular payments in the group. Lack of coordination and communication between group members, lower caste and social status have further inhibited entry into group entrepreneurial occupations, which in turn limited their economic activities leading to ultimate closure of the groups (Torri, 2010).

Hunt and Kasynathan (2002) emphasised that the largest micro credit programmes – the ones that are being replicated internationally in the name of poverty alleviation – do not, and cannot, reach the poorest people. It is because the poorest people will never be able to meet weekly inflexible repayment rates at 10–15 per cent interest, or they are excluded by group members, for the same reason. Chavan and Birajdar (2009) reported that the irregularity in repayments of loans is a major cause for dropouts among SHG members. The continued dependence of women members belonging to mature SHGs on informal sources, as revealed from primary data, further corroborates the point regarding the limited spread of micro finance. As a result, less than one per cent of the total bank credit from scheduled commercial banks is sanctioned to SHGs. The falling trend in the percentage share of bank credit and loan accounts held by SHGs, regional disparity in terms of the spread of micro finance in India further makes the programme less successful. Ray-Bennett (2010) noted that the irregularities in the monthly repayment of credit due to poverty were met with verbal abuse and fiery arguments. The respondents who were already poor were now overburdened with debt. Therefore, the economic empowerment of these respondents remained a far-fetched concept. Nevertheless, the respondents showed their keenness to keep the SHG intact, because the SHGs gave them the opportunity to get together and share their experiences during the meetings—something which did not occur in their daily lives.

Kar (2008) found that the borrowers are not able to utilise the funds properly so as to help themselves out of the poverty level due to absence in marketing of the local products to local people with minimum profit. Lack of guidance to use the funds and absence of supervision in the sustainable development of the groups is among the major obstacles in the road of the group formation. Dutt and Samanta (2006) observed that the concept of caste, class, ethnic and religious hierarchies further create diversities among women, which makes the programme even a bigger failure at the local level. Different problems of SHGs (i.e. lack of trust upon the leader, misunderstanding between leader and members, low level of education of the leader, political interference and religious difference among the member's) led to the splitting of the group. They concluded that the prevalence of hierarchy, and/or caste location neither provided long-term security and nor brought about real empowerment to the women member.

4.8 Identified Gaps in Literature

From the above analysis we can say that, measuring the impact of micro credit is quite complex based on research outcomes. The optimistic group supports micro credit programme and they found the positive impact of credit specifically on women both inside and outside of the households. However, the pessimistic groups have found adverse effects of micro credit both at individual and household levels. From the review of literature concerning the subject, we came across several gaps:

- A large number of studies have examined the impact of micro credit on the level of poverty through monetary indicators. In other words, all the previous studies have taken income and expenditure as the proxy of measuring economic impact of micro credit on the member households. However, the present study made an attempt to fill this gap in literature by including non-monetary indicators (i.e. housing, assets and consumption) to measure the economic impact of micro credit.
- Another point that differentiates the present study from the earlier ones is the concept of empowerment, which has been included and explained here in a systematic manner. Most previous studies constructed an index approach for measurement of empowerment. However, to study the level of empowerment in real sense, it becomes very necessary to pay attention to the correlation of the variables (i.e. indicators used in the measurement of empowerment). The present study has also applied factor analysis technique to measure the level of empowerment and used it for further analysis.

- So far, there is no study covering the factors influencing women living in the BPL households to join in SHGs programmes. It is interesting to study the determinants, as there are a good number of studies analysing non BPL women's participation in SHGs.
- There is ample research attempting to examine about the determinants of loan from formal sources, but hardly any attention has been given to find the factors influencing the borrowing of loan from informal sources. The present research will fill this gap in literature, as specified in objectives.
- This study has highlighted the degree of marital control, operation of SHGs and knowledge about banking activities of sample participants, which was lacking in all the earlier studies.

4.9 Conclusion

In short, the present study highlights the economic and empowerment impact of credit on women living in the BPL households in India. The economic impact of credit measures the wealth status of borrowers at household levels. However, the empowerment impact will provide information on the power of women at individual levels due to provision of credit. Thus, this would be a modest attempt at studying the economic and empowerment impact of credit on women living in the BPL households in India.

CHAPTER 5

RESEARCH DATA AND METHODOLOGY

Introduction

Micro credit has emerged as an innovative method of providing basic financial services to the marginalized group because of inability to get credit from formal financial institutions. As a result, women members in the households get employment and earn income using local resources. Further, the birth of group credit system leads to reduction in dependence of money lenders and saved poor households from financial exploitation. Different past research studies used control-treatment, before-after and cross-sectional approach to measure the impact of micro credit programme. These studies applied bi-variate and multivariate techniques to examine the economic, social and empowerment impact of group credit. This chapter of our study discusses the multivariate models used to investigate economic status of members as compared to non-members; determinants of women's join in SHGs to avail credit; factors influence on borrowing credit from informal sources and the empowerment impact of micro credit on Indian women living below poverty line (BPLs) households in rural area. Following this, data collection is discussed including questionnaire design and sampling technique.

5.1 Concept of Economic Status

The present research used economic status as a proxy of poverty in order to investigate the impact of micro credit on BPL households. Different poverty, socio economic concepts and measurement approaches exist in the literature (Maxwell, 1999). Traditionally, indicators of socio economic concept have tended to be monetary measures such as income or consumption expenditure which largely determine poverty of households (Falkingham and Namazie, 2002). Although monetary measures have their merits in terms of easiness of computation and comparability across countries, many scholars criticize it for reducing a complex phenomenon (poverty) to a single aspect (i.e. income and consumption) (Hulme et al., 1996). This is due to problems in the collection of accurate income data requiring extensive resources and individuals drawing income from multiple sources (Montgomery et al., 2000). Also, in some instances, an indicator of income doesn't capture the level of poverty because of poor may have income in kind, such as crops which are traded, and measuring income can be difficult for the self or transitory employed (e.g. agricultural work), due to accounting issues and seasonality (McKenzie, 2005). Similarly, monetary measurement of consumption expenditure is fraught with difficulties in low-income

countries. There are problems with recall and reluctance to divulge information. Recall data are prone to large measurement errors, as some people may shop for food every day, whilst others go to the market once a week or even less frequently (Scott and Amenuvegbe, 1990). All these problems involved in constructing monetary metric motivate researchers to use an alternative approach for welfare assessment and designation, based on other data rather than consumption expenditures.

5.1.1 Developing Indicator to Measure Economic Status

According to the recent literature, poverty has a multifaceted and pervasive nature. The poor individuals generally experience various forms of deprivation, related not only to economic hardship, but also to social and environmental aspects. Townsend, 1979; Ringen, 1988; Nolan and Whelan, 1996; Perry, 2002 studies (as cited in Coromaldi and Zoli, 2011) found that poverty should be more properly treated as a multidimensional phenomenon and non-monetary indicators should complement monetary ones in order to offer a better evaluation. Alternatively, the multi-dimensional poverty indices like food, health, education and housing try to cover the complex reality of poverty in more than one dimension. This leads to generate wealth index concept as an alternative of income and consumption expenditure to measure socio economic position (SEP) of households. The wealth index¹ allows us to move from the expenditures based idea of poverty towards "Infrastructural" assets conception of poverty (Sen, 1976). Collection of asset data has been claimed to be more reliable than income or consumption expenditure, since it uses simple questions or direct observation by the interviewer and should therefore suffer from less recall or social desirability bias (Sahn and Stifel, 2003).

An asset-based wealth index could be theorized to represent the long-term SEP in a similar way to consumption expenditure; asset ownership is likely to be based at least partially on economic wealth and household assets are unlikely to change in response to short-term economic shocks (Howe et al., 2008). This approach has arisen from demographic studies such as Demographic Health Survey (DHS) and National Family Health Survey (NFHS), which although lacking data on income or consumption expenditure, collect information on ownership of a range of durable assets (e.g. car, refrigerator, television), housing characteristics (e.g. material of dwelling floor and roof, toilet facilities), and access to basic services (e.g. electricity supply, source of drinking water etc).

¹ <http://www.measuredhs.com/topics/Wealth-Index.cfm> is best website for information regarding construction of wealth Index.

Several studies have tried to search the range to which asset index is a nice proxy for household consumption expenditures. Filmer and Pritchett (1999, 2001) constructed an index based on indicators of household assets, and applied principal components for choosing the appropriate weights for the assets. The study concluded that the asset index is better thought of as acting as a proxy for long-run household wealth rather than current per capita consumption. Sahn and Stifel (2003) have taken a similar “index” approach to making comparisons of relative poverty over time using DHS data for nine countries in Africa. The asset index method used in different studies to examine wealth differences among households and other socio-economic outcomes (i.e. educational outcomes, fertility and mortality, women empowerment, poverty and inequality) (Filmer and Pritchett, 2001; Montgomery et al., 2000; Zelller 2003; McKenzie, 2005; Kishor, 2008; Achia et al., 2010; Amaza et al., 2009; Mohanty, 2011). Researchers began to see that these assets could be used as indicators of living standards and have sought to construct wealth indices for that purpose (Falkingham and Namazie, 2002; Rutstein and Johnson, 2004). Similarly, Consultative Group to Assist the Poorest (CGAP) measured the relative poverty of micro finance clients and non-clients through poverty assessment tools including household’s human capital (i.e. family size, education, occupation); physical capital (i.e. type and value of assets owned) and social capital (Zeller et. al, 2001).

Our research has used the empirical framework suggested by CGAP to measure relative poverty of micro credit members and non-members living BPL households (Henry et al., 2003). This study constructed economic status (ES) as the proxy for measuring the relative poverty of sample households in the study area (McKenzie, 2005; Zeller et al., 2001). ES index based on a series of specific questions relating to the ownership of durable goods, housing characteristic, consumption pattern and stock of food in the house (Henry et al., 2003). Each dimension contains a number of questions (Survey questionnaire has included in Appendix 8). A basic idea of developing economic status indicators is to identify the micro credit households are relatively enjoying high economic status than non micro credit households.

The present study included 34 indicators in our surveyed questions to measure the economic status of sample households developed by CGAP and modified according to the requirements in the study area. Thirty four economic status indicators are presented in Table 5.1. These 34 indicators were recorded into binary category, distinguishing between household that own the particular asset or for which a particular statement about access to services is true and one that don’t own the asset or for which the statement isn’t true. Hence,

all variables take on a value of zero or one. Details about variables used in construction economic status index are described in Appendix-1.

Table 5.1: Economic Status Indicators		
Indicators	Variables	
Housing indicators	Type of house Material used in the wall of house Material used in the roof of house Material used in the floor of house Dwelling condition	Source of water supply Medium of cooking Electric facility Type of toilet
Assets indicators	Have Land, Cow, Bull, Hen, Goat, Matters, Pressure cooker, Fan, Chair, Table, Bed, Gold, Radio, Television, Mobile, Refrigerator, Bicycle, Motorcycle, Clock etc.	
Consumption indicator	Type of consumption of Meat, Fish and milk Type of consumption of Pulses and Cereals Type of consumption of Vegetables and Fruits Type of consumption of other daily food items Stock of rice in house Stock of dry food items in the house etc.	

Thus, asset index method deals with "multivariate" information on asset ownership of every household in the sample. The idea of the method is to create uniform single dimensional equivalent to the multivariate vector of assets, called "Asset Index". It will give us the possibility to provide wealth ranking among the households possessing varieties of assets. Here the factor analysis and principal components analysis designated to determine the weights for different indicators included in asset index (Sahn and Stifel, 2003; McKenzie, 2005; Filmer and Pritchett, 2001).

5.1.2 Measuring Economic Status through Principal Component Analysis (PCA)

Based on the recommendation of past research, this study applied principal component analysis (PCA) to assign weights to each indicator of ES index (Henry et al., 2003; Copestake et al., 2005). Filmer and Pritchett (2001) recommended PCA as a method of determining weights for different variables in asset index. It helps to determine how information from various indicators can most effectively combine to measure a household's relative poverty status. PCA is a 'data reduction' procedure that involves replacing a set of correlated variables with a set of uncorrelated 'principal components' which represent unobserved characteristics of the population (Howe et al., 2008). The principal components are linear combinations of the original variables; the weights are derived from the correlation matrix of the data or the covariance matrix if the data have been standardized prior to PCA. Various underlying components are extracted by the PCA, where each component explains a share of the common variance among the indicators. The first principal component explains

a_{1p} =the regression coefficient (or weight) for observed variable p, as used in creating principal component 1

X_p =the household's score (standardized) on observed variable p.

This system of equations 4.1 can be expressed as $z = Ax$, where $z = (Z_1 \dots Z_p)$, $x = (X_1 \dots X_p)$ and A is the matrix of coefficients. The coefficient of the first principal component $a_{11} \dots a_{1p}$ has been chosen in such a way that the variance of Z is maximized subject to the constraint that $a_{11}^2 + \dots + a_{1p}^2 = 1$. The variance of this component is equal to λ_1 the largest Eigen value of A . The second principal component is completely uncorrelated with the first component and has variance equal to λ_2 the largest Eigen value of A . This component explains additional but less variation in the original variable than the first component subject to the same constraint. A further, principal component (up to the maximum of p) has been defined in a similar way. Each principal component is uncorrelated with all the others and the squares of its coefficients sum to one.

The principal component analysis involves finding the Eigen values and Eigen vectors of the correlation matrix to calculate the coefficients. The final step of PCA is to calculate component score of each individual/household and used in subsequent analysis (Hair, 2006). A component score (here referred as economic status score) can be described in terms of variables measured and the relative importance of them for that factor (represented by the value a_{11}). Therefore, having discovered which factor exists, and estimated the equation that describes them; it should be possible also to estimate a household's score on each component, based on their scores for the constituent variables. Thus, the equation for calculating economic status score for household's using coefficients of Eigen vector is

$$Z = AE \tag{4.2}$$

Z= Economic status score, A= Original data Matrix, E= coefficients or Eigen vector

There are different methods to calculate factor score for each sample or households. The simplest way to calculate factor score coefficients is the regression method. In this method the factor loadings are adjusted to take account of the initial correlation between variables; in doing so, differences in units of measurement and variable variances are stabilized. In case of regression method, the matrix of factor loadings scores coefficients (a_{1p}) multiplied with the matrix of inverse (R^{-1}) of the original correlation or R-matrix² (Field,

²This is because of matrix can't be divided. Therefore, if we want to divide by a matrix it cannot be done directly and instead we multiply by its inverse. Therefore by multiplying the matrix of factor loadings by the inverse of correlation matrix we are, conceptually speaking, and dividing the factor loadings by the correlation coefficients (Field, 2006).

2006). The resulting factor score matrix, therefore, represents the relationship between variable and factor taking into account the original relationship between pairs of variables. As such, this matrix represents a purer measure of the unique relationship between variables and factors. The factor score coefficients (a_{1P}), comes from SPSS. The matrices R^{-1} and a_{1P} can be multiplied to get matrix A. This technique of producing factor score ensures that the resulting scores have a mean “0” and a variance equal to the squared multiple correlation between the estimated factor score and the true factor values. However, the downside of the regression method is that the scores can correlate not only with factors other than the one on which they are based, but also with other factor scores from a different orthogonal factor (Field, 2006). The equation to calculate factor/economic status score through regression method is

$$Z=AX \quad (4.3)$$

Z= Factor/economic status score, A= Original data matrix, X= multiplication on the inverse of correlation matrix with coefficients E (Eigen vector). Please refer Appendix 2 (A) for steps of calculating PCA in regression method.

5.1.3 Determinant of Economic Status

The first component extracting large variance assigns to each sample household a specific value, called “standardized regression score” representing about economic status of households (Vyas and Kumaranayake, 2006). In other words, standardized regression score generated from the first component provides a value to each household based on their possession of assets in the house. These standardized regression scores have used to create the break points that define wealth categories (NFHS, 2006; Amaza et al., 2009). The lower regression score indicates low economic status of the households relative to all others with high regression scores. This study has used the regression score of the first principal component to construct economic status index based on the recommendation of past research studies (Vyas and Kumaranayake, 2006; Achia et al., 2010). The household securing positive regression score were considered as High economic status (HES) and all others who got a negative regression score belonged in Low economic status groups (LES) (Sun et al., 2009). Using the economic status as dependent variable, our study has applied logistic regression model in order to identify the key determinants of HES (Achia et al., 2010; Amaza et al., 2009) with reference to the role of credit as given by

$$\text{Logit}(p) = \ln \frac{p}{1-p} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n \quad (4.4)$$

Where X_1, \dots, X_n were the predictor variables representing age, education of house head, size of family, caste, membership of SHGs etc and p denoted the probability that the household is HES of the group those was used. The division of first principle component in two categories and used as a dependent variable in the logistic regression model was verified by a few days later (Achia, T. personal communication, June 5, 2010).

5.1.4 Explanation of Variables

Dependent Variables

The regression score of first component or conceptually named as “economic status index” has recode into binary category representing “0” for low economic status and “1” for high economic status used as dependent variable in the logistic regression model (Equation 4.7). The dependent variable is “ p ” representing the probability of households living in High economic status. Thus,

ES 1- If the household is HES
 0- If the household is LES

Where ES denotes Economic Status

HES denote High Economic Status (Those households secured positive standardized regression score in first component generated by PCA considered as Group “1”).

LES denote Low economic status (Those households secured negative standardized regression score in first component generated by PCA considered as Group “0”).

Independent Variables

Different independent variables included in the study were divided in two categories: micro credit variables related to credit, investment and household variables related to socio economic characteristics of the BPL families in rural areas. The different household-specific variables include in the research are given below.

- 1) Age of house head takes value “0” for 30-40 years, “1” for 40-50 years and “2” for 50-70 years age group.
- 2) Education of house head divided into 2 category i.e. “0” for Illiterate (No formal education) and “1” for literate (Primary or More education).
- 3) Marital status of house head represents “0” for unmarried, widow, and “1” for Married.
- 4) Sources of income to the households categorized as “0” represents agriculture related work and “1” represents Non-agriculture related work.

- 5) Gender of the head of the house coded “0” for male headed house and “1” for female headed households.
- 6) Availability of land by the households with “0” for no land and “1” for any land.
- 7) Distance of bank from village coded “0” for 1 to 3 km and “1” for 3 to 5 km.
- 8) Caste of the house head divided into two categories (Where caste “0” for scheduled caste (SCs), scheduled tribes (STs) and caste “1” for other backward class (OBCs) and others (Generals).
- 9) Size of the family represents “0” for less than 6 members and “1” for more than 6 members in the households.
- 10) Number of working members in the households denotes “0” for 1 to 3 people and “1” for 3 to 6 people out of total members.
- 11) Any loan from informal sources (Money lender, Relatives, Shop Keepers) in last 3 years coded “0” for no and “1” for yes.
- 12) Migration refers to presence of migrated members in the households coded “0” for no migrated members and “1” for the presence of migrated members.
- 13) Location of the village “0” comes under Kukudakhandi blocks and “1” for Hinjilicut block.

The purpose of using micro credit related variables is to test whether the associations with SHGs have any effects on the household’s economic status.

- 1) Loan amount represents the amount borrowed by members through group and takes value 0 and 1 [where “0” for amount Rs 3000 to 10000 and “1” for an amount more than Rs 10001 but less than 22,000].
- 2) Member denotes participation in SHGs programme coded “0” for the non-members “1” for new members joined SHGs before 1 to 4 years and “2” for old members joined SHGs between 4 to 7 years.
- 3) Loan purpose indicates the nature of investment of the credit by the members has also divided into two categories (where investment “0” for agricultural investment and “1” for non-agricultural investment).
- 4) Subsidy on loan refers to the amount of subsidy granted to the members denoting “0” for No subsidy, “1” for Subsidy of Rs 3000 to Rs 7000 and “2” for subsidy of Rs 7001 to Rs10000.
- 5) Loan sanction period denote the period for which sanctioned loan have to repaid categorised as 0 = 10 to 15 month and 1 = 16 to 40 months. Detail of the description of explanatory variables has included in Appendix-3.

In the proposed model it is expected that the age of household head is negatively related with HES. An increase in age of house head leads to lower the chances of HES due to low earning capacity of older people as compared to younger. The increases in education of house head and being married person are hypothesized to positively affect HES. Sources of income to the households also predict the probability of HES significantly. It is expected that households depend on non-agriculture (Business and Service) sources are more likely belonged in HES due to less agriculture shock. Male headed households and increases in amount of land significantly predict the probability of HES. Distance of bank and number of working people in the households are hypothesized to influence households HES. For example, an increase in distance of the bank from village lowers the chances of HES as against those who reside near to the bank (Li, 2010).

Similarly, the increase in number of working population leads to more chances of HES due to rise in total and per-capita income of households (Kumar, 2009). Likewise, caste of house head, size of the family, loan from informal sources, presence of migration and geographical location of village could be influences the probability of HES significantly. Different micro credit related variables are also likely influences on probability of HES. Households participated in SHGs programmes are expected to more likely in HES due to easy access of credit. It is expected that the increases in amount of credit predicts the probability of HES. Similarly, provision of subsidy and period of loan sanction is expected to influences on HES of households.

5.2 Accessibility of Micro credit

Access to credit is widely accepted as a means to improving the welfare of individuals and households both in the short and the long run. In the short run, it allows consumption smoothing in the event of an adverse income shock and such smoothing, in turn, reduces the possibility of entitlement failure (Dasgupta and Ray, 1986). In the long run, credit facilitates investment in human and physical capital, thereby helps in achieving growth, globalization, urbanization, development, empowerment of women. It also reduces the inequalities between rural and urban areas, small and large borrowers (Arora, 2009). In spite of the above merit of credit, more proportion of farmer households (73%) hasn't received credit from formal institutions in India (Rangarajan, 2008). The major reasons for financial exclusion include a low-income status, being unemployed, belonging with an ethnic group, living in remote or interior areas, suffering from illness or disability, lack of awareness, illiteracy and social segregation (Reynolds, 2003; Thorat, 2007).

Any solution to revive the moribund rural credit delivery system must first tackle the roots of twin problems facing the system, namely, high transaction costs and poor repayment performance. A determined effort is called to strengthen the rural credit system by creating new institutions if necessary and strengthening the multi-agency arrangement of commercial banks, regional rural banks, credit cooperatives (EPW, 2002). The SHGs credit linkages helped to reduce transaction costs and also have ensured decidedly better repayment performance (Shah, 2005; Mujumdar, 1994, 1999). As a result large numbers of women joined in this programme for their personal development through self employment.

There are different factors that influence on probability of women to join SHGs and receive micro credit. Anggraeni (2009) found that the increase in age, education, total income of the house head and percentage of income derived from agricultural activities has significantly influenced on probability of participation in SHGs. Kumar (2009) reported the participation in SHGs is influenced by various household specific factors like educational level of women, husband's education, number of dependents, sources of income and presence of other formal watershed institutions. Anjugam and Ramasamy (2007) noted the age of women, caste position, value of productive assets other than land, indebtedness of household and presence of other micro credit programmes in same or nearby villages were most significant factors influencing the women's participation in micro finance programme. The participation in SHGs has positive impact on women's likelihood of being self employed for those who suffered due to marginalization in credit markets (Nidhiya and Rodgers, 2011). Further, the increase in number of MFIs makes less likely borrow informal credit to the households (Mpuga, 2010).

5.2.1 Model of Participation in SHGs/ Access of Micro credit

Based on the above analysis, the present research attempts to examine different individual/household factors likely influences on the probability of women to join SHGs and securing micro loans (Kumar, 2009; Anjugam and Ramasamy, 2007; Anggraeni, 2009). Factors studied encompass household demographics (such as age, education, employment etc), socio-economic factors (economic status, amount of land, family size etc). Our study has applied logistic model for predicting the probability of women " n " choosing to join SHGs and get credit. We assume a woman is faced with two alternatives, to participate in SHGs and take micro credit from the available provider or not (Gujrati, 2006). In essence, the logistic model predicts the logit of Y from X . The logit is the natural logarithm (\ln) of odds of Y , and odds are ratios of probabilities (π) of Y happening (i.e., a women join in SHGs to get micro credit) to probabilities ($1 - \pi$) of Y not happening (i.e., a women hasn't joined in SHGs). The

logistic regression model Y (Likelihood to take micro credit) to multiple predictors (say $X_1 =$ age and $X_2 =$ education), has the form

$$\text{Logit}(Y) = \text{natural log}(\text{Odds}) = \ln\left(\frac{\pi}{1-\pi}\right) = \alpha + \beta_1 X_1 + \beta_2 X_2 \quad (4.5)$$

Taking the antilog of Equation 4.5 on both sides, one derives an equation to predict the probability of the occurrence of the outcome of interest as follows:

$$\pi = \text{Probability}(Y = \text{outcome of interest} \mid X_1 = x_1, X_2 = x_2) = \frac{1 + e^{\alpha + \beta_1 x_1 + \beta_2 x_2}}{1 + e^{\alpha + \beta_1 x_1 + \beta_2 x_2} + 1} \quad (4.6)$$

Where π is the probability of the outcome of interest or “event,” such as women’s participation in SHGs for micro credit, α is the Y intercept, β is the regression coefficient, and $e=2.71828$ is the base of the system of natural logarithms. X can be categorical or continuous, but Y is always categorical. According to Equation 4.5, the relationship between logit (Y) and X is linear. Yet, according to Equation 4.6, the relationship between the probability of Y and X is nonlinear. For this reason, the natural log transformation of the odds in Equation 4.1 is necessary to make the relationship between a categorical outcome variable and its predictor(s) linear (Madala, 1992).

The value of the coefficient β determines the direction of the relationship between X and the logit of Y . When β is greater than zero, larger (or smaller) X values are associated with larger (or smaller) logits of Y . Conversely, if β is less than zero, larger (or smaller) X values are associated with smaller (or larger) logits of Y . Within the framework of inferential statistics, the null hypothesis states that β equals zero, or there is no linear relationship in the population. Rejecting such a null hypothesis implies that a linear relationship exists between X and the logit of Y . If a predictor is binary, then the odds ratio is equal to e , the natural logarithm base, raised to the exponent of the slope β (e^β) (Peng et al., 2002). α and β are typically estimated by the maximum likelihood (ML) method, which is preferred over the weighted least squares approach by several authors, such as Haberman, 1978 and Schlesselman, 1982 (as cited Peng et al., 2002). In a very general sense the maximum likelihood method yields values for the unknown parameters that maximize the probability of obtaining the observed set of data. To apply this method we must first construct a function called the likelihood function. This function expresses the probability of the observed data as a function of the unknown parameters.

5.2.2 Odds Interpretation and Likelihood Ratio Test

Another important concept to interpret the coefficients of logistic regression is the odds ratio (OR), which estimates the change in the odds of membership in the target group

for a one unit increase in the predictor. It is calculated by using the regression coefficient of the predictor as the exponent or *exp*. Assume in the example, where we were predicting participation in SHGs by level of education (0= Illiterate, 1= Literate) predictor that β is 2.69. Thus, the odds ratio is *exp* 2.69 or 14.73. Therefore, the odds of join in SHGs are 14.73 times greater for women with literate as compare to women with illiterate category. The likelihood ratio test for a particular parameter compares the likelihood of obtaining the data when the parameter is zero (L_0) with the likelihood (L_1) of obtaining the data evaluated at the MLE of the parameter. The test statistic is calculated as follows:

$$-2 \times \ln (\text{likelihood ratio}) = -2 \times \ln (L_0/L_1) = -2 \times (\ln L_0 - \ln L_1) \quad (4.7)$$

It is compared with a χ^2 distribution with 1 degree of freedom. This tests the difference between $-2LL$ for the full model with predictors and $-2LL$ for initial chi-square in the null model. When probability fails to reach the 5 per cent significance level, we retain the null hypothesis that knowing the independent variables (predictors) has no increased effects (i.e. make no difference) in predicting the dependent. Similarly, the Log Likelihood test, Hosmer–Lemeshow test, Cox and Snell R Square and Nagelkerke R Square values are examined to find the relation between predictors and predictants.

5.2.3 Description of Variables

Dependent Variable

Dependent variable in the model is “1” if the woman has participated in SHGs and availed micro credit, Otherwise “0”.

Independent Variables

Different individual characteristics viz., level of education, age, occupation, marital status, any child and access of media to the respondent’s has included to find out the determinants of participation in SHGs. An increase in age of women is hypothesized to negative relation in participation in SHGs. Generally, older women mayn’t be willing to enter in credit programme due to risk adverse nature (Anjugam and Ramasamy, 2007). It is expected that education of women has negatively related to participation in SHGs: as women obtain more education are less interested to join SHGs due to alternate employment opportunity (Kumar, 2009). Similarly, women associated with the agriculture work are hypothesized to positive effect on participation in SHGs due to seasonal unemployment. Further, increases in number of children also proposed to decreases the propensity to join in SHGs. Access of any media (Radio/TV/News paper) to the respondents are expected to positive influences on women’s participation in SHGs programme. Married women are more

probability to join SHGs to fulfill the economic requirement (i.e. education and health expenditure) of the family members.

Female headed households are more likely expected to join in SHGs programme due to lesser degree of marital control. The increase in distance of bank is hypothesized to more likely participation in SHGs because of easy access of credit to the households in rural area. Similarly, households belonged in upper caste (OBCs and Generals) are expected to less likely join in SHGs for credit due to sound economic position. Different variables like the size of family, availability of land, location of village, migration and number of working population are also considered as expected sign on the women's participation in SHGs. The more details about description of explanatory variables has included in Appendix-3.

5.3 Determinants of Informal Credit

The lack of financial services from formal finance institutions compel the poor households to borrow from informal sources (i.e. Relatives, Moneylender, Friends, Shopkeepers). While high residual income (i.e. savings) and stock of liquid financial assets reduce the likelihood of both formal and informal borrowing, non liquid assets like land that can be used as collateral facilitate access to formal credit. Different past research found numerous factors that likely influence on borrow credit from informal sources. Gupta and Chaudhuri, (1997) observed that the employees of finance institution demand bribes for quick sanction of credit to the farmer. As a result, agricultural households preferred to borrow from moneylenders at a high rate of interest. Bhaumik, (2008) found the delay in sanction of loan and orderly bank procedure forces the scheduled castes (SCs) or scheduled tribes (STs) households moving towards informal credit. Rajasekhar and Vyasulu, (1990) reported the inadequate and untimely sanction of loan, lack of initiative by the bank officials in utilization of loan, lack of cooperation etc moves the farmers to obtain a loan from moneylender than to go through the ordeal of bank procedures. Keeping above findings as the base of study, our research applied the logistic model to examine about different factors that determines credit from the informal sources to the BPL households in rural areas of India. We assume that for an individual K_{it}^* represents the critical decision point of taking informal credit or not and thus summarize this information, as:

Individual i takes informal credit if $K_{it} > K_{it}^*$ and $K_{it}^* = 1$

Individual i does not take informal credit if $K_{it} \leq K_{it}^*$ and therefore $K_{it}^* = 0$

The logistic model assumes that the error term is a cumulatively distributed random variable so that the probability that K_{it} is less than (or equal to) K_{it}^* can be computed from the

cumulative normal probability function. The estimated model is then stated thus:

$$K_{it}^* = \alpha_0 + \alpha_1 HHAGE_{it} + \alpha_2 HHEDN_{it} + \alpha_3 HHEAD_{it} + \alpha_4 BANKDIST_{it} + \dots + \alpha_n \epsilon_{it} \quad (4.8)$$

Where K_{it}^* Representing “1” if a household has borrowed credit from informal sources otherwise “0”. The rest of the explanatory variables are household factors, which is largely responsible for loan from informal sources to the BPL households. Details about the description of explanatory variables has included in Appendix-3.

5.4 Measurement of Women Empowerment

Empowerment is generally described as a dynamic process, which involves changes from a disadvantaged stage to a relatively advantageous one as compared to previous time (Li, 2010) or relative to others (Mosedale, 2005). In this process, the powerless group gains greater control over the circumstances of their lives. This includes both control over resources (i.e. physical, human, intellectual, financial); over ideology (i.e. beliefs, values, and attitudes); growing intrinsic capability, greater self confidence, and an inner transformation of one’s consciousness that enables one to overcome external barriers to access resources or changing traditional ideology (Batliwala, 1994). The provision of credit through micro finance institutions stems from its promise to realize two goals with the same tool: reduce poverty in the short run and stimulate empowerment which is needed to fight poverty in the long run (Thomas and Allen, 2000). The access of micro credit has developed a ‘virtuous upward spiral’ leads to economic, social and political empowerment of women. As a result there is a development of financial self-sustainability paradigm, poverty alleviation paradigm and the feminist empowerment paradigm within the society (Mayoux, 1999; 2001).

5.4.1 Developing Indicator to Measure Women’s Empowerment

‘Empowering’ women has become a frequently cited goal of development interventions. However, while there is now a significant body of literature discussing how women’s empowerment has been or might be evaluated, there are still major difficulties in so doing. Studies on women’s empowerment in relation to micro credit vary not only in terms of the meaning of empowerment but also in terms of indicators used to capture it. It is evident from the literature that there is no coherent definition and/or measurement index of empowerment including control over assets (Goetz and Sen Gupta, 1996; Montgomery et al., 1996) control over household resources (Amin and Pabley, 1994) opportunity to generate

income and control over income (Mustafa et al., 1996) handling of loan applications (Ackerly, 1995) and participation in household decision-making (Kabeer, 2001).

Mizan (1993) study used an index called the Household Decision Making (HHDM) Scale, which contains information on participation of women in decisions about food purchase, education and marriage of children, expenses on medication for self, woman's earnings in business, purchase and sale of land, purchase of clothes for self and other household members etc. Mizan has found that the number of years of borrowing from the Grameen Bank has a positive and significant effect on the HHDM score. Since only HHDM is used as the indicator of empowerment, this may be considered as a limitation of the study. Hashemi et al., (1996) created an 'empowerment index' composed of eight indicators similar to Mizan's study. They arbitrarily chose a cutoff point of five and stated that if someone scores five points out of eight indicators, the person is empowered, otherwise not. The unobserved heterogeneity problem is not addressed in the study. Pitt, et al., (2003) used 75 variables related to economic decision making, Purchasing capacity, Control over loans, Control over income and savings, Mobility etc and constructed 10 factors of empowerment through factor analysis techniques. The provision of credit has a positive effect on nine factors of empowerment. Male credit significantly reduced the overall empowerment factor, had a negative effect on six empowerment factors. Similarly, Vijyanthi, (2002) and Rogers et al., (1998) study also measured empowerment of women through factor analysis techniques and found that participation in SHGs helps to increases in level of empowerment. Based on these literature related to women's empowerment as outlined here, it will then be necessary to construct the concept of women's empowerment to be used in the study.

