ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES

THE IMPACT OF MICROFINANCE SERVICES ON THE LIVING CONDITIONS OF HOUSEHOLDS WITH LOW INCOME EARNING: THE CASE OF ADDIS ABABA

BY
BEREKET GEBREMEDHIN

A THESIS SUBMITTED TO THE SCHOOL OF GRADUATE STUDIES OF ADDIS ABABA UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN ECONOMICS

February, 2008
ADDIS ABABA

ACKNOWLEDGEMENT

I would like to extend my gratitude to my *research advisor,* Dr. Tassew Weldehanna, under whose supervision and unreserved comments this thesis has been completed.

I am still indebted to Ato Ephrem Asefa from Mekelle University for his friendly cooperation in providing me valuable comments and materials.

I am very grateful for my friends, Amanuel, Ataklti, Henok, Teshome and Bahran for their helpful comments and encouragements.

Finally, my thanks go to my family and all my friends for their appreciation and encouragement.

Table of Contents

LIST OF TABLES

Title **page**

LIST OF FIGURE

Acronyms

ACSI-Addis credit and saving institution

AEMFI-Association of Ethiopian microfinance institutions

AMFI-Asser microfinance institution

AVFS-Africa village financial services

DECSI-Dedebit credit and saving institution

GMFI-Gasha microfinance institution

REST-Relief society of Tigray

IFAD-International fund for agricultural development

NGO-Non governmental Organization

MMFI-Meklit microfinance institution

MFI-Microfinance institution

NBE- National bank of Ethiopia

SHARE-Society for helping awakening rural poor

SFPI-Specialized financial and promotion institution

ABSTRACT

Ethiopia is one of the least developed countries with high incidence of poverty. Poverty reduction has been the center of development strategy in the country. Microfinance program on the other hand have been accepted as instruments in fighting against poverty through out the world. Since 1996, Microfinance institutions (MFIs) in Ethiopia have been developed both in size and program out reaches. Currently there are 27 MFIs in the country. Despite of its expansion, little is known about the impact of the program in changing the life of the low income households. The study therefore, tries to fill some of this gap by taking Addis Ababa as a case study.

To meet the objective of the study, both primary and secondary data were used. For the primary data, two kebeles from Addis Kifle Ketema were selected. 200 households were interviewed using random sampling. For data analysis, descriptive statistical and econometric model were adopted both for the entire sample and for various income groups.

The study indicates that microfinance improves low income earning households' economic status. Households' income, expenditure and asset are improved as a result of program participation. But the result is not uniform for various income groups. For relatively better-off households the impact is comparatively high in expenditure, whereas for low income households the impact is highly explained in terms of increase in household asset this would imply that the relative success of the program depends on the amount of the loan and its utilization.

Moreover, in this study there is evidence that microfinance improves the non economic dimension of poverty. It improves social acceptance and decision making of women. But, the result also indicates that credit alone does not improve the status of the poor if it is not substantiated by other technical supports that help the low income households to cope up with short term problems and enabling them better competitive in the long run.

CHAPTER ONE: INTRODUCTION

1.1. Statement of the problem

In economically poor countries like Ethiopia, fighting poverty is among the priorities. Nowadays it has become a global issue to tackle poverty using different mechanisms. This is evident from millennium development goals aimed at reducing global poverty by half by 2015. The development goal particularly focuses on targeting the 100 million world's poorest people (Elsabeth and Little 2003), (Simanowit and Walter, 1999).

One instrument in fighting against poverty is provision of credit services through micro finance institutions. This emanates from the fact that the poor has generally no access to the formal financial sector due to lack of collaterals that fit the interest of the lenders. Microfinance is, therefore, a powerful tool to reduce poverty and a means of building financial system that serve the poor as it provides various products that are deemed to be convenient to low income societies (Ray, 1998).

In order to alleviate poverty crisis, providing the poor with loan and using local entrepreneurship have been suggested as a solution. As a result, governmental and non governmental organizations have started providing the poor with capital since 1970s. Microfinance institutions (MFIs) assist in building the capacity of the poor and graduating them to sustainable self-employment activities by providing them financial services like credit, saving and insurance among other things. To provide microfinance and other support services, MFIs should be able to sustain themselves for a long period (Morduch, 1998), (Elsabeth and Little, 2003).

The performance of the largest microfinance enterprise in the world, Grameen bank in Bangladesh, has the pioneer role in diverting the attention of many scholars, governments and NGOs toward MFIs as a means to target the poor in improving their lives. Since then, microfinance institutions have got better recognition throughout the world. But most of these schemes were not successful since they usually were project based and unable to provide sustainable services (Horris and Raley 2000).

Recent studies indicate that microfinance alone is not the best intervention for the poor (Sandgrass, 1997), (Hossian, 2002), (Elsabeth and Little, 2003). Concerning this Simanowit and Walter (2000:13) argue"…they [the poor] can not be reached." This, however, does not underestimate the role of microfinance in alleviating poverty; rather it calls for better design in the provision of the service so as to impact the target group in a better way.

In Ethiopia, the development of microfinance institution is at its early stage. The penetration rate of microfinance in the country is estimated to be 7 % Freddy, (2007) in (Wolday, 2007). Most of the poor rely on informal and semi-formal credit institutions (Dejene, 2001). However, there is evidence that microfinance institutions are expanding from time to time- both in product development and in program outreaches. Wolday (2000), justifies the objective of micro finance activities in Ethiopia as a policy instrument which enable rural and urban poor to increase output and productivity, induce technology adoption, improve input supply, increase income, reduce poverty and attain food security.

Ethiopia is one of the largest populated countries with a population size of around 77 million (CSA, 2006). In Ethiopia 38.7% of the population is

estimated to be found below poverty line. This is an evidence for the country to be one of the poorest in the world. The poverty situation is further exacerbated by rapid population growth and periodic drought that hit the country. But, current data reveal that the country has been characterized by rapid economic growth for the last four years (CSA, 2006).

In Ethiopia, currently there are 27 microfinance institutions registered by NBE that provide mainly loan and saving services. However, a number of microfinance institutions have limited their services to the capital city.