This study includes an empirical framework for women's empowerment specific to the South Asian context of the literature related to micro finance (Pitt et al., 2003, 2006; Vijayanti, 2002, Hasmi, 1996; Rogers, 1997) and health research (Schular et al., 2010; Kishor, 2008; NFHS, 2006). Women's empowerment comprises of increases in level of education, knowledge to understanding about her surroundings, her ability to control her life, freedom from domination, her ability to participate in the decision-making process, capability to make independent decisions and finally her independence in terms of mobility (Kishor, 2003; Rahman et al., 2009). From the definitions of women's empowerment, as defined in the literature, the present study defines women's empowerment as the process by which women redefine and extend what is possible for them to be and do in situations where they have been restricted, compared to men, from being and doing. Our survey has used some proxies to

measure different attributes of women's empowerment. The main objective of using different proxies is to define women empowerment and calculate the level of empowerment.

In the definition, the key elements of women's empowerment are ability of women to participate in decision-making processes, her power of work independency, her knowledge about surroundings and finally her attitudes towards wife beating. In recognition of the context-specific nature of women empowerment, a series of specific questions relating to various dimensions of women's lives in the survey areas were included in the questionnaire. Specifically, the survey questions attempt to elicit information on four dimensions of women's behaviors, including participation in decision making, power to do certain work without any influences, awareness on social issues and gender attitudes. Each dimension contains a number of questions. The survey questionnaire is included in Appendix 12.

Twenty nine empowerment indicators were developed in our survey questions and asked to members and non-members in the study area. The responses to all questions related to empowerment have collected in ordinal responses and scores were assigned for each statement. All indicators are coded such that higher score corresponded to higher level of empowerment than others who have low score. A basic idea of calculating empowerment level is to identify the women associated with SHGs appears to be relatively more empowered than non-members of SHGs. Table 5.2 shows different statements that describes one aspect of empowerment.

5.4.2 Multivariate Model Specification

Unlike many other measures of human behavior studied by economists, women's empowerment doesn't readily lend itself to measurement. The large number of empowerment indicators collected in the survey suggests not only that women's empowerment is multi-faceted, but also that drawing conclusions from a large number of regressions may be problematic (Pitt et al., 2006). Different study used index approach, one scale and multiple scale questions to examine the relation between credit and women's empowerment. This approach is quite arbitrary because the researcher must choose the weights without reference to theory or data.

The present study treats subset of empowerment variables as containing an underlying latent factor, estimates index "weights" using the methods of factor analysis, and computes numerical estimates of the latent factor (Rogers et al., 1997; Vijayanthi, 2002; Pitt et al., 2003, 2006). Factor analysis is a set of statistical techniques often used when the number of true "underlying dimensions" that describe a condition (such as empowerment) is smaller than the number of observed variables. It converts a large number of observed variables into a

smaller number of hypothetical variables, called factors, each of which is a linear combination of several observed variables. The use of factor analysis implies that the relationships between certain types of observed variables are stronger than those between others, such that if observed variables are arranged into appropriate groups, the correlation among variables within groups will be higher than the correlation across groups. It helps to assess the nature of relationships between variables and reduce the effect of variables that run through them as a common thread and have a high bearing in explaining interdependency among variables. The decision to employ factor analysis is based upon our prior belief about the nature of empowerment. At one extreme, we could postulate that all the variables in the study are causally determined by only one factor, which we could call “empowerment.” An alternative approach, which we follow, is to postulate that there may be more than one type of underlying empowerment factor, but fewer than the number of observed variables.

In other words studying all 29 statements would have been tedious and, in fact not necessary also. So factor analysis was used to reduce variables into a smaller number of manageable variables by exploring common dimensions (Tianyue, 2010). The variable which had common response and high correlation were grouped under a common factor (Kabra et al., 2010). The present study used 28 variables to run factor analysis and 1 variable suppressed because of low significant effect. The reduced factors should be distinct from each other. Different variables to measure women empowerment are included in Table 5.2. Thus, If the observed variables are X_1, X_2, \dots, X_n , the common factors are F_1, F_2, \dots, F_m and the unique factors are U_1, U_2, \dots, U_n , the variables may be expressed as a linear function of the factors

$$\begin{aligned}
 X_1 &= a_{11}F_1 + a_{12}F_2 + \dots + a_{1m}F_m + a_1U_1 \\
 X_2 &= a_{21}F_1 + a_{22}F_2 + \dots + a_{2m}F_m + a_2U_1 \\
 &\quad - \quad - \quad - \quad - \quad - \quad - \quad - \\
 X_n &= a_{n1}F_1 + a_{n2}F_2 + \dots + a_{nm}F_m + a_nU_n
 \end{aligned}
 \tag{4.9}$$

Here a_{11} are the weights in the same way as regression coefficients. In the factor analysis these weights are called loadings. In the above model a_{11} is the loading for variable X_1 on F_1 . When the coefficients are correlated but the factors are uncorrelated the sum of square of loadings for variable X_1 , namely $a_{11}^2 + a_{12}^2 + \dots + a_{1m}^2$ shows the proportion of the variance of the variable X_1 which is accounted by the common factors named as communality. The main differences between principle factor analysis and principal

component analysis are (i) the former is used to measure the latent variable and (ii) it will generate the unique factor or error as a result of common variance.

Table 5.2: Empowerment Indicators	
Variables	Responses
Women's Participation in Decision making on	
Purchase the food and clothing items Education expenditures for the children Major expenses like a purchase and sale of land, improvement or repair of house. Health care for yourself Visit to your family or relatives The money you earn will be used Bank or savings account of the house Borrowing money from (Formal or informal) sources Investment in surplus money Use of money borrowed by women Use of Husband's earning	Other family members-1 Only Husband-2 Both husband and Respondent-3 Only Respondent-4 Don't Know/Can't say-99
Power of women to	
Cast a vote independent Go market, health center and outside of the village Go to friends, relative house alone Discussion with government officers Participate in protection against social issues Participate any training programmes Participate in the election process Save and withdraw money from the Bank	No power-1 Less power-2 Some power-3 More power-4 Don't Know/Can't say-99
Awareness of women on	
Daughters right on father's property like sons Gender equality Girls Marriage after 18 years Girls' higher education like boys Knowledge about HIV/AIDS Knowledge about place of delivery	Strongly Disagree-1 Disagree- 2 Agree-3 Strongly agree-4 Don't Know/Can't say-99
Attitudes of women towards wife beating if she	
Goes outside without information to husband Disrespect mother-in-laws or sister-in-law or others Doesn't take care of the child Doesn't cook food properly	Strongly Disagree-4 Disagree- 3 Agree-2 Strongly agree-1 Don't Know/Can't say-99

In the last stage, this study has discovered four factors of empowerment (i.e. Decision making, Power of work independent, Awareness and Attitude) of members based on the factor loading of the 28 original variables included in the analysis. Finally, the study has calculated empowerment score of four factors for each participant through “save as regression” method. The higher factor score of participants in each factor shows more

empowered than others who have a low factor score. More details about steps of calculating factor analysis through regression method are analysed in Appendix 2 (B).

5.4.3 Empowerment of Women through SHGs

Different research studies found the positive relation between women's association with SHGs and level of empowerment (Mizan, 1993; Hasmi et al., 1996, Pitt et al., 2003; 2006; Swain and Wallentin, 2010). Although, age, education, marital status, number of child, access of media, age of husband and occupation of women also influence on the level of empowerment (Kishore and Lekha, 2008), but the prime goal of our study is to find the empowerment of members as against non-members. In order to examine about whether particular membership of SHGs viewed empowerment differently, a multivariate analysis of variance (MANOVA) was conducted using factor scores of empowerment (Hair et al., 2006; Wyatt et al., 2000; Muilenburg, 2005; Jefferson, 2009). The empowerment score of each participant's generated from factor analysis through standardized regression method is used as the dependent variable in MANOVA with reference to type of members as independent variable. The main objective is to find a significant difference in 4 factors of empowerment across membership of SHGs. However, the amount of credit has also used as an independent variable only for members of SHGs taking the factors of empowerment as the dependent variable.

5.4.4 Description of Variables

Different factors of empowerment extracted from factor analysis viz., Decision making, Power of work independency, Awareness and Attitudes are used as dependent variables to measure women's empowerment. The independent variables are type of membership (i.e. Non-member, new member and old member) of SHGs and amount of credit received by member from SHGs (Low credit versus High credit). It is expected that four factors of empowerment is positively related to participation in SHGs. The women join in SHGs programme are expected to increases in level of empowerment in terms of four proxies developed in this research to capture women's empowerment. Similarly, the increase in amount of credit through SHGs is also hypothesized to positive influences on empowerment of women due to increases in self respect within the households. It is also proposed that the amount of credit has positive effect on participation in decision making and work independency of women.

5.5 Exclusions and Missing Data

Although the survey initially provided a data set with 400 women who live with husband in India, but 134 members and 17 non-members were eliminated to measure

empowerment of women in factor analysis for two reasons. Many of these cases are widows, unmarried and wife of migrant husbands (referred as not applicable), which forces the respondents to take independent decision in different decision making activities. These women perform different outside work (i.e. visit market/ relatives house) due to absence of husband in the households. Similarly, those women selected option “Don’t Know” or “Can’t say” for any empowerment indicators have also excluded from the factor analysis because of to avoid the ambiguity in measurement. Finally, the study included only 247 women who live with husband (164 members and 83 non-members) in the factor analysis technique to measure the level of empowerment.

5.6 General Overview: Odisha State

The impact of micro credit and function of SHGs in present research has experimented through an exploratory study in high poverty prevalence states of India (i.e. Odisha). The census 2011 has provisionally estimated the population of Odisha as 41.94 million, with 20.74 million females and 21.20 million males. Odisha accounted for 3.47 per cent of total human population of India with its spread over 1,55,707 kilometers. The population density in the state is lower 269 per square km as against 382 per square km of India in 2011 census. Orissa, located on the east coast, is flanked by West Bengal and Jharkhand in the North, Jharkhand and Chhattisgarh in the West and Andhra Pradesh in the South. It has more than 480 km long coastline and 84 per cent lives in rural areas. The state of Odisha is comprised of 30 districts, 58 sub-divisions, 316 tahsils, 314 blocks, 6,234 Gram Panchayats, 51,349 villages and 9.66 million households. As per 2001 census, Scheduled Castes and Scheduled Tribes respectively constitute 16.56% and 22.13% of the total state population. The overall literacy rate in the State, which was 63.08% in 2001, has increased to 73.45% in 2011. The female literacy rate has improved from 50.51% in 2001 to 64.36% in 2011 and has inched closer to the national average of 65.46%.

About 40 per cent of people were suffering in poverty based on the mixed recall period of consumption as against 22 per cent for India in 2004-05 (Planning Commission, 2007). The per capita net state domestic product of Odisha worked out to Rs. 24275 ranking it 22nd among all states for the year 2009-10 (Economic survey, 2012). It contributes only 2 per cent of the national income of India. More proportion of people depends upon agriculture as their means of livelihood. The share of agriculture is 19.02 per cent followed by industry (27.97%) and service sector (53.01%) of state GSDP during the first three year of 11th five year plan (2007-12). Further, occupational break-up of Odisha reveals that, out of total population 38.78 per cent are workers as per 2001 census. More proportion of workers are

agriculture labour (35%) followed by cultivator (30%), household industry worker (5%) and others (30%). However, the percentage of main workers to total workers has declined from 87.33% in 1991 to 67.17% in 2001. This indicates prevalence of under-employment in the state (GOO, 2011). The proportion of male workers to male population and female workers to female population in the state, as per 2001 census, stood at 52.5% and 24.7% respectively. The HDI for population works out to 0.404 ranking 15th position out of major 18 states (GOO, 2004). As in the neighboring states of Bihar and Madhya Pradesh, farmer indebtedness is high (47.8%).

5.7 General Overview: Study Districts

Odisha is divided into 30 districts including 3 districts i.e. Koraput, Bolangir and Kalahandi with high prevalence of poverty termed as KBK district. Our survey has examined the impact of micro credit provided to women under BMASS and SGSY programmes in Ganjam district of Odisha. This district has purposefully chosen for field study by taking into the following considerations:

- It is one of the Non-KBK³ districts where maximum number of SHGs (21343 groups) has formed as per official records of BMASS (2011).
- Women in this district are economically, socially and culturally more backward.
- No systematic and detailed impact study to assess the micro-finance programme on poverty and women empowerment exists in the district.

Ganjam is the fifth largest district of Odisha located between 19° to 20° 17' North latitude and longitude lies between 84° 9' to 85° 11' east. It is situated in the northern part of Odisha and the eastern part of India near Bay of Bengal. Ganjam district occupies 5.27 per cents of the total area of the state covering 8206 square km with population of 35.20 lakh constituting 8.39 per cents of the total population of the state on 2011 census. This district comprises of 3 subdivisions, 22 Community Development Blocks, 22 Tahasils, 475 Gram Panchayat and 3212 villages. The density of population is 385 persons per square km in Ganjam district, which is also much higher than the state average of 269 persons per square km. The percentage of SC and ST population to the total population of the district is 18.57 per cent and 2.88 per cent respectively. The literacy of the district stands at 72 per cent in 2011 as against 52 per cent in 2001.

³The three districts (i.e. Koraput, Kalahandi and Bolangir) (KBK) considered as most poverty stricken district out of total 30 districts. Other 27 district are refereed as Non-KBK district.

Ganjam is one of the largest agricultural provinces in Odisha, where rural households are engaged in various agricultural productions, such as crops, aquatic products, and livestock. The working scenario reveals that there are 41 per cent of workers and 59 per cent of non-workers living in the district. Out of total workers, 63 per cent are main workers and 37 per cent are marginal workers as per 2001 Census. Among the main workers 25 per cent are cultivators, 39 per cent are agricultural laborers and 33 per cent are other workers in miscellaneous category and 3 per cent working with household activities. Female workers comprise of only 22 per cent of the total main workers and 65 per cent of total marginal workers. The overall Work Participation Rate (WPR) of the district is 41.32 per cent (Census, 2001a). The rural WPR (43.44 %) is higher than the WPR of urban (29.86 %) in the district. Out-migration in search work is very high in this District particularly after agriculture season. There are 3 lakh households (out of 6.44 lakh total households) living below the poverty line in the district (Census, 2001b). The families living in interior pockets have vulnerability to ill health, economic distortion and natural calamities.

5.8 Structure of SHGs in Ganjam District

To meet the problems of households and rural women, Ganjam district administration conceptualized the idea on formation of women SHGs in every village during the year 1998-99 and expanded it to the Block level through MASS or (B-MASS). The village level SHGs are federated at Block to form B-MASS. It is a registered body under Society Registration Act 1860⁴. All village level SHGs, which have completed six months from the date of formation are enrolled as members of the B-MASS, which has a General body and an Executive Committee to look into the day to day functions. Every year the members of General body and Executive committee are selected through the election process. Each SHG pay Rs 50/- as one time entrance fees and the monthly contribution ranges from Rs 30/- to Rs 150/-. BMASS scrutinizes the loan applications of all SHGs and recommend for sanction to the Executive committee. It acts as an interface between SHGs and the nodal Bank.

All the 22 Block Level and urban MASS (BMASS) are being federated at District Level known as District Mahila Anchalik Shayika Sangha (DMASS), an Organization registered under the Societies Registration Act, 1860. It has a Governing Body comprises of

⁴The Indian Societies Registration Act of 1860 was societies formed by a memorandum of association by any seven people associated for any literary, scientific, or charitable purpose. The memorandum had to contain the name of the society, its objects and the names, addresses, and occupations of the governors, council, directors, committee, or other governing body. A copy of the rules and regulations of the society had to be filed with the memorandum of association.

one member from each B-MASS and five nominated members from district administration/DRDA/Banks. D-MASS functions as a NGO supported by District Administration in the District Social Welfare section of the Collectorate. It compiles the information on the progress of all B-MASS and monitors their activities. The organisation conducts various training programmes, sensitizes the poor functioning MASS, motivates them and prepares different strategies for its improvement.

A group of women consisting of 10 to 20 members of a locality form the SHG to receive credit from banks through BMASS. The business rules, principles, terms and conditions for lending are framed and governed by the group members themselves. The MASS at village level tries to meet the economical and financial needs of the groups, while B-MASS provides financial assistance to these SHGs through Banks. The activities taken up by SHG groups includes Pisciculture, Floriculture, Banana cultivation, Mushroom cultivation, Kweda flower business, Spices making, Pottery, Candle making, plate stitching, Incense stick making, Stone cutting and Bamboo product making. The BMASS movement has started a silent revolution in Ganjam district whose effect can be seen in the countryside. Women are booming with confidence, they are seen everywhere and there is substantial improvement in the quality of life of women in the district.

Another government sponsored SGSY programme is also providing self-employment through organization of SHGs, training, credit, technology, infrastructure and marketing from 1999 to the poor households. The District Rural Development Agencies (DRDAs), NGOs and technical institutions has also involved in the process of planning, implementation and monitoring of the SGSY scheme. Both credit and subsidy has provided to the women through SHGs under SGSY programme. Subsidy under SGSY will be uniform at 30 per cent of the project cost, subject to a maximum of Rs. 7,500 per beneficiaries. In respect of SC/ST it will be 50 per cent of the project cost to a maximum of Rs. 10,000 per beneficiaries. For groups of Swarozgaris (SHGs) the subsidy would be at 50 per cent of the cost of the project, subject to a ceiling of Rs. 1.25 lakhs. The total numbers of SHGs stood at 21343 SHGs covering 2.64 lakh members as on March 2011 (including SGSY/BMASS members) in the district.

5.9 Selection of Sample

The sampling framework of this research includes two groups of rural households living below the poverty line (BPLs): a group of households who have borrowed micro credit programme, referred as the member group; and a group of households who have never borrowed from micro credit programme, referred to as the non-member group. In case of member group the study further divided into two categories. The women who have joined in

the group between 4 to 7 years before known as old members and women joined before 1 to 4 years known as new members. In this way, this study has compared within the group (i.e. old members and new members) and between the group (i.e. members and non-members of SHGs).

In order to examine the impact of micro credit programme on BPL households, it is thus necessary to obtain a sample containing a sufficient number of rural households borrowing micro credit throughout Ganjam district. Accordingly, a multi-stage stratified random sampling technique was applied to draw the household sample. This type of sampling technique involves a process of stratification or segregation, followed by random selection of subjects from each stratum. It ensures that each important segment of the population is better represented and provides more value and differentiated information about each group in the sample compared to simple random sampling (Gray, 2004). Further, stratified sampling yields more precise estimates at a national level by dividing the population into more homogeneous strata, compared to the case where the population is not divided in this way. Our research reaches 'household' through a systematic process from selection of Blocks, to village Panchayat and finally to households. The detailed sample selection process is discussed as follows.

The district of Ganjam is comprised of 22 blocks and 475 village panchayat. In each block there is one BMASS office providing credit to SHGs for the development of women. There are 22 BMASS office working in the district under the guidance of DMASS. Only two blocks has selected randomly from 22 blocks in Ganjam district based on making a Block Composite Index (BCI)⁵. Moreover, in the selection of the blocks, this study divided the index value into two strata each encompassed of 11 blocks. Finally, two blocks namely Hinjilicut and Kukudakhandi has selected randomly from each stratum based on the index values. After the selection of two blocks, sample village Panchayat⁶ has selected. Each selected block encompassed 20 village panchayat. A total of three village Panchayats from each selected blocks are randomly chosen from a list of the Panchayat (the list was provided by the administrative office in each selected block). Thus, our study included six village Panchayats belonged in two selected blocks from the district because of time and resource constraints. The different village panchayats are Ralab, Nandik, Sikiri (Hinjilicut blocks) and

⁵Block composite index is calculated based on three dimension i.e. Block wise percent of households living below poverty line, Block wise of percent of female literacy, Block wise of percent of SHGs formed as on March 2011. Please refer to Appendix- 4 for further details about BCI

⁶There are 10 to 15 village panchayat comes under each block for administrative conveniences.

Jagadapur, Lanjia, Lathi (Kukudakhandi block) has included for selection of sample households.

In final stage, the study has selected sample rural households living below poverty line (BPLs) from each selected village panchayat in the study area. The sample households were divided into two groups: member group versus non-member group. A list of members was obtained from BMASS office (including SGSY members) in the selected block, which contained basic information of member (i.e. amount of loan, subsidy, age of member etc). Following this, 300 female members residing in BPL houses were randomly selected from six village panchayat in two selected blocks. Out of 300 female members, there are 127 female members joined in the group within 1 to 4 years known as new members and 173 female members joined in the group within 4 to 7 years referred as old members. For the selection of non-member group living BPL houses, a list of rural households having BPL cards was obtained from the selected village panchayats offices. A total of 100 females were selected from 6 villages Panchayat resides in BPL families as non-members. Overall, the study has included 400 households as the sample households, comprising 300 member households (Out of which 127 new members and 173 old members) and 100 non-member households from six village panchayats belonged in two selected blocks. Our survey asked questionnaires to only female respondents of borrowing and non borrowing groups living in rural areas of Ganjam district.

5.10 Calculating Sample Size

The sample size formula has applied in order to select required sample size from study area based on the total population of research. The formula for sample size determination given by Yamane (1967:886)

$$n = \frac{N}{1 + N (e^2)} \quad (4.10)$$

Where n = the sample size, e =margin of error, N = population size

There are 21343 SHGs (consisting of 264527 members) have been formed in the district as on December 2011. The minimum recommendation sample for members as per the above formula is 384 with 5 per cent margin of error. The present survey has selected 300 members (due to time and resources constraints) subject to accept 5.65 per cent margin of error as against 5 per cent error for social science research. However, another 100 sample of

non-members have also selected as a control group to compare with treatment group i.e. Members. The details of sample methodology covered in this study have given Table 5.3.

Particular	Frequency	Details
Number of State	1	Odisha
Number of District	1	Ganjam
Number of blocks	2	Hinjilicut and Kukudakhandi
Number of Village panchayat	6	Sikiri, Ralab and Nandik from Hinjilicut Block Lanjia, Jagadalpur and Lathi from Kukudakhandi Bolck
Number of sample BPL households in a Village	400	New Member = 127 (Joined in SHGs 1 to 4 years before) Old Members =173 (Joined in SHGs 4 to 7 years before) Non-member= 100 (Never joined in SHGs)

5.11 Data Source

The data in our study include both primary and secondary data sources. Primary data were collected through survey interviews using a structured questionnaire. A pre-test of the questionnaire was conducted with a random sample of 10 women residing in BPL families (5 members of Self help Groups and 5 non-members) to evaluate the clarity, consistency, and appropriateness of the survey questions. Changes and revisions were made according to the comments suggested by the 10 respondents, and the questionnaire was personally administered to the women living BPL households in Ganjam district of Odisha during December 2010 to July 2011.

The survey questionnaire was divided into four sections. The first section was designed to gather information on demographic profile, housing condition, possession of assets and consumption pattern of the sample households to create economic status index. Section two focused on availability of credit from different formal and informal source to the BPL households. The pattern, purpose and type of saving with availability of insurance facilities are also highlighted in this section. Section three contains questions to examine on banking knowledge, access of media to the respondents. It provides information to understand on how credit through SHGs affects decision making, power of work independency, awareness, gender attitude and marital control of the informants. The operation, management of the group and impact of the group formation in personal life of the members have focused on the final section. Please see Appendix 12 for questionnaires of the research.

Primary data were collected personally through the survey questionnaires. The relative poverty level of the members and non-member households have examined through economic status index. Different household characteristics, such as age, caste of house head, household size, etc., are used to identify the factors influencing household's accessibility to micro credit. Similarly, empowerment level of the respondents can be measured by asking questions to the women on participation in decision making, power of work independency, awareness and gender attitude in different activities. The amount of credit, saving and financial literacy of the respondents have examined through their use of credit, saving and financial awareness. In addition, pertinent secondary data of all sampled households were obtained from the selected Block offices. The secondary data comprises household characteristics (such as age and household micro-loan amounts, subsidy) during the period of 2009-11 has collected from BMASS office of the selected block.

5.12 Duration of Interview

There was a mix of pre-coded and multiple response questions throughout the questionnaires. Maximum questions were pre-coded in the questionnaire to save time. Descriptive types of questions were dealt with great care. Face to face interviews were conducted for an hour, whereas another hour was consumed to administer the questionnaires and edit the responses. Almost all the questions were used in the analysis.

5.13 Data Editing and Entering

After completion of the interview schedule, questionnaires were edited the very same day of the interview, to maintain transparency and to bring all information into light. There was a complete checking of questionnaire for errors, omission and discrepancies. This is the foremost requirement for the quality of data. All the data was entered and analyzed into the Statistical Package for Social Sciences (SPSS-20) and STATA 10 software.

CHAPTER 6

PRESENTATION OF RESEARCH RESULTS

Having discussed the methodology and brief description about data, sample and study area in chapter V, this chapter examines the empirical findings of economic status, empowerment impact of SHGs and accessibility of micro credit services to the households living in rural areas. Apart from providing socio economic characteristics of the sampled households, this chapter discusses about the estimated multivariate results of households economic status. Different household, socio economic factors and years of association with SHGs that influence on economic status are identified and explained. Information related to factors likely to influence women to join SHGs and credit from informal sources to the households is examined. Further, the estimated relationships between micro credit and women empowerment are evaluated based on different proxy variables. Finally, the management and multidimensional impact of the SHGs formation were examined to measure the importance of group formation. This chapter initially begins with demographic characteristics of members and non-members of SHGs and compares socio economic profiles of households in the study area.

6.1 Socio Economic Profile of Households and Access to Finance

Different socio economic factors play a dominant role to increase employment and standard of living of households. Similarly, economic status, access of credit and level of empowerment vary by some individual factors like age, education, occupation, marital status, number of children of the respondents.

6.1.1 Characteristics of the Respondents

Table 6.1 reported about percentage distribution of member and non-member by age, education, marital status, occupation and presence of children in the house. There are 300 households who availed credit from SHGs are known as “Member households” and 100 households who have not borrowed any credit from SHGs are referred as “Non-Member” households. In case of age distributions of the sample respondents, it can be observed that 34 per cent of respondents belonged in 31-40 age groups, followed by 28 per cent in 17-30 age groups, 27 per cent in 41-50 age groups and 10 per cent for 51-60 age groups. The average age of members is 39 years as against 33 years for non-members, indicating that the middle aged women participated in SHGs. Specifically, the age distribution of member respondent’s declined from 23 per cent in the age group 17-30 years to 12 per cent in the age group 51-61

years. Similarly, the age distribution of non-member respondents declines from 44 per cent in the age group 17-30 years to 6 per cent in the age group 51-60 years.

Table 6.1: Characteristics of the Respondents						
	Member N ₁ =300	% to N ₁	Non-Member N ₂ =100	% to N ₂	All Respondents N ₃ = 400(N ₁ + N ₂)	% to N ₃
Age (in years)					t= -5.645*	
17-30	69	23.0	44	44.0	113	28.3
31-40	95	31.7	41	41.0	136	34.0
41-50	100	33.3	9	9.0	109	27.3
51-61	36	12.0	6	6.0	42	10.5
Mean age	39		33		38	
Education level					$\chi^2 = 82.810^*$	
Illiterate	256	85.3	35	35.0	291	72.8
Primary/More	44	14.7	65	65.0	109	27.3
Can write						
Yes	169	56.3	73	73.0	242	60.5
No	131	43.7	27	27.0	158	39.5
Occupation					$\chi^2 = 104.040^*$	
Agriculture work	241	80.3	18	18.0	259	64.8
Non- agriculture	10	3.3	33	33.0	43	10.8
Unemployed	49	16.3	49	49.0	98	24.5
Marital status					$\chi^2 = 222.010^*$	
Unmarried	3	1.0	0	0	3	0.8
Married	253	84.3	96	96.0	349	87.3
Widow	41	13.7	3	3.0	44	11.0
Divorce	3	1.0	1	1.0	4	1.0
Any child						
No child	199	62	62	62	261	65.3
Child	101	38	38	38	139	34.8

Level of significance *<0.05, **<0.10

Educational attainment and level of literacy are important factors that contribute immensely to women empowerment. The survey respondents are divided into two groups in view of their educational qualifications, including those without education and those with primary or more education. It can be seen from Table 6.1 that, up to three quarter (73%) of respondents are illiterate and only 27 per cent completed primary or secondary education. The percentage of members without education is much higher (85%) than that for the non-members (35%), representing a higher proportion of illiterate women have participated in SHGs programme. Overall, two third informants can write her name. While about 73 per cent for the non-members can write her name, this percentage stood at 56 per cent for members. More than half of the members supported that the participation in SHGs helped her to write her name.

The occupation of informants plays a vital role to improve the socio economic condition of households. It offers the poor women a chance of earning and being considered as an essential constituent of women empowerment, as experts and development agencies presume. Approximately, 64.8 per cent of the respondents are employed in the agricultural sector and only 10.8 per cent are engaged in self employment (i.e. poultry firm, preparing candle light, and grocery shop etc). In addition, one in every four respondents (24.8) belonged to the unemployed category. Comparison of occupation across the membership of SHGs revealed that employment in agriculture related work was the highest for members as compared to non-members (80% versus 18%). Similarly, maximum non-members are unemployed or housewives as against member informants (49% versus 16.3%). It is likely that the provision of credit helps in providing employment to the members through the use of local resource and knowledge base as compared to non-members.

The marital status of informants is divided into 4 categories and it can be seen that it is the married women who dominate the sample of informants (Table 6.1). Overall, 87.3 per cent respondents are married and 12 per cent belong in widow/divorce category. Maximum proportions of non-member (96 %) are married as against member households (84.3%). The provision of credit attracts widow or divorced women to participate in SHGs for self employment in rural areas (Kayser et.al, 2010). For example, maximum informants in member households belonged to widow/divorcees categories (14.7%) as compared to non-member's (4%). An equal percentage of members, as well as non-members (38%), reported about the presence of any child (below 5 years) in their household. Additionally, socio economic variables like caste, source of income to the households, family size, number of worker, ownership of land and distance from the bank are of particular concern, which in turn also influences on outcomes related to credit.

6.1.2 Socio Economic Profiles of the Households

Information relating to socio economic profile of households encompassing members and non-members is provided in Table 6.2. Our survey found that, there are 270 households (67.5%) who mainly depend on agriculture as being their primary source of income and 130 households (32.5%) depend on non agriculture related work (including casual labor and service holders). It is to be noted that a higher percentage of member households (80.3%) depend on agriculture as a means of livelihood than non-members (29%). This finding is similar with Anjugam and Ramasamy's (2007) study, who found that the marginal farmers and households belonged in landless categories are highly participated in SHG programmes.

The ownership of land status given in Table 6.2 shows that one in every four households (26.5%) possessed some amount of land in the study area. Maximum non-member households own some amount of land as compared to member households (32% versus 24.7%).

Table 6.2: Socio Economic Profiles						
	Member N ₁ =300	% to N ₁	Non-Member N ₂ =100	% to N ₂	All Respondents N ₃ = 400(N ₁ + N ₂)	% to N ₃
Sources of income					$\chi^2 = 49.00^*$	
Agriculture	241	80.3	29	29.0	270	67.5
Non- agriculture	59	19.7	71	71.0	130	32.5
Any land					$\chi^2 = 88.360^*$	
No	226	75.3	68	68.0	294	73.5
Yes	74	24.7	32	32.0	106	26.5
Size of land					t = 2.467*	
Less than 1acre	69	93.2	24	75.0	93	87.7
1-4Acre	5	6.8	8	25.0	13	12.3
Average size of land	2.64		4.65		3.25	
Land holding status						
Tenants	69	48.6	5	13.9	74	41.6
Owner	73	51.4	31	86.1	104	58.4
Head of house					$\chi^2 = 127.690^*$	
Male	214	71.3	85	85	299	74.7
Female	86	28.7	15	15	101	25.3
Type of family						
Nuclear	277	92.3	77	77.0	354	88.5
Joint	19	6.3	23	23.0	42	10.5
Extended	4	1.3			4	1.0
Family size					t = 1.369	
1-5	175	58.3	63	63.0	238	59.5
6-10	125	41.7	37	37.0	162	40.5
Working member					t = -5.20*	
1-3 member	173	57.7	80	80	253	63.3
3-6 member	127	42.3	20	20	147	36.8
Caste					$\chi^2 = 5.29^*$	
Scheduled caste	125	41.7	36	36.0	161	40.3
Scheduled tribes	16	5.3	0	0	16	4.0
Other backward caste	151	50.3	50	50.0	201	50.3
Others	8	2.7	14	14.0	22	5.5
Location (Block)					$\chi^2 = 26.10^*$	
Hinjilicut	94	31.3	60	60.0	154	38.5
Kukudakhandi	206	68.7	40	40.0	246	61.5
Distance from bank					$\chi^2 = 3.610^{**}$	
Less than 1km	96	32.0	85	85.0	181	45.3
1 to 5 km	204	68.0	15	15.0	219	54.8
Any migration					$\chi^2 = 33.64^*$	
No migration	198	66	60	60	258	64.5
Migration	102	34	40	40	142	35.5

Level of significance *<0.05, **<0.10

There is a significant difference in distributions of land among the sample households. It was observed that 87.7 per cent of the households possessed less than 1 acre of land and 12 per cent households owned more than 1 acre land. A higher percentage of members (93.2%) owned less than 1 acre of land which was 75 per cent for non-member households. This implies that the landless households, daily labourers are more likely to participate in the SHG programme for self employment. The provision of credit through SHGs helps to perform different agricultural activities in time without depending upon village money lenders. As a result, poor households have shown more interest to cultivate others' land on lease (i.e. tenants). For example, about 48.6 per cent of members are categorised as tenants which was 13.9 per cent for non member households

Out of the 400 sampled households, three in every four (74.7%) are male headed households and 25.3 per cent belong to female headed households. The percentage of female headed households is much higher with 28.7 per cent for member households as compared to 15 per cent for non-member's category. Further, the type of family status shows that 354 households (88.5%) belong in nuclear family followed by 42 households (10.5%) living in joint family. There is a higher percentage of nuclear family for member households than the non-member category (92.3% versus 77%). The mean household size is 5 persons per household, and it is slightly larger in non-member households (5.56) as compared to member households (5.36).

Approximately, 59.5 per cent of surveyed households have five or fewer family members and 40.5 per cent have more than 5 members in their families. The increase in number of working people indicates better financial condition than those with few workers (Kumar, 2009). The number of workers in the households has been calculated based on the number of working population, out of the total members living in the households. According to this number, member households appear to be relatively more working population (42.3%) than non-member households (20%). It might be due to the availability of employment opportunity through credit, which leads to increase in share of the working population in member households as against non-members.

The caste status of households shows, about 50.3 per cent belonged in other backward class (OBCs), 40.3 per cent in scheduled castes (SCs), 4 per cent from scheduled tribes (STs), and remaining 5.5 per cent are from others category. Member households accounted for 47 per cent and belonged in SC/STs categories as against non-members (36%). This indicates that the participation of the backward communities in SHGs programmes is remarkable. In

addition, equal percentage of member and non-member households (50%) belonged to the OBC categories.

Maximum member households were selected from the Kukudakhandi block as compared to Hinjilicut block (61.5% versus 38.5%). Approximately, 68.7 per cent of member and 40 per cent of non-member's households were selected from the Kukudakhandi block. The distances of village from banks are important considerations from the point of access to formal financial services. The percentage of borrowing households who live within 1km from the nearest bank branch is lower than that of the non-borrowing households (32% versus 85%). This suggests that households who live at a considerably physical distance from bank branches are more likely to access micro credit through SHGs. It helps them to get credit quickly from the group and fulfill urgent needs, which generally arise for short periods.

Similarly, households participating in SHGs have lesser number of migrated members as compared to non-member households (34% versus 40%). It indicates probably that the access of credit provides employment opportunities and helps to reduce the level of migration to the member households (Panda, 2009). Our study has applied "T-test" to find out significant differences in the mean value between the two groups (i.e. member and non-member). The results show that "T-values" are significant for the age of the respondents and size of land at 5 per cent level. Similarly, the Chi-square test has been used to test the relationship of non metric household's variables and access to credit from SHGs. Different variables like education, occupation, marital status of the respondents and sources of income, head of the house, type of family, caste, block location and distance from bank are strongly associated with credit from SHGs because the Chi-square test of these variables are all significant at 5 per cent level.

6.1.3 Basic Formal Financial Services

The access of financial services from formal sources (i.e. Banks, SHGs, Post-Office, Co-operatives etc) to the households has analysed in Table 6.3. All members have borrowed loan from banks through SHGs, which was 61 per cent for non-member households. More percentage of households (90%) received loans from commercial bank followed by SHGs (11%). It was observed from the Table 6.3 that half of the households (46%) borrowed Rs 5000-15000 followed by 38 per cent who borrowed Rs 3000-5000 and 16 per cent borrowed Rs 15000-30000. Majority of non-member households borrowed higher amount of loan (i.e. Rs 15000-30000) as against member (44% versus 10%). Maximum households belonged to the non-member category that possessed more amount of land, which could be used as collateral to avail more credit. Through half of beneficiaries (51%) used the loan for

agriculture purposes, it is also observed that a significant percentage of respondents (23%) invested for non-farm activities, followed by 26 per cent used for social purposes (i.e. health, marriage, house repair etc).

	Member N ₁ =300	% to N ₁	Non-Member N ₂ =100	% to N ₂	All Respondents N ₃ = 400(N ₁ + N ₂)	% to N ₃
Any formal debt						
Yes	300	100	61	61.0	361	90.2
No	0	0	39	39.0	39	9.8
Sources of debt*						
SHGs	42	13.5	1	1.6	42	11.5
Banks	270	86.5	60	98.4	330	88.5
Amount of debt					t =7.09*	
Rs 3000-5000	123	41.0	14	23.0	137	38
Rs 5001-15000	146	48.7	20	32.8	166	46
Rs 15001-30000	31	10.3	27	44.3	58	16
Purpose of debt*						
Agriculture	211	56	35	32	246	51
Nonfarm activities	100	27	10	1	110	23
Other (Health, Education, Marriage)	66	17	62	57	128	26
Any saving account					$\chi^2 = 334.890^*$	
Yes	300	100	91	91.0	383	95.8
No			9	9.0	17	4.3
Any insurance					$\chi^2 = 25.00^*$	
Yes	87	29.0	63	63.0	150	37.5
No	213	71.0	37	37.0	250	62.5

*Multiple Responses based on response of cases, Level of significance *<0.05, **<0.10

Both members and non-member households have significant differences in possessing a savings account as a “chi square test” is significant. Out of the total respondents surveyed, cent per cent of members owned a saving account (i.e. bank or post offices), this percentage stood 91 per cent for non-members. Majority of households used their savings account in order to receive financial assistance from different government programmes (Panigrahi and Shah, 2010). But, there was a striking difference in the availability of insurance facilities: 63 per cent of non-members versus 29 per cent of members were availed any kind of insurance. Singh and Singh (2008) found that a lower percentage of SHG members availed insurance services due to their low income. On the other hand, maximum percentages of non-members (71%) depend on non-agricultural sector as source of living in the study area. The fixed income earning opportunity from non-agricultural sources may be help the non-members to avail any insurance as against members of SHG.

6.1.4 Access of Informal Loans

The mismatch between demand of formal financial institutions to sanction credit and lack of fulfillment of the demands forces the poorest households to borrow from informal sources with an exorbitant interest rate (Basu & Srivastava, 2005). Table 6.4 contains information about the access of informal loan availed by sample household.

Table 6.4: Loan from Informal Sources to Households						
	Member N ₁ =300	% to N ₁	Non Member N ₂ =100	% to N ₂	All Respondents N ₃ (N ₁ + N ₂)=400	% to N ₃
Any informal loan					$\chi^2 = 26.010^*$	
Yes	178	59.3	73	73.0	251	62.8
No	122	40.7	27	27.0	149	37.3
Amount of loan (in Rs)					$t = -2.79$	
1000-17000	79	44.4	47	64.4	126	50.1
18000-70000	99	55.6	26	35.6	125	49.8
Sources of loan*						
Neighbors	100	39.8	22	27.5	122	36.9
Friends/ Relatives	62	24.7	54	67.5	116	35.0
Money lender	63	25.1	3	3.8	66	19.9
Other	26	10.4	1	1.3	27	8.2
Reason of borrow*						
No collateral	133	37.9	29	24.6	162	34.5
Get faster	68	19.4	60	50.8	128	27.3
Easier to get loan	59	16.8	18	15.3	77	16.4
Others (less expensive, No bank account)	91	25.9	11	9.3	102	21.7
Purposes of loan*						
Agriculture	61	21.5	30	25.4	91	22.6
Emergencies	28	9.9	31	26.3	59	14.7
Health	43	15.1	15	12.7	58	14.4
Marriage	70	24.6	19	16.1	89	22.1
Home repairs/Repay old debt	40	14.1	8	6.8	48	11.9
Other	42	14.8	15	12.7	57	14.2

*Multiple Responses based on response of cases, Level of significance *<0.05, **<0.10

Overall, 63 per cent of households have borrowed from different informal sources (i.e. Money lenders, friends and relatives etc) in the last 3 years. The lower percentage of member households (60%) borrowed from informal sources as against non-members (73%). It confirmed our research hypothesis that the provision of a group credit leads to decrease in informal loans to the members as compared to non-members (Galab and Rao, 2003; Tesoriero, 2005).

Similarly, half of the households (50%) borrowed informal loans ranging from Rs.1000 to Rs 17000 and 49.80 per cent of households have informal loans of Rs.18000 to Rs.70000 (Table 6.4). Maximum member households (55.6%) borrowed informal loans of

Rs.18000 to Rs.70000 as compared to non-members (35.6%). The possible reason for higher amount of informal loans may be due to more amounts of credit requirement and less amount of loans provided through SHGs to the members (Rahman, 2010). Another reason could be the amount of past loan which forces the member to join SHGs for repayment of old informal debt.

Table 6.4 reveals about 331 multiple responses generated from 251 households regarding sources of informal loans. Out of 251 households, 122 borrowed loans from Neighbors followed by 116 borrowed from friends and relatives, which represents 37 per cent and 35 per cent of total number of responses (331) generated. Member households accounted for 40 per cent who borrowed from neighbours followed by 25 per cent from money lenders and 24 per cent from friends/relatives. However, 73 non-member households borrowed credit from friends, relatives and neighbours, which represents 95 per cent of total number of responses (80) generated.

The reason for borrowing from informal sources included in the analysis shows that 34.5 per cent nominated “No collateral required” as the main reason of informal borrowing, 27.3 per cent choose “get loan quickly” as a reason, 21.7 per cent selected “others” as a reason and 16.4 per cent nominated “easier to get a loan” as a reason from a total of 469 responses generated. Maximum percentage of members (37.9%) nominated no collateral as the main reason of borrowing, which was 24.6 per cent for non-members. In addition, Table 6.4 shows that the main purpose of obtaining informal loans is to finance their agricultural activities, emergencies and fulfillment of other social needs (i.e. Repair house, Health, Marriage etc). There were 22.6 per cent households who have used the loan for agricultural purposes, 14.7 per cent used the loan for emergencies, 14.7 per cent used for health and 22.1 per cent used for marriage from the total number of responses (345) generated.

6.2 Economic Impacts of Micro credit

The provision of institutional credit is perceived as a powerful instrument for enhancing production and alleviating poverty. The micro credit programme has started to provide credit to the poor for increase in employment and income (Subramanian, 2010). In India, Micro credit Programmes have rapidly increased in volume and function after NABARD took up its pilot projects on linking of banks with the SHGs. Since more than 15 years have gone after the implementation of the programme, an effort to analyse the economic impact of the programmes becomes dominant. The economic impact of the SHGs has been analysed in terms of economic status of the members as compared to non-members, their level of savings, amount of borrowing, use of loan and sources of repayment.

6.2.1 Characteristics of Micro credit

A comparison of information on micro loans obtained across a year's association with SHG programme has been analysed in Table 6.5. The new members who have joined SHGs are between 1 to 4 years and old members who joined the group are between 4 to 7 years. Overall, 57.7 per cent of members have received a loan of Rs 3000 to Rs 10000 and 42.3 per cent received the loan of Rs 11000 to Rs 22000 from SHGs. A majority of old members (46.8%) have borrowed of Rs 11000-22000 from banks as against new members (36.2%). Being experienced in proper usage of the loans availed by old members could be a major reason for them to borrow in large amounts as compared to newer members. However, the average amount of loan is very similar both for new and old members, this confirms the insignificant differences among the group ($T= 0.553$).

All members received loans based on the monthly repayment system which varies with the amount of credit. Large amounts of loan were associated with longer period of repayment and vice versa. More than half (54.3%) of the members received loans for shorter period (10 to 15 months) and 45.7 per cent received loans for a longer period (16 to 40 months). Older members have borrowed loan for shorter periods of repayment as compared to newer members (56.1% versus 52%). The long tenure of a loan in association with SHGs and richer experience in the use of credit probably raise the confidence of older member to repay loans in short period.

The loan processing time to the final sanction of credit is often very long by the concerned organisation and banks (Table 6.5). Maximum members (86.7%) received micro loans within 1 to 12 months from their submission of a loan application form. Generally, the District Rural Development Agencies (DRDA) at the block level selects members and orders the bank to grant a loan with subsidies to the beneficiaries. As a result, there is a delay in supply of loan due to verification of documents and other procedures by banks and concerned agencies (Ray, 2008; VOICE, 2008).

It can be observed from Table 6.5 that the majority members (87%) availed subsidy facilities for credit under "Swarna Jayanti Swarozgar Yojana" (SGSY) programme designed for poor people. Nearly, 64.6 per cent of new members and 17.9 per cent of old members received a subsidy in the range of Rs 7000 to Rs 10000 on the loan programmes. However, a lower percentage (13.3%) of members borrowed without subsidy from BMASS organisation. All loans are sanctioned in the name of SHGs without any collateral as per the recommendation of NABARD.

Table 6.5: Characteristics of Micro credit						
	New-Member N ₁ =127	% to N ₁	Old Member N ₂ =173	% to N ₂	All Member N ₃ (N ₁ + N ₂) =300	% to N ₃
Amount of loan in					t = 0.553	
Rs (3000-10000)	81	63.8	92	53.2	173	57.7
Rs (10001-22000)	46	36.2	81	46.8	127	42.3
Average loan Rs	9698		9349		10823	
Period of loan					t =0.239	
10-15 month	66	52.0	97	56.1	163	54.3
16-40 month	61	48.0	76	43.9	137	45.7
Loan processing time						
Less than 1 month	31	24.4	9	5.2	40	13.3
1 to 12 month	96	75.6	164	94.8	260	86.7
Amount of subsidy					t =3.068*	
No subsidy	31	24.4	9	5.2	40	13.3
Rs 3000 -7000	14	11	133	76.9	147	49.0
Rs 7000-10000	82	64.6	31	17.9	113	37.7
Average subsidy Rs	6667		5518		6004	
Any bribes for loan						
Yes	61	48.0	68	39.3	129	43.0
No	66	52.0	105	60.7	171	57.0
Amount of bribes					t = 4.32*	
Rs 200	15	24.6	68	100	83	64.3
Rs 500	46	75.4	0		46	35.7
Source of repayment*						
Own income	58	33.0	146	60.1	204	48.7
Husbands income	97	55.1	33	13.6	130	31.0
Borrow from others	21	11.9	64	26.3	85	20.3
Loan purpose*						
Agriculture	90	58.8	121	54.0	211	56.0
Business	40	26.1	60	26.8	100	26.5
Others	23	15.0	43	19.2	66	17.5
Sources of credit*						
SHGs	31	24.2	11	6.0	42	13.5
Bank	97	75.8	173	94.0	270	86.5
Monthly saving in					t =-0.789	
Rs (40-50)	109	85.8	110	66.7	219	75
Rs (60-100)	18	14.2	55	33.3	73	25

*Multiple Responses based on response of cases, Level of significance *<0.05, **<0.10

Table 6.5 reported that more than two in every five members (43%) provided some extra amount of money for an early sanction of loans and subsidy to the concerned agencies. This finding is similar to Bashir & Naeem (2010) studies, who found the early sanction of credit and subsidy is a major causes for providing bribes to the concerned authorities. This study also found that the amount of bribes varied from Rs 200 to Rs 500 per member. The pattern of bribes across the subsidy categories indicate that it gradually increases with an increase in the amount of subsidy. For example, one in every four new members (75.4%) has

given Rs 500/ per member as bribes for early sanction of the loan with subsidy. As a result 64.6 per cent of new members have received a subsidy of Rs 7000 to Rs 10000 as compared to 17.9 per cent of old members.

Healthy functioning of the SHGs is reflected in regular repayment of the loans received by the SHGs. All members repaid their loans on time due to group pressure and fear of not getting a loan in the future due to delay in repayment (Stiglitz, 1993). Generally, the repayment of loan is based on equal monthly installments to the bank. The sources of repayment (collected in multiple responses) included in the analysis shows that, 48.7 per cent selected “own income” as sources of repayment followed by 31 per cent selected “husband’s income” as a source and 20.3 per cent nominated “borrow from other” as a source from total number of responses (419) generated. Majority of older members (60%) repaid the loan from their own income than newer members (33%). However, a significant percentage of new members (55%) selected the husband’s income as a source of repayment. The investment of credit in agricultural sector is a major cause which forces the women to repay monthly installments from income of the husband. For example, those women who spent the credit in cultivation of crops (i.e. paddy) will have to wait short period till the harvesting. They could earn some money through selling of their crops after harvesting. All the above mentioned reason forces the women to depend on earning of husband for repayment of monthly amounts. On the other hand, those women who spent their loan for non-agricultural sector are regularly repaid their monthly installments from the profit earned in business.

Beneficiaries of credit program utilised the loan which they have taken for various purposes. In rural areas, it is true that the poor may use loan for consumption and production purposes also. Table 6.5 shows that the main purpose of obtaining a micro loan is to finance their agricultural activities including farm cropping, poultry farming, vegetables production and farming machinery purchases etc. Very few percentage of members invested credit in non-farm activities (Madheswaran and Dharmadhikary, 2001). Out of 300 members, 211 used the loan for agriculture purposes represent 56 per cent of the total responses (377) generated. However, 100 members used the loan for business activities (i.e. self-run enterprises, stone cutting, preparing dry food item, incense stick, making leaf plates etc) and 66 used for other purposes (such as household consumption, children’s education, home repairs, repay old debts and emergencies etc) accounted 26.5 per cent and 17.5 per cent respectively to the total responses (377).

Both new and old members have similar responses regarding the use of the loan received from SHGs. Members have not changed their income generating activities, which

they were involved in before joining the SHG. However, new members reported that they are able to carry out their farming and other activities in a much more organised and effective manner. This has become possible because of their membership in the SHG, easy and timely availability of loan funds, which has immensely benefitted them. For example, getting the money needed for employing labourers, buying seeds, fertilizers and diesel for pump sets, weaning and weeding of crops is no longer a problem. As a result, their production has increased, along with quality. Earlier when they needed money for anything, they requested the village moneylenders or shopkeepers. The moneylenders would normally dilly-dally and exploit through high rate of interest; as high as 4 per cent per month. Things have now changed for the better and after becoming a member of the SHG, no one has taken any further loans from moneylenders for crop production.

The beneficiaries receiving loans under SGSY programme need not pay interest on the total amount. However, they will have to repay the credit after the deduction of subsidy. Similarly, beneficiaries of BMASS programme paid a minimum rate of interest per month (i.e. Rs 1) as against rural money lenders who charged exorbitant rates of interest (i.e. Rs 4). It clearly shows that other things being equal, the interest cost of credit extended to the rural people have reduced significantly due the spread of SHGs in rural areas.

The formation of SHGs provides a formal financial access to BPL households in rural areas. Out of 300 member households, 270 borrowed a loan from banks through SHGs and 42 borrowed from SHGs, represents 86.5 per cent and 13.5 per cent of total responses (312). Contribution of a fixed sum on weekly/monthly basis as savings assumed greater importance as they directly influence the growth of the common fund of the groups. Members used to save a fixed amount regularly and pool this savings for lending or depositing in banks.

Table 6.5 provides information regarding the periodicity of saving activities and amount of savings by members of SHGs in the study area. Savings on a monthly basis seems more popular as all of the SHGs seem to prefer monthly savings to other kinds of periodicity. Approximately, three in every four members (75%) had savings of Rs. 60-100 per month in SHGs, a pre-condition to obtain loan under SGSY. The average saving per member was Rs 59 at the time of interview. A large majority older member saved Rs 60 to Rs 100 as compared to new members (33% versus 14%). Regularity in savings by group members helps in fostering a sense of financial discipline among the poor and often cash-starved members. It also helps in the growth of the corpus besides establishing a good rapport with the banks.

6.2.2 Construction of Economic Status Index

Our research has constructed economic status index (ESI) as a proxy of relative poverty in order to examine the economic impact of credit on the sample households. This survey included data on 30 indicators to measure ESI that can be grouped into four types: household ownership of consumer durables and livestock with 14 questions (i.e. pressure cooker, chair, bed, table, fan, gold, television, mobile, clock/watch, bicycle, motor cycle, bulls and cows); characteristics of the household's dwelling, with nine indicators (two about types of house, three about materials used on roof and wall of the house, one each about source of drinking water, toilet facilities, main source of lighting and cooking); four indicators on types of food consumption (i.e. milk, pulses, vegetables and other items); two questions related to (stock of rice and dry food in house) and one question related to household land ownership. Please refer to Appendix-1 for description of different variables.

A principal component Analysis (PCA) was used to determine the underlying structure of data. The measure of sampling adequacy, Kaiser-Meyer-Olkin (KMO), was 0.877 which is greater than the recommended minimum of 0.50 by Kaiser (1974) (Table 6.6, part-1). The value of KMO being close to 1 indicates that patterns of correlations are relatively compact and so component analysis should yield distinct and reliable factors (Hutcheson and Sofroniou, 1999). The correlation matrix is not an identity matrix since the Bartlett's Test of Sphericity is statistically significant (Chi-Square = 6618.946, df =465, $p < 0.000$). These tests imply that component analysis was appropriate, indicating that the variables are highly correlated, and are enough to provide a reasonable basis for use the of principal component analysis (Hair, et.al, 2006). None of the commonality indicators are close to zero and the model is seen as adequate.

Eight interpretable components were obtained from the analysis using Kaiser's criterion of retaining factors with Eigen values greater than one (Hair, et.al, 2006). Table 6.6 (Part-2) shows the percentage variance accounted for each of the components. The PCA of 30 variables on assets possession, housing quality and consumption pattern listed in the survey resulted in eight factors that accounted for 64.61 per cent of the overall variance¹. The first principal component explained a 30 per cent variation in the original variable, whereas each subsequent component explained a decreasing percentage of variance. Eight components have sufficiently explained 65 per cent of variation in the original variables and secured an

¹The 62.4% of overall variance accounted for was deemed to be satisfactory. Hair et al. (1998) stated in case of social sciences, where information is often less precise, it is not uncommon to consider a solution that accounts for 60% of the total variance as satisfactory.

Eigen value of more than one. Only the factor score (the eigenvectors) of first principal component is used for construction of ESI of households (Vyas and Kumaranayake, 2006). The two reasons behind choosing first component to construct ESI are (i) the Eigen value of it is over one (ii) explained variance is relatively high for the first component (30%). The first component also included maximum variables (16) related to assets denoting the economic status of households.

Part-1	Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.877			
Bartlett's Test of Sphericity	Approx. Chi-Square		6618.946			
	Df		465			
	Sig.		.000			
Part -2 Percentage of Variance and Total Variance Explained						
Component	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.307	30.023	30.023	9.307	30.023	30.023
2	2.729	8.802	38.825	2.729	8.802	38.825
3	1.726	5.569	44.394	1.726	5.569	44.394
4	1.629	5.255	49.649	1.629	5.255	49.649
5	1.314	4.240	53.889	1.314	4.240	53.889
6	1.173	3.784	57.673	1.173	3.784	57.673
7	1.138	3.672	61.344	1.138	3.672	61.344
8	1.013	3.268	64.612	1.013	3.268	64.612

6.2.3 Scoring Factor and Summary Statistics for Variables entering in the First Principal Component

Table 6.7 contains the scoring factors and means score of 22 variables included in the first components across the membership of SHGs. However, eight variables excluded from the first principal components due to low co-relation with other variables. These excluded variables loaded in other principal components are more difficult to interpret. A description about the factor scoring of all variables loaded in eight components generated from PCA is in Appendix 5.

Different scoring factors of first principal component (column-2 of Table 6.7) represent the correlation coefficient of each variable with the factors, so they naturally range from -1 to +1. A negative loading simply means that the results need to be interpreted in the opposite direction from the way it is worded. Our results assign positive score to all variables indicating about positive relations between variables and factors. This factor is a reasonable representation of the economic status. It means that better economic circumstances are associated with high dwelling value, higher assets possession, and high consumption pattern

of the households. The last row of Table 6.7 shows the mean score of ESI (i.e. first component of the PCA) across SHG membership. The mean value of ESI is “0” and the standard deviation is “1” for all households using standardised regression method of saving factor score (Field, 2006).

1	2	Mean Score				7=5+6
		3	4	5= 3+4	6	
Variables ¹	Scoring Factors	New Member N=127	Old member N=173	All Member N=300	Non Member N=100	Total N=400
Type of House	.771	.8268	.8150	.8200	.7500	.8025
House floor	.762	.8346	.7341	.7767	.7000	.7575
Own Electricity	.747	.0709	.7168	.7033	.6600	.6925
Own Fan	.733	.7008	.7283	.7167	.7000	.7125
Own Mobile	.722	.5669	.4682	.5100	.4000	.4825
Own Table	.701	.6378	.6301	.6333	.4800	.5950
Own Chair	.696	.8268	.7688	.7933	.6300	.7525
House wall	.685	.8661	.8150	.8367	.7800	.8225
House roof	.683	.7244	.8266	.7833	.7500	.7750
Own Color T.V	.657	.4252	.3873	.4033	.2300	.3600
House condition	.639	.6063	.7052	.6633	.5200	.6275
Own Bed	.633	.3465	.5260	.4500	.2700	.4050
Pulses, cereals consumption	.613	.8425	.8786	.8633	.7900	.8450
Own Pressure cooker	.585	.1969	.3757	.3000	.2000	.2750
Milk, egg, meat, fish consumption	.566	.5827	.4393	.5000	.4000	.4750
Fruit, vegetable consumption	.552	.9134	.6474	.7600	.7000	.7450
Own Clock	.519	.9055	.9133	.9100	.9000	.9075
Own Bicycle	.469	.6142	.4740	.5333	.6500	.5625
Stock of dry food	.454	.0709	.3295	.2200	.2400	.2250
Tea, oil, sugar consumption	.418	.8976	.9364	.9200	.9000	.9150
Own Gold	.426	.0709	.1503	.1167	.1000	.1125
Stock of Rice	.422	.5591	.6647	.6200	.1700	.5075
Economic status index		.040	.095	.072	-.216	0

Notes: ¹There are 31 variables entered in the principal component analysis. The first principal component analysis included 22 variables and 30 per cent of covariance explained by this component. Each variable takes the value 1 if true, 0 otherwise. Scoring factor is the “weight” assigned to each variable (normalized by its mean and standard deviation) in the linear combination of the variables that constitute the first principal component.

Comparisons of ESI score across membership of SHGs shows that the mean values of members are higher than non-members. For example, the average ESI is 0.55 units higher for the old members as compared to new members. This difference is due to the high mean value of old members in own gold (0.15), own pressure cooker (0.37), own bed (0.52), good house condition (0.70), high quality material used in house roof (0.82), annually stock of rice (0.66) and dry food item (0.32) than new members. Thus, old members secured high mean value in composite economic status score included in the first component. Similarly, the difference in average ESI between members and non-members of SHGs was 0.28 units. One example of a

combination of assets that could produce this difference was more than 0.10 units mean differences in own mobile (0.51), own table (0.63), own chair (0.79), own bed (0.45), own pressure cooker (0.30), good house condition (0.66) and more than 0.20 unit mean differences in own color television (0.40), bi-annually stock of rice (0.62) for old members as against new members. It confirmed about the proposed hypothesis viz., members are enjoying high economic status than non-members due to availability of credit with other socio economic benefits. Further details of complete variables on percentages have been shown in Table 6.1, 6.2 and 6.3 in Appendix 6.

Based on the recommendation of past research, our study has used the first component to construct an ESI (Filmer and Pritchett, 2001; Vyas and Kumaranayake, 2006). The standardised regression method² was applied to calculate the economic status score or a poverty score of each household's (Henry, et.al. 2003; Field, 2005). Figure 6.1 shows the cumulative percentage of households covered under different economic status score with references to membership of SHGs. The first principal component or ESI can assign positive as well as negative values to the households. For example, this study assigned a score to each household ranges from -2.427 to 1.576 (See Figure-6.1). Note that the higher value of the economic status score reflects on higher well-being or lower poverty. The Figure- 6.1 plots standardised economic status score generated from the first component of PCA along the horizontal axis from lowest to highest category. The vertical axis depicts about the economic status score or the poverty score (i.e. percentage of households who have this score) in the cumulative frequency distribution of New member, Old members and non-members of SHGs.

An increase in cumulative percentage of particular group represents low economic status as compared to others. For instance, it could be seen that approximately 60 per cent of non-members have fallen under poverty scores of 0.38 or less, whilst 53 per cent of members have the same scores. On the other hand, 80 per cent of non-members have come under the economic status scores of 0.75 or less, whilst 70 per cent of members have the same scores. However, there is a small difference in economic status score between new members and old members. The curve corresponding to the new and old members is consistently below that of the non-members. This figure provides evidence that members of SHGs are relatively better off than non-members, when one considers the poverty status or standards of living across

²Under this method factor score coefficients (B), the matrix of factor loadings score coefficients (a_{1p}) multiplied with the matrix of inverse (R^{-1}) of the original correlation or R-matrix (Field, 2006).

three groups of respondents. This means that, for a given percentage of the population, the average economic status score of members are higher than that of non-members.

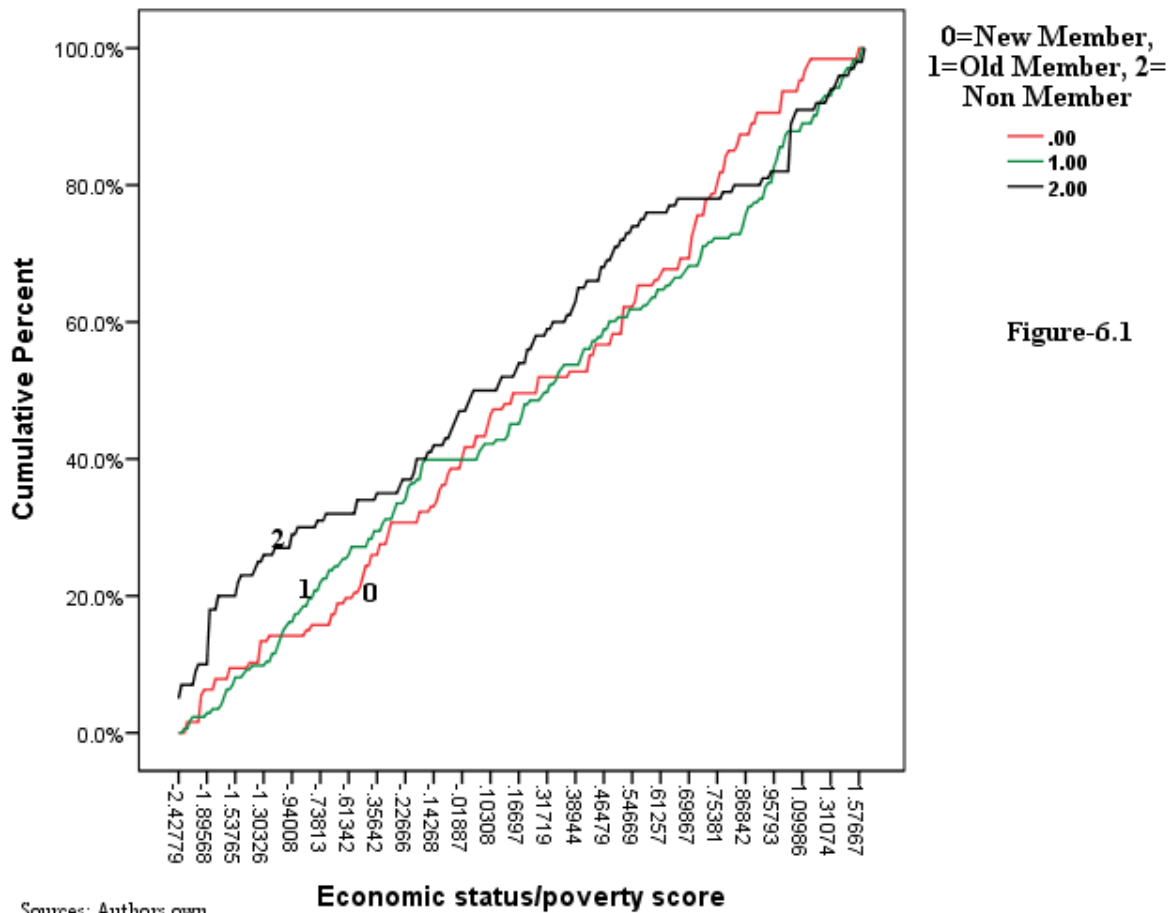
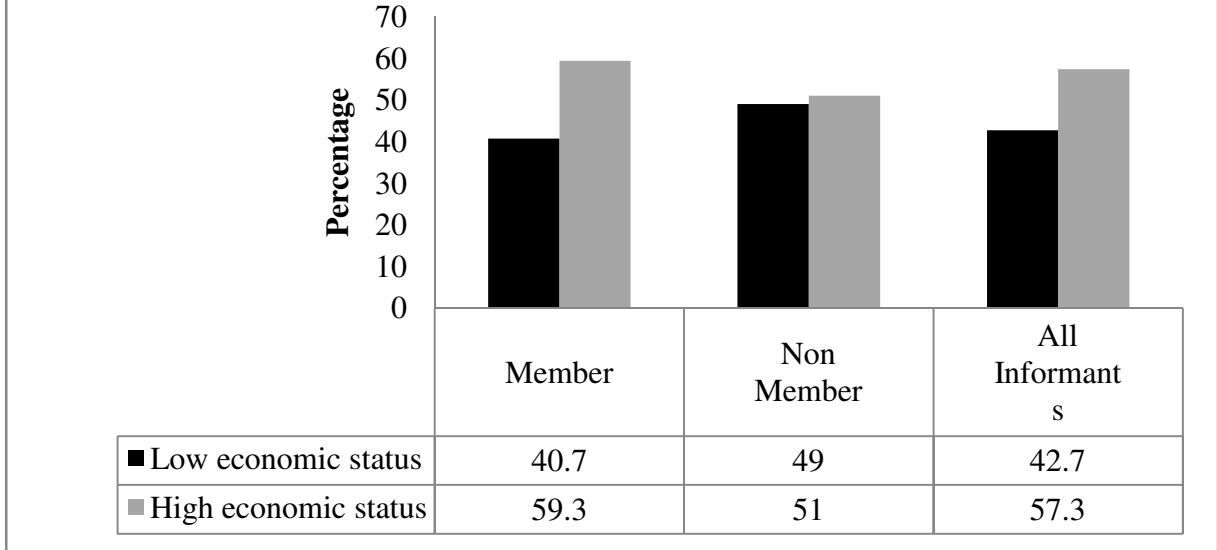


Figure-6.1

Once each household was assigned a score, the sample population was divided into two economic status groups³. Those households having a positive standardised regression score are considered as a high economic status (HES) group. However, the households secured negative standardised regression score belonged to low economic status (LES) group (Sun et.al, 2009; Amaza et.al, 2009). It is because of standardized economic status scores representing the wealth status of the households. An increase in economic status score indicate sound economic condition of households as compared to other who secured less scores. The division of households based on two types of economic status using regression score has shown in Figure 6.2. To ascertain the outreach of SHGs, the respondents were placed in groups according to their ESI with reference to membership.

³Dividing economic status in two group helps to measuring the poverty level (Relative poverty) of borrowers as compare to non borrowers of SHGs.

Figure 6.2: Crosstab of Membership and Economic Status



Overall, 42.7 per cent of households were classified as LES category and 57.3 per cent households fall under HES category (asking the reader to remember that this classification doesn't follow any of the usual definitions of poverty). Half of the non-members households (49%) belonged in the LES category, this percentage stood at 40.7 per cent for SHG members. The percentage of households achieving HES was found to be less for non-members as compared to SHG members (51% versus 59%). The above findings have also been confirmed in previous studies suggesting that micro credit does help to reduce relative poverty (Adjei and Arun, 2009; Zeller, et.al, 2000; Stenbacken, 2005; Ruit, et. al, 2001). Different variables in percentages included in the first component with references to economic status group are analysed in Table 6.4 of Appendix 6.