MFIs in Ethiopia are established with the objective of alleviating poverty through provision of financial services to the economically active poor. They provide poor people with an access to financial resource in ways that enable them to identify their own livelihood projects create source of income and provide self employment and mobilize under utilized local resources (wolday, 2007).

The first MFI was established in 1993 in Tigray. This credit scheme was established as one department under the Relief Society of Tigray (REST). Taking the Grameen Bank (Bangladesh) model as a starting point, the REST credit scheme aimed at providing credit to the rural poor using social rather than asset based collateral. REST credit scheme in Tigray was formally registered as a share company on 28 April 1997 in the name Dedebit Credit and Saving Institution (DECSI) in line with Proclamation No 40/96 of the legislative framework for micro finance (wolday, 2002).

In July 1996, the Ethiopian government issued proclamation No. 40/1996 to regulate the microfinance industry and establish legal framework of the licensing and supervision of MFIs. Since the release of the proclamation, more than 20 MFIs were inaugurated and attained remarkable achievements. A study indicated that in 2001, the Industry had an outstanding loan portfolio of about USD 35.5 million and savings of about USD 16 million with outreach of more than 500,000 rural households (IFAD, 2001).

In assessing the impact of microfinance, the important issue according to Johnson and Royaly (1999:72) is "…by how much, and for whom poverty has reduced (or increased) and the extent to which these changes have occurred as a result of the intervention." This implies that beyond the concern of impact assessment, it should be understood whether the target groups are reached by the program or not.

In Ethiopia, the impact of microfinance services on reducing poverty or improving living condition at household level is not clearly known. Only few studies have been undertaken to assess how microfinance have impacted poverty and living conditions of the households. Even these studies, in general, are more of "descriptive" in nature and are with out explicit estimate of the coefficients of the parameters. Hence, this study attempts to fill in some of the gaps in the studies conducted so far.

1.2. Objective of the study

The development of microfinance service is relatively a new practice in Ethiopia. Because of this, adequate information is required on the role of microfinance institutions in poverty alleviation, its impact and whether very poor clients generally benefit from the participation or not.

Therefore, the study is aimed at assessing impact of microfinance services in lives of low income households in Addis Ababa. The specific objectives of the study are to:

- analyze, the impact of microfinance services in tackling household vulnerability to risk and income failures, and change in social status and empowering women.
- examine the extent, and the role of micro credit services in the economic dimensions of poverty reduction.

1.3. Research hypotheses

To guide the direction of the research, the following hypotheses are formulated to some of the objectives.

Participation in the program will lead to:

- improved non-economic dimension of households poverty. Non economic dimension of poverty in this paper represents to vulnerability to risk and social status households.
- increased household income
- increased household asset
- increased household expenditure

CHAPTER TWO: REVIEW OF RELATED LITERATURE

2.1. Conceptual framework

2.1.1 The promise of Microfinance service in poverty Reduction

There is a world wide hope that poverty can be reduced or eradicated through provision of financial service to the low income earning households. Recent study shows that nearly half billion people are assumed to be beneficiary of microfinance institutions throughout the world (Elsabeth and Little, 2003).

Believing in that financial service is one development tool in fighting against poverty, governmental and NGOs have been actively participating in the service delivery. Despite this long-timed effort, empirical investigation reveals that the result is not inline with the expectation (Hossian, 2002).

The task of stakeholders is now to come up with what is known as “best practices” which make both clients and microfinance institutions beneficiaries. But, since debtor and creditors are different bodies, in certain cases conflict of interest is unavoidable.

MFI is a means to enhance the capacity of the poor by enabling them to sustainable self-employment activities, by providing them with financial services like credit, saving and insurance but, the program should be able to sustain themselves for a long period for better outcome.

Microfinance programs are powerful methods of building the self-confidence of the poor by providing a demonstration of trust in their

clients. They help to deal with the problem of powerlessness which may be resulted from economic inequalities within households and community at large (Johnson and Rogaly, 1999). The self-confidence of the poor also grows simultaneously with the expansion of their economic activities and the increment of their income and asset.

Microfinance programs bring social changes too. It can reduce domestic instabilities by channeling resources to families through women and by organizing women into solidarity groups that meet regularly and make women live more sound. By empowering women and changing gender relations in the household and in the community, credit schemes will lead to progressive social change (Horris and Raley, 2000).

To sum it up, microfinance is a powerful tool in fighting against poverty and is a means of building a financial system that serve the poor. When poor people have access to financial services, they can earn more, build their assets and protect themselves against external shocks. Poor households use micro-finance to move from everyday survival to better future; they invest in better nutrition, housing, health, and education. Microfinance is emerging as instrument for reducing poverty and improving the poor access to financial services in low-income countries.

2.1.2 The Source of Demand and Supply for Microfinance Service

2.1.2.1 The source of Demand for Microfinance

To see clearly how credit affects the live of low income earning households, a brief review of demand and supply for credit is required. In the literature, there are three important demands for credit, namely demand for fixed capital, working capital, and for consumption purpose. When credit is demanded as a means of fixed capital, it is required to expand the existing business or to start up new business. In other terms,

money is needed to purchase machinery, equipment and to construct building among other things (Ray, 1998).

The second source of demand for capital is the need for working capital. Working capital is required to facilitate the ongoing operational activities. When problem of liquidity encounters, credit is usually taken as a means to settle different business expenses. Clearing wage bills, small scale operational repairs and maintenances, and purchasing of raw materials can be classified under working capital category.

The on-going demands for credit are closely related with production process; however, it should be noticed that credit is also demanded for mere consumption purpose. Low income households smooth out their consumption if they have an access to credit. In cases of seasonal income variation, when credit is made available, low income earning households increase consumption during bad season against the expected return in good season.

> "Microfinance allows poor people to protect, diversify and increase their source of income, the essential path out of poverty and hunger. The ability to borrow a small amount of money to take advantage of a business opportunity to pay for schooling fees, or to bridge a cash flow gap, can be a first step in breaking the cycle of poverty" (Elizabeth, 2001).

In practice low income households usually demand credit on accounts of consumption and working capital needs, but it is recognized that fixed capital by far determines the overall economic performance of clients (Ray, 1998).