6.2.4 Determinants of Household's High Economic Status

A logistic regression analysis (Equation 4.14) was conducted to investigate factors likely to influence HES with the help of maximum likelihood estimation technique. Different demographic, socio economic and financial service variables are shown in Table 6.8, which in turn present the estimated results of the logistic models direct bearing on households' HES. A dependent variable is assigned as value "1" for HES households and "0" for LES households. The odds ratio of more than 1 represents 'more likely' and less than 1 predict 'less likely' in HES. The results with respect to logistic regression have presented several interesting observations. Different variables like education of the house head, main sources of income, caste, size of the family, any informal debt, migration in the households and location of the village has an insignificant relation to HES. However, female headed house, age,

marital status of house head, presence of land, distance of bank from villages, number of working members and SHG members are significantly influence the HES of households. Table 6.8 reported about different significant variables that influence HES of households. Please refer to Appendices-7 for complete results of logistic regression.

Table 6.8: Factors influence on HES in Odds Ratio (Exp B)				
Independent Variables ¹	Estimated Coefficients	Standard Error	Wald Statistics	Odds Ratio ²
Male headed house R				
Female headed house	-.881	.340	6.724	0.414*
Age of House Head in years (30-40) R				
41-50	.484	.310	2.447	1.623*
51-70	.552	.324	2.907	1.737*
Marital status of house head (Widow) R				
Married	.584	.395	2.183	1.793*
Households has no Land R				
Any Land	1.552	.295	27.742	4.719*
Bank distance (<3Km) R				
More than 3 Km	-.950	.387	6.026	0.387*
Non Member of SHGs R				
New Member (< 4 year)	1.047	.435	5.804	2.850*
Old Member (> 4 year)	1.027	.425	5.840	2.792*
Number of working member (1 to 3) R				
Number of working member (3 to 6)	.474	.287	2.723	1.606**
Constant	-.768	.566	1.839	0.464
LR statistic 82.77*, Log likelihood -231.652, Cox & Snell R Square .186, Nagelkerke R Square .250, Degree of Freedom =18, Pseudo R2=.15, Total observations= 400				
Classification table	Dependent=0	Dependent=1	Overall	
No. of correct	96	174	270	
% of correct	63.57	69.87	67	
No. of incorrect	55	75	130	
% of incorrect	36.42	30.12	33	

Note: ¹Dependent variable=1 if household belong in High economic status and 0= Low economic status, R= Reference category. To avoid a multicollinearity problem, reference category is dropped in each group. ²Odds Ratio= Value more than 1 are more likely and less than 1 are less likely influences dependent variable. *, ** represent the 5% and 10% significance level, respectively.

The women headed houses are 0.414 times less likely to move towards HES as against male headed house. In India, women being the head of house might spend less time in earning due to household chores and limited employment opportunity especially in rural areas. Besides, the male dominated society and strong patriarchal feeling in rural areas narrow the scope for women to work like a man, which in turn might deteriorate the economic status of the households. An increase in the age of the house head raises their confidence to earn more, which leads to increases in their overall economic status. The odds ratios indicate that head of the house within 41-50 years are 1.62 times more likely and house head within 51-70 years are 1.73 times more likely belonged in HES category as compared to

reference age (30-40). The married person being the head of the house was significantly more likely (OR= 1.79 times, $p<0.05$) to be enjoying HES than reference group (i.e. unmarried, widow and divorces category). The fulfillment of family requirement may be the principal cause to force a married person to earn more and thereby improve the economic status at a subsequent stage.

Different socio economic variables also influence HES of the households. The availability of land in the house is 4.71 times (coefficient 1.552 significant at 0.05 levels) more likely to be placed in HES group as against households with no land. Generally, possession of land provides food security to the households which may help to improve the economic position of the households. Similarly, HES is also significantly influenced by the distance of commercial bank from the households. Result of logit analysis shows that the households living more than 3 km far away from commercial bank were less in favour (OR=0.387 times, $p<0.05$) enjoying HES than reference group (Less than 3km). Absence of formal financial services compels the household to borrow from informal sources at a higher interest rate and that might weaken their economic position.

The odds ratio indicates that presence of SHG members helps the households moving towards the HES and supports our research hypothesis. The status of membership shows that, households who joined in SHGs within 4 years (new clients) were more likely to acquire HES vis-à-vis non-clients, as the odds ratio worked out to 2.85 for new clients, which also turned out to be significant. Similarly, the old clients (i.e. who joined SHGs before 4 years) were better placed than non-clients as the odds ratio in this case worked out to 2.79, implying 2.79 times more likely for them to be placed in HES ($p<0.05$). The provision of small credit once or twice in a year helps to invest in agriculture activities at the right time. It leads to increases in employment opportunity with income and further improves the economic position of the households.

Finally, an increase in working member within the households leads to improve the economic condition (Kumar, 2009). For example, households with more working members (i.e. 3-6) are 1.60 times more likely to enjoy HES group when compared with reference category (1-3). Increases in working members might help to increase in income vis-à-vis the economic status of the households. The provision of credit also helps to generate employment opportunity in the house could be another factor for the above outcomes. The above results support our research hypothesis that the clients of SHGs were better placed in terms of enjoying HES as compared to non-clients. In other words, the micro credit institutions were found to have a positive impact on raising the economic status of rural households, and they

were able to alleviate them above the poverty line, if achieving HES is viewed as one of the indicators of prosperity in the rural settings.

The likelihood ratio test has a Chi-square statistic equal to 82.36 to 18 degrees of freedom and fails to accept the null hypothesis that the parameter estimates for the model are equal to zero, at 1 per cent level of significance. It can be concluded that the explanatory power of the logistic model is satisfactory and the model can be used to explain the probability of households in HES category. The value of Cox & Snell R Square is 0.186 and Nagelkerke R Square is 0.250, suggesting that between 18.6 per cent and 25 per cent of the variability is explained by this set of variables. Overall the logistic model successfully predicts the possibility of households' micro credit access at 67 per cent. The classification table shows that, 55 observations are misclassified as "0" when the correct classification is "1", and 75 values are misclassified as "1" when the correct values is "0".

6.2.5 Role of Micro credit on High Economic Status

The provision of group credit and credit plus service helps to improve the economic condition of households. Some SHGs use their credit on agriculture purposes through hiring other land. They jointly use their own labour for production of vegetables, flowers and sell in the local market. The group approach reduces their fear of loss in agriculture output from the land. Similarly, the provision of subsidy facilities under SGSY programme to BPL households also attracts the poor person as active borrower. Our study has included separate logistic model to examine the role of credit through SHGs on the economic status including only sample of SHGs clients.

Table 6.9 reported only micro finance variables and their role in HES of the member households. An increase in the amount of loan helps to raise the economic status of households. As compared to the clients who borrowed Rs 3000 to Rs 10000, those clients received higher amount of loan (Rs 10001 to Rs 22000) had greater odds of enjoying high economic status (Odds ratio of 2.108 times). One possible explanation is that the higher amount of loan provides opportunity to the clients for more investment in agriculture and gets more output with more income. The provision of subsidy facilities also significantly leads to increase in economic condition of the BPL households. Member's availed subsidies (i.e. Rs 3000 to Rs 7000) on loan were more likely living HES as against members without any subsidy (odds ratio of 2.215 times). Similarly, the odds ratio indicates that clients who received subsidy of Rs 7001 to Rs 10000 are 4 times more likely to belong in HES as against reference category (i.e. clients without subsidy). Provision of subsidies might be reducing the burden of clients on loan repayment and increase the economic status of households.

Independent Variables ¹	Estimated Coefficients	Standard Error	Wald Statistics	Odds Ratio ²
Loan amount (Rs 3000- Rs 10000) R				
Rs 10001- Rs 22000	.746	.458	2.657	2.108**
Loan sanction Period (10-15 Month) R				
16-40 Month	-.339	.327	1.075	0.712
Loan investment (Agriculture) R				
Non Agriculture	-.452	.418	1.166	0.637
Subsidy on loan (No Subsidy) R				
Rs 3000- Rs 7000	.795	.475	2.807	2.215**
Rs 7001 – 10000	1.387	.527	6.937	4.002*
New Member of SHGs (<4 years) R				
Old Member (>4 years)	.140	.398	.123	1.150
Constant	-.604	.391	2.384	0.547
2 Log likelihood -383.598, Cox & Snell R Square .087, Nagelkerke R Square .118, Total observations= 300, McFadden R-squared 0.2878, LR statistic 130.5594**, Degree of Freedom 6				

Note: ¹ Dependent variable=1 if household belong in High economic status and 0= Low economic status, R= Reference category. To avoid a multicollinearity problem, reference category is dropped in each group. ²Odds Ratio= Value more than 1 are more likely and less than 1 are less likely influences dependent variable. *, ** represent the 5% and 10% significance level, respectively.

The period of loan sanction and investment of loan is insignificantly related to the HES of households. Besides it, the striking findings of the study is an insignificant relationship has observed between association with SHGs in years (i.e. New members and Old members) and high economic status of clients. This proves that although old members have joined SHGs before 4 years as compared to new members, still now, credit has not significantly improved their economic condition. Lack of initiative for setting up micro enterprises might be one of the causes that leads to weaken the economic position of old members in spite of long term association with SHGs. A majority of old and new members have invested the loan for agricultural purpose, which is mainly depended upon environment. Different factors like irregularity in rain, lack of irrigation facility, unavailability of good market for selling agriculture products and low price are the major causes for low access of income to the borrower households. Although, the use of credit for agriculture purposes helps to provide employment during the monsoon season (i.e. June to December), yet it doesn't help to provide employment facilities in the lean season (January to June) of agriculture to the clients. As a result, there is less income earning opportunity available for both old and new members of SHGs throughout the year.

The involvement of brokers, utilisation of loan for more than one purpose and delay in the release of loan led to a few members being just above the poverty line even though their association with SHGs programme has been for 7 years. Those members who invested the credit for business/ micro enterprises also incurred losses due to lack of knowledge on

enterprises, training and other supplementary services. Inadequate backward and forward linkages including the non availability of raw materials, lack of adequate marketing avenues etc are some of the major causes of loss in running enterprises (Ray, 2008). As a result, maximum borrowers have not interested to invest the credit for non-agricultural purposes. Some SHGs invested the credit jointly in running different micro enterprises (i.e. Poultry firm, Mushroom production, Incense stick industry etc.) within the village. The members use their own labor for operations and management of micro-enterprises. The group discussion with members of SHGs found that lack of cooperation and understanding among group members, interference of male members in the management of group, prevalence of illiteracy are major obstacles which may lead to disband the SHGs.

6.3 Determinants of Women's Participation in SHGs to Access Micro credit

Provision of credit through SHGs meets short term financial needs and helps to improve the standard of living of members in a sustainable approach. The new members have agreed that credit through SHGs decreases in supply of loan from informal sources (i.e. Money lenders, Shop keepers) with an exorbitant interest rate. Similarly, old members replied that, group credit helps them to perform different agricultural activities (Purchase seed, fertilizers, and farming) in right time. As a result, more women in rural area have come forward to participate in SHGs to get credit. Different factors influencing women to join SHGs and thus availing credit are shown in Table 6.10. Dependent variable is whether respondents have participated in SHG (Member) or not participated in SHG (Non-Member) programmes. Different individual and socio economic variables of households were used to know about the factors determining the likelihood of women to join SHGs and thus borrow credit. Table 6.10 measures the logistic coefficients in Odds ratio. The odds ratio more than 1 predicts more likely and less than 1 predicts less likely of women participating in SHGs.

The results show that the odds ratio of 8 variables like age, education, number of children of the respondents (Individual variables) and head of house, sources of income, caste, informal debt, distance of banks, migration, economic status of households (Household variables) are significant and related on women's participation in SHGs to borrow credit. However, different individual variables like occupation, marital status, exposure of media have insignificant effect on the access of micro credit. Similarly, size of family, access of land, location of the village, working member in the house are insignificantly related to the outcomes. Table 6.10 reported the significant variables that influence the credit accessibility from SHGs to the households. A detailed result is reported in Appendices- 8.

Table 6.10: Factors influence on women's participation in SHGs in Odds Ratio (Exp B)				
Independent Variables ¹	Estimated Coefficients	Standard Error	Wald Statistics	Odds Ratio ²
Respondent Age in years (20-30) R				
31-40	-.035	.598	.003	0.966
41-50	2.264	.773	8.582	9.622*
51-70	.912	.948	.926	2.490
Respondent education (Illiterate) R				
Primary or more	-1.797	.611	8.645	0.166*
No child R				
Any child	-.908	.540	2.828	0.403*
Male headed house R				
Female headed house	1.556	1.03	2.269	4.739*
Sources of income (Agriculture) R				
Non Agriculture	-2.101	.525	15.984	0.122*
Caste of Households (SCs/STs) R				
OBCs and Others	-2.743	.706	15.096	0.064*
No Informal debt R				
Any Informal debt	-2.744	.639	18.463	0.064*
Bank distance (<1Km) R				
More than 1 Km	1.169	.615	3.609	3.219*
No migrated members R				
Any migration in households	-1.093	.531	4.239	0.335*
Low Economic Status R				
High Economic Status	1.793	.625	8.223	6.005*
Constant	3.170	1.654	3.673	23.802
Log likelihood -72.093, Cox & Snell R Square .534, Nagelkerke R Square .791, LR statistic 301.68*, Degree of Freedom =17, Pseudo R2=.67, Total observations= 400				
Classification table		Dependent=0	Dependent=1	Overall
	No. of correct	82	295	377
	% of correct	82	98.33	94
	No. of incorrect	18	5	23
	% of incorrect	18	1.67	16

Note: ¹Dependent variable = 1 if household has borrowed credit through SHGs and 0= Otherwise. R= Reference category. To avoid a multicollinearity problem, a dummy variable is dropped in each group. ²Odds Ratio= Value more than 1 are more likely and less than 1 are less likely influences on dependent variable. *, ** represent the 5% and 10% significance level respectively.

Age and Education of Respondents

An increase in the age of the women tends to be more likely in terms of their joining SHGs for credit. The women in the age group of 41-50 years are 9.62 times more likely to join SHGs for credit as compared to the reference category (20-31 years). The probability of women's participation in SHGs increases in the age bracket of 41-50 years due to more autonomy and less control by other members of households. Another possible explanation could be, as the woman's age increases, she becomes more self-confident or self-dependent, which in turn gives her the confidence to participate in SHG programmes for credit. However, respondents in the age group of (31-40 years) and (51-70 years) have insignificant effect on joining SHGs for credit. On the other hand, women with primary or more education

are less likely (OR=0.166 times, $p<0.05$) join SHGs as compared to the illiterate category. The increase in education helps to increase the knowledge of women regarding alternative credit sources. It also induces the women to earn money through self employment without depending upon credit from SHGs.

Number of Child and Head of House

Women being the head of the house and the number of children are important determinants of participation in group credit programmes in India. The presence of any child (less than 5 years) makes it 0.403 times less likely to join SHGs as against the reference category (no child). An increase in the number of children might lead to spend more time in household activities which, discourages their interest in association with SHGs for credit. The fear of repayment of the loan in time also affects due to increases in the number of children. Women being head of the house are more likely (Odds ratio of 4.739 times) to join SHGs and borrow credit than male headed house. The absence in alternate sources of credit without collateral may be the predominant factor compelling the women headed house to borrow credit from SHGs and fulfill economic requirements of the households.

Sources of Income and Caste

Different socio economic characteristics also influence women to participate in SHGs programmes and borrow credit. For example, households depending on agriculture as sources of livelihood were demanding credit through SHGs for different agricultural operation (i.e. tilling, ploughing, sowing, harvesting, threshing, winnowing, purchasing fertilisers etc). Result of Odds ratio value shows that households involved in non agriculture sources of income are less in favour (OR=0.122 times) to join SHGs as compared to households who solely depend on agriculture. The permanent earning opportunity from non agriculture sector throughout the year could be a possible reason that helps the households to depend less upon micro credit. On the other hand, failure of repaying the monthly credit installment due to loss in business might also inhibit the households to borrow loan from SHGs. Compared to women in lower caste (SC/STs), women who belonged to the upper caste (OBCs/Others) were less likely join in SHG programme and borrow credit (Odds ratio of 0.06 times). Women in the upper caste have less interest to join SHGs and borrow credit due to their better economic position. Another possible explanation is that, the small amount of credit through SHGs would not fulfill the financial requirements of households belonging to the upper caste. It forces them to borrow more amount of credit from formal financial institutions as against collaterals i.e. Land or fixed securities.

Informal Credit and Bank Distance

Furthermore, the likelihood of women's participation in SHGs is also significantly influenced by the availability of other credit sources (such as informal credit). Results of the logit analysis shows that households, which borrowed informal debt in any form in the past (3 years) are 0.06 times less likely to participate in SHGs programmes as compared to the reference category (no informal debt). In other words, SHG members were less likely to borrow loan from informal money lenders. This finding is consistent with Ray (2008) and Li (2010) who observed that member households are less willing to borrow informal loan owing to sufficient provision of credit from SHGs. A positive relationship also exists between the presence of commercial bank and participation in SHG programme. An Increase in the distance of commercial bank from the village, leads to a higher chance in joining SHGs. For example, the odds ratio indicates that households living 3km to 5km away from commercial banks were 3.219 times more likely to join SHGs than households who reside below 3kms from the bank. The lack of credit supplies from a formal finance institution or absence of banks force the households to borrow credit through SHGs. As a result, SHGs programmes are considered as being the largest financial inclusion to the non-banking people in rural areas (Vetrivel and Kumarmangalam, 2010; Sarkar and Singh, 2006).

Migration and Economic Status

The remittance of migrants helping to fulfill economic requirements of households reflected on low demand of credit from SHGs. The presence of migrated members in the house leads to 0.335 times less likely to join in SHGs as compared to non migrant households. Absence of husband in the house forces the women to perform different work both inside and outside the households. This may be a major reason for women who belonged in migrated households didn't participate in SHGs programme. Compared to the LES category, those women who belonged to the HES group are 5.26 times more likely join in SHGs to avail financial services. Lack of confidence in the repayment of loan, use of credit for income generating purposes and higher illiteracy among LES category may also lowers the probability of women's participation in SHGs.

The likelihood ratio test has a Chi-square result equal to 305.68 with 17 degrees of freedom, and it fails to accept the null hypothesis that the parameter estimates for the model are equal to zero, at 1 per cent level of significance. It can be concluded that the explanatory power of the logistic model is satisfactory and the model can be used to explain the probability of household's access of credit from SHGs. The value of Cox & Snell R Square is .534 and Nagelkerke R Square is .791, suggesting that between 53.4 per cent and 79.1 per

cent of the variability is explained by this set of variables. Overall, the logistic model successfully predicts the possibility of households' micro credit access at a whopping rate of 94 per cent. The classification table shows just that: 18 observations are wrongly classified as "0" when the correct classification is "1", and 5 values are wrongly classified as "1" when the correct value is "0".

6.4 Factors Influence Informal Credit to the Households

In spite of different facilities to supply formal credit, factors like an ineffective government intervention, procedural rigidities, refusal by banks, identity requirements, onerous terms and conditions etc, are the principle reason for borrowing from informal sources (Rajasekhar and Vyasulu, 1990). Table 6.11 analyses the results of logistic estimations on determinants of credit from informal sources (i.e. Money lender, friends, relatives, employers) to the households. Dependent variables take value "1" if households obtain credit from informal sources and value "0" if the households have not any loan from informal sources for the past 3 years. The Odds ratio which represents the impact of each explanatory variable is more likely (if it is more than 1) or less likely (if it is less than 1), holding all the other variables as constant, on access of credit from informal sources. Different significant variables likely to influence the borrowing of credit from informal sources are analysed in Table 6.11.

The odds ratio of six variables like age and marital status of the head of households, caste of the households, distance of the bank and membership of SHGs has a significant effect to the credit from informal sources. However, other variables like education of house head, gender of house head, sources of income, family size, working member, economic status, migration, location of the village and land holding status are insignificantly related to borrow credit from informal sources. Please refer to Appendices- 9 for complete results.

Age and Marital Status of the House head

The age of the house head is significantly related to borrowing money from informal sources. For example, head of the house belonging to 51 to 70 years are 1.66 times greater in odds for any informal debt as against reference category (30-40 years). An increase in the age of the house head leads to reduce the earning capacity due to old age. This might force to borrow money from informal sources and fulfill socio economic requirements of the family members. The widow/divorced women being the head of the house are generally feared to borrow informal sources due to low capacity to work and lack of support from the spouse. Results of logistic estimates found that married person as head of the house were more likely

(OR= 2.47 times) preferred to borrow credit from informal sources than excluded category (Widow/Divorces).

Table 6.11: Determinants of Informal credit in Odds Ratio (Exp B)

Independent Variables ¹	Estimated Coefficients	Standard Error	Wald Statistics	Odds Ratio ²
Age of Household Head in years (30-40) R				
41-50	-.078	.330	.055	0.925
51-70	.511	.370	1.907	1.668*
Marital status of house head (Unmarried) R				
Married	.904	.418	4.671	2.470*
Caste of Households (SCs/STs) R				
OBCs and Others	.797	.310	6.591	2.219*
Bank distance (<3Km) R				
More than 3 Km	1.792	.398	20.255	6.003*
Non Member R				
New Member of SHGs (<4 years)	-2.354	.464	25.745	0.095*
Old Member (>4 years)	-.875	.464	3.556	0.417*
Number of working member (1 to 3) R				
Number of working member (3 to 6)	.600	.329	3.331	1.823**
Constant	-.337	.589	.327	0.714
Log likelihood -203.025, Cox & Snell R Square .260, Nagelkerke R Square .355, LR statistic 120.63*, Degree of Freedom =17, Pseudo R2=.23, Total observations= 400				
Classification table	Dependent=0	Dependent=1	Overall	
No. of correct	93	214	307	
% of correct	62.41	85.25	76.75	
No. of incorrect	56	37	93	
% of incorrect	37.59	14.75	23.25	

Note: ¹Dependent variable = 1 if household has any informal debt and 0= otherwise. R= Reference category. To avoid a multicollinearity problem, a dummy variable is dropped in each group. ²Odds Ratio= Value more than 1 are more likely and less than 1 are less likely influences dependent variable. *, ** represent the 5% and 10% significance level respectively.

Caste and Distance

Compared to households belonging to lower caste (SC/STs), households in upper caste (OBCs and Others) are 2.21 times greater in odds of borrowing loan from informal sources. The higher wealth and income of the households belonging to upper caste (OBCs and Generals) encourage borrowing informal loans. Although, the upper caste group has collateral to get formal loan, but the easier and quicker loan facilities attract them to borrow from informal sources at a higher rate of interest. The distance of commercial bank from the village is positively related to borrow loan from informal sources. Holding other factors constant, the households living 3km to 5km far away from commercial banks is 6 times more likely to avail informal credit as against households that reside less than 3km from bank. The high borrowing costs arising from travelling expenses and time opportunity costs in formal loan could be the major reason for borrowing credit from informal lenders.

Membership of SHGs and Number of Earning Members

The participation in SHGs helps to reduce in borrowing of credit from different informal sources (i.e. money lenders, shopkeepers etc) (Mpuga, 2010). Results of logistic regression support the hypothesis and found that households with a new member are 0.09 times less likely to borrowed informal loans than non-members (Reference group). Similarly, the presence of old members in the house makes them less likely to borrow any credit from informal sources (OR= 0.42 times). The provision of adequate credit through SHGs helps in reducing informal loan and frees the poor households from the clutches of moneylenders (Ray, 2008). There is a positive effect between the number of working member in the households and credit from informal sources. For example, households with more working member (3-6) had significantly (1.82 times) greater odds in terms of borrowing informal credit compared to households with less working members (1-3).

The likelihood ratio test has a Chi-square result equal to 120.68 with 17 degrees of freedom, and fails to accept the null hypothesis that the parameter estimates for the model are equal to zero, at 1 per cent level of significance. It can be concluded that the explanatory power of the logistic model is satisfactory and the model may be used to explain the probability of any informal credit to the households. The value of Cox & Snell R Square is .260 and Nagelkerke R Square is .355, suggesting that between 26 per cent and 35 per cent of the variability is explained by this set of variables. Overall the logistic model successfully predicts the possibility of households' micro credit access at 77 per cent. The classification table shows that, 56 observations are misclassified as "0" when the correct classification is "1", and 37 values are misclassified as "1" when the correct values is "0".

6.5 Access and Information

Awareness about banking terms, financial activities and access of media are one of the most important ways for the development of women in rural areas (TOI, 2012; NFHS-3, 2006). An increase in the level of financial literacy and knowledge about banking activities among women helps to increase in access to formal finance of the households (Tiwari, 2008). Group formation activities are one major source of awareness about banking activities for members as compared to non-members. Now, members can understand several things related to deposit and withdraw money from the account, procedures for request loan, calculation of interest rate, and profit and loss in business due to participation in SHGs.

Most of the members reported that they were bold enough to go to the bank premises only after they joined in the group and began thrift activities. Some members also teach different financial terms viz., calculation of principles and rate of interest on the loan to their

husband. They force their husband to borrow credit from formal finance institutions at low rates of interest. Now, male members have shown courage to borrow and save in the formal finance institutions. As a result, there is a positive change observed in the attitude of husband towards their wife. Thus, group activities also contribute towards the enhancement in bargaining power of the poor women.

Table 6.12 provides information about women's efficiency in performing different activities in the bank and access of media with references to membership of SHGs. Maximum members of SHGs have agreed to perform different tasks related to finance as compared to non-members. For example, while about 45 per cent of members can check their account in the bank, this percentage for the same works out at about 32 per cent for non-members. Averagely, 47.7 per cent of members and 33 per cent of non-members can withdraw and deposit money on their own bank account. The provision of group credit helps in learning about banking activities and financial terms (i.e. calculation of interest rate, the monthly amount of repayment, savings etc).

Table 6.12: Access and Information						
Percentage of women can perform different activities in the bank	Member	% to N ₁	Non-Member	% to N ₂	Total	% to N ₃
Checking account in bank	N ₁ =300		N ₂ =100		N ₃ =400	
Yes	135	45.0	32	32.0	167	41.8
No	165	55.0	68	68.0	233	58.3
Withdraw money from account						
Yes	143	47.7	33	33.0	176	44.0
No	157	52.3	67	67.0	224	56.0
Deposit money in account						
Yes	141	47.0	33	33.0	174	43.5
No	159	53.0	67	67.0	226	56.5
Bank officials solves your difficulty						
Yes	147	84.4	33	100	180	87
No	27	15.6	0		27	13
Experience with bank officials						
Dissatisfy	33	20.3	6	20.7	39	20.41
Satisfy	129	79.6	23	79.3	152	79.59
Read News paper and magazines						
Yes	20	6.7	7	7.0	27	6.8
No	280	93.3	93	93.0	373	93.3
Watch T.V or listen Radio						
Yes	150	50.0	55	55.0	205	51.0
No	150	50.0	45	45.0	195	49.0
Beneficiary of Govt schemes*						
NREGA job card	98	17.2	44	18	142	17.5
Indira Awas Yojana	195	34.3	89	37	284	35.1
Antodaya Yojana	274	48.2	91	38	365	45.1
Others (Widow, old age pension)	2	.4	17	7	19	2.3

*Multiple responses based on response of cases

Approximately, 87 per cent of women (those who visited the bank) have agreed that bank officials help them solve their problem in the bank. However, one in every five respondents (20%) had dissatisfied attitude with bank employees in order to solve their problems in the bank. Different formal finance organisation must be cooperative towards the poor and illiterate households in provision of financial services. This would help in inclusion of financial excluded section and accelerate the socio economic development from bottom-up approach.

On the other hand, awareness among women is a function of different variables i.e. education, employment, exposure to modern facilities and communication devices (i.e. radio, television, telephone). Table 6.12 gives information on the access of media to members and non-members of SHGs. Equal percentages of women (7%) have read news paper or magazine in a week. Similarly, more than half of non-members (55%) watch television/listen to radio daily or weekly as compared to members (50%). High prevalence of illiteracy among the members of SHGs may be one of the major reasons which hinder the access of information. The beneficiary of any government welfare schemes designed for BPL households included in the analysis shows that, 142 availed National Rural Employment Guarantee Act (NREGA) job card followed by 284 availed “Indira Awas Yojana”, and 365 availed “Antodaya Yojana⁴” card. Thus, a total of 810 multiple responses were generated from the sample of 400 borrowers. There is an insignificant difference in accessibility of different government programmes designed for BPL households across membership of SHGs.

6.6 Impact of Micro credit on Women Empowerment

Although empowerment literally means— to invest with power, in the context of women’s empowerment, the term has come to denote women’s increased control over their own lives, bodies, and environments (DHS, 2008). While discussing women empowerment, emphasis is often placed on women’s decision making roles, their economic self-reliance, their legal rights to equal treatment, inheritance and protection against all forms of discrimination, in addition to the elimination of barriers to access resources such as education and information (Germaine and Kyte, 1995; United Nations, 1995). In view of the definition of empowerment provided earlier, evidence of empowerment must be sought in terms of indicators that measure women’s control, both extrinsic and intrinsic, over various aspects of their lives and environments. Such measures include women’s participation in household decision making, as well as measures that suggest a rejection of the gender-based

⁴Under Antodaya Yojana programme Odisha government is providing 25kg rice/ monthly at Rs 2 to the BPL households.

subordination of women (Kishore and Lekha, 2008). This study used different variables related to decision making, power of work independency, awareness, and gender attitudes of the informants as proxies to measure women's empowerment.

6.6.1 Decision Making of Women

The first set of evidence variables is designed to measure women's degree of control through their participation in the household decision making process. A women's role and her degree of control over the decision making process in households are the main features of her empowerment, which in turn affects the circumstances of her own life. Accordingly, decisions about one's own health, visit to family/relatives, etc are some factors/parameters which were included in the list of decisions with an expectation that most women would be making these decisions. The atypical woman would not make/participate in any decision. The questions on decisions about nine different aspects (i.e. purchases for daily needs, large purchase, expenditure on child education, own income, own saving, borrow money, surplus money, credit and husbands earning) were designed to tap into the economic decision making process of women within a household per se. The four response categories ranged from women alone, jointly with husband, husband alone, others and can't say are included to calculate the score of decision making. Those women who make decision alone or with husband have been considered as being more empowered than others at the household levels (Acharya et.al, 2010; Kishore and Gupta, 2009). The participation in decision making scores for sample respondents is collected and the Mann-Whitney test was conducted to analyse data.

Table 6.13 analyses the percentage of women who take decisions alone or jointly with husband across the gamut of SHGs membership with respect to 11 different activities. The results show that members of SHGs are highly participative in all types of decision making as compared to non-members. For example, about 74.3 per cent of members are seen to take decisions on 'own health care'; this proportion under the non-members category works out to about 50 per cent. Similarly, women who are part of the SHGs have high participation in terms of visit to relatives, purchase of daily needs, making of any majour purchase and expenditure in education for the child/children as compared to non-members.

The SHG members have a high percentage of participation in terms of the decision making process, especially relating to financial matters of the households. More than 74 per cent of SHG members expressed their views in terms of using their own earning, own saving, households saving, use of credit and income of husband, as compared to about 50 per cent or

less for non-members. The percentage of members for ‘borrow money to households’ was higher (83.7%) as compared to non-members (50%).

Table 6.13: Participation in Decision Making in percentage

SL No	Women make decisions alone or jointly with husband on following outcomes ¹	Members N=276	Non-members N=92	Total N=368
1	Care of own health*	74.3	50.0	68.2
2	Visit of family/relatives*	73.9	50.0	67.9
3	Purchase of daily needs*	73.9	45.7	66.8
4	Major purchase*	73.8	50.0	67.8
5	Expenditure on education of child*	73.6	51.1	67.9
6	Use of own earning*	74.3	51.1	68.5
7	Use of own savings*	76.2	50.5	69.7
8	Borrow money to households*	83.7	50.0	75.3
9	Use of households saving*	76.4	47.8	69.1
10	Use of credit *	79.7	53.3	73.1
11	Use of husbands income*	71.5	48.3	65.4

¹Included married women live with spouse, *Mann Whitney test of Significance <0.05

As per the overall decision making is concerned, three in every four informants (75%) was associated with SHG programmes have successfully participated on different decision making outcomes. On the other hand, it is only half of non-members (50%) who have participated in different decision making processes. The results above clearly reveal the positive and significant relationship between the provision of group credit and increases in respect of women within the households. It allows women to active participate in the socio-economic aspects of the households. Please refer to Appendix 6 for complete results of decision making variables of sample respondents.

6.6.2 Women’s Power of Work Independency

The power of women to perform different work independently is another parameter to measure empowerment. This category comprised of different variables related to measuring the efficiency of women to do certain work without any influences or support for their personal development that would make SHG programmes successful. It is expected that the different dimensions of power could be reflected and observed in women as the presence of greater independence and autonomy towards own desires and choices. Women’s power to work independency was not directly reported in this research. Instead, women were asked whether they have the power to perform different work without the assistance or influences of others on: cast vote, to visit a relative’s house and market place, participate in training, election, protection etc. The presumption behind these questions is that a truly empowered woman would agree to perform different activities and would believe that she has more power to complete different work independently. The four response categories ranged from

more power (MP), some power (SP), less power (LP) and no power (NP) through can't say (CS), scored 4 for MP and 1 for NP, responses were tabulated and Mann-Whitney test was applied to analyse data. Table 6.14 shows the percentages of women who have responded some power or more power to perform different work independently across the membership band of SHGs.

SL No	Women have some or more power to do the following activities	Members N=300	Non-members N=100	Total N=400
1	Cast vote independently*	55.9	44.0	52.9
2	Visit market/outside of village*	57.2	51.0	55.7
3	Visit Friends/Relatives house*	57.9	52.0	56.4
4	Discuss with government officers*	58.9	47.0	55.9
5	Participate in protection*	56.6	51.5	55.3
6	Participate in training*	58.4	47.0	55.6
7	Participate in election*	52.5	48.0	51.4
8	Save or withdraw money from bank*	50.4	35.5	52.2

*Mann Whitney test of Significance <0.05

As noted in the table above, a higher percentage of women who were members of SHGs have agreed to perform different activities independently as compared to non-members. For example, more than half of all members (56%) agreed to 'cast a vote independently'; this proportion works out to only 44 per cent for non-members. Similarly, as against the non-members categories, women who joined the SHGs have more power to go market or a relative's house alone, have more authority while discussing with government officers for different social issues, have more participation in terms of self-protection, have attended more training programmes and do contest in elections. Finally as noted, a higher percentage of SHG members have the ability to save and withdraw money from banks as compared to non-members (50.4% versus 35.5% respectively). The participation in training programs, visit to the bank for credit, save and withdraw money are numerous causes that provide power among members to act independently in other activities as compared to non-members.