Studies reveal that for the poorest part of society, credit alone cannot be a solution (Tassew, et al 2005), (Murduch, 1999), (Ray, 1998). To improve

the live of the poorest households, credit facilities should be substantiated with other services. When credit is a bottleneck in production process, an access to credit would solve the problem with little doubt; however, if credit is not the main constraint in production process, its role would not be a significant one. Elizabeth, (2001) indicated that no single intervention can defeat poverty. Poor people need employment, schooling and health care among other things

2.1.2.2 The Source of Microfinance Supply

In viewing the supply side, informal sectors are the pioneers. Informal money lenders include all money lenders at micro level without formal institutional set up. Different studies show that the majorities of urban and rural poor in Ethiopia get financial services from informal and semi-formal financial institutions. The study of Dejene (2001) indicated that the semi-formal and informal finance accounts for 78% of agricultural credit in Ethiopia.

The need for informal sector in provision of micro-credit emanates from the fact that formal financial sectors are generally inefficient to reach to the low income earning households. Moral hazards and adverse selection could best explain the problem of formal financial sectors. Such institutions do not have personal knowledge about the potential clients which gives rise to the problem of adverse selection. Meantime these institutions need collaterals to minimize risk of defaults. However, the 'right' form of collateral is often unavailable which complicates the service provision (Roy, 1998), (Murduch, 1999). Even if all the steps are successfully accomplished, clients may change their minds not to repay, problem of moral hazards, which clearly shows the existence of monitoring problems (Besley and Coate, 1995). Moreover, it should be noticed that low income earning households are most likely to demand

small credit that increases transaction cost. Hence it makes provision of small credit by formal banks make unthinkable.

Informal money lenders fill in some of the gaps created in the formal sectors. Informal lenders have better information about the behavior of clients. More over, for such money lenders, the type of collateral available would meet their special interest (Zaman, 1999).

To low income earning households, although informal money lenders are easily accessible, the service is deemed to be inappropriate on the following grounds: there exists relatively high interest rate, and there is practice of credit rationing among other.

According to Ray (1998), there are different theories that explain why money lenders charge higher interest rate. Lender's monopoly is one. The essence of the theory is that in certain areas or localities money lenders act as a monopoly and charge higher interest rate. The second theory goes to the lenders' risk hypothesis. According to this theory, the interest rate should be large enough to bear risk of default. The defaults are of two types: voluntary and involuntary ones. When borrowers intentionally fail to repay debt, it is known as voluntary default. On the other hand, for some reasons beyond their control, borrowers may fail to repay. This case is known as involuntary default. To sum up, according to lenders risk hypothesis, interest rate should be large enough to comprise the risk both types of defaults.

Money lenders are also characterized by credit rationing on certain grounds. Rationing is limiting the supply of credit at the on-going interest rate. Credit rationing can be made based on amount or the intended use of the credit. For money lenders, high amount of credit indicates the likelihood of defaults (especially with the presences of

strategic defaults). Hence, they like to limit (to ration) credit. Secondly money lenders limit credit based on the intended use of the credit. When credit is used primarily for fixed capital, the likelihood of borrowing from money lenders diminishes. In the presence of voluntary default, money lenders would prefer to provide credit for consumption or working capital purpose than for fixed capital (Ray, 1998).

Taking into consideration the weak and strong points of money lenders, new trend in microfinance literature is to make use of local knowledge and institutionalize them for better practice. Hence, it gives rise to the recognition of microfinance institution as a partner of development in antipoverty champions (Johnson and Royal, 1999).

The meaning of microfinance is derived from its main characteristics and functions. It broadly refers to small scale financial products which includes provision of: loan, saving, insurance, transfer and other services to low income people who operate small enterprises or micro enterprises. But most of microfinance institutions are mainly involved in micro-credit services. Micro-credit is provision of small amount of loan often with out collateral, in individual or group bases.

A more precise definition of microfinance is given as a provision of very small financial services by different governmental and non-governmental financial institutions to low-income clients. Commonly the term microfinance refers to the provision of financial services to low income clients; however, some microfinance organizations also provide insurance, social intermediation service such as group formation, development of self confidence, and training in financial literacy and management capabilities among member of a group. Thus, the definition

of microfinance extends to include both financial and social intermediation (Elsabeth and Little, 2003).

More over, microfinance is not simply banking, it is a development tool as well, and as such its activities also involve provision of small loans, for consumption and production activities. Unlike to formal banks, Most of microfinance institutions, give loan with out physical collateral. But, there exists some innovations in Microfinance institutions which can substitute such kinds of collaterals, these include: group lending, and compulsory savings, among other things (Ray, 1998).

Microfinance, as intervention of development agenda, therefore, focuses on reaching out to the poorest segment of the poor while it is still financially sustainable. There is long belief that such objective could not be achieved without tradeoff between financial sustainability and poverty reduction. But strong evidence that substantiate the argument is not found. For instance, a study made on 114 MFIs shows that there was no evidence that sustainable MFIs could not work with least income households (Simanowit and Walter 2000).

On the contrary some studies indicate that MFIs can serve the poor while they are still financially sustainable and profitable. In latin America, most of MFIs are financially profitable. In Ethiopia BUUSAA GONFAA microfinance institution, reported economic profit while serving the low income rural households (Zoom microfinance, 2007).

Working with the poorest is deemed to have cost and benefit. Usually low income people live in geometrically scattered and remote areas, besides; these areas are not well furnished with the necessary infrastructure. On top of that, once reached, they are more likely to demand small credit

that would increase the transaction cost. On the other hand, when MFIs understand how the market for the poorest work, they can still succeed. In providing financial service, if they get the 'right' service, the poor would overcome their problems; as a result, create new opportunity to the microfinance institution (Simanowit and Walter, 2000).

Microfinance specialists argue that when program primary aimed at targeting the poorest, empirical investigation is required on how these can be reached out. To mitigate the problem, certain methods have been forwarded. According to Simanowit and Walter (2000) such active mechanism includes: geographic targeting, active program promotion, staff commitment and product design.

2.1.3 Approaches in Provision of Microfinance Services

In providing microfinance services to the poor, there are two approaches: the financial system (market based) approach and the poverty lending approach. Both approaches have a common goal of expanding outreach and, hence, alleviating or reducing poverty through credit facilities to the poor. Their basic difference lies on the manner the objectives are to be achieved. The financial systems approach focuses on the institutional self-sufficiency, and commercializing the services to the poor in a profitable and sustainable way to meet the wide spread client demand for convenient and appropriate financial services. To that end it emphasizes on large scale outreach to the economically active poor borrowers who can repay loans from household and enterprise income streams, and to voluntary sellers. This approach, assumes that the poor are bankable in profitable manner. Under this approach clients will be charged on interest rate high enough to cover both operational and finical costs. On the other hand, the poverty lending approach emphasizes on the alleviation of reduction of poverty by providing the poor with subsidized

credits; hence, they finance their portfolio mainly through donor and government funds (Johnson and Royal, 1999).

In addition, complementary services such as skill training, the teaching of numeric and literacy, health, nutrition and family planning will be provided usually free of charge except for the mandatory savings. Mobilization of loan-able funds is not significant activity under this approach.

Historically subsidized credit has been a dominant strategy for many societies as a program of fighting against poverty. The proponents of subsidized credit strongly believe that when poverty reduction is the main objective, financial sustainability cannot be realized without subsidized credit (Johnson and Royal, 1999).

Research works reveal that cost of credit subsidy which puts under question mark for the sustainable availability of fund is too much. More over, study indicates that subsidized credit system finally excludes the target group "--- much credit was diverted to the politically powerful, away from the intended recipients" (Morduch, 1999:1570).

The unhappy performance of subsidized credit provision gives rise to another approach- commercial financial service. The proponents of anti subsidy program argue that both microfinance and low income clients can be beneficiary if proper mechanism is designed. Their central idea is that market led solution is efficient even if interest rate is high. In this case, high interest rate would imply high transaction cost associated with the delivery of the service not necessary exploitation (Johnson and Royal, 1999).

The solution seems in between. Credit subsidy cannot be life time solution; likewise, market solution fails to address the problem of poorest because of divergence between social and institutional benefits. At the spot it can be argued that like other infant industries, microfinance institutions require subsidies at early stage to withstand fully and independently (Murduch, 1999).

In both approaches, there are new innovations in microfinance institutions that improve the credit delivery system. Group lending is one of the innovations in microfinance development. This has been used by many microfinance institutions since 1980s where Grameen bank in Bangladesh introduces it for the first time. The mechanism is that when a group fails to repay, all members are excluded from the next loan. As a result, each member of a group should be conscious enough not to include a potential defaulter(s). Such self screening process helps both the clients and credit institutions in provision of the service. Moreover, group lending provides mechanism for monitoring of clients and enforcement of a contract (Besley and Coate, 1995).

Group lending addresses the so called problem of adverse selection- including non credit worthy client- and moral hazards (when clients change their mind not to repay). But, group lending is not always the best solution. When majority of the member's strategy is to default, the dominant strategy would not be to repay, which obviously aggravates the problem. In this case, some of the clients would default, if a loan was disbursed individually.

To improve the repayment rate in group system microfinance analysts argue that social sanction can be introduced. However, its relative success depends not only on how strong the sanction is but also on how close the social connectivity is (Besley and Coate, 1995).

From the on going discussion it can be understood that MFIs are a powerful instrument in fighting against poverty but its successes mainly depend on: the knowledge how the low income households can be reached, actual use of the loan, provision of convenient financial product on part of the clients and, the provision and extent of additional supplementary services.

2.2. Empirical Evidence

2.2.1 Empirical Evidence from selected counties in the world

Impacts of microfinance have been assessed at different levels through out the world. Usually an impact assessment is made at the household, individual and enterprise level. But sometimes it is also assessed at a community level. The result found so far reveal a positive and negative change in impact, although the positive impact out weights.

The trend in assessing impact of micro credit programs for selected countries programs are presented shortly as follow.

- **Bosnia Herzegovina**: In Mercy micro-credit program, it was reflected that generally clients have positive impact in income, asset and related welfare indictors, but the changes are not statistically significant (Muench, 2000).

- **Philippines**: - ASHI is a micro-credit program in Philippines. Its impact assessment reveals a positive trend in poverty alleviation of the client. It was observed that most clients moved out from extreme poor to mere poor (Helen, 2000).

- **Peru**: - LIMA's clients in Peru showed significant increment in income. Household's asset and expenditures also increased although not statistically significant. When expenditure is broken into components, educational expenditure for clients became 20% while for non client it was found to be 7% (Elizabeth, 2001).

- **Indonesia**: Impact assessment in Indonesia indicates that for a given period of time, income for clients increased by 12.9% while for non clients it increased by 3%; as a result, a significant size of clients moved out of poverty (Snodgrass, 2002).

- **India**: 75% of client that participated in a micro credit program for more than four years experienced a significant improvement in income as a result, more than 50% of the clients moved out of poverty (Snodgrass, 2002).

- **Bangladesh**: Impact assessment in two micro credit programs (Grameen Bank and BARC) indicate positive trend. In both cases there was significant positive impact. In BARC, household income increased by 28% and asset for this group increased by 11.2%. Moreover, it helped clients in reducing vulnerability by smoothing consumption and building productive assets. Likewise, recent study in Grameen Bank indicates an increment in income of clients by 43% where as for the controlled group income increased by only 28 %(Elizabeth, 2003). However, some writers argue that there was not a significant change in poverty in Bangladesh. Hossain (2002) claims, "perhaps the most important critics of micro credit is that level of poverty in Bangladesh remains unchanged since 1970s".

- **Uganda:** Impact assessment in Uganda, using three micro credit programs shows that 75% of clients had better durable asset and positive impact was found at enterprise level. Moreover, women were found better empowered (Barnes, 2001).

- **Zimbabwe**: Impact assessment of various programs show that there is a positive trend in income and household asset accumulation although the later was not statistically significant (Barnes, 2001).

- **Bolivia**: Income of two thirds of the clients in Bolivia had increased after joining the program 86% of clients increased their saving and 78% of clients had not any saving before they joined the program (AIMS, 2000).

- **Mali**: KAFU's client experienced a positive impact on the program of all levels specially the impact at enterprise level was found to be the most significant one (Mknelly, 1998).