6.6.3 Women's Level of Awareness

This survey included third set of indicators relating to awareness of women as being proxies to measure the level of empowerment. The differing variables included in this category indicate the knowledge and attitude of women towards girls' education, age of marriage, gender disparity etc. The response has been collected in an ordinal scale ranging from agree (A), strongly agree (SA), disagree (D), and strongly disagree (SD) with scores 4 for A and 1 for SD. It is expected that the positive attitude of women on different specified

indicators shows the higher level of awareness. Table 6.15 provides information on the awareness of respondents as regards different social issue.

SL No	Women agree or strongly agree about following social issues in percentage	Members N=300	Non-members N=100	Total N=400
1	Daughters equal right on fathers property*	95.9	92.0	94.2
2	Boys and girls are equal*	98.0	97.0	96.7
3	Girls marriage after 18 years*	91.7	92.0	91.8
4	Girls continue education like boys*	96.9	93.9	96.2
5	Teaching about AIDs diseases to students with age 17-25*	16.0	89.4	93.2
6	Place of delivery in Hospital*	95.5	94.0	95.2

*Mann Whitney test of Significance <0.05

A comparative analysis between the sampled women included in this study reveals that while 98 per cent of members supported on ‘no difference between boys and girls’, this percentage stood at 97 per cent for non-members. Similarly, the percentage of member’s supporting on daughter’s right in father’s property, girls age of marriage and girls education are higher than non-members. An interesting finding of the study is that 89.4 per cent of non-members agreed on ‘creating awareness of Acquired Immune Deficiency Syndrome (AIDS) disease’ to the student in school which was 16 per cent for non member’s category. Overall, a small difference was noticed as regards different types of awareness across SHG membership. The organisation of monthly meetings, provision of training and capacity building programmes could be the reason for increase in awareness of women associated with SHGs. On the other hand, a large majority of non-members have some basic education as compared to a member, which might be an important cause for increases in the general level of awareness.

6.6.4 Gender Attitudes of Women

A fundamental element of empowerment is the rejection of a normatively prescribed power of men over women and of unequal rights and privileges on the basis of the sex of an individual. One such normatively ascribed ‘right’ of husbands is to regulate and control their wives’ behaviour and bodies through whatever actions necessary, including the use of violence (NFHS-3, 2006). Hence, women who believe as justified the beating of wives by husbands are less empowered than other who opposes it (Kishor & Gupta, 2004; United Nations, 1995). Overall, it can safely be said that in societies where wife beating is widely accepted and is indicative of a lower status of women, both absolutely and relative to men (Kishor & Lekha, 2008). This study addresses women’s attitudes towards gender equality

through a set of question related to acceptance of wife-beating by husband in their society. The presumption behind these questions is that truly empowered woman would not agree with any justification for a husband beating, which affects her desires and aspirations. The four response categories ranged from strongly disagree (SD), disagree (D), agree (A), and strongly disagree (SA), scored 4 for SD and 1 for A responses were calculated.

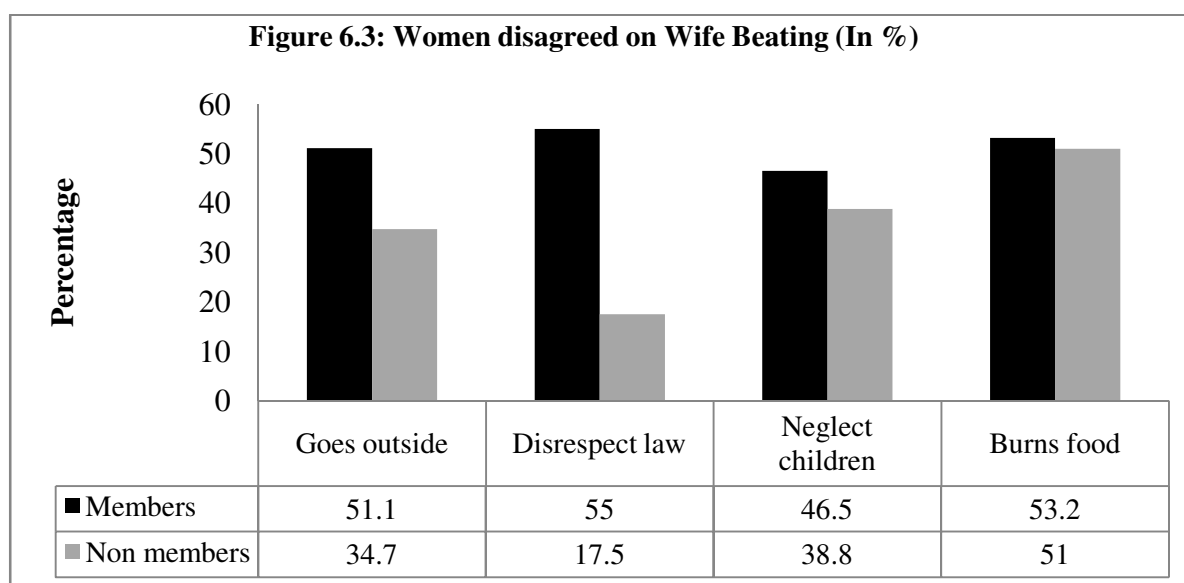


Figure 6.3 presents the women, who disagreed in beating of wife on account of varied reason across membership of SHGs. Interestingly, half of the households have justified beating of wife by husband on different reasons. Maximum members have opposed in beating of wife as compared to non-members. For instance, while about 51 per cent of member disagreed on husband's right to beat her if she 'goes out without telling to him', this proportion for the same works out 34.7 percent for non-members. Similarly, as against non-members, the women joined in SHGs have strongly opposed the husband's attitude of beating of wife when indulging in activities like disrespect shown in laws and neglect children. However, equal proportions of members and non-members (52%) have disagreed about wife beating on 'burn food' in the house. It is the group that provides power among women to raise voice against different illegal issues, domestic violence against women, anti liquor campaign (Wagh, 2009) which helps in developing positive attitudes against beating of wife.

6.6.5 Measurement of Women Empowerment

The present research has included data on 29 variables among which a few of them mentioned here are related to participation in the decision making process, power to work independently, level of awareness and attitude towards wife beating of women to measure the levels of empowerment of women. A principal factor analysis (PFA) with Varimax rotation

was used to assess the interdependency among variables and to reduce the effect of variables that run through them as a common thread (Pitt, et.al, 2006). In other words, studying all 29 variables of empowerment would have been tedious and, in fact not necessary also. Thus, factor analysis was used to reduce variables into a smaller number of manageable factors by exploring common dimensions (Tianyue, 2010). The variable which had common response and high correlation were grouped under a common factor (Kabra, et.al, 2010).

Table 6.16: Part-1 KMO and Bartlett's Test						
Part-1	Kaiser-Meyer-Olkin Measure of Sampling Adequacy					.900
Bartlett's Test of Sphericity	Approx. Chi-Square					8262.432
	Df					378
	Sig.					.000
Part -2 Percentage of Variance and Total Variance Explained						
Factor	Initial Eigen values			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
Decision making	10.460	37.359	37.359	9.481	33.862	33.862
Power of women	5.822	20.794	58.153	5.955	21.267	55.129
Awareness	2.940	10.501	68.653	2.741	9.791	64.920
Attitudes	2.093	7.477	76.130	1.791	6.398	71.318

The measure of sampling adequacy, Kaiser-Meyer-Olkin (KMO), was 0.90 which is greater than the recommended minimum of 0.50 by Kaiser (1974) (Table 6.16). The KMO value close to one indicates that the patterns of correlations are relatively compact, and component analysis should yield distinct and reliable factors (Hutcheson and Sofroniou, 1999). The correlation matrix is not an identity matrix since the Bartlett's Test of Sphericity is statistically significant (Chi-Square = 8262, df =378, $p < 0.000$). These tests imply that factor analysis was appropriate, indicating that the variables are correlated highly enough to provide a reasonable basis for the use of factor analysis (Hair, 2007). None of the communality indicators are close to zero and the model is seen as adequate.

The part-2 section of Table 6.16 explains about the percentage variance accounted by each factor. The factor analysis of 29 variables listed in the survey resulted in four factors (i.e. decision making, power of women, awareness and attitudes) that accounted for 71.31 per cent of the overall variance. The result shows that 33 per cent of the variation in the original variable is explained by the first principal component, whereas each subsequent component explained a decreasing proportion of variance. Four interpretable factors were obtained from the analysis using Kaiser's criterion of retaining factors with Eigen values greater than one (Hair, et.al, 2006). The factor scoring/loading of different variables included in factor

analysis techniques has analysed in Table 6.17. These loadings resulted from four components representing the correlation between variables and factors to which the variables belong.

Table 6.17 Rotated Component Matrixes of Factors		Factors ¹			
Item	Women's participation in decision making on	1	2	3	4
1	Purchase of daily needs for the house	.940			
2	Expenditure on Education of child	.933			
3	Major purchase to the households	.931			
4	Care of own health	.927			
5	Visit of family/relatives	.922			
6	Use of own earning	.919			
7	Use of own savings	.918			
8	Borrow money to households	.915			
9	Use of surplus money	.909			
10	Use of credit	.903			
11	Use of husbands income	.902			
	Women can perform following activities independently				
12	Cast vote in election		.864		
13	Visit market/outside of village		.861		
14	Visit Friends/Relatives house		.860		
15	Discuss with government officers		.855		
16	Participate in protection		.850		
17	Participate in training		.849		
18	Participate in election		.844		
19	Save or withdraw money from bank		.795		
	Women Aware About Following Social Issues				
20	Daughters equal right on fathers property			.860	
21	Boys and girls are equal			.797	
22	Girls marriage after 18 years			.791	
23	Girls continue education like boys			.744	
24	Women aware on place of delivery in Hospital				.637
	Women opposed beating of wife by husband if she				
25	Goes outside without inform to husband				.603
26	Disrespect mother/sister in laws				.575
27	Doesn't care of child				.561
28	Doesn't cook food properly				.485

¹Factors: (1) Decision Making (2) Power of work Independency (3) Awareness and (4) Attitudes, Extraction method: principal factor analysis. Rotation method: Varimax with Kaiser normalization. Cutoff = 0.50.

The higher loading of variables on the factors represents that the factors extract common variance of the variable as compared to the other factors. In this table, the component loading value below 0.40 has been ignored, as they aren't well represented by the factors (Leech et.al. 2005). One of the variables (i.e. Awareness about AIDS teaching in the school) has been deleted from 29 empowerment indicators due to low factor loadings (below the 0.5 cutoff). Different variables are sorted based on the high loading of the variable to fit in the factors and named the factors conceptually. There are 4 factors of empowerment

extracted and conceptually named as (a) Decision making (b) Power of women (c) Awareness and (d) Attitudes from 29 variables included in the model to measure empowerment. Different variables representing participation of women in different activities of households has loaded in first factor. This factor can be termed as “Decision Making”. The decision making factor included 11 variables and their factor loading viz., daily needs (0.940), child education (0.933), major purchase (0.931), own health care (0.927), visit relatives (0.922), own income (0.919), own saving (0.918), borrow money (0.915), household saving (0.909), use of credit (0.903) and husbands income (0.902).

The second factor loaded on the variables is related to the ability of women to perform different work independently. This factor may also be named as “Power of women”. Different variables (i.e. cast vote (0.864), visit market (0.861), visit relative’s house (0.860), discuss government officers (0.855), participation in protection (0.850), training (0.849), election (0.844) and save money in the bank (0.795)) belonged in this factor. All the variables belonging in this factor represent the power and efficiency of women to perform different actions independently without any support or assistance of others.

Another factor measuring the empowerment of women includes different variables related to knowledge of women in different social issues named as “Awareness”. The ‘awareness’ in women included 4 variables with factor loading like right of daughter on father’s property (0.860), gender equality (0.797), girl’s age of marriage (0.791) and girl’s education (0.744). The component loading of fourth factor represents on attitudes of women towards wife beating and can be conceptually called as “Attitude”. The attitude factor contains different variables like place of delivery (0.637), going outside (0.603), disrespecting relatives (0.575), care of the child (0.561) and cooking food (0.485). Reliability analysis was carried out on the four extracted factors. Reliability which describes the internal consistency of a set of items was measured by Cronbach’s Alpha and item-total correlations. The present reliability analysis of Cronbach’s Alpha value 0.924 is good, which in turn shows that consistency of all 28 variables of empowerment (Sekaran, 2003). The standardised regression method⁵ has been applied to generate factor score for each respondent across four empowerment factors extracted from factor analysis (Field, 2005; Hair, 2006). This standardised score/factor score represents the position of the respondents on specified factor of empowerment. In other words, higher the factor score of respondents on a particular

⁵ The “save as regression method” of calculating factor score for each respondent has used to generate 4 standardize score to every informant representing position of women on 4 factors of empowerment.

empowerment factor indicates more empowered than others who have a lesser score (Sun et.al, 2009; Amaza et.al, 2009). Finally, a mean factor score across membership of SHGs are compared to examine the significant relationship between participation in SHGs and empowerment.

Table 6.18 reported about the mean score of empowerment factors extracted from the factor analysis technique with respect to participation in SHGs. An increase in the mean score for each factor in the group makes them empowered than others. The last column of the table shows mean value of each factor is “0” and standard deviation is “1” using the standardised regression method of saving factor score. Old members have secured higher mean score in three factors (i.e. decision making, power of women and attitude) as compared to new members and non-members of SHGs. For example, the mean score of decision making factor is higher for older members (0.205) as compared new members (0.046) and non-members (-0.306). Thus, old members have participated more in decision making (i.e. small and large purchase, own health care, use of own income, credit and saving, visit relatives, husbands income etc) than new members and non-members. Similarly, new members are more advantaged in terms of decision making, attitude factor than non-members. Overall, members have secured higher score in all factors except awareness. For instance, the mean score of members in awareness factor is very less (0.091) as against non-members (0.371).

Table 6.18: Estimated Means of Empowerment Factors					
Empowerment Factors	Mean score				
	New Member	Old Member	All Member	Non Member	All Respondent
Decision Making	0.046	0.205	0.154	-0.306	0
Power of women	-0.188	0.230	0.097	-0.192	0
Awareness	0.381	-0.043	0.091	0.370	0
Attitude	0.053	0.313	0.230	-0.455	0
Total Respondents*	52	112	164	83	247

*Included only married women live with spouse

6.6.6 Participation in SHGs and Empowerment of Women

The mean score with references to membership of SHGs don't provide any information on significant differences within four factors of empowerment. In order to examine about, whether particular membership of SHGs influences the level of empowerment factor differently, a multivariate analysis of variance (MANOVA) was conducted using factors of empowerment as dependent variables (Hair, 2006; Wyatt et.al, 2000; Muilenburg, 2005; Jefferson, 2009). Four dependent variables were used: decision making, power of women, awareness and attitudes. Given the large number of estimates

involved, and since the effects of other explanatory variables (such as female and household characteristics) on empowerment aren't of interest to this study, Table 6.19 only reports the results for the primary variables (Type of membership) related to micro credit. Preliminary assumption testing was conducted to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance-covariance matrices, and multicollinearity, with no serious violations noted. The non significant Box's M test indicates no presence of heteroscedasticity (Significance=.069). In the Levene's test for equality of error variance, four factors of empowerment showed non-significant results confirmed homoscedasticity. There was a statistically significant difference between non-members, new members and old members on the overall level of empowerment as $F(4, 482) = 10.87, p = .00$; Wilks' Lambda=.71; partial eta squared=.15. See Appendix 7 for complete MANOVA results about membership of SHGs on factors of empowerment.

Factors of empowerment	Mean Difference (I-J)		
	Non member (I) VS Old Member (J)	Non member (I) VS New Member (J)	New Member (I) VS Old Member (J)
Decision making	-0.510*	-0.351	-0.158
Power of women	-0.422*	-0.003	-0.418*
Awareness	0.413*	-0.011	0.424*
Attitudes	-0.768*	-0.508*	-0.259

*Post hoc (Turkey HSD, Scheffe), Level of significance < 0.05

Table 6.19 contains two post hoc comparison methods (Tukey HSD and Scheffe) applied to all four factors of empowerment jointly across SHG membership (i.e. Old members, New members and Non-members). There is a significant difference in decision making factor between non-members and old members. For example, the mean difference between non-members and old members is -0.510 (the minus sign indicates that non-members secured lower score in decision making). It confirms that the old members are highly participated in decision making approach as against non-members. The relationship between SHGs and women's decision making appears that women in employment and credit are more participative in decision making as compared to those women who are not in paid employment (Becker et.al, 2006). In India, men often control the household's cash, making it difficult for women to take decision alone in different activities. The provision of credit through SHGs helps to develop positive attitude towards women within the households. It provides opportunity to the women for participation in different household activity. The joint decision making in the male dominated family of rural area leads to increases in the bargaining power of women. However, there is an insignificant relation between non-

members and new members in terms of the decision making outcomes. Similarly, the decision making score between new members and old members are insignificantly related as a post hoc test doesn't support the hypothesis.

The post hoc test of second factor (i.e. power of women) found that the old members are significantly different from new members and non-members of SHGs. Both non-members and new members secured less mean difference value (-0.422 and -0.418 respectively) as compared to old members. It indicates that old members have more power to perform different work independently without any support or assistance of others. The long period of association with SHGs, not only solve financial problem but also raise the confidence of members to move independently on outside of the village, participate in training, discuss the problems before government officers etc. Most of the members visit bank to deposit their saving and borrow loan, which could be the possible reason of increase in confidence of women. The change of group leadership (i.e. president) in every year also helps to learn different activities in bank and encourages the members to become self-dependent in other works. However, there is an insignificant relationship found between non-members and new members of SHGs in second factor of empowerment (i.e. power of women).

Comparison between awareness and membership of SHGs revealed that non members and new members achieved higher mean value than older members. For instance, the mean differences of 'awareness' are higher for non-members (0.413) and new members (0.424) as against old members. It confirms that both new members and non-members have more aware about girls' education, gender equality, and girl's age of marriage as compared to old members. The higher portion of illiterate women (92%) joining in SHGs may be the possible reason for low level of awareness. Similarly, old members have less exposure to any media as compared to non-members and new members of SHGs. The high level of illiteracy and lack of exposure to media reflected on low level of awareness among old members as compared to new members and non-members. On the other hand, there is insignificant relation exist between non-members and new members on the level of awareness.

The fourth factor of empowerment is the opinion of women regarding beating of wife on specified reason known as "Attitude factor". Both old members and new members are significantly different from non-members in terms of the 'attitude' factor as post hoc test is highly significant. Very few non-members have disagreed on wife beating for different reason as compared to new members and old members. For example, the mean difference score for non-members in terms of the 'attitude' factor are -0.508 less than new members and -0.768 less as against old members. There is an insignificant relation between old members

and new members on fourth factor of empowerment (i.e. Attitudes). The following conclusion is thus arrived from the impact of SHGs participation on women empowerment.

Firstly, the old members are highly participative in decision making, are more power to work independently and strongly oppose wife beating as compared to non-members. But non-members have more awareness than old members.

Secondly, new members have strongly opposed wife beating as compared to non-members. However, there is no significant difference found between new members and non-members on other factors of empowerment (i.e. Decision making, power of work independency and awareness).

Thirdly, old members have more power on work independency as against new members. But the new members were more aware on social issues than older members. There is a no significant difference in decision making and attitude factor between old and new members.

6.6.7 Effect of Credit Amount on Female Empowerment

Different past research studies found a positive relation between the amount of credit sanctioned through SHGs and the level of women empowerment (Hoque & Itohara, 2009; Li, 2010). This research has used the “T test” to find out the relationship between credit and 4 factors of empowerment (Hair, 2006). The amount of credit sanctioned (divided into two categories) to the members through SHGs was used as independent variables taking four factors of empowerment (i.e. Decision making, Power of women, Awareness and Attitudes) as the dependent variable.

Factors of empowerment	Mean scores		T test	
	Borrowers received credit (Rs 3000- 10000)	Borrowers received credit (Rs 10001- 22000)	T value	Significance
Decision making	-0.278	0.587	-5.48	.000
Power of women	0.052	0.156	-0.645	.520
Awareness	0.089	0.241	1.104	.271
Attitudes	0.247	0.207	.362	.718

We compared the average empowerment factor scores of each factor for borrowers who received low amount credit (all of whom were receiving credit of Rs 3000 to Rs 10000), with those borrowers who received high amount credit (all of whom were receiving credit of Rs 10001 to Rs 22000) (Table 6.20). Members who borrowed high amount of credit (Rs 10001 to Rs 22000) secured higher mean value in the ‘decision making’ factor as against those who received low amount of credit (t value -5.488). The relationship between more amount of credit and decision making appears that women in the higher credit zone are

significantly/more likely to report about participation in decision making compared to those women who have received low amount of credit. This finding is consistent with Hashemi et.al, (1996), Pitt et.al, (2006) and Li (2010) who observed that participation of women in decision making increased due to supply of micro credit to the households.

One possible reason could be that the sanction of credit through SHGs helps to improve the position of women in the house. Other members of the households realise that a woman has the power to support the family in case of economic shocks through financial assistance. It leads to changes in the attitude of husband towards their wife which further leads to increase in the bargaining power of women and allows them to actively participate in the process of decision making. However, there is no significant difference between the amount of credit on other factors of empowerment (i.e. power of women, awareness and attitudes). In a patriarchal system like in the Indian villages, it is difficult for a woman to improve the power of work independency, bringing about awareness and change in attitudes with an increase in the amount of credit.

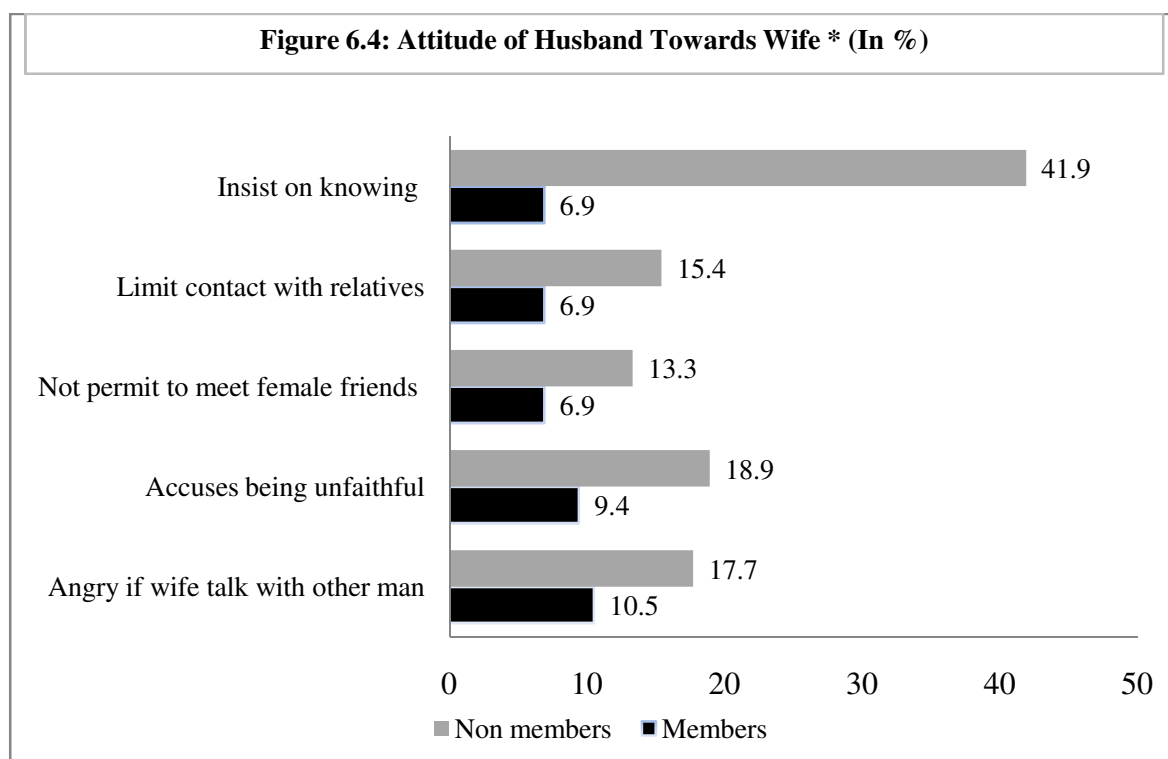
6.6.8 Conclusion

Overall, our empirical findings confirm the findings in previous studies such as Hashemi et al. (1996), Zaman (1999), and Pitt, et.al, (2003; 2006), suggesting that years of association with credit programmes has a positive and significant impact on women empowerment manifested across various dimensions. First, the results suggest that the use of micro credit leads women to having a greater control over their own financial assets such as income and savings, which is referred as economic empowerment in literature. This finding is important since literature indicates that economic empowerment always forms the base of female empowerment in other dimensions (Ansoglenang, 2006; Mayoux, 2002; Zaman, 1999 as cited in Li, 2010). In addition, micro credit borrowing strengthens women's familial standing as represented by their greater role in the family decision-making process. Participation in micro credit programs also augments women's autonomy in making not only small purchases (such as utensils) but also large purchases (such as farming machinery). However, the result is not sync with the findings of Hoque & Itohara (2009) and Li (2010) studies regarding the amount of credit on increases in level of empowerment.

6.7 Degree of Marital Control

The meeting of SHGs, length of group existence, coordination and communication between group members, leadership diversification, understanding between leader and members are largely helpful for the long term existence of the SHG programme (Wituk et al., 2002; Torri, 2010). Besides, certain male behavior meant to keep tight control over women,

particularly wives, restrict the freedom of women and makes the SHG programmes less successful. Some studies found that husbands often accuse the wife due to her participation in group activities or mobility in different places, which gives rise to factors for violence (Torri, 2010; Rahman, 1999; Mallick, 2002). The marital control activities exercised by husbands on different activities of wife makes them disempowered at household levels and obstruct the growth of SHGs. Accordingly, our survey sought information on six controlling behaviors that may be manifested by husbands, by asking each ever-married respondent in the study area.



*Applicable to married women live with a spouse

The participation in SHGs is largely helpful to limit the marital control exercise by husband towards their wife. Majority of wives replied that their husband was allowing them to go to bank or government offices with other SHG members. Figure 6.4 shows about five types of marital control activities exercised by husbands towards their wives across the SHG membership. Generally, non-members are facing high degree of marital control as compared to members in different aspect. For instance, while about 17.7 per cent of non-members agreed that their husband is jealous if she ‘talks with other man’; this proportion for the same works out to 10.5 per cent for member category. Similarly, higher percentage of husband (19%) in non-member households accuses to their wife for ‘being unfaithful’ as against members (9.4%). As far marital control activities like ‘not allowing to meet female friends’

and 'limiting contact to meet family/relatives', non-members are more disadvantages than member of SHGs. A higher proportion of non-members agreed that their husband 'insist on knowing about the presences of wife at all times' as compared members (42% versus 7%). The provision of credit helps to develop positive attitude of husband towards their wife. This might be the possible reason for a lesser degree in marital control and increase in respect of women members within the house.

6.8 Management and Multidimensional impact of SHGs

The formation of SHGs not only provides self employment to the members, but also increases the courage of women in rural areas. As a result, women living in rural areas come out of the four walls of house and actively engage themselves in different activities. Some SHGs are also offering food under midday meals programme in government schools, participating in public distribution system, protesting against alcoholism in the village etc (Sanyal, 2009; Wagh, 2009). The involvement of SHGs in watershed management programme leads to an increase on agricultural production in rain fed area. Different policy and programmes adopted in formation of groups have a major influence over personal development of members. For example, monthly meeting of SHGs provides information regarding different social and welfare programmes to the members. There is an increase in awareness related to causes and effects of mortality, child death rate, nutritional food, immunization programme etc. due to participation in SHGs meeting. Similarly, NABARD is providing capacity building; training and other technical support to the members for smooth operation of SHGs.

6.8.1 Operation of SHGs

The organisation of monthly meeting is one of the important activities mainly responsible for long term existence of the SHG programmes. All SHG members meet once in a month for collection of saving and solve problems related to internal management. The participation of women in SHGs and its various activities is important for meeting out the broad objectives of micro-financing and effective functioning of SHG's. Table 6.21 contains information on the operation, structure and problems in association with SHGs programme.

More than half of the members (56.3%) who joined the group comprise of 11-15 members, while about 12.3 per cent of SHG's were reported to comprise of less than 10 members. Maximum new borrowers have formed groups within 10 to 15 members (78%), which is 40.5 per cent for old borrowers. The average size of the group has been reported to be medium (i.e. 15 members). Interestingly, more than 97 per cent of the respondents reported that the groups are stable. The sources of information to join the groups found that

higher percentage of members (38%) have joined in the group from suggestion of friends and relatives followed by 27 per cent with an own interest. However, 15.7 per cent members joined in the group as other SHGs members approached them.

	New Member	% to N ₁	Old Member	% to N ₂	All Member	% to N ₃
Total members	N ₁ =127		N ₂ =173		N ₃ =300	
5-10	28	22.0	9	5.2	37	12.3
11-15	99	78.0	70	40.5	169	56.3
16-20	0	0	94	54.3	94	31.3
Who suggest to join SHGs						
Own interest	46	36.2	35	20.2	81	27.0
Family member	16	12.6	19	11.0	35	11.7
Friends/relatives	60	47.2	55	31.8	115	38.3
NGO Workers	0	0	22	12.7	22	7.3
Other members	5	3.9	42	24.3	47	15.7
Meeting frequency						
Monthly	81	63.8	173	100.0	254	84.7
Never	46	36.2	0	0	46	15.3
Any training						
Yes	0	0	60	34.7	60	20.0
No	127	100.0	113	65.3	240	80.0
Problems in SHGs						
Low return	77	37	145	38	222	38
Inadequate loan	51	25	79	21	130	22
Low price/marketing problem	21	10	76	20	97	17
Others	59	28	79	21	138	23

Regular meetings are very important, especially so in the initial stage. Different SHGs decide a fixed date, time and place for the meetings according to the consensus from their personnel. This ensures that women remain committed to the group and are able to plan in advance as regards the operation/running of SHGs. Maximum members (84.7%) organised monthly meetings to discuss about credit related issues and collecting monthly repayments. In most of the cases, meetings are called by the group leaders in consultation with group members, as per requirement and need for decision-making. The proceedings of the meetings are recorded by group leaders or facilitators, while decisions are taken jointly by consensus. Majority of the respondents (95%) reported that all members participate in the decisions of the group meeting. Nearly 64 per cent of new members and all old members organized meeting regularly.

The provision of training facility to the members of SHGs helps in proper use of credit, bank linkages, confidence building and enterprises skill development etc. Our field survey revealed that only 34.7 per cent of old borrowers participated in any training

programmes. None of the new borrowers received any training regarding use of credit for non agricultural activities. As a result, a lesser number of women (26.5%) invested the credit for business or trade related activities and/or to be employed throughout the year. On the other hand, members who used credit for agriculture fields are facing the problems of seasonal unemployment.

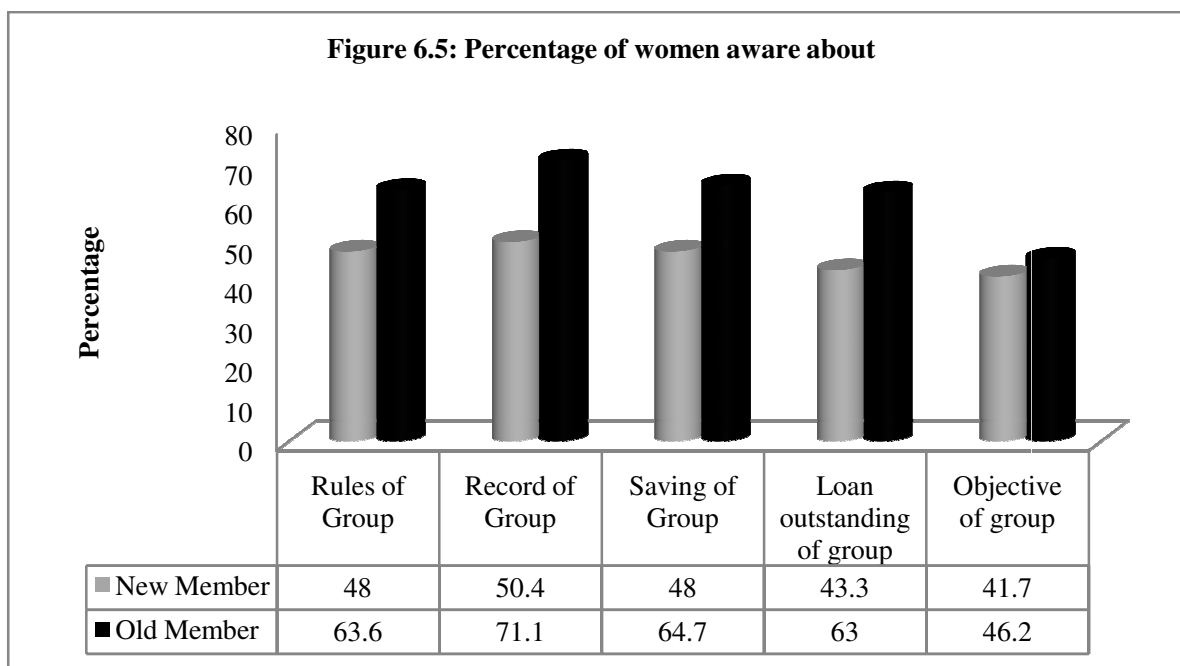
As commonly perceived by the respondents, there are a host of factors that affect the borrowing of credit from SHGs. Majority of the members (38%) replied that low return of agricultural products is one of the problems as regards repayment of loans. Similarly, few of the members reported supply of inadequate loan (22%) and selling of goods at low price (17%) are big hurdles in SHGs. However, one quarter members agreed that lack of training facilities with marketing are major problems of income generating activities (Madheswaran and Dharmadhikary, 2001). Although, members have availed loan facilities through participation in SHGs yet few of them aware about group activities.

6.8.2 Awareness about Groups

The knowledge and awareness of members relating to management of SHGs helps in long term sustainability of the programme. Unless they are well informed about the programmes and projects on going for their welfare, it is not possible for them to participate in it and contribute towards the designing, planning and implementation as well as monitoring of the projects. Group formation activities are one major source of awareness for the members. Most of the informants in the group discussion sessions revealed that they were bold enough to go to the bank premises only after they joined the group and began thrift activities. Thus, group activities contributed towards the enhancement of the capacities of poor women. Maximum members understood several things in association with the group and group activities. Five aspects of awareness related to group management are examined in this study has been shown in the horizontal axis of the Figure 6.5.

The result shows that old members were more aware about various activities of SHGs as compared to new members. For instance, while 48 per cent of the new members know about rules of the group, this proportion is higher for older members (63.6%). Maximum old members are aware about the record of group as compared to new members (71.1% versus 50.4%). Similarly, old members are more aware on the amount of group saving, loan outstanding and objective of the group than new members. However, all members are fully aware on the monthly repayment of credit and the amount of monthly saving in SHGs. It might be the cause for cent per cent repayment of loan sanctioned under SBLP. Overall, half of the new members have not actively engaged themselves in different activities of the group.