The evidences obtained from various impact assessments would imply that much can be done by microfinance institutions in fighting poverty and improving lives of the poor, specially that of poor women.

However, a study in various micro credit programs recalled that there is a different in impact through out the world. Some programs exhibits higher impact at household level compared to others types of impacts. Some other countries also experienced quite the opposite. Impact survey on three countries namely Zimbabwe, India and Peru indicated that client in India showed significantly positive impact at enterprise level where as at household level it was found insignificant. And for

Zimbabwe, the extent of impact was found in between of the two conditions (Snodgrass, 2002).

As it is reflected by most micro credit programs, major impact changes can be summarized as follow.

- Microfinance leads to increase and stabilize income and expenditure smoothing.
- Microfinance leads to increase physical asset accumulation.
- it helps to improve basic need provision
- Improve social status and reduce risk and vulnerabilities.

2.2.2 Empirical Evidence from Ethiopia

In Ethiopia limited studies have been made related to impact assessment of microfinance institutions. But, the situation is not different: Wolday (2007) summarized some of the major findings obtained by other researchers. In each case, there is evidence that would suggest that the programs have improved the lives of clients.

WABERKBON (2006) is a development consultant who conducted a study on the problem in focus. The finding of his study would appear to indicate a positive and significant change in income, assets and decisions making. Another study made by Garber and Puneetha in Wolday (2007) on ACSI program would tend to reveal positive impacts on clients' live. In this study, clients had ultimately increased their source of income almost by $3/4^{th}$. More over saving increased significantly.

Like wise a study of impact assessment on DECSI program in 2003 and by Axel, Tassew, Gebrhiwot and Woldeab(2005), would appear to indicate a positive change in the lives of poor. The study further shows a higher impact on women (70%) than men client (66%).

Similarly the study conducted by Tsehy and Mengstu (2002) in Wolday (2007) resulted in an improvement in diet, business expansion and increment in income. The study also indicated that frequent borrowers are made relatively better off.

Evidence in impact assessment may best be summarized as follow in words of Snodgrass "over all we conclude that microfinance does make a difference however, its impact is neither consistent across countries nor across domains" (Snodgrass, 2002: 51).

2.3. Review of Methodologies

To improve micro credit service provision, there should be a continuous impact assessment. In the literature some of the methodological issues used in assessing impact can be forwarded as follow as given by Anne, (1996), Henry, (2003), Gary and Jennifer, (1996), Karland, (2000), Tilakaratna, (2005) and Zaman (1999).

A complete impact assessment goes through; household, individual, and institutional and community level of investigations. But, the unit of sampling is usually made at household or individual levels.

When impact is assessed at household level, the household should be viewed as a utility maximizing unit where production and consumption decisions are made collectively. Theoretically such impact assessment can be done by constructing a household model in which credit is considered as one variable.

In developing such model for impact assessment purpose, first we have to identify the key variables which help to reflect the poverty status of a household. Hence, it is important to know the dimensions of poverty.

Altimir, in Trufat (1996) indicates that poverty is a multidimensional concept that influences the economic, social, environmental and political situation of the human being. World Bank (2000) categorizes poverty into three dimensions:

- economic dimensions;
- vulnerability;
- helplessness and low social esteems

Once the dimension is clearly understood, an attempt can be made to measure the level of poverty. According to Henry et al (2003) there are three main method of assessing level of poverty. These are:

1. households expenditure analysis and computation of a poverty line;
2. rapid appraisal or participatory appraisal methods; and
3. indicator analysis.

1. Household expenditure analysis

In this approach household expenditure is taken as prime measure to evaluate the standard of living. The argument is that total expenditure expresses a good measure of a household's command over the goods and services, it chooses to consume. When this method is used, the bench mark for the poverty comparison will be set by determining the value of the basic minimum need. This is called "poverty line". These who are found below the poverty line are considered to be poor. The advantage of this method is that it is a widely accepted, and the results are reliable in case of income poverty. However, the data requirements of this method are comprehensive, and standardized questionnaires are needed. Moreover, an advanced knowledge in analyzing statistical data is required (Henry, 2003).

2. Rapid appraisal (RA) and participatory appraisal (PA)

The ultimate goal in this method is empowerment of the target group. The method requires extensive participation of the community and it assumes an open research and development agenda. The method is widely used and accepted tool for identifying vulnerable group in the community. But according to Henry et al (2003), it has also a number of disadvantages; (a) because of subjective rating the result is difficult to identify the poor in a community; (b) the method requires skilled and experienced communicators.

3. Indicator –based method

Another method to assess poverty at the household level is to identify a range of indicators that reflect powerfully on the different dimension of poverty and for which credible information can be quickly and in-expensively obtained. Once information on a range of indicators has been collected, it may be aggregated into a single index of poverty. Human development indexes (HDI) are costly to measure in survey; and housing index has a limited utility because it relies on one dimension of poverty (that is housing). Hence, another poverty index needs to be developed. In principle, the time and cost requirements of the indicator method can be relatively low in terms of data collection and analysis if the numbers of indicators are limited. The method can be considered valid if several dimension of poverty are included. Two main types of indicators can be used to assess the actual level of household poverty: indicator on income and indicator on consumption (Henry et al, 2003).

In practice, one or more than one combination of the above methods can be used based on the objective and relative weight given to cost and

validity. When evidence on impact of a program is required, detailed poverty measurement is not mandatory. Comparison of clients and non clients can be made based on certain selected indicators and conclusion can be drawn at a chosen degree of significance. Some of the conceptual issues related to methodology are forwarded in this part.

Usually economic dimension of poverty is used to demonstrate impact assessment of MFIs. But this does not mean that the other aspects of poverty are not important. To understand the relationship between credit and poverty; beyond the economic dimension, according to Simanowit and Walter (2000:19), the assessment should emphasize on "the fulfillments of basic needs, the means to achieve welfare in the present and future social works and empowerment and vulnerability to risk."