The prevalence of illiteracy and absence of monthly meetings could be the possible reason that hinders new members to participate in group activities. In recent years, NABARD has taken different steps to provide the basic financial literacy programmes for active participation of members in management of SHGs (The Hindu, 2012).

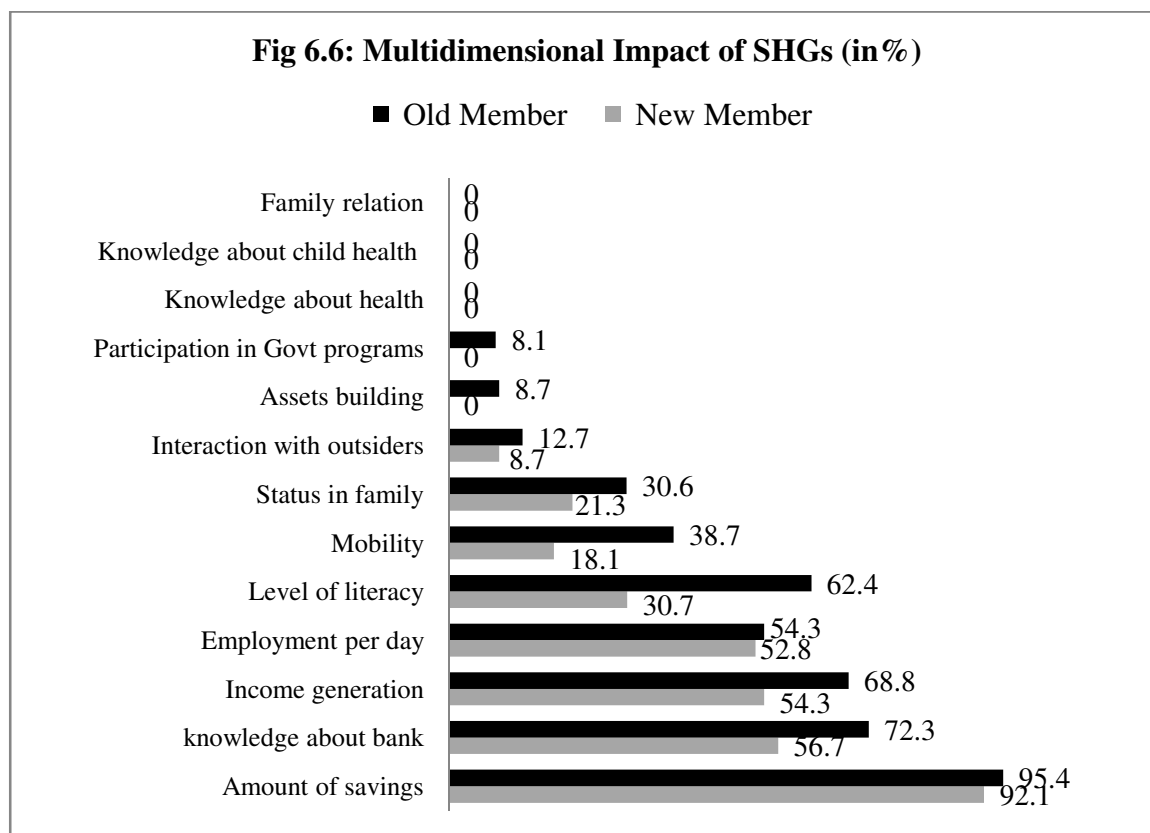


6.8.3 Multidimensional impact of SHGs

Micro credit programme has started to create self employment opportunities through provision of credit at its initial phase. Later, there is a multifaceted impact of micro credit programme which has been observed in terms of improvement in child education, health awareness, financial knowledge etc. Some members have realised that participation in SHGs helps to increase in knowledge about bank, income and employment generation especially for housewives and female labourers within the village. Facilitation of group formation has not only enabled women to participate in thrift, credit, loan availing facilities, but also often have a macro impact on her life and family (Karmakar, 2008). This study examines the socio economic benefits availed by members due to their participation in SHGs. The inferences are drawn by comparing the sample of old members with those of new members.

Figure 6.6 shows about the multidimensional impact of SHG formation across types of membership. The result shows that there is an improvement in socio-economic condition of members due to participation in SHGs. More than 60 percent of members replied that, there is an increase in the amount of saving, income generation and knowledge about bank after joining SHGs. Nearly, 30 to 50 per cent of members agreed on increase in employment per day and literacy rate due to the provision of micro credit. As a result, there is an increase

in power of work independency and self esteem of women both at the household and community level. However, very few members agreed on increase in interaction with outsiders (11%), asset building (5%) and participation in government programmes (4.7%) due to availability of micro credit. Similarly, no significant impact was noticed in terms of changing the awareness level related to health and nutrition status of members in association with SHGs.



6.9 Qualitative Assessment

Different socio-economic factors obstructing provision of efficient financial services to the households living below the poverty line were explored in past research studies (Rangarajan, 2008; Basu and Srivastava, 2005). For example, lack of sufficient collateral securities (i.e. Land and house) in wife's name is a major obstacle for receiving credit from formal financial institutions in India. Besides, prevalence of cultural and social taboo in the rural area also restricts women to visit the bank and other financial institutions. In an attempt to provide a greater transparency in the provision of credit, five case studies were conducted to examine different constraints in SHGs. These case studies emphasise the need to examine some issues related to credit.

Case-1: Delay in Supply of Credit

She has opened a saving account on State Bank of India (SBI) near her village in the name of SHGs to receive credit. She visited four times to the concerned bank for showing different documents and finally succeeded to open an account. After getting a savings account issued, she visited the bank another 4 to 5 times for getting a loan in the name of SHGs. According to her, it is very difficult

Name-Laxmi Dalai (Name changed) Position- President of “Janani” SHGs Gender- Female, Age-27 Education-Secondary Occupation-Housewife Marital status- Married

to open an account in the bank due to the cumbersome bank procedures. On the other hand, local money lenders provide credit immediately to meet the short term emergency of poor households with an exorbitant rate of interest. Thus, she prefers to borrow credit from informal sources rather than formal financial institutions.

Discussion

The above result clearly indicates the supply side constraints including delay in sanction of credit, verification and other documentation procedure leads to low demand of credit by poor households in rural areas. The non co-operative attitude of bank officers towards the poor people is another factor to create negative attitude of borrowing credit from the bank. There is an urgent need of policy implementation for sanction of credit within a stipulated time period, which will attract the rural households towards the financial institution and save themselves from the clutches of money lenders.

Case-2: Ray of Hope

She sold all her land and gold to pay the hospital fees for treatment of her husband but could not save his life. The SHGs provided Rs 5000 as loan to perform different ritual norms after the death of her husband. At present she is working with other members in the agriculture field and earning some money due to micro credit. Now it is the credit that she receives through SHGs with which she is providing bread to her family members.

Name-Kamini Nayak (Name changed) Position- Member of “Asrya” SHGs Gender- Female, Age-37 Education-Illiterate Occupation-Housewife Marital status- Widow

Discussion

Although the amount of credit provided under the SHG programme is very small, yet it is the best way to extend financial services to the poor households. The main aim of micro credit is not to increase in income but to decrease the level of poverty through believe and confidence. The availability of timely credit helps the member of the SHG to perform

different agricultural work in time, which in turn leads to increase in agricultural production. As a result, thousands of women members would be able to shape their future with open eyes.

Case-3: Increase in Self-respect

She replied that her husband is quite happy due to participation in SHGs. Now she can arrange money quickly to perform different agriculture related work during the monsoon season. Previously her husband borrowed money from the village shop keeper with high rate of interest. Some time their family could not perform agricultural activities in time due to lack of money. But now she has not any fear to get credit from SHGs before harvesting and is able to complete different agricultural work in time. As a result, there is an increase in agricultural production and standard of living of the households.

Name-Sabitri behera (Name changed) Position- Member of “Laxmi” SHGs Gender- Female Age-32 Education-Illiterate Occupation-Housewife Marital status- Married

Discussion

In many households, an increase in self respect of women has been observed due to the provision of credit. Now, men encouraged their wife to join SHGs to receive credit and fulfill their short term economic needs. Some husbands even gave special thanks to their wife due to their participation in SHGs and emergency support in financial crisis of households.

Case-4: Problems Related to Sanction of Loan

She replied that the person who assisted in filling the application form and completed other official work, requested some money for early sanction of credit and subsidies to the group. Finally, the group members gave Rs 4000 as bribes (Rs 200 for each member) to the concerned person. As a result, their group availed credit and subsidy amount quickly from the bank under SGSY programs.

Name-Lata Sahu (Name changed) Position- President of “Sanchaya” SHGs Gender- Female Age-48 Education-Illiterate Occupation-Housewife Marital status- Married
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Case-5: Janaki Dora (leader of village Panchayat) formed three SHGs to receive credit. She had given Rs 5000/per group as bribes for sanction of credit and subsidy to both bank officials and Officers of Panchayat office (P.O) in the concerned block. As a result, the members of SHGs availed credit and subsidy quickly under SGSY programmes. However, many other groups complained about delays in sanction of

Name-Janaki Dora (Name changed) Position- Head of village panchayat Gender- Female Age-45 Education-Primary Occupation-Business Marital status- Married

loan even after one year of submission of application to the concerned bank.

Discussion

The problem relating to verification of documents and other formal procedures is the prime cause for delay in sanction of credit with subsidy to the members of SHGs. This leads to interference of a middle man in the programme who demands money from the poor people for providing credit and subsidy quickly. Some groups have given extra amount of money to the middleman, as they were unable to complete the official procedure due to their illiteracy. However, others weren't happy on the intervention of political person in the management of credit with subsidy.

The long term existence of the SHGs depends upon proper coordination and strong believes among the members. *“In my field of study, I found two groups consisting of 40 members returning the total amount of loan without investing a single penny productively purpose due to the fear of repayment in future. However, the group invested the amount of subsidy received with loan for setting up micro enterprisers”*. The above result confirms that lack of cooperation and confidence among the members may be disbanding the group in the long run. This will break the growth of SHGs and fail to fulfill the mission of financial inclusion.

CHAPTER 7

SUMMARY OF FINDINGS AND CONCLUSIONS

7.1 Backdrop

In India, as far as the rural credit system is concerned, it is both the formal and the informal sector which play a leading role to provide financial services. The formal financial system is based on strict rules and regulation, terms and conditions, official procedures and various types of documentation to provide credit. However, the informal financial system is characterized by a high degree of flexibility, ease of transactions and emphasizes on personal relationships. The existence of informal financial sector may be a response to the shortcomings of the formal financial sector due to various restrictions imposed by governments on the activities of such institutions. As a result, poor people prefer to borrow from informal channels of finance like private money lenders who generally exploit them in the name of financial help and make the borrower indebted for a lifetime.

The new micro finance approaches are being developed to compensate for the relative lack of success with which formal banks have been serving the poor people living in rural areas of India. It has been looked upon as an important mean of financial inclusion to provide basic financial services in India (RBI, 2006b). The provision of financial services proactively works towards reducing the dependence of poor borrowers on various informal sources of credit that are often notorious for the oppressive terms at which they offer credit. The poorest, especially women, when receiving credit become economic actors with power; this enables them to improve not only their own lives but make an impact at a much wider circle, in terms of impacting the lives of their families, their communities, and their nation at large. In spite of a multidimensional impact of group credit in the international perspectives, different studies of micro credit show mixed results especially in the Indian context (Ray, 2008; Basu and Srivastav, 2005; Torri, 2010).

Great debates are to assess as to whether forming groups, making women as members, providing them with credit and imparting some business skills would change the social equations in the society at all. The proponents argued that providing micro credit can indeed prove to be a suitable mechanism in enhancing poor women's socio-economic conditions and thus alter the relations between gender and class (Vinaygamoorthy, 2007; Vijayanthi, 2002; Wagh, 2009; Sooryamoorthy, 2005). On the other hand, critics argue that the provision of credit may lead to a marginal increase in income and assets, which may in turn enhance the well-being and economic security, but the increase may be only for short

runs (Hulme, 2000; Kabeer, 1998; Morduch, 1998; Hoquea, 2004). The present study therefore, attempts to examine the economic and empowerment impact of micro credit on the households. The study also intends to assess different factors likely to influence the participation in SHGs and thus be credit worthy.

7.2 Objective of the Study

The study has been undertaken with the following objectives:

1. To measure the economic status of households who borrowed micro credit as compared to non-borrower group.
2. To assess the level of woman empowerment participating in SHGs programme as against those who didn't join in the programme.

7.3 Methodology

In order to fulfill the objectives above, this study has included female informants living below the poverty line (BPL) households in rural areas of Ganjam district of Odisha, India. Primary data were obtained from 300 women who joined SHGs (Treatment group) and 100 women who hadn't joined them (Control group) through a rural household survey using structured questionnaires. The survey questionnaire was personally administered to the rural households from December 2010 to July 2011. The impact of credit then was examined by comparing 3 group's viz., Old members (joined in SHGs before 4 years), new members (joined in SHGs within 1 to 4 year) and non-members (Never joined SHGs).

The present research has collected different variables like type of housing, quality of food consumption and availability of asset in the house as a proxy indicator to measure the economic status of the households. Principle component analysis (PCA) has been applied using proxy variables to construct ESI of the sample households. After the division of ESI into two categories, logistic regression was used to find out factor's influences on high economic status. Further information were obtained from female respondents on decision making, power to do certain activities independently, their awareness on different social issues and their attitude towards wife beating. These variables in turns were used in factor analysis to construct the empowerment factor and evaluate the impact of micro credit on their empowerment. The information gathered from the household survey included household characteristics, such as age, gender, family size, etc., which were hypothesised to influence the participation in SHGs. These household characteristics also served as control variables in the impact analyses. Secondary data were obtained from the BMASS office in selected blocks, which comprised of household/other characteristics (i.e. age, the amount of loan and subsidies sanctioned etc.) of members assisted under SGSY and BMASS programme during

the period of 2009-11. The major finding of the study has been further scrutinized in the following paragraphs.

7.4 Major Findings

Table 7.1 summarises the estimated results of the empirical models. The impact of credit on the economic status of the households shows that,

An increase in the age of head of house up to a certain level leads to an increase in the economic status of the households at large. The young and energetic person being the head of the house enjoys high economic status due to an increase in the earning capacity as compared to an older person. Further, the head of the house being married is something that is positively associated with high economic status as against a widowed or unmarried category. A widow or unmarried woman being the head of the house doesn't have any/limited employment opportunity due to household work, thus, there's no impact on the livelihood and her own economic status. There is indeed a negative relationship between the woman being head of the house and her high economic status category.

The availability of land influences the high economic status of households in rural areas. In general, the presence of land largely contributes to an increase in income through various agricultural outputs, and thus helps to improve the economic condition of the households. However, there is definitely a negative relationship between the distances of a bank vis-a-vis high economic status: the distance of a bank from the village compels the households to borrow from informal sources often with higher interest rates. This further leads to a lower standard of living and weakens considerably their economic position. Similarly, an increase in the number of working people also helps to improve the economic position of the households.

The presence of SHG members tends to increase the economic status of the households. Participation with SHG programmes helps the households to meet the credit requirement for investment in agricultural/micro enterprisers. As a result, there is an increase in employment, income and economic status of borrowers as compared to non borrowers of SHGs. However, old members are not significantly different from new member households in terms of the economic status index- this may be for two reasons; (i) Both households use loan for agricultural purposes (ii) seasonal employment (also a major concern), deteriorating the economic position of the borrowers.

An increase in the loan amount is positively associated with high economic status of borrowers. The increase in the credit amount does help to generate more profit from investment, which in turn further raises the income level, and thereby enhancing the

economic condition of the households. Finally, the sanction of subsidy leads to an improvement in the economic status of the borrower households. The use of subsidy for income generating purpose may be sole possible reason to increase the economic status of households.

Table 7.1 Determinants of Economic Status, Participation in SHGs, Access of Informal Credit and Women Empowerment

Factors	Economic status	Credit from SHGs	Informal credit	Women empowerment
<i>Household characteristics</i>				
Age of house head	+	NI	+	NI
Education of house head	0	NI	0	NI
Marital status of house head	+	NI	+	NI
Sources of Income	0	-	0	NI
Female headed house	-	+	0	NI
Land status	+	0	0	NI
Distance of bank	-	+	+	NI
Informal debt	0	-	0	
Caste of households	0	-	+	NI
Size of family	0	0	0	NI
Number of working people	+	0	+	NI
Any migration	0	-	0	NI
Location	0	0	0	NI
Economic status	NI	+	0	NI
<i>Credit variables</i>				
Members of SHGs	+	NI	-	+
Amount of loan	+	NI	NI	0
Period of loan	0	NI	NI	NI
Loan purpose	0	NI	NI	NI
Subsidy	+	NI	NI	NI
<i>Individual characteristics</i>				
Age of respondent	NI	+	NI	NI
Education of respondent	NI	-	NI	NI
Occupation of respondent	NI	0	NI	NI
Marital status of respondent	NI	0	NI	NI
Number of child	NI	-	NI	NI
Access of media	NI	0	NI	NI

Note: 1. (+), (-), and (0) represent positive, negative, and no significant impact, respectively;

2. 'NI' means that the variable is not included in the model

Evaluation of different factors compels women to join SHGs and borrow credit; the following conclusions can be drawn:

Those households who mainly depend on non-agricultural sources are less likely borrow credit from SHGs. Irregularities in the monthly repayment of loans due to loss in business might be the main reason for creating fear especially for those households who are solely dependent on the business and the services sector. The lack of small-scale enterprises,

absence of entrepreneurial skills, adequate market and other facilities are among the major hurdles for investment in the non-agricultural sources/sectors.

A house being headed by a woman is more likely to borrow credit from SHGs. Thus, female headed households do largely depend on micro credit in order to fulfill the requirements of their family and lack of an alternative source of credit especially in the rural areas. The differential power relations between men and women where the latter has limited control of assets especially land and houses that can be used as collateral might be inhibited from taking loans from banks (Mpuga, 2010). It inclines the women headed households to borrow more from SHG programme without any collateral.

A household's accessibility to micro credit differs according to the caste of the households, as well as the physical distances between the village and the bank. In general, households belonging to the upper castes (i.e. OBCs and Generals) are less likely to borrow credit from SHGs. A large majority of these higher social groups have adequate fixed assets (i.e. land and collaterals) to get credit from a bank, which in turn discourages them to borrow from SHGs. Similarly, the likelihood of women's participation in SHGs rise with the increase in distance of the bank from village as both is positively related (Table 7.1). The absence of formal financial institutions in rural areas forces women to avail credit through formation of SHGs.

The presence of migrated members in the households makes it less likely for women to join in the SHGs. Furthermore, a household's accessibility of micro credit may be increased with improvements in the economic status. This is possible due to a positive impact of previous credit that the households have availed in association with SHGs. It may also be true that more amounts of credit lead to higher income; the household is able to save more and to acquire more assets; this may often compel the households to request more credit, implying that at higher income levels, a household is more likely to demand for loans frequently and in larger amounts. Besides it, any informal loan also leads to lower the probabilities on access of credit from SHGs.

The age of a borrower is positively associated with borrowing credit from SHGs. An increase in the age of the borrower leads to an increase in the chances of joining SHGs for credit. One possible explanation for this is that, as the age of women increases, she becomes more self-confident or self-dependent, which in turn enables her to participate in SHGs programmes. An increase in the number of children does create fear among women due to the monthly repayment of the loan, which does considerably reduce her probability of joining the SHGs. On the other hand, the education and/or qualifications of a borrower are negatively

related to the credit accessibility from SHGs, as the increase in education of the respondents makes it less likely for them to join SHGs because they have alternate employment opportunities.

Different factors that significantly influence on a determinant of credit from informal sources reveal about following outcomes (Table 7.1).

The access of informal credit to the households is significantly influenced by variables like age and marital status of the head of households, caste of the households, distance of the bank and membership of SHGs. However, other variables like education qualification of the house head, gender of the house head, sources of income, family size, number of working members, economic status, migration, location of the village and land holding status have an insignificant relation to borrow credit from informal sources.

An increase in the age of the house head (due to old age) leads to a reduction in the earning capacity. This might force the households to borrow money from informal sources in order fulfill the socio economic requirements of the family members. The widow/divorced person being head of the house are generally feared to borrow mainly from informal sources due to low capacity to work and lack of support from the spouse. The easy and quick availability of loan for households belonging to the upper caste (i.e. OBCs and Generals) does encourage them to borrow from informal sources. Similarly, an increase in the distance of a banking institution from the households tends to increase the borrowing from informal sources. Another benefit of SHGs membership is that it makes less likely to borrow loan from informal sources to the households especially in the rural areas (Mpuga, 2010). SHG member households are less likely to borrow from informal sources in comparison to non-members. Provision of adequate credit through SHGs helps in reducing informal loans and thereby freedom from moneylender to the poor households (Ray, 2008). There is a positive relation between the number of working member in the households and credit from informal sources.

The participation of SHGs does have a positive and significant impact on women empowerment being demonstrated in various dimensions.

Firstly, the old members were highly participative in the decision making process, they have more power to work independency and strongly oppose wife beating as compared to non-members. But non-members, on the other hand have more awareness than old members.

Secondly, the new members are strongly opposed to wife beating as against non-members. However, there is no significant difference found between new members and non-members on other factors of empowerment (i.e. Decision making, power of work independency and awareness).

Thirdly, old members have more power to work independency in comparison to new members. But new members were more aware on social issues as compared to old members. There is a no significant difference in decision making and attitude factors between the old and new members.

The result further shows that association with SHGs does change the attitude of women towards wife beating for different reason (e.g. burn food, neglect the child, disrespect law). The earning capacities of members due to credit have changed their attitudes considerably and do inculcate the ideas of gender equality within the society. Another benefit of membership of SHGs found in the study is a lesser degree of marital control by the husband on different activities of the wife (i.e. talk with another man, limit contact, meet female friends). The frequent mobility of members to the bank, attend meetings and discussions with other members helps increase the freedom of women in the rural areas.

By analysing the operation and management of SHGs, this study highlights the following conclusion.

More proportion of new members have not aware about group activities (i.e. rules, objective and saving of the group) due to absence of monthly meetings at regular interval. The probability in disbanding the SHGs increases because of non-cooperative attitude among the members and their lack of participation in group activities. However, the multidimensional impact of SHGs does reveal that members have increased their income, employment, mobility, saving, knowledge about saving and other aspects because of their association with the SHGs.

7.5 Significance of the Research Findings

The group credit system immensely helps to raise the level of income and employment through innovative approach from the under-developed countries to an advanced economy. In India, the holy linkage of SHGs and finance institution makes the programme as largest and fastest network of the world by providing financial services through a bottom up approach. There is a need of good policy and proper planning to make SHG programme sustainable, thereby fulfilling the mission of financial inclusion (Planning commission, 2007). Micro credit must have a flexible system of savings and loan repayment so that those with uncertain incomes can also participate. However, the strengthening livelihoods of SHGs depend largely on supply of credit along with credit services as well as credit worthiness of SHGs. The joint effort of supply and demand side factors supports to achieve the objectives of programmes within the stipulated period.

In the supply side, different institutions involved in the micro credit programme would formulate innovative policies to attract more clients through credit. As a result, a vast majority of households in rural areas prefer to borrow micro credit. This further helps in the development of small-scale enterprisers based on local availability of resources vis-à-vis the level of employment. Our survey recommended the following suggestions based on research results for long term existence of SHGs programme and to make it highly successful in providing financial services.

- 1) The research findings recommended establishing micro enterprises that would provide employment opportunity to the members throughout the year. However, there has to be some initiative and knowledge among clients on the use of credit in order to start micro enterprises for enhancing permanent generation of income. The provision for the development of entrepreneurial skill and knowledge of business will create interest among the clients to investment of credit for non agricultural purposes. Similarly, the availability of raw material, market demand and capabilities of beneficiaries should be taken into consideration before identifying productive activities.
- 2) Guidance and counseling must be available to the families as regards their choice of skills and activities which they would like to undertake. Multiple activities should be offered; finances provided must also be flexible to meet their needs for consumption, production, housing, etc. Importantly, a close monitoring and follow up on the functioning of micro enterprises, both at the individual level and joint ventures, is required. There is a necessity of taking corrective steps in case of any problem in the operational aspect of microenterprise. These steps in turn will undoubtedly improve their functioning and avoid a situation of several enterprises becoming unviable and sick. The SGSY programme unfortunately hasn't been a successful scheme as activities are selected just based on what can be supplied by poorer households. Government departments and agencies, even NGOs haven't succeeded in understanding the market demand and creating fresh demand for products and services delivered by the SHGs. The poorest households adopt different activity recommended by the government functionaries without access to external expertise or guidance.
- 3) A major challenge for micro credit scheme is the viability of non-farm activities. The main constraint faced by rural women in taking up non-farm activities are illiteracy,

lack of training, capital, quality, marketing and lack of entrepreneurial attitude. Two major problems are, firstly, to find the economic activity that will yield a rate of profit necessary to cover the interest rate on the loan. Secondly, marketing of the produce is a major problem of many SHGs (Madheswarn and Dhramdhikary, 2001). Hence, relatively less risky activities like pan shop, basket making, incense stick making, preparation of dry food items etc, are recommended for non-farm activities.

- 4) Our research outcome reveals that the investment of credit for agriculture purpose helps to provide employment during the monsoon season. However, borrowers are facing unemployment problem during the lean season (February- July) of agriculture. Thus, there is an urgent need of planning to create employment through credit during the lean season of agriculture that would solve the problem of seasonal employment of clients. The old clients even though associated with SHGs for 7 years are still now living below the poverty line due to a low level of income from agriculture. Different factors like use of credit for agricultural operation, traditional pattern of cultivation etc., results in low output, low income and less profitability to the households. In case of agricultural activities, the support package needs to include training on manufacturing and use of bio-fertilizers, bio-pesticides, provision for irrigation, land development, inputs like seeds, and special facilities for seed and grain storage etc.
- 5) In addition, the research finding recommends for the provision of insurance services in order to increase the welfare of members participating in SHG programmes. The minimum premium charges must be offered by taking into consideration the monthly income of the members. In addition, provision of agricultural insurance such as crop insurance to the farmers reduces fear of repayment of credit for production losses in case of a bad harvest. It also motivates the farmers to ask for more credit for expansion of production and use of credit for other agricultural purposes.
- 6) The research results show that the supply-side factors such as official documentation requirements and verification of bank officials are important causes of delay in the sanctioning process of the loan to the SGSY clients. Therefore, SGSY programmes should improve their micro lending policies (such as simplifying lending procedures, allow more flexible terms and conditions on loans), which helps to fulfill the diverse needs of the local rural households. These flexible services make the SGSY credit programmes more accessible by the rural households, especially the worse households, which are more disadvantaged in dealing with various risks. Therefore, adequate provisions should be implemented for providing the loan within a stipulated

time period. There is a need of a policy for the customer-oriented delivery mechanism in the loan cycle, loan terms, lending methods, loan management, loan performance monitoring, which in turn would help to safeguard the sustainability of SHGs.

- 7) The demand of bribes for quick sanction of subsidy is major problems in the SGSY programmes. Some groups have raised their voice as against bribes. However, other members had given money for quick sanction of subsidy. This study suggest interest subsidy on the loan as against present norm of cash subsidy. It will make the end use of credit for improvement in borrower's standard of living in association with SHGs.
- 8) The results from empowerment models show that micro credit is a powerful instrument in promoting women empowerment by allowing women to participate in the decision-making process on economic and social aspects (i.e. use of saving, income, credit, own health care). The credit from SHGs provides power among women to work independently in different activities both within and outside of the households. There is a significant change on gender attitudes of members (for example, wife beating in different reason). The association with SHGs enhances knowledge, empowers women and gives them access to higher credit, which in turn does improve their overall status in the family. All these facilities lead to a change in the outlook of other family members towards the women as she has the power to solve the economic problems of the respective households. Thus, we recommend formulating a policy and implement a planning programme in order to popularize the SHGs programme and make the rural households fully aware of the various features of micro credit (e.g., collateral free). This can be done through village meetings (or social gatherings) and mass media such as radio and newspaper. In addition, there is also a need of an initiative to improve the level of awareness of members on social issues, which would help in personal development of members.
- 9) Our research results found that the levels of banking knowledge among members are very low although slightly more as compared to non-members. Thus, the provision of financial literacy programmes is an urgent need to increases the awareness of the members on different financial terms. The increase in knowledge about financial terms would provide information on different banking activities (i.e. depositing and withdrawing money, loan applications and calculating the interest rates). As a result, the poor people can survive from the clutches of informal financial traders who tend to charge exorbitant interest rate and take advantage of their lack of knowledge.

- 10) In addition, the survey result shows that new members have less knowledge on group activities related to management of SHGs (i.e. rules, objectives and saving of SHGs). Further, an effort should be taken in the initial stage of group formation to provide information on fundamental principles of SHGs and the role of members in long run existences of programmes. As a result, all members will actively participate in the management of the group instead of being just a passive receiver of credit. Organisation of monthly meetings at regular intervals will only help the members to provide information on managing the groups and thereby solve internal problems.
- 11) There are irregularities and absence of meeting among new members who have recently formed in the study area. Monitoring of SHGs should be made more rigorous to ensure regular and timely savings; holding SHG meetings regularly; attendance of members in the meetings etc. There is a need for providing necessary guidance to make every meeting meaningful and take a consensus on any kind of decisions regarding inter loaning, interest rates, loan recovery with bank linkage, etc. The SGSY monitoring system has to be regularised and which is too weak to incorporate any corrections.
- 12) All the members having repaid monthly installment in time reflects the close link between repayment capacity and credit due to group pressure. It indicates that increasing a household's repayment capacity leads to an increase in their future demand of credit. The sources of repayment of loans included in the research show that few members (20%) repaid their loans by borrowing from other sources. Hence, it is important for BMASS to combine its micro loans with other services or products that help improve the efficiency of loan use, which in turn helps build up the households' confidence in repaying loans. Guidance may be given to members regarding use of loans received from banks and to avoid the diversion of the credit for the purposes other than one mentioned in the application. Provision of training to the members would help in effective use of credit.
- 13) The survey results show that few proportions of SGSY members (35%) have received training related to using of credit and income-generating activities. Further, training skills are required for taking up livelihood for those who don't have some skill and training involving up gradation of skills is necessary for those who have basic skills. SHG members also need to be trained in managing their enterprise successfully. Motivational training for income-generating activities and technological training for capacity building should be organised by competent agencies with greater seriousness

than what is being carried on by SGSY stakeholders with the routine. However, the members are also viewed that they require technical, financial and marketing skills particularly related to income-generating activities. According to them, illiteracy and the lack of advanced skills limit the scope for improvement in livelihood options. Lack of ideas, skills and negative mindset of grassroots district functionaries also contributes to such an apathy and inefficiency of SHG.

- 14) An exclusive Institute can be set up at the state level to provide training, orientation and other capacity-building programme. Such an Institute can devise training modules and organise a training programme to meet the specific needs of enterprises. The Institute can also provide marketing support for the products of SHG units, networking, guidance in the identification, formulation and execution of projects etc. The NGOs should be trained in organising motivational camps and training programmes so that they may motivate the villagers towards the potential of SHGs. NABARD's effort to train and develop NGOs has been on, but SGSY hasn't paid any such attention to the above.
- 15) The research result found that the distance of a bank from villages led to the start of group credit to meet small financial needs of poor members. Thus, there is a need of providing banking services within 2kms from the village which divert the poor person to borrow from informal finance providers. Different formal financial institutions should start mobile banking facility and visit rural areas at regular intervals (weekly/monthly) to sanction loans and receive monthly repayments from poor clients. One of the important principles of micro-finance is to provide doorstep and timely delivery of financial service. Post offices having a vast network in the rural areas are providing credit to the SHGs on a pilot basis in some parts of the country. They have a regular and paid staff and with some training and incentives, their services could be utilised. The post offices may be further encouraged to work as "business facilitator" and as "banking correspondent" in accordance to RBI guidelines.
- 16) At present, both Government and private agencies involved in micro finance have devised their own individual strategies in furtherance of their goals. The absence of a comprehensive policy right at the national level has hindered the orderly growth of the micro finance sector. There is an urgent need for a concerted effort on the part of various agencies, and involvement of service providers to evolve a coordinated strategy for a faster and smoother growth of this sector. The proposed bill on micro

finance may address some of the issues. The ‘regulator’ proposed in the ‘Bill’ may have to come out with a detailed strategy on issues like coordination among various agencies, accounting and auditing, transparency, good governance, consumer protection, micro insurance, statistics & research, the rate of interest, subsidies, etc., Keeping in mind the fact that the strength of the micro finance industry lies in its informality and flexibility.

- 17) There is a need of a special institution to deal with micro credit for its better performances and providing services to the poor. This would help to solve the problem of SHGs related to using of credit, repayment capacity and knowledge of members. The formal financial institution hasn’t been given proper attention to the growth of SHGs due to inadequacy of staff or more official procedures to sanction credit. The specialised banking institution of SHGs helps to solve the above problem for a long run operation of SHGs through adequate credit and other supplementary services. Recently, malegam committee advised to create a separate category of NBFC-MFIs for providing a financial assistance to the poor people in rural area (RBI, 2011).
- 18) There is a provision in the SGSY guidelines, which states that not more than 30 per cent of the members ought to belong to the above poverty line (APL) category. The inclusion of APL persons in SHGs is intended to inspire the BPL members and helps them to rise above the poverty-line. APL members are, however, not eligible for subsidy as per the SGSY guidelines. But our research results show that the amount of subsidies is equally distributed among the members. In reality, the inclusion of APL members is not working for benefit of the BPL members in the villages/blocks which are marked by severe socioeconomic and political inequalities. Some of the APL members were found to be hijacking the leadership of the group and cornering more benefits at the cost of BPL members (Purushotham, 2009). While the objective of bringing APL and BPL members under a common platform for promoting business efficiency and viability of groups is noble, it is not really delivering the desired results. Several ineligible APL members were found to be classified as BPL members and admitted into SHGs (Jhabvala and Standing, 2010). The incidence of such erroneous inclusion leads to include rich people and denies the rural poor to receive benefits from the programme. Field experience, and in turn, calls for a review of the present programme guideline with regard to the inclusion of APL members in SGSY.