Zaman (1999), determine the economic dimension of poverty based on the level and extent of income, possession of asset and expenditure of a household. These basic household economic statuses were modeled using econometric techniques. To construct the household economic model, he proposes household income (I) to be a function of the total amount of loan obtained (C), and a few other household characteristic, namely the occupation household head (HO), the education level of the household head (HE), and the number of income earners in the family (IE). This gives income equation:

$$I= i_o +i_1C +i_2HO +i_3HE +i_4IE+u_i$$

The level of expenditure is determined by the total loan amount obtained (C), household income(I), asset (A), sex of the households income(HS), family size(FS), and the distance to consumer market(CM) which is obtained as:

$$E=e_0 +e_1C +e_2I +e_3A +e_4CM +e_5HS +e_6FS+u_e$$

The level of asset is determined by the amount of credit(C), household income (I), and the sex of the household head (HS), which is stated as:

$$A= a_0 + a_1C + a_2I + a_3HS+u_a$$

To mitigate the possibility of endogeneity bias inherent in the relation, the model is estimated in simultaneous equation system.

Vulnerability to risk is one dimension of poverty. Women are the most vulnerable part of the society. Empowering women would mean reducing their vulnerability. Empowerment has economic, political, social, and psychological aspects. Assessing the impact of MFIs in the different dimensions of empowerment is, therefore, quiet helpful required. To estimate the empowerment correlation, logit and/or probit Regression models are usually employed. For instance, Zaman (1999) has used logit model to regress various level of empowerment. The treatment and outcome were measured as binary indicators. The model (logit) regressed each empowerment correlates separately.

Finally in assessing impact of credit there are three methodological problems, namely problem of counterfactual, problem of fungible and problem of selectivity. To deal with such problems in the literature some mechanisms are forwarded. This part will be treated in more detail way in the next chapter.

CHAPTER THREE: DATA SOURCE AND METHODOLOGY

3.1. Sample Design

The data used in this study are mainly primary and cross sectional. The main data source is households without their own house in Addis Ababa. The data were collected through interview with the households by means of questionnaire. The study was also supplemented by secondary data obtained from microfinance institutions that are found in Addis Ababa.

Among the microfinance institutions found in Addis Ababa, these which were established before 200 have been considered for the study. Accordingly, the following microfinance institutions are included in the study: Gasha microfinance institution, Asseer microfinance institution SC, Addis saving and credit MFIs, Meklit microfinance institution SC, Specialized financial and promotion institution S.C, and Africa village financial service S.C.

To design the sampling process, the central statistical authority approach has been partially utilized. All the sub-cities in Addis Ababa are categorized in to three standards as enumeration areas (EAs): higher, medium and lower. EA is a unit of land delineated for the purpose of enumeration housing units and population with out omissions and duplication. It consists of 150 to 200 housing units in urban areas (CSA, 2004).

The household standard of each sub-cities cluster is based on the following criteria:

1. Higher standard- the household standard is higher if the majority of the residents in each enumeration area have good private compound with villa or apartment. They also reside in areas which are not crowded and have a good entry and exit roads. Generally, the majority of the residents live in a good economic status.

2. Lower standard- the household standard is lower if the majority of the residents in the enumeration area have no good private compound houses. They live in a crowded area with poor access to entry and exit of roads. Generally, the majority of the households live in a poor economic status.

3. Medium standard- the household standard is medium if the majorities of the residents in each enumeration area are neither in 1 nor in 2 mentioned above. Generally the majority of the household are not in a good way of life but their health and social aspect are not at risk. The household in this category is neither at higher nor at lower economic standards.

The sample for the study was drawn from one, out of ten administrative sub-cities in Addis Ababa that is from “Addis-Ketema” with population size of 44,921 households. The sub-city was selected because it is recognized as a low living standard area in fact it fits the purpose of the study.

Effort was made to make the survey as representative as possible. Taking time and financial limitations into account, at the second stage, two kebeles were randomly selected from the same sub-city. These are kebele 14 and 19, and their household population size is 1287, and 1670 respective. The household in each kebele was selected proportionally. That is 87 and 113 households from kebele 14 and 19 respectively.

After designing the draft questionnaire, Pre-testing was made in each kebeles. The purpose of the pre-testing was to make some possible modification in the design of the questionnaire based on the responses. This was done to make it understandable for respondents and enable the interviewer to meet the objectives of the survey.

Finally, to select the actual respondents, the kebele itself was chosen as a starting point. The households were selected based on systematic random sampling method. After the selection of the first sample unit, the remaining samples were selected on an equal interval that is every 10^{th} household.

3.2 Methodology

3.2.1 Methodological problems in measuring impact of MFIs

There are three methodological problems in assessing the impact of MFIs. These are problems of counterfactual, fungibles and selectivity.

Problem of counterfactual means what could be the poverty status of clients, if these individuals were not member of MFIs. To solve the problem, a well designed control group is required. Some researchers use new members as a control group. But it is not free of limitation. The demarcation of new members and old members is not clear; more over, the characteristics of new members and old members may be different. Zaman (1997), Karland (2000) argue that "new members are better off than older members in terms of initial endowment." In the literature, to address problem of counterfactual, besides to new members, a control group can be constructed using eligible non members. In this study both methods are used to mitigate the problem.

The second problem is related with how the borrowed money is used and it is called problem of fungibles. Cash is the most liquid asset and credit is usually disbursed in terms of cash. Borrowers usually demand credit for income generating activities. In practice part of the money is used for consumption purpose. Thus when impact assessment is made, it should not be in a promise of 100% utilization of loan for intended purpose. Rather it is based on the assumption that on average most of the clients uses significant amount of the borrowed money for income generating activities (Tilakaratna, 2005).

Last but not least, methodological difficulty goes to the problem of selectivity (Karland, 2000), (Tilakaratna, 2005). When there is unobservable selectivity characteristic that governs participation in microfinance, impact assessment will not be reliable. In econometrics model, to deal with problem of selectivity, one can use Heckman two step procedure. In the first stage, a selectivity term has to be determined and it is known as mills ratio. The ratio is determined by constructing participation equation. To accept or reject the mills ratio statistical test should be conducted. If it is statistically significant the selectivity corrected equation will be introduced in the second stage.

In practice, Heckman- two step procedure is not easy to apply for several reasons (Tilakaratna, 2005), (Karland,2000). Determination of participation equation needs personal knowledge on the area, more over sufficient data for the selected variable is required which may not be easily accessible. Furthermore to estimate mills ratio, the model must be identified.

Taking in to consideration the inconsistency in estimating Heckman two step procedures, alternative methods have been suggested. Tilakaratna (2005) argue for the use of OLS safely ,with out estimating mills ratio, in a sense that selectivity should not be the prime concern when participation in MFIs are mainly explained in terms of high number of

eligible non members. In Ethiopia, since the penetration rate in MFIs is very low (that is currently about 7%); Telakaratna's (2000) argument can be used for this study hence estimation in this paper is made with out Hickman two step procedures.

In this study, as it is pointed out in earlier parts, impact assessment is made at household level. Household units are these individual who produce and consume together. In context of Africa it refers to the extended family system. According to Sadoulet and Janvry, (1995) the key element in defining the household is identifying the decision making unit which sets the strategy concerning the generation of income and the use of this income for consumption and reproduction.

The model used in this study is known as household economic portfolio (HHEP). To develop the model economists adopt conceptual frame work. The model as explained by Elitabeth (1997), Elitabeth and Martha (1996), Jennifer et al (1995) and AIMS team (2001), is shortly presented below.

3.2.2 Conceptual frame work of the model

The model comprises three parts; (i) the set of household resources, (ii) the set of household activities, and (iii) the circular flow of interaction between household resources and household activities. The model is illustrated in figure 1. Household resources are the set of human, physical and financial resources available for use by the household. These include labor power, raw materials equipments, cash saving owned by the household among other things.

The model recognizes that resources can be held individually or jointly by member of the household. More over resources may also be accessed through borrowing or through social relation ship and social net works.

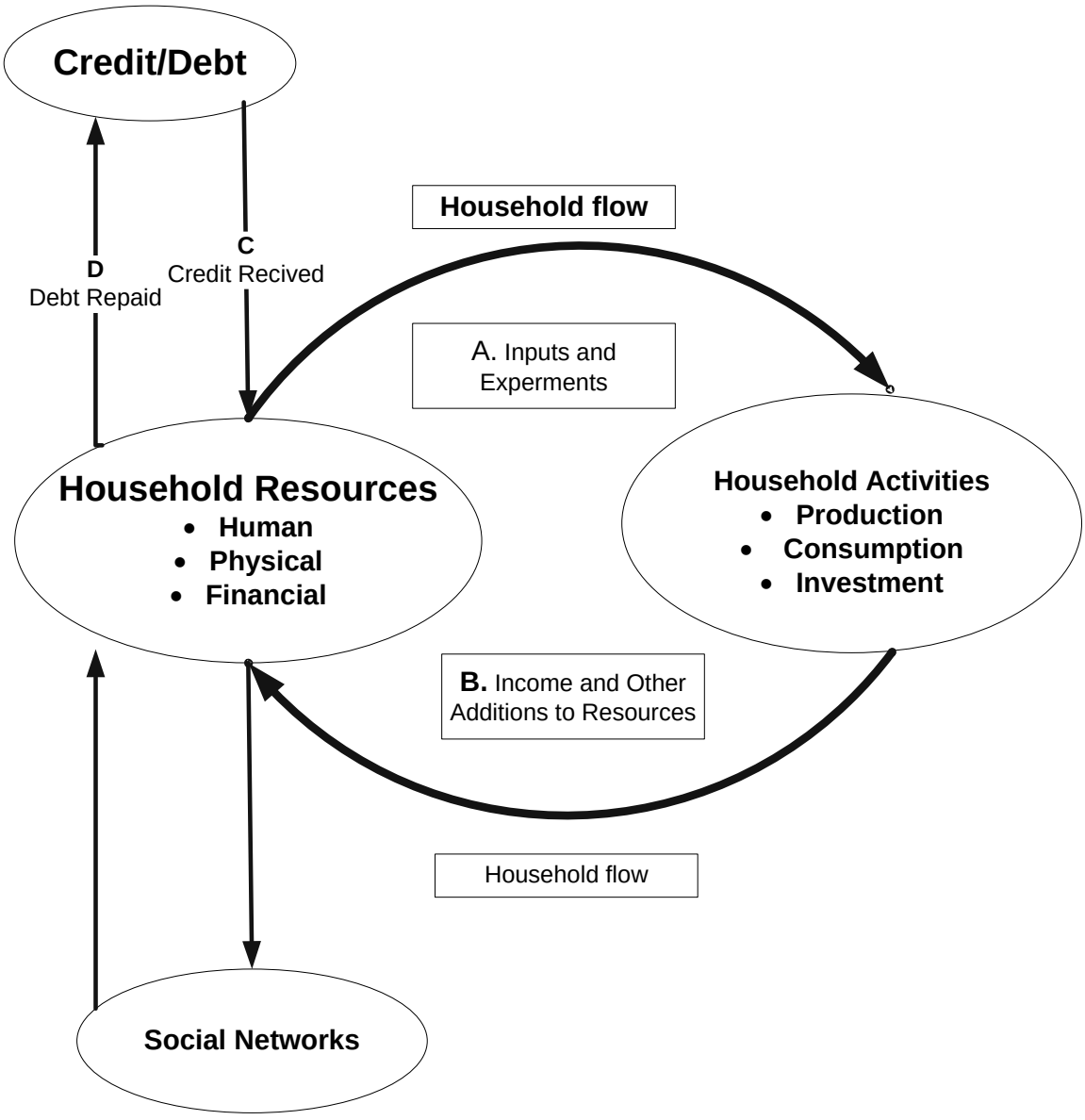

Figure 1. Conceptual Model of the Household Economic Portfolio

The second part of the model represents household's activities. These activities refer to as the set of consumption production and investment activities that the member of the household undertakes in a given period of time. Production activities include both income generating activities and income from wage and out side main work the households' engaged. And investment activities involve the use of household resources in order to create the potential for additional income in future periods. Like the resources, activities may be jointly or individually undertaken.

The last parts of the model go to the interaction between resources and activities. The link takes two form; the flow from resources to activities and the vice versa. The former flow represents the allocation of joint or individual household resources to support the different joint and individual household activities. The later represents a flow of activities to resources. This flow reflects the outcome that results from joint and individual decisions within the household.