- 19) The relationship between SHGs and bank should be strengthened to provide access to financial services in the sustainable approach. There are many other linkage's programmes with MFIs, which in turn have shown the path forward for accessing mainstream finance exclusively from the formal banking sector for microfinance. However, this SBLP linkage facilitates financial deepening and smoothing of credit services by accessing mainstream banking resources. Right from micro credit to micro saving, microfinance, micro entrepreneurs and then micro insurance- it is indeed a long way if it has to become the core banking strategy for the poor. The key to success lies in retaining the basic character and strength of SHGs along with proper integration with the outside systems in order to meet the needs of the members in an endearing way. Thus, it is the imperative part of the government; the Reserve bank of India (RBI) and NABARD to encourage/promote this strong and synergetic relation between common people and banks for financial inclusion. This will help to halve the percentage of the extreme poor by 2015 (i.e. the Vision of Millennium Development Goal).
- 20) The significant impacts of micro credit found in this research demonstrate about the potential influence of SHG programmes on economic and social development of rural households in India. Therefore, policy makers should be motivated to establish supportive regulatory environments in which the micro finance sector can gain sustainable development. Arising from the above contradictions, it is important to ask: Has Micro Finance-SHG's synergetic developed a reliable tool for the development of the poor? To what extent is the poor capable to absorb loans? Are SHGs becoming building blocks for participatory planning and development? Can SHGs provide the services that outreach to the poor households? Are the SHGs-Micro Finance structures sustainable at present level of growth? Will SHG-Bank linkage model continue to be "inclusion" of rural poorest members? Is empowerment only a question of bringing together a group of 15-20 women and giving them loans? Are not policy makers and practitioners putting an enormous burden on women to reduce household poverty? Is it not time to focus on men? In whose interests are MFI established? To whose benefit is the micro finance commercialization policy drive? How can the current micro finance policy support clients well being gained besides institutional sustainability? Answers to these questions are, to a great extent, inherent in the micro finance policy process. The policy makers (Government) and policy implement (MFIs), therefore, need to address the above issues.

7.6 Research Limitation

There are a number of limitations in this research related to measuring socio economic status of households, empowerment of women, sample selection and estimation techniques. These include:

- The government of India has adopted a per-capita income and expenditure in terms of calories¹ intake to measure the poverty status of the households. Our survey hasn't collected the data related to income and expenditure pattern of households to measure the depth of poverty in the study area. The high level of illiteracy and lack of information regarding monthly expenditure due to irregularity in income of poor households is major a constraint to collect data in monetary terms.
- This research only demonstrates a significant impact of micro credit on improving the economic status of sample households. In other words, the present study only examines the relative poverty status of members as compared to non-members while the absolute poverty reduction potential of micro credit hasn't been investigated. Moreover, it is possible for micro credit to have impacts on other household outcomes such as access to health care services, educational attainment, and nutritional levels. However, such impacts haven't been addressed in this research.
- The empowerment indicators used in this study have been constructed largely on the basis of the universally accepted empowerment indicators documented in literature related to micro credit and health research. Proper attention has given to the local culture and ideology of women of the sampled area in the construction of the empowerment variables. Therefore, the results of this research may not provide a complete picture of how micro credit has influenced the rural women's empowerment since some context-specific information (regarding sexual behavior) may have been omitted (Schuler et.al. 2010).
- This study only examined the role of participation of SHGs and amount of credit in the empowerment of women using different proxies. Different demographic (age, education, employment status, caste and number of child of women) and socio economic (i.e. area of living, religion, age difference in wife and husband) variables would still matter for women found significant for their empowerment (Kishor and

¹ As per the recommendation of the Government of Odisha 2002, a household with an annual income of less than Rs.20,000 is considered as poor and remains below poverty line. There are 46.40 per cent people who live below poverty line in Odisha. Further, as per the recommendation of planning commission based on uniform recall period in Odisha (2005), monthly per capita expenditure of Rs.325.79 for rural areas and Rs.528.49 for urban areas is considered as people living below poverty line.

Lekha, 2008). Unfortunately, the impact of such variables on the level of women empowerment hasn't been examined in this research. As such, this research neglects the influence of demographic variables and other socio economic variables on empowerment of women.

- In addition, this research focuses on the micro credit programme implemented by the BMASS programme and SGSY programme only. There are certain MFIs and Bank which have also offered credit through SHGs directly without any intermediaries' agencies. Therefore, the results can't represent the characteristics (such as client target) and economic/social influences of the overall Indian micro finance sector which consists of different types of institutions with different business goals and objectives.
- The scope of this research is restricted to the households living below poverty line and considered as poor households. Therefore, the results of this research may not be applicable to non-BPL households. Besides, the inclusion of APL households in BPL categories through the illegal procedure may also influence the outcome of the research (Jhabvala and Standing, 2010).

7.7 Suggestion for Future Research

Based on the above-mentioned limitations, our research study has recommended the following suggestions for further empirical research to examine an impact of micro credit on the borrowers.

Firstly, our research study has recommended on including borrowers who received credit directly from the bank, and members who received credit only from SHGs. This would provide a more realistic outcome on the relationship between different methods of micro credit, and its impact on borrower households. There is also a need of comparative research, including borrowers assisted credit under different type of finance organisation.

Secondly, we have recommended collection of data in monetary forms to measure the impact of credit on absolute poverty of the households. Future research should also be extended to examine the poverty reduction potential of micro credit which is the major concern of the SHG programme.

Thirdly, it would be ideal for future research to examine the impact of credit through SHGs on other household outcomes (i.e. health, education, nutritional status, child labour, domestic violence), or impacts at higher levels such as communities and regions.

Fourthly, Owing to the results of this study that have shown that women differ in decision-making power based not only on their use of micro-financial resources but also on the

circumstances encompassing their lives, further studies should attempt to ask whether age difference between the wife and husband, area of living, age, education, employment status, caste and number of child would still matter for women found significant for their empowerment (Kishor and Lekha, 2008). This information will help the policy planners to anticipate empowerment needs for rural women. It enables to promote evaluation on the impact of micro finance from a multi-model framework and help in reducing or reinforce women's vulnerability. There is a need of instrumental variable or fixed approach method to measure the impact of credit on empowerment controlling other variables.

Fifthly, organising women's groups on a mission-mode approach is now fashionable and government departments in various states have been set targets to achieve the same. There is no doubt that micro-credit activities have enlarged economic opportunities for the poor, particularly women, and have provided short-term loans; it is time to examine the extent to which the assumptions being made hold, especially with the experience on the ground. There is definitely a need for a survey at regular intervals in order to examine the benefit of micro credit upon members and problems of clients related to credit.

Lastly, there is the need for more research on: segment of the population to whom SHG providing loan, use of credit sanctioned to members, rate of interest spread, creation of asset in the households and these assets owned by whom etc. It needs to be stressed that, SHGs never intended to empower rural women, but they have emerged as a strong factor in empowerment of women. Successful micro-credit programmes are those, which mobilise women first on Non-banking-related issues and built their capacity in an end-to-end planning through micro projects.

Appendix-1 Description of Variables Used in Construction of First Principle Component or Economic Status

Variables	Type of variables	Description of Recoded variables used in PCA
House type	Categorical	Type of house, “0” for kacha and “1” for Pucca house
House floor	Categorical	Material used in house floor, “0” for Dirt and 1 for “Cement”
House wall	Categorical	Material used in house wall, “0” for Mud, Iron sheet and “1” for Brick with cement
House roof	Categorical	Material used in house roof, “0” for Bamboo, Stone, Slate or Tarpaulin and “1” for Iron sheet, Concrete, Brick tiles
House condition	Categorical	Condition of dwelling, “0” for seriously, Needs repairs and “1” for sound structure
Own Electricity	Categorical	Own electricity to the house, “0” for No and “1” for Yes
Own Fan	Categorical	Has electric fan in the house, “0” for No and “1” for Yes
Own Mobile	Categorical	Has Mobile in the house, “0” for No and “1” for Yes
Own Table	Categorical	Has Table in the house, “0” for No and “1” for Yes
Own Chair	Categorical	Has Chair in the house, “0” for No and “1” for Yes
Own Bed	Categorical	Has Bed in the house, “0” for No and “1” for Yes
Own Pressure Cooker	Categorical	Has Cooker in the house, “0” for No and “1” for Yes
Own Color T.V	Categorical	Has T.V in the house, “0” for No and “1” for Yes
Own Clock	Categorical	Has Clock in the house, “0” for No and “1” for Yes
Own Bicycle	Categorical	Has Bicycle in the house, “0” for No and “1” for Yes
Own Gold	Categorical	Has Gold in the house, “0” for No and “1” for Yes
Cereals and Pulses Consumption	Categorical	Frequency of pulses consumption in family, “0” for Monthly or Never and “1” for Daily or Weekly
Milk, fish, meat Consumption	Categorical	Frequency of milk, fish consumption in family, “0” for Monthly or Never and “1” for Daily or Weekly
Vegetable, Fruit Consumption	Categorical	Frequency of vegetables consumption in family, “0” for Monthly or Never and “1” for Daily or Weekly
Other food Tea, oil, sugar etc	Categorical	Frequency of tea, spices food consumption in family, “0” for Monthly or Never and “1” for Daily or Weekly
Stock of Rice in the house	Categorical	Availability of rice for all family members, “0” for Monthly, Quarterly and “1” for Bi monthly or Annually
Stock of dry food (pickle and papad) in the house	Categorical	Availability of dry food for all family members, “0” for Monthly, Quarterly and “1” for Bi monthly or Annually

Appendix-2 (A) Summary of Principle Component Analysis (PCAs)

The essence of PCA is the summarization of the pattern of interrelationships in the matrix R (correlation) or the matrix S (covariance), as a result of which one obtains particular linear combinations of subsets of the initial variables. It is desirable that these weighted combinations, which represent the sought components, reduce substantially the complexity of the original data set. Each of them combines a subset of initial variables that are markedly interrelated. In addition, the principal components have the property that they are uncorrelated with one another. Furthermore, each component is obtained in such a way as to account for as much as possible variance in the initial data set. It is thereby hoped that a relatively small number of components account for most of the variance in the original data, and thus accomplish marked data reduction. We stress that what counts in PCA is accounting for variance—the principal components to be further considered must explain as much as possible variance of the initial variables.

Steps of Principle Component Analysis

Step 1: Get some data in matrix form

Let D denotes an (n*k) matrix, where n refers to the number of observations (sample population) and k refers to the number of variables (Household assets or empowerment variables in this case).

Step 2: Standardize the data

Transform the variables in to their standardized form with the help of the formulae

$$\left(\frac{X_{kh} - \bar{X}_k}{SD_k} \right)$$

Where X_{kh} is the value of k_{th} indicator in h_{th} households ($k = 1, 2, \dots, 30$ and $h = 1, 2, \dots, 400$), \bar{X}_k are Arithmetic Mean (A.M.) and SD_k are Standard Deviation (S.D.) of the k^{th} indicator respectively. For PCA to work properly, you have to subtract the mean from each of the data dimensions. The mean subtracted is the average across each dimension. This produces a data set whose mean is zero. Standardize of data would solve the problem of difference in variance among the variables and differences in unit of measurement. This makes the analysis free from scales and units of measurement.

Step 3: Calculate the covariance or correlation matrix

Prepare a (k*k) correlation matrix (R) by using the (n*k) matrix of standardized variables. Calculation of covariance (S) or the correlation (R) among the data matrix (i.e. D) is

important ways to determine factors in principle component analysis. It will shows about the interrelationship among the variables and how one variable moves with the other variable. Generally, extracting components from **S** rather than **R** remains closer to the spirit and intent of principal component analysis, especially if the components are to be used in further computations. However, in some cases, the principal components will be more interpretable if **R** is used. For example, if the variances differ widely or if the measurement units are not commensurate, the components of **S** will be dominated by the variables with large variances. The other variables will contribute very little. For a more balanced representation in such cases, components of **R** may be used (Rencher, 2002).

Step 4: Calculate the Eigen values and Eigen vectors of the matrix

Compute the Eigen values (λ_i) from the correlation matrix by solving the determinant equation $|R - \lambda I| = 0$, Corresponding to each Eigen value (λ_i) we solve the matrix equation $(R - \lambda_i I) \alpha_i = 0$ to obtain eigenvector, subject to the constraint $\alpha_i' \alpha_i = 1$.

$Y = AX = \lambda X$, Where A is a $p \times p$ matrix (with $p > 1$) and $X \neq 0$, Scalar λ is called Eigen value of A and the vector X is called the Eigen vector of A pertaining to this Eigen value. In general, for the contexts of factor analysis, there are as many Eigen values of a given square matrix as is its size (i.e., p in the present case). The Eigen values are real-valued (see below) and commonly denoted by $\lambda_1, \lambda_2, \dots, \lambda_p$ from largest to smallest, whereby the case of some of them being equal to one another is not excluded ($\lambda_1 \geq \lambda_2 \geq \dots \geq \lambda_p$). To each one of these Eigen values, a pertinent Eigen vector can be found. Eigen values are also referred to as “latent roots” or “characteristic roots” in the literature, and the Eigen vectors as “latent vectors” or “characteristic vectors.” In this text, for ease of presentation we will only use the references “Eigen value” and “Eigen vector.”

Proposition 1: The Eigen values of a square matrix A are the solutions of the equation $|A - \lambda I_p| = 0$, that is, nullify the determinant of the matrix $A - \lambda I_p$. We demonstrate this proposition with the following simple example. In it, we are interested in finding the Eigen values and eigenvectors of the 2×2 matrix $A = \begin{bmatrix} 1 & 0 \\ 1 & 3 \end{bmatrix}$. First, using Proposition 1, the Eigen values of A are the solutions of the following equation

$$\text{Determinant } |A - \lambda I| = \begin{vmatrix} 1 & 0 \\ 1 & 3 \end{vmatrix} - \lambda \begin{vmatrix} 1 & 0 \\ 0 & 1 \end{vmatrix} = \begin{vmatrix} 1 - \lambda & 0 \\ 1 & 3 - \lambda \end{vmatrix} = (1 - \lambda)(3 - \lambda)$$

Therefore, the Eigen values are $\lambda_1 = 1$ and $\lambda_2 = 3$, since as can be readily found out these values are the roots of the quadratic equation of concern, $\lambda^2 - 4\lambda + 3 = 0$.

Second, to find the Eigen vectors, for each of the Eigen values λ_1 and λ_2 we need to solve the equations $Ax = \lambda_i x$ (with $i = 1, 2$). The Eigen vector can be found through equation $Ax = 1x$ which produces 2 Eigen vectors pertaining to the 2 Eigen values i.e. e_1 and e_2 for two Eigen values in this case.

$$Ax = 1x = \begin{bmatrix} 1 & 0 \\ 1 & 3 \end{bmatrix} \begin{bmatrix} x_1 \\ x_2 \end{bmatrix} = \begin{bmatrix} x_1 \\ x_2 \end{bmatrix}$$

$$(1)x_1 + (0)x_2 = (1)x_1$$

$$(1)x_1 + (3)x_2 = (1)x_2$$

where multiplying numbers—the respective elements of the matrix A—are placed in parentheses (to emphasize the multiplication operation), or simply

$$x_1 = x_1$$

$$x_1 + 3x_2 = x_2$$

A solution of the last system of equations, among infinitely many pairs of values for x_1 and x_2 that satisfy them, is the couple $x_1 = -2$ and $x_2 = 1$ say. That is, the following vector

$$e_1 = \begin{bmatrix} -2 \\ 1 \end{bmatrix}$$

is an eigenvector of A pertaining to the Eigen value $\lambda_1 = 1$. Similarly, it can be determined that

$$e_2 = \begin{bmatrix} 0 \\ 1 \end{bmatrix}$$

is an eigenvector of A pertaining to the Eigen value $\lambda_2 = 3$. In general, once Eigen vectors are found from the covariance/correlation matrix, the next step is to order them by Eigen value, highest to lowest. This gives you the components in order of significance.

After an Eigen vector has been found, we can divide its components by its length in order to furnish the normalized Eigen vector. This normalization implies that the product of the so-determined Eigen vectors satisfies the equation $e_i' e_i = 1$, sometimes also called unit-norm condition. We also note in passing here that for the matrices of interest, two normalized Eigen vectors, say e_1 and e_2 , associated with two distinct Eigen values will be also orthogonal (unrelated) to one another, that is, in addition to the normalization condition they will also fulfill the following one: $e_i' e_j = 0$.

Hence, for the earlier considered matrix A, the normalized eigenvector corresponding to its Eigen value $\lambda_1 = 1$ is $e_1 = \left[-\frac{2}{\sqrt{5}}, \frac{1}{\sqrt{5}} \right]' = [-0.89, 0.44]'$, since the squared length of its pertinent eigenvector e_1 is $(-2)^2 + 1^2 = 5$. Similarly, the normalized eigenvector

corresponding to the second Eigen value of A, $\lambda_2 = 3$, is readily found to be $e_2 = [0, 1]$ because the squared length of its eigenvector e_2 is $0^2 + 1^2 = 1$.

Proposition 2: All Eigen values of a symmetric matrix A are real numbers, and their pertinent Eigen vectors can be chosen so as to contain only real elements. In addition, the Eigen vectors corresponding to different Eigen values are orthogonal (unrelated) to one another, and Eigen vectors pertaining to equal Eigen values can be chosen so as to be orthogonal to one another. This result allows us to introduce now the formal basis of PCA as a data reduction technique. This is the following decomposition that is valid for any symmetric matrix A (of size $p \times p$; $p > 1$).

Step 5: Deriving the new data set/ calculating factor score

A factor can be described in terms of the variables measured and the relative importance of them for that factor. The factor score for each sample represents position of the informants as compare to others. In other words higher factor score represents better condition (i.e. High economic status in this case) than others who have low factor score. Therefore, having discovered which factor exist, and estimated the equation that describes them, it should be possible also to estimate a person's score on a factor, based on their scores for the constituents variables. Using the Eigen vector as coefficients for calculating factor score for each person, the formula is

$$Z = DE \quad \text{(Equation 1)}$$

Z= component score, D= Original data Matrix, E= coefficients or Eigen vector

This method is known as a weighted average and rarely used, but is probably the easiest way to explain the principles (Field, 2006).

Regression method to calculate factor score

There are several sophisticated techniques for calculating factor scores for each sample (i.e. household's) using factor score coefficients as weights in equation (1) rather than using the factor loadings. The simplest way to calculate factor score coefficients is the regression method. In this method the factor loadings are adjusted to take account of the initial correlation between variables; in doing so, differences in units of measurement and variable variances are stabilized. For the two variables y_1 and y_2 the ordinary regression line of y_2 on y_1 minimizes the sum of squares of vertical distances from the points to the line. Similarly, the regression of y_1 on y_2 minimizes the sum of squares of horizontal distances from the points to the line.

To obtain the matrix of factor score coefficients (B), the matrix of factor loadings score coefficients (a_{lp}) multiplied with the matrix of inverse (R^{-1}) of the original correlation or R -matrix. It is because matrix can't be divided, if we want to divide by a matrix it can't be done directly and instead we multiply by its inverse. Therefore by multiplying the matrix of factor loadings by the inverse of the correlation matrix we are, conceptually speaking, dividing the factor loadings by the correlation coefficients. The resulting factor matrix, therefore, represents the relationship between each variable and each factor taking into account the original relationship between pairs of variables. As such, this matrix represents a purer measure of the unique relationship between variables and factors. The resulting factor matrix of factor score coefficients with factor score of each person are calculated in spss through regression method (Field, 2006). The equation to calculate factor score for each person through regression method is

$$B = XA \quad \text{(Equation 2)}$$

B = component score, X = multiplication on inverse of correlation matrix with coefficients e (Eigen vector), A = Original data Matrix.

Calculation of economic status score

In the present study, while running PCA we have identified eight principal components to construct economic status for each household through regression method. The first component has contained 22 indicator represents economic status of the households. Finally, the formula mentioned in equation (2) is used to determine the economic status score of each sampled households. For example, in this study take 5 variables in 0 and 1 and that some household's scored the following: House pucca (1), has fan (1), has chair (1), hasn't mobile (0), hasn't table (0). The equation (2) can be applied to get score for economic status of particular households. Thus,

$$B_1 = 0.771 \times \text{House condition} + 0.733 \times \text{has fan} + 0.696 \times \text{has chair} + 0.722 \times \text{hasn't mobile} + 0.701 \times \text{hasn't table}$$

$$B_1 = 0.771 \times (1) + 0.733 \times (1) + 0.696 \times (1) + 0.722 \times (0) + 0.701 \times (0) = 2.2$$

Appendix-2 (B) Calculation of Empowerment Score

Besides it, this study has calculated empowerment factor score through factor analysis from original data matrix. For example, consider there are 6 variables to measure women's empowerment instead of 29 variables. The matrices for the popularity data are shown below. The resulting matrix of factor score coefficients, B , comes from SPSS. The matrices R^{-1} and

A can be multiplied by hand to get the matrix B and those familiar with matrix algebra (or who have consulted Namboodiri, 1984, or Stevens, 2002) might like to verify the result (see Oliver Twisted). To get the same degree of accuracy as SPSS you should work to at least 5 decimal places:

$$B=R^{-1} A \begin{bmatrix} 4.76 \\ -7.46 & 18.49 \\ 3.91 & -12.42 & 10.07 \\ -2.35 & 5.45 & -3.65 & 2.97 \\ 2.42 & -5.54 & 3.79 & -2.16 & 2.98 \\ -.49 & 1.22 & -.96 & .02 & -.56 & 1.27 \end{bmatrix}$$

$$\begin{bmatrix} .87 & .01 \\ .96 & -.03 \\ .92 & .04 \\ .00 & .82 \\ -.10 & .75 \\ .09 & .70 \end{bmatrix} = \begin{bmatrix} .343 & .006 \\ .376 & -.020 \\ .362 & .020 \\ .00 & .473 \\ -.037 & .437 \\ .039 & .405 \end{bmatrix}$$

B = multiplication on inverse of correlation matrix with coefficients e (Eigen vector)

In the above factor matrix B, first three variables are highly loaded (.343) (.376) and (.362) on first factor and poorly loaded on second factor. Similarly, last three variables are highly loaded (.473) (.437) and (.405) on second factor and poorly loaded on first factor. For example, in this study take 6 variables all range from 1 to 4 and that someone scored the following: decision making on own health (2), small purchase (1), large purchase (3), power to vote (2), visit relatives (3) attend training (3). We could replace the value in equation (2) to get a score for a particular women's decision making and power (see equation 3)

$$\text{Decision making} = (.343 \times 2) + (.376 \times 1) + (.362 \times 3) = 2.148$$

$$\text{Awareness} = (.006 \times 2) - (.020 \times 3) + (.020 \times 3) = .182 \quad \text{equation 3}$$

The resulting scores of 2.148 and .182 reflect the degree to which this woman is participate in decision making and power to perform different activity respectively. This woman scores higher on decision making than power to perform different activity.

Appendix-3 Description of Explanatory Variables

Variables	Description of Recoded variables used as explanatory variable
Individual characteristics	
Respondents age (17-30) years	0= If respondents age is 17 to 30 years
31-40 years	1= If respondents age is 31 to 40 years
41-50 years	2= If respondents age is 41 to 50 years
51-61 years	3= If respondents age is 51 to 61 years
Education of respondents	0= Respondent with no formal education
	1= Respondent having some education
Child	0= Respondent with no child under 5 years in the house
	1= Respondent with any child under 5 years in the house
Employment	0= Respondents work for cash
	1= Respondent doesn't work for cash or housewife
Marital status	0= Respondent is unmarried/ divorces/ widow category
	1= Respondent is married
Access of media (TV, Radio)	0= No access of media weekly to the respondents
	1= Access of any media to the respondents
Household characteristics	
Head of house	0= If head of the house is male
	1= If head of the house is female
Sources of income	0= Agriculture as main sources of income to the households
	1= Main sources of income is from non agriculture
Caste	0= Households belong to Scheduled caste/ Scheduled tribes
	1= Households belong to Other Backward Caste or Generals
Any Informal debt	0 = Household has not borrowed from informal sources
	1= Households has borrowed from Moneylender, Relatives
Bank distance	0= Availability of bank within 1 to 3 km from village
	1= Availability of bank 3 to 5 km from village
Migration	0= Household hasn't migrant members
	1= Households has any migrated members
Economic Status	0= Household belongs low economic status score
	1= Household belongs high economic status score
Size of family	0= Household with 1 to 5 family members
	1= Household with 6 to 10 members
Land	0= Household has not any land
	1= Household with some amount of land
Location	0= If villages comes under Hinjilicut block
	1=If villages comes under Kukudakhandi block
Number of working member	0= If 1 to 3 members working in the house
	1= If 3 to 6 members working in the house
Age of Household Head 30-40 years	0= Age of the house head between 30 to 40 years
41-50 years	1= Age of the houses head between 41 to 50 years
51-70 years	2= Age of the house head between 51 to 70 years
Marital status of house head	0= Marital status of the house head being widow, divorces
	1= Marital status of the house head being live with spouse
Education of House head	0= If no formal education.
	1= If Any formal education
Micro credit variables	
Non Member	0= Not participated in SHGs programmes
New Member	1= Participated in SHGs before 1 to 4 years
Old Member	2= Participated in SHGs before 4 to 7 years

Loan amount	0= Amount of loan received (Rs 3000- Rs 10000)
	1= Amount of loan received (Rs 10001- Rs 22000)
Loan sanction Period	0= 10 to 15 month (under which member would repay loan).
	1= 16 to 40 month
Loan purpose	0= Use of loan for agriculture purposes
	1= Use of loan for Business or small scale enterprisers
Subsidy on loan	0= Clients without any subsidy on loan
	1= Clients received subsidy (Rs 3000 to Rs 7000)
	2= Clients received subsidy (Rs 7001 to Rs 10000)

Appendix-4 Calculation of Block Composite Index

The Block Composite Index (BCI) based on human development index (HDI) is a summary measure of block development. To calculate these indices- below poverty line, female literacy and SHGs formed in each block indices in percentages has collected- minimum and maximum values are chosen for each underlying indicator. A performance in each dimension is expressed as a value between 0 and 1 by applying the following general formula.

$$\text{Dimension index} = \frac{\text{Actual value} - \text{Minimum value}}{\text{Maximum value} - \text{Minimum value}}$$

1) Calculating the below poverty line index (BPLI)

The percentage of households living below poverty line in different blocks of Ganjam district is measured by below poverty line index (BPLI). It measures the relative achievement of district in below poverty line.

2) Calculating the female literacy index (FLI)

The level of female literacy is measured through percentage of female have some basic education in different blocks of Ganjam district.

3) Calculating the self help groups index (SHGI)

The level of Self Help Groups (SHGs) formed in each block in the Ganjam district measured in percentage.

4) Once the dimension indices have been calculated, determining BCI is straightforward. It is a simple average of the three dimension indices. It measures the average achievements of a block in the Ganjam district on three basic dimensions of development of SHGs. Before the BCI itself is calculated, an index needs to be created for each of three dimensions.

BCI = 1/3 (below poverty line index) + 1/3 (female literacy index) + 1/3 (self help groups index)

Appendices-5 Factor Loading Table of Economic Status Index

	Component							
	1	2	3	4	5	6	7	8
House type	.771	-.437						
House floor	.762							
Has electricity in house	.747						.418	
Has Fan	.733						.442	
Has mobile	.722							
Has table	.701							
Has chair	.696							
House wall	.685							
House roof	.683	-.411		.409				
Has color TV	.657	.413						
House condition	.639							
Has bed	.633							
Pulses, cereals consumption	.613							
Has pressure cooker	.585	.445						
Milk, egg, fish consumption	.566							
Fruit, vegetable consumption	.552							
Has clock	.519							
Has bicycle	.469							
Stock of Dry food	.454							
Tea, oil, sugar consumption	.418							
Has gold	.426	.554						
Has motor cycle		.480						
Has bull			.639					
Method of coking			-.541					
Has cow			.462					
Has toilet			-.419					
Not eating				.450				
Water supply						.642		.541
Has black and white tv							.623	
Has land					.428			-.451
Stock of rice	.422		.426					-.441

Extraction Method: Principal Component Analysis.

Appendix 6 Complete Estimates of Economic Status Variables (In %)

1	2	3	4=2+3	5	6=4+5
	New members	Old members	All members	Non members	Total
	N=127	N=173	N=300	N=100	N=400
Type of house					
Kachha	17.3	18.5	18.0	25.0	19.8
Pucca	82.7	81.5	82.0	75.0	80.2
Material used in house roof					
Grass, stone, Plastic sheets, Slates	27.6	17.3	21.7	25.0	22.5
Iron sheets, Concrete, Brick tiles	72.4	82.7	78.3	75.0	77.5
Material used in house wall					
Plastic sheets, Mud, Iron sheets, timber	13.4	18.5	16.3	22.0	17.8
Brick or Stone with cement	86.6	81.5	83.7	78.0	82.2
House condition					
Seriously, Needs to repair	39.4	29.5	33.7	48.0	37.2
Sound structure	60.6	70.5	66.3	52.0	62.8
Material used in house floor					
Dirt	16.5	26.6	22.3	30.0	24.2
Cement	83.5	73.4	77.7	70.0	75.8
Sources of Cooking					
Wood, Dung cakes, Crop residues	89.0	96.0	93.0	92.0	92.8
Electricity, LPG, Kerosene	11.0	4.0	7.0	8.0	7.2
Sources of lighting					
Lamp	31.5	28.3	29.7	34.0	30.8
Electricity	68.5	71.7	70.3	66.0	69.2
Has toilet in house					
No	92.9	95.4	94.3	81.0	91.0
Yes	7.1	4.6	5.7	19.0	9.0
Has land in house					
No	85.0	68.2	75.3	81.0	76.8
Yes	15.0	31.8	24.7	19.0	23.2

1	2	3	4=2+3	5	6=4+5
Households has following assets	New members	Old members	All members	Non members	Total
	N=127	N=173	N=300	N=100	N=400
Own bulls	17.3	23.7	21.0	9.0	18.0
Own cows	11.0	38.7	27.0	20.0	25.2
Own pressure cooker	19.7	37.6	30.0	20.0	27.5
Own chair	82.7	76.9	79.3	63.0	75.2
Own bed	34.6	52.6	45.0	27.0	40.5
Own table	63.8	63.0	63.3	48.0	59.5
Own fan	70.1	72.8	71.7	70.0	71.2
Own gold	7.1	15.0	11.7	10.0	11.2
Own BW TV	3.9	5.8	5.0	21.0	9.0
Own color TV	42.5	38.7	40.3	23.0	36.0
Own mobile	56.7	46.8	51.0	40.0	48.2
Own clock	90.6	91.3	91.0	90.0	90.7
Own bicycle	61.4	47.4	53.3	65.0	56.3
Own motor cycle	5.5	5.8	5.7	3.0	5.0

1	2	3	4=2+3	5	6=4+5
Households consumption of following items	New members	Old members	All members	Non members	Total
	N=127	N=173	N=300	N=100	N=400
Egg, fish, meat and milk products					
Daily or Weekly	41.7	56.1	50.0	60.0	52.5
Monthly or Never	58.3	43.9	50.0	40.0	47.5
Cereals and pulses					
Daily or Weekly	15.7	12.1	13.7	21.0	15.5
Monthly or Never	84.3	87.9	86.3	79.0	84.5
Vegetables and fruits					
Daily or Weekly	10.2	6.4	8.0	10.0	8.5
Monthly or Never	89.8	93.6	92.0	90.0	91.5
Other food (sugar, tea, oil etc)					
Daily or Weekly	8.7	35.3	24.0	30.0	25.0
Monthly or Never	91.3	64.7	76.0	70.0	75.0
Stock of rice and pulses in house					
Monthly or Never	44.1	33.5	38.0	83.0	49.3
Bi annually or Annually	55.9	66.5	62.0	17.0	50.7
Stock of dry foods in house					
Monthly or Never	92.9	67.1	78.0	76.0	77.5
Bi annually or Annually	7.1	32.9	22.0	24.0	22.5

Variables (in percentage)	Scoring Factors	LES	HES	Total
		N=171	N=229	N=400
House is pucca	.771	54	100	80.3
House floor is Cement	.762	46	98	75.8
Has electricity in the house	.747	32	97	69.3
Own Fan	.733	37	97	71.3
Own Mobile	.722	7	80	48.3
Own Table	.701	25	86	59.5
Own Chair	.696	48	96	75.3
House wall is high quality material	.685	59	99	82.3
House roof is high quality material	.683	53	95	77.5
Own color television	.657	23	61	36.0
House condition is sound structure	.639	33	85	62.8
Own Bed	.633	8	64	40.5
Pulses and cereals consumption (Daily or Weekly)	.613	65	99	15.5
Own Pressure Cooker	.585	2	47	27.5
Milk, Fish, Meat consumption (Daily or Weekly)	.566	21	68	52.5
Fruit, vegetable consumption (Daily or Weekly)	.552	83	97	8.5
Own Clock	.519	78	100	90.8
Own Bicycle	.469	33	73	56.3
Stock of dry food (Biannually or Annually)	.454	3	37	22.5
Other consumption (Tea, oil, sugar) Daily or Weekly	.418	52	90	25.0
Own Gold	.426	0.6	19	11.3
Stock of Rice (Biannually or Annually)	.422	28	68	50.8

Appendix 7 Complete Estimates on Determinants of Higher Economic Status

Factors influence on Higher Economic Status in Odds Ratio (Exp B)				
Independent Variables ¹	Estimated Coefficients	Standard Error	Wald Statistics	Odds Ratio ²
Male headed house R				
Female headed house	-.881	.340	6.724	0.414*
Age of House Head in years (30-40) R				
41-50	.484	.310	2.447	1.623*
51-70	.552	.324	2.907	1.737*
Marital status of house head (Widow) R				
Married	.584	.395	2.183	1.793*
Households has no Land R				
Any Land	1.552	.295	27.742	4.719*
Bank distance (<3Km) R				
More than 3 Km	-.950	.387	6.026	0.387*
Non Member of SHGs R				
New Member (< 4 year)	1.047	.435	5.804	2.850*
Old Member (> 4 year)	1.027	.425	5.840	2.792*
Number of working member (1 to 3) R				
Number of working member (3 to 6)	.474	.287	2.723	1.606**
Education of House head (Illiterate) R				
Primary or more	-.110	.285	.149	.896
Sources of income (Agriculture) R				
Non Agriculture	-.226	.298	.573	.798
Caste of Households (SCs/STs) R				
OBCs and Others	.312	.298	1.094	1.366
Any Informal debt R				
No Informal debt	-.200	.276	.525	.819
Non Migration R				
Migration	-.427	.272	2.472	.653
Location of village (Hinjilicut block) R				
Kukudakhandi	-.081	.335	.059	.922
Constant	-.768	.566	1.839	0.464
LR statistic 82.77*, Log likelihood -231.652, Cox & Snell R Square .186, Nagelkerke R Square .250, Degree of Freedom =18, Pseudo R2=.15, Total observations= 400				
Classification table	Dependent=0	Dependent=1	Overall	
No. of correct	96	174	270	
% of correct	63.57	69.87	67	
No. of incorrect	55	75	130	
% of incorrect	36.42	30.12	33	

Note: ¹Dependent variable=1 if household has High economic status and 0= Low economic status, R= Reference category. To avoid a multicollinearity problem, reference category is dropped in each group. ²Odds Ratio= Value more than 1 are more likely and less than 1 are less likely influences dependent variable. *, ** represent the 5% and 10% significance level, respectively.

Appendix 8 Complete Estimates on Factors Influences Women's Participation in SHGs

Factors influence on women's participation in SHGs (Exp B)				
Independent Variables ¹	Estimated Coefficients	Standard Error	Wald Statistics	Odds Ratio ²
Respondent Age in years (20-30) R				
31-40	-.035	.598	.003	0.966
41-50	2.264	.773	8.582	9.622*
51-70	.912	.948	.926	2.490
Respondent education (Illiterate) R				
Primary or more	-1.797	.611	8.645	0.166*
No child R				
Any child	-.908	.540	2.828	0.403*
Male headed house R				
Female headed house	1.556	1.03	2.269	4.739*
Sources of income (Agriculture) R				
Non Agriculture	-2.101	.525	15.984	0.122*
Caste of Households (SCs/STs) R				
OBCs and Others	-2.743	.706	15.096	0.064*
No Informal debt R				
Any Informal debt	-2.744	.639	18.463	0.064*
Bank distance (<1Km) R				
More than 1 Km	1.169	.615	3.609	3.219*
No migrated members R				
Any migration in households	-1.093	.531	4.239	0.335*
Low Economic Status R				
High Economic Status	1.793	.625	8.223	6.005*
Employed R				
Unemployed or house wife	.026	.636	.002	1.026
Unmarried, widow, divorce R				
Married	-.877	1.218	.519	.416
No access of TV R				
Access of TV	.689	.587	1.377	1.991
Size of family 1-5 R				
6-10	.377	.536	.495	1.458
Households has no Land R				
Any Land	-.272	.546	.249	.762
Location (Hinjilicut) R				
Kukudakhandi	.210	.603	.121	1.234
Number of working member (1 to 3)R				
Number of working member (3 to 6)	-.138	.666	.043	.871
Constant	3.170	1.654	3.673	23.802

Note: ¹ Dependent variable = 1 if household has borrowed credit through SHGs and 0= Otherwise. R= Reference category. To avoid a multicollinearity problem, a dummy variable is dropped in each group. ²Odds Ratio= Value more than 1 are more likely and less than 1 are less likely influences on dependent variable. *, ** represent the 5% and 10% significance level respectively.

Appendix 9 Complete Estimates on Determinants of Informal Credit

Factors influence on access of Informal credit in Odds Ratio (Exp B)				
Independent Variables ¹	Estimated Coefficients	Standard Error	Wald Statistics	Odds Ratio ²
Age of Household Head in years (30-40) R				
41-50	-.078	.330	.055	0.925
51-70	.511	.370	1.907	1.668*
Marital status of house head (Unmarried) R				
Married	.904	.418	4.671	2.470*
Caste of Households (SCs/STs) R				
OBCs and Others	.797	.310	6.591	2.219*
Bank distance (<3Km) R				
More than 3 Km	1.792	.398	20.255	6.003*
Non Member R				
New Member of SHGs (<4 years)	-2.354	.464	25.745	0.095*
Old Member (>4 years)	-.875	.464	3.556	0.417*
Number of working member (1 to 3) R				
Number of working member (3 to 6)	.600	.329	3.331	1.823**
Education of Household head Illiterate R				
Primary or more	.186	.301	.383	1.205
Male headed house R				
Female headed house	.123	.378	.106	1.131
Sources of income Agriculture R				
Non Agriculture	-.055	.318	.030	.947
Size of family (1-5) R				
6-10	-.328	.286	1.311	.721
Households has no Land R				
Any Land	.190	.308	.382	1.210
Low Economic Status R				
High Economic Status	-.265	.276	.925	.767
No migrated members R				
Any migration in households	-.306	.297	1.058	.737
Location (Hinjlicut) R				
Kukudakhandi	-.207	.328	.397	.813
Constant	-.337	.589	.327	0.714
Log likelihood -203.025, Cox & Snell R Square .260, Nagelkerke R Square .355, LR statistic 120.63*, Degree of Freedom =17, Pseudo R2=.23, Total observations= 400				
Classification table	Dependent=0	Dependent=1	Overall	
No. of correct	93	214	307	
% of correct	62.41	85.25	76.75	
No. of incorrect	56	37	93	
% of incorrect	37.59	14.75	23.25	

Note: ¹ Dependent variable = 1 if household has any informal debt and 0= otherwise. R= Reference category. To avoid a multicollinearity problem, a dummy variable is dropped in each group.² Odds Ratio= Value more than 1 are more likely and less than 1 are less likely influences dependent variable. *, ** represent the 5% and 10% significance level respectively.

Appendix 10 Complete estimates of empowerment variables

Table 10.1 Participation in decision making (In %)					
1	2	3	4=2+3	5	6=4+5
Women makes decision on following outcomes	New members	Old members	All members	Non members	Total
	N=127	N=173	N=300	N=100	N=400
Purchase of daily needs					
Husband or some other	37.7	17.9	26.1	54.3	33.2
Women alone or with husband	62.3	82.1	73.9	45.7	66.8
Expenditure on education of child					
Husband or some other	38.6	17.9	26.4	48.9	32.1
Women alone or with husband	61.4	82.1	73.6	51.1	67.9
Major purchase (TV, Land etc)					
Husband or some other	38.6	17.4	26.2	50.0	32.2
Women alone or with husband	61.4	82.6	73.8	50.0	67.8
Care of own health					
Husband or some other	38.6	16.7	25.7	50.0	31.8
Women alone or with husband	61.4	83.3	74.3	50.0	68.2
Visit of family/relatives					
Husband or some other	36.8	18.5	26.1	50.0	32.1
Women alone or with husband	63.2	81.5	73.9	50.0	67.9
Use of own earning					
Husband or some other	36.0	18.5	25.7	48.9	31.5
Women alone or with husband	64.0	81.5	74.3	51.1	68.5
Use of own savings					
Husband or some other	34.2	15.9	23.8	49.5	30.3
Women alone or with husband	65.8	84.1	76.2	50.5	69.7
Borrow money to households					
Husband or some other	19.3	14.2	16.3	50.0	24.7
Women alone or with husband	80.7	85.8	83.7	50.0	75.3
Use of surplus money					
Husband or some other	36.0	14.6	23.6	52.2	30.9
Women alone or with husband	64.0	85.4	76.4	47.8	69.1
Use of credit					
Husband or some other	23.7	17.9	20.3	46.7	26.9
Women alone or with husband	76.3	82.1	79.7	53.3	73.1
Use of husbands income					
Husband or some other	38.3	21.1	28.5	51.7	34.6
Women alone or with husband	61.7	78.9	71.5	48.3	65.4

Table 10.2 Power of work independency (In %)					
1	2	3	4=2+3	5	6=4+5
Women have power to do following activities	New members	Old members	All members	Non members	Total
	N=127	N=173	N=300	N=100	N=400
Cast vote independently					
No or less power	59.1	32.9	44.1	56.0	47.1
Some or more power	40.9	67.1	55.9	44.0	52.9
Visit market/outside of village					
No or less power	55.1	33.5	42.8	49.0	44.3
Some or more power	44.9	66.5	57.2	51.0	55.7
Visit Friends/Relatives house					
No or less power	56.7	31.2	42.1	48.0	43.6
Some or more power	43.3	68.8	57.9	52.0	56.4
Discuss with government officers					
No or less power	58.3	28.2	41.1	53.0	44.1

Some or more power	41.7	71.8	58.9	47.0	55.9
Participate in protection					
No or less power	60.6	30.6	43.4	48.5	44.7
Some or more power	39.4	69.4	56.6	51.5	55.3
Participate in training					
No or less power	58.3	29.0	41.6	53.0	44.4
Some or more power	41.7	71.0	58.4	47.0	55.6
Participate in election					
No or less power	63.0	35.9	47.5	52.0	48.6
Some or more power	37.0	64.1	52.5	48.0	51.4
Save or withdraw money from bank					
No or less power	59.1	37.3	46.6	51.5	47.8
Some or more power	40.9	62.7	50.4	35.5	52.2

Table 10.3 Awareness of Women					
1	2	3	4=2+3	5	6=4+5
Women aware about following social issues in percentage	New members	Old members	All members	Non members	Total
	N=127	N=173	N=300	N=100	N=400
Daughters equal right on fathers property					
Disagree or strongly disagree	2.4	5.3	4.1	11.0	5.8
Agree or strongly agree	97.6	94.7	95.9	89.0	94.2
Boys and girls are equal					
Disagree or strongly disagree	4.0	.6	2.0	7.0	3.3
Agree or strongly agree	96.0	99.4	98.0	93.0	96.7
Girls marriage after 18 years					
Disagree or strongly disagree	5.0	10.7	8.3	8.0	8.2
Agree or strongly agree	95.0	89.3	91.7	92.0	91.8
Girls continue education like boys					
Disagree or strongly disagree	1.6	4.1	3.1	6.1	3.8
Agree or strongly agree	98.4	95.9	96.9	93.9	96.2
Place of delivery in Hospital					
Disagree or strongly disagree	3.3	5.3	4.5	6.0	4.8
Agree or strongly agree	96.7	94.7	95.5	94.0	95.2

Table 10.4 Attitudes of Women					
1	2	3	4=2+3	5	6=4+5
Percentage of women support on wife beating by husbands if she	New members	Old members	All members	Non members	Total
	N=127	N=173	N=300	N=100	N=400
Goes outside without telling to him					
Agree or strongly agree	40.6	52.5	48.9	65.3	53.8
Disagree or strongly disagree	59.4	47.5	51.1	34.7	46.2
Disrespect mother or sister in law					
Agree or strongly agree	39.1	47.5	45.0	82.5	56.1
Disagree or strongly disagree	60.9	52.5	55.0	17.5	43.9
Not care of child					
Agree or strongly agree	42.0	58.4	53.5	61.2	55.8
Disagree or strongly disagree	58.0	41.6	46.5	38.8	44.2
Not cook food properly					
Agree or strongly agree	31.4	53.4	46.8	49.0	47.4
Disagree or strongly disagree	68.6	46.6	53.2	51.0	52.6

Appendix 11 Role of SHGs on Women's empowerment

Table 11.1 Multivariate Tests^d

Effect		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^b
Intercept	Pillai's Trace	.007	.446 ^a	4.000	241.0	.775	.007	1.784	.154
	Wilks' Lambda	.993	.446 ^a	4.000	241.0	.775	.007	1.784	.154
	Hotelling's Trace	.007	.446 ^a	4.000	241.0	.775	.007	1.784	.154
	Roy's Largest Root	.007	.446 ^a	4.000	241.0	.775	.007	1.784	.154
Old New & Nonmember	Pillai's Trace	.294	10.439	8.000	484.0	.000	.147	83.513	1.000
	Wilks' Lambda	.719	10.819 ^a	8.000	482.0	.000	.152	86.550	1.000
	Hotelling's Trace	.373	11.197	8.000	480.0	.000	.157	89.580	1.000
	Roy's Largest Root	.316	19.110 ^c	4.000	242.0	.000	.240	76.440	1.000

a. Exact statistic
b. Computed using alpha = .05
c. The statistic is an upper bound on F that yields a lower bound on the significance level.
d. Design: Intercept + Old, New & Nonmember

Table 11.2 Levene's Test of Equality of Error Variances

	F	df1	df2	Sig.
Decision Making Factor	10.683	2	244	.120
Power of women factor	2.886	2	244	.098
Awareness factor	45.587	2	244	.080
Attitude factor	2.232	2	244	.110

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
a. Design: Intercept + oldnewnonmem

Box's Test of Equality of Covariance Matrices^a

Box's M	103.205
F	5.024
df1	20
df2	107821.830
Sig.	.069

Tests the null hypothesis that the observed covariance matrices of the dependent variables are equal across groups.

Table 11.3 Parameter Estimates

Dependent Variable	Parameter	B	Std. Error	t	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power ^a
Decision Making Factor	Intercept	.205	.092	2.236	.026	.020	2.236	.605
	Non-Member	-.511	.141	-3.634	.000	.051	3.634	.951
	New Member	-.159	.163	-.975	.330	.004	.975	.163
	Old Member	0 ^b	.	.	.	.	.	.
Power of women factor	Intercept	.230	.090	2.543	.012	.026	2.543	.717
	Non-Member	-.422	.139	-3.046	.003	.037	3.046	.859
	New Member	-.418	.161	-2.605	.010	.027	2.605	.737
	Old Member	0 ^b	.	.	.	.	.	.
Awareness factor	Intercept	-.043	.087	-.496	.620	.001	.496	.078
	Non-Member	-.137	.134	-1.020	.309	.004	1.020	.174
	New Member	.424	.155	2.731	.007	.030	2.731	.776
	Old Member	0 ^b	.	.	.	.	.	.
Attitude factor	Intercept	.313	.075	4.189	.000	.067	4.189	.987
	Non-Member	-.768	.114	-6.711	.000	.156	6.711	1.000
	New Member	-.260	.133	-1.959	.051	.015	1.959	.497
	Old Member	0 ^b	.	.	.	.	.	.

a. Computed using alpha = .05
b. This parameter is set to zero because it is redundant.

APPENDIX 12: INTERVIEW SCHEDULE

Gokhale Institute of Politics and Economics

(University under section 3 of UGC act 1956)

Pune – 411004

Questionnaires for studying impact of micro credit on economic and empowerment level of women respondents in rural area

Consent statement:

We are carrying out a study on “Empowerment of women with micro credit: A study of women self help groups in Ganjam district of Odisha” with the help of BMASS/SGSY program of Ganjam district of Odisha on impact of micro credit. It is primarily a PhD research. We would like to ask a few questions regarding your economic status of house and empowerment level. Same set of questions will be asked to each participant in the study. However, the participant in the household in the survey is voluntary. Even if you agree to respond these questions, you can refuse to answer any question that you do not wish to answer. Your answer will be kept confidential and only the researcher and study personal will have access to this information. We would like to assure you that your identity would not be revealed anyone either in paper or in report, in the thesis, or in any other way and your name and addresses would be kept strictly confidential. Your name and address would be kept strictly confidential. However, there is no monetary benefit of participation in the study, yet this study can be an effective way to provide information regarding impact of micro credit on the women participated in SHGs. This can help o formulate the intervention strategies at the root level that benefit the members.

We would very much appreciate your participation in the survey as your views are vital importance.

Do you agree to be interviewed?

Yes.....1

No.....2

Empowerment of women with micro credit: a study of Women Self-help group in Ganjam district of Odisha

A1.1	Serial number of questions							
A1.2	Name of the state	Odisha						
A1.3	Name of the district	Ganjam						
A1.4	Name of the block							
A1.5	Name of the Panchayat							
A1.6	Household code							
A1.7	Are you members in SHGs?	Yes-1 (If yes Go A1.8) No-2						
A1.8	How many years before you have joined in the group?							
A1.9	Name of the respondent							
A1.10	Is respondent is head of the household?	Yes-1 No- 2						
Household Profile Section-1								
B1.1	What is the religion of the head of the household?	Hindu Muslim Christian Others	1 2 3 4					
B1.2	Caste of the household	Schedule Caste Schedule Tribe OBC Others	1 2 3 4					
B1.3	Type of Family	Nuclear Joint Extended	1 2 3					
B1.4-Family structure								
SINo	Name (Start with head of HH)	Marital Status (A)	Relation with head of household (B)	Sex (C)	Age	Can write (D)	Max level of school(E)	Occupation (F)
1								
2								
3								
4								
5								
6								
		If age<5 yrs			If age>5 yrs			
Name	Sex	Age	Relation with head of household (B)	What is highest standard completed	What is highest standard completed	Did she attend school at any time in last year Yes-1 No-2	Reason for not attending school(G)	

(A) 1-Single, 2-Married live with spouse, 3- Widow, 4-Divorcee

- (B) 1-Spouse, 2- Son or Daughter, 3- Father or Mother, 4- Grandchild, 5- Grandparents, 6- Other relatives 7- Daughter-in-law or Son-in-law 8- Self
- (C) 1-Male, 2- Female
- (D) 1-Yes, 2- No
- (E) 1- Illiterate, 2- Primary, 3-Secondary, 4-Higher secondary
- (F) 1-Self employed in agriculture,2- Self employed in nonfarm enterprise, 3-Student, 4-Causal worker, 5-salaried worker, 6-domestic worker, 7-unemployed, 8-unwilling to work,retired,9- not able to work.
- (G) 1-Help in household chore 2-Help in agriculture field, 3-family unable to support 4- take care of younger child 5-others specify

Dwelling Indicator			
B1.5	How many rooms does the dwelling have?	In number	
B1.6	Type of houses (Observe roof, wall and floor)	Kachha	1
		Semi-pucca	2
		Pucca	3
		Others.....	88
B1.7	What type of roofing material used in the main house?	Tarpaulin, plastic sheets, branches Grass	1
		Stone or slate	2
		Iron sheets	3
		Brick tiles	4
		Concrete	5
B1.8	What type of exterior wall does the dwelling have?	Tarpaulin, plastic sheets,	1
		Mud walls	2
		Iron sheets	3
		Timber	4
		Brick or stone with mud	5
		Brick or stone with cement plaster	6
B1.9	What is the observed structural condition of the main dwelling?	Seriously Dilapidated	1
		Needs major repairs	2
		Sound structure	3
			4
B1.10	What type of flooring does the dwelling have?	Dirt	1
		Wood	2
		Cement	3
		Cement with additional cover	4
B1.11	What is the main source of drinking water for members of your household?	Rain water, dam, pond, river	1
		Public well open	2
		Well in residence	3
		Piped public water	4
		Hand pump in residence	5
		Public Hand pump	6
		Other sources	88
B1.12	What is the main fuel your household uses for cooking?	Wood	1
		Crop residues	2
		Dung cakes	3
		Kerosene	4
		Electricity	5
		Liquid petroleum gas	6

		Other (specify _____)	88
B1.13	What is the major source of lighting in your household?	Electricity Kerosene Lamp Others(specify)	1 2 88
B1.14	What is the type of electricity supply to your household?	No connection Shared connection own connection	1 2 3
B1.15	What type of toilet your household uses?	Open Defecation Flush toilet Toilet with septic tank	1 2 3

Assets indicator

B1.16	Does the household own any agricultural land	Yes No	1 2	If No Go B1.18
B1.17	If yes what is amount?	In Acre.....		
B1.18	Does your household cultivate land on lease?	Yes No	1 2	
B1.19	If yes what is amount?	In Acre.....		
B1.20	Does your household have following assets?			
	Livestock	Yes-1	No-2	
1	bulls		14	A radio or transistor
2	Cows		15	B & W Television
3	buffaloes		16	A color television
4	Goats		17	A sewing machine
5	Sheep		18	A mobile
6	Chickens or ducks		19	telephone
	Appliances &electronics		20	A refrigerator
7	A mattress		21	A watch or clock
8	A pressure cooker			Transport
9	A chair		22	A bicycle
10	A cot or bed		23	A motorcycle
11	A table		24	An animal-drawn cart
12	An electric fan		25	Others
13	Gold			
B1.21	In last five year, does your household purchase any items or livestock's?	Yes-1 No- 2		If No Go to C1.1
B1.22	If yes what is record from the above			

Consumption indicator

C1.1	During the last seven days, how many day did the main meal consist of an inferior food only? Ex Bread, Regiment	.....in days		
C1.2	During the last 30 days, did household have not enough to eat every day?	Yes No	1 2	If No GoC1.5
C1.3	If yes, how many days	.....in days		
C1.4	Who skipped the meal due to not enough to eat?	Male member in HH Female Member in HH Both None DK/CS	1 2 3 4 99	

C1.5	How often do you serve the following food items?	Daily-1 Monthly- 3	Weekly- 2 Never -4	
	Egg, fish & meat, milk & milk products			
	Cereal products & pulse product			
	Vegetables, fruits & nuts			
	Other food items (sugar, tea, coffee etc.)			
C1.6	How many days do you have a stock of local staple in your house?	Monthly-1 Quarterly-2	Bi-monthly-3 Annually-4	Not at all-5
	Staple1 (Rice, Pulses, Cereals)			
	Staple 2 (pickle, Papad and other dry food)			
Formal and Informal Loan Section-2				
D1.1	What are the financial services you are accessing?	Savings Credit Insurance Money Order Pension Others Specify.....	1 2 3 4 5 88	
D1.2	Does your household have any debts from formal finance institutions?	Yes No	1 2	If No GoE1.11
D1.3	What are the sources of credit? (MULTIPLE RESPONSES)	SHG Bank Others.....	1 2 88	
D1.4	What is the total amount of money you borrowed?	Rs.		
D1.5	How long ago did you take this loan?	Years Months DK/CS		
D1.6	What is the period for which loan has sanctioned?	Years Months DK/CS		
D1.7	For what purposes did your household have to borrow this money? (MULTIPLE RESPONSES)	Agriculture investment Business Health Marriage For living Income generating Asset building Emergencies Repay old debt Education Home repair Others.....	1 2 3 4 5 6 7 8 9 10 11 88	
D1.8	What were the number of days between applying for loan and receiving the loan?	Less than 2 day Less than one week Less than one month More than one month	1 2 3 4	
D1.9	Did you have to pay extra fees or money to obtain this loan?	Yes No	1 2	If No GoE1.11
D1.10	What is the value of other expenses incurred	In Rs		

	in getting the loan (bribes, transport costs)?			
D1.11	Does your household have any loan outstanding from informal sources?	Yes No	1 2	If No GoF1.1
D1.12	From whom have you taken loans that are currently outstanding?	Relatives Neighborhoods Friends Moneylenders Chit Funds Shopkeepers Other Specify.....	1 2 3 4 5 6 88	
D1.13	Why did you borrow from these sources rather than from a bank?	Get it faster Less expensive Easier to get a loan Collateral is not required Bank loan was rejected Did not know how to get a bank loan Doesn't have a bank account Other specify.....	1 2 3 4 5 6 7 88	
D1.14	How much amount borrowed?	Rs		
D1.15	Reason of borrowing from above source	Agriculture investment Business Health Marriage For living Income generating Asset building Emergencies Repay old debt Education Home repair Others.....	1 2 3 4 5 6 7 8 9 10 11 88	
Interest Rate/collateral/Repayment				
E1.1	What is the interest rate Rs. Per 100 (monthly) at which you get loan from the Bank or SHGs?	In Rs		
E1.2	How much loan have you repaid in total from Bank or SHGs?	In Rs		
E1.3	How much will you need to repay in total (including the interest)?	In Rs		
E1.4	How it repaid?	Borrow from bank Husbands income Money lender Own income Borrow from other source Other specify.....	1 2 3 4 5 88	
E1.5	Have you ever been late for a scheduled payment on this loan?	Yes No	1 2	
E1.6	Reason for late payments	Low income No work Others specify.....	1 2 88	

E1.7	Have you interested to borrow further loan from the institutions?	Yes No	1 2	
E1.8	Did you give any collateral for the loan like land, jewelers or surety from a known person?	Yes No	1 2	
E1.9	What type of collateral did you give?	land / house Jewelers Surety From Known Person Other (specify)..... DK/CS	1 2 3 88 99	
Saving/ insurance				
F1.1	Does your household save regularly?	Yes No	1 2	If No Go G1.2
F1.2	Why do you not save regularly?	Insufficient Income No need to save Does Not Know How to Save Others specify.....	1 2 3 88	
F1.3	Doer your household saving in following places? (MULTIPLE RESPONSES)	SHG Cooperative Bank Post office Relatives/neighborhood Chit fund Others specify.....	1 2 3 4 5 6 88	
F1.4	How much you save.	Rs		
F1.5	What is the purpose of savings? (MULTIPLE RESPONSES)	Food security Education Medical Marriage Emergencies Repay old loans Future uncertainty To invest business Others..... DK/CS	1 2 3 4 5 6 7 8 88 99	
F1.6	How regularly do you save that is put money away?	Daily Weekly Fortnightly Monthly Less than monthly Other specify.....	1 2 3 4 5 88	
F1.7	Does anybody in the household have any insurance policy (for life, health etc)	Yes No	1 2	If no Go H1.1
F1.8	What type of insurance does members of your household have?	Life insurance Health insurance Others.....	1 2 88	
Access and Information Section-3				
G1.1	Can you write a form to check your account?	Yes No	1 2	
G1.2	Can you withdraw money from your	Yes	1	

	account?	No	2	
G1.3	Can you deposit money in your account?	Yes	1	
		No	2	
G1.4	On average, do bank officials respond to any questions you ask with appropriate explanations?	Yes	1	
		No	2	
G1.5	Which of the following words best describes how satisfied you are with your experiences with banking officials?	Very dissatisfied	1	
		Dissatisfied	2	
		Satisfied	3	
		Extremely Satisfied	4	
		DK/CS	99	
G1.6	How often you read newspaper/magazine?	Every Day	1	
		Once in week	2	
		Once in fortnight	3	
		Once in a month	4	
		Not at all	5	
G1.7	How often you listen radio or watch television?	Every Day	1	
		Once in week	2	
		Once in fortnight	3	
		Once in a month	4	
		Not at all	5	
G1.8	Does your household have taken the benefit of any government schemes during the last three years?	NREGA	Yes-1 1	No-2 2
		Old Age pension	1	2
		Widow Pension	1	2
		Indira Awas Yojna	1	2
		Antyodaya Yojna	1	2
		Others specify		

Migration/Employment

H1.1	Has any member of the household migrated in last season?	Yes	1		If No
		No	2		Go J1.3
H1.2	Reason for migration (As for the last season) (MULTIPLE RESPONSES)	Un-availability of local labour	1		
		Unavailability of work	2		
		Lesser local wage	3		
		Higher wage at destination	4		
		Fascinated to city life	5		
		Family/Friend/Relatives	6		
		Debt repayment	7		
		Family requirement	8		
		Low agricultural production	9		
		Others specify.....	88		
H1.3	Does your family member get enough employment opportunity presently?	Yes	1		If No
		No	2		Go K1.1
H1.4	Reason for getting enough work/employment	Micro credit	1		
		NREGA	2		

		Other specify.....	88
Empowerment Indicator--Who takes on the following decisions in households? (Applicable to married women live with spouse)			
I1.1	Who makes most decisions to purchase the food and clothing items in house?	Other family members Only husband Both husband and Respondent Only respondent DK/CS	1 2 3 4 88
I1.2	Who makes most decisions about education, cloth and other expenditures of the children?	Other family members Only husband Both husband and Respondent Only respondent DK/CS	1 2 3 4 88
I1.3	Who makes most decisions on purchase of expensive items or for home improvement or repair?	Other family members Only husband Both husband and Respondent Only respondent DK/CS	1 2 3 4 88
I1.4	Who decides about health care for yourself?	Other family members Only husband Both husband and Respondent Only respondent DK/CS	1 2 3 4 88
I1.5	Who makes decision on your visit to family or relatives house?	Other family members Only husband Both husband and Respondent Only respondent DK/CS	1 2 3 4 88
I1.6	Who decides the money you earn will be use?	Other family members Only husband Both husband and Respondent Only respondent DK/CS	1 2 3 4 88
I1.7	Do you have a bank or savings account that you yourself use?	Other family members Only husband Both husband and Respondent Only respondent DK/CS	1 2 3 4 88
I1.8	Do you take decisions on borrowing money?	Other family members Only husband Both husband and Respondent Only respondent DK/CS	1 2 3 4 88
I1.9	Who makes decisions about where to invest surplus money of the households?	Other family members Only husband Both husband and Respondent Only respondent DK/CS	1 2 3 4 88

I1.10	Do you spend money that you have borrowed?	Other family members Only husband Both husband and Respondent Only respondent DK/CS	1 2 3 4 88
I1.11	Who decides how husband earning should spend?	Other family members Only husband Both husband and Respondent Only respondent DK/CS	1 2 3 4 88
Have you power to do following activities independently?			
I1.12	Have you the power to Cast a vote independently without any influence?	No Power Less power Some power More power DK/CS	1 2 3 4 88
I1.13	Have you the power to go market, health center and outside of village/community in alone?	No Power Less power Some power More power DK/CS	1 2 3 4 88
I1.14	Have you the power to Go to friends, relative house alone?	No Power Less power Some power More power DK/CS	1 2 3 4 88
I1.15	Have you the power to discussion with any government officers outside household?	No Power Less power Some power More power DK/CS	1 2 3 4 88
I1.16	Have you the power to participate in protection against social issues?	No Power Less power Some power More power DK/CS	1 2 3 4 88
I1.17	Have you the power to participate any training programs?	No Power Less power Some power More power DK/CS	1 2 3 4 88
I1.18	Have you the power to participate in the election process?	No Power Less power Some power More power DK/CS	1 2 3 4 88
I1.19	Have you the power to save and withdraw money from the Bank?	No Power Less power Some power More power	1 2 3 4

		DK/CS	88
Based on your knowledge have you agreed with following aspects?			
I1.20	Daughters should have equal right on father's property like sons.	Strongly Disagree Disagree Agree Strongly agree DK/CS	1 2 3 4 88
I1.21	Are you thinking that boys and girls are equal?	Strongly Disagree Disagree Agree Strongly agree DK/CS	1 2 3 4 88
I1.22	Girls should be marrying after 18 years.	Strongly Disagree Disagree Agree Strongly agree DK/CS	1 2 3 4 88
I1.23	Girls should continue the higher education like boys.	Strongly Disagree Disagree Agree Strongly agree DK/CS	1 2 3 4 88
I1.24	Boys and girls in the age of (17-25 years) should teach about contraceptive and HIV(AIDS) in the education	Strongly Disagree Disagree Agree Strongly agree DK/CS	1 2 3 4 88
I1.25	Government hospital is safest place for delivery of the child.	Strongly Disagree Disagree Agree Strongly agree DK/CS	1 2 3 4 88
Sometimes a husband is annoyed or angered by things that his wife does. In your opinion, husband has right in hitting or beating his wife			
I1.26	If she goes outside without tell to him	Strongly Disagree Disagree Agree Strongly agree DK/CS	1 2 3 4 88
I1.27	If she shows, disrespect mother-in-laws or sister-in-law or others	Strongly Disagree Disagree Agree Strongly agree DK/CS	1 2 3 4 88
I1.28	If she does not take care of child	Strongly Disagree Disagree Agree Strongly agree DK/CS	1 2 3 4 88
I1.29		Strongly Disagree	1

	If she does not cook food properly	Disagree Agree Strongly agree DK/CS	2 3 4 88
Husband attitude- I am going to ask you about some situations which happen to some women. Please tell me if these apply. (Not applicable to widow or wife of migrant person)			
J1.1	He was jealous or angry if you talk to other men.	Yes No DK/CS	1 2 88
J1.2	He frequently accuses you of being unfaithful.	Yes No DK/CS	1 2 88
J1.3	He does not permit you to meet your female friends.	Yes No DK/CS	1 2 88
J1.4	He tries to limit your contact with your family.	Yes No DK/CS	1 2 88
J1.5	He insists on knowing where you are at all times.	Yes No DK/CS	1 2 88
J1.6	In the last 12 months, how often have you been hit, slapped, kicked, or physically hurt by someone in house?	None- 1 Often- 2 Sometime- 3 Always- 4	If None Go M1.1
J1.7	What are the main causes of his violence?	Financial cause Personal cause others	1 2 3
J1.8	Do you have the power to resist verbal and physical abuse	Yes No Refuse to Answer	1 2 88
About Organization Section-4			
K1.1	What is your Group name?		
K1.2	How many members are in your group?	5—10 10 – 15 15 –20	1 2 3
K1.3	Size of Group	Stable Increased Decreased	1 2 3
K1.4	Who suggested joining the group?	Self Family Members Friends/ Relatives NGO's workers Other members of the Group	1 2 3 4 5

K1.5	What is your position in Group?	Ordinary Member Active Member Cashier/ Secretary President Other Specify.....	1 2 3 4 88
K1.6	Frequency of meeting-	Weekly Fortnightly Monthly Never	1 2 3 4
K1.7	How many members attend the meeting?	All Few	1 2
K1.8	Who calls the meeting?	Group Members Projects Staff Mixed NGO	1 2 3 4
K1.9	Who decides agenda of the meeting?	Majority of members Some member President NGO	1 2 3 4
K1.10	Who takes the decision in meeting?	All members President NGO Mixed	1 2 3 4
K1.11	How is the decision taken	By consensus By voting NGO Mixed	1 2 3 4
K1.12	Whether you received training/ orientation/ exposure related to SHG's, activities	Yes No	1 2 If No go M1.16
K1.13	Nature of training:	Agriculture Non farm sector SHG's functioning Income generating activities Marketing of commodities/products Business development Others specify..	1 2 3 4 5 6 88
K1.14	Who provided training	Govt. Officials NGO Others...	1 2 88
K1.15	Impact of such training and exposure visits (Please give your order of preference)	Confidence Building Skill Development Marketing Linkage Bank Linkages Knowledge on rights Micro enterprise development Enhanced Income and earnings Others specify.....	1 2 3 4 5 6 7 88
K1.16	Whether you got benefits from government schemes	Yes No	1 2

K1.17	Name of the scheme		
K1.18	Amount of subsidies		
K1.19	What problems do you face because you are a member of this group	Marketing Raw-material Low price of selling good Inadequate loan Low return High interest Others specify...	1 2 3 4 5 6 88
K1.20	How many hours they work in a day?	In hr.....	
K1.21	Have you knowledge about group process and activities?	Yes 1 No 2	
	Rules and regulation	1 2	
	Group records	1 2	
	Balance in bank	1 2	
	Outstanding loan	1 2	
	Objective of the group	1 2	
K1.22	Has the formation of group helps to increase in	Increase 1 Same- 2	Increase due to Group1 Same-----2
	Income generating activities	1 2	1 2
	Employment	1 2	1 2
	Saving	1 2	1 2
	Knowledge about bank	1 2	1 2
	Knowledge about Health and sanitation	1 2	1 2
	Knowledge about Nutrition and health of child	1 2	1 2
	Participation in government programmes	1 2	1 2
	Interaction with outsiders	1 2	1 2
	Status in the family	1 2	1 2
	Mobility	1 2	1 2
	Literacy level	1 2	1 2
	Access of credit	1 2	1 2
	Asset building	1 2	1 2
	family relation	1 2	1 2
K1.23	Cooperation level of the Respondents		
		Excellent	1
		Very Good	2
		Good	3
		Fair	4
		Poor	5

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