To sum it up the model is represented by a circular flow between household resources and household activities. The set of household activities provides the base of support for the household activities. These resources becomes available through individual and joint ownership, borrowing and social net works. The human, physical, and financial resources of the household are allocated through individual and joint decision making to the various household activities. The consumption, production, and investment activities of the household are required to satisfy current and future household wants and needs.

3.2.2 Role of credit in the model

The role of the credit in the household economic portfolio can be interpreted as follow. When credit is received, it creates an addition to

the resources available in the current time period for support of the household activities. Because of the fungibility of credit it may be allocated to any one or all of activities. If credit has received in a previous period some portion of the resources generated by the household's activities will flow out of the household economy to repay a debt. It is noticed that if the credit has been used in productive or investment activities, then it may increase the size of the resource flow generated by the household activities thus increasing the repayment capacity of the household. If the resources of the household are low in any given period of time, then credit is allocated to smooth consumption. If credit is allocated to consumption activities, it is not expected to increase the flow of income in consumption period. Thus credit invested in the consumption activities does not directly increase the repayment capacity of the household.

In estimating the relation ship among various household variables, the conceptual frame work of household economic portfolio (HHEP) model is used as a starting point. The HHEP model for this study is developed following zaman's (1999) procedure. The model is estimated using OLS econometric techniques in simultaneous equation system.

The postulate is that household income (I) is a function of the total amount of loan (totcred), and a few other household characteristics, namely the education level of the household head (scholi), sex of household head (sexhhh), type of occupation (occp), the number of income earners in the family (noincom). "α" represents the disturbance term for income equation. This gives us the income equation:

$I = i_o + i_1(totcred) + i_2(scholi) + i_3(noincom) + i_4(occp) + i_{5\,Hs}(sexhhh) + \alpha$ ---- (equation 1)

The level of expenditure is determined by the total loan amount obtained (totcred), household income (I), asset (A), sex of household head (sexhhh), family size (famsize) andε" represents the error term for expen diture equation. That is,

$$E=e_0 +e_1 \text{ (totcred)} +e_2 I +e_3 A +e_4 \text{ (famsize)} +e_{5\ Hs}\text{(sexhhh)} +\varepsilon \text{ ---}$$

(equation 2)

The level of asset is determined by the amount of credit (totcred), household income (I), sex of household head (sexhhh), and the error term for the equation is given by"μ" that is:

$$A= a_0 + a_1 \text{ (totcred)} + a_2 I + a_{3Hs} \text{ (sexhhh)} +\mu\text{---- (equation 3)}$$

The system of equation is estimated using two stage instrumental variable for the entire sample as well as for different income groups where ever endoginity is suspected.

Furthermore, the analysis is substantiated using descriptive method. For such non parametric test, to see its statistical significance, analyses of variance (ANOVA) and chi-square methods are utilized.

3.2.1 Descriptions of explanatory variables

The explanatory variables used in this model are classified into two: endogenous and exogenous. Credit is the single variable that enters to each of the main equations as endogenous variable. Income and asset enter into expenditure equation but due to possible effect of multicollinality one of them may be dropped. On the other hand, income explains change in asset. Explanations for major explanatory variables are discussed below.

Amount of total credit: It represents amount of credit that a household receives from different sources. In the model, credit is expected to be positively related to households' income, expenditure and asset. The remaining explanatory exogenous variables are discussed as under.

Level of schooling: This is one means of explaining difference in households' income. Level of schooling refers to the maximum school attended by main income earner in a household. The postulate is that higher level of schooling is related to higher income level.

Number of income earner: In a household when the number of income earner increases, the total income of a family is expected to increase. For this reason the coefficient is expected to be positive.

Family size: Like income and credit, family size affects the level and extent of household expenditure. Increment in family size would imply rise in demand for goods and services, other things remaining constant. Higher family size, thus, implies higher expenditure.

CHAPTER FOUR: RESULT AND DISCUSSION

4.1. Overview of microfinance institutions under the study

Microfinance institutions in the country are mostly sponsored by regional states, NGOs and governmental organizations. MFIs in the country are broadly classified in to two categories: large and small MFIs. The first four large MFIs are operational in regional states and are heavily sponsored by NGOs and governmental organizations. In Addis Ababa there are ten microfinance institutions and all are small in size out of which seven of them are partly sponsored by NGOs. Provision of loan and saving are the two important financial products that have been widely practiced. Major characteristics of microfinance institution under the study are summarized as follow.

4.1.1The Target of Microfinance Institutions

MFIs in Addis Ababa primarily target poor people and women. The loan design seems to be in favor of the vulnerable poor people. In fact this is an important first step in reducing poverty. All the MFIs in this study have targeted the active poor; most of them give priority to women clients; the lending policy of Gasha microfinance is that at least 75% of the total clients should be women. Likewise, for Meklit MFIs, at least 70% the clients are assumed to be women. Also Specialized financial and promotional institution S.C gives priority to women who earn less than Br 100 per month. However, Africa village financial institution S.C requires borrowers to be members of an "edir" which means non-members of an edir are not eligible to get the services of the institution.

4.1.2 Loan Size and Repayment

MFIs are in general characterized by small size of loan. In Ethiopia, which is not exception, almost all of the MFIs provide small loans. This enables the poor to involve in microfinance programs actively. However, most of the MFIs provide different size of loan depending on the type of intended business. Loan policy in Ethiopia is similar among institutions, in that loan size increases from time to time. Loan size increases gradually; that is, higher amount of loan is made available for frequent borrowers. For the MFIs Under this survey, the loan size ranges from minimum of 200 birr in (Aseer MFI) to maximum of 5000 birr.

Summary of the loan size limit for the selected micro finance institutions is given in the following table.

Table: 4.1.1 Loan size

Name of the MFIs		Loan size in birr	
		From	To
1	GMFI (Gasha microfinance)	500	5000
2	SFPI (Specialized financial and promotional institution)	300	5000
3	AVFS (Africa village financial institution)	300	5000
4	ACSI(Addis saving and credit MFIs)	500	2000
5	AMFI (agar microfinance institution)	200	1000
6	MMFI (Meklit Microfinance intions)	300	1500

Source: obtained from primary data

4.1.3. Loan Collection Period

The loan collection period differs from institution to institution. The most common period of loan collection are; monthly, bi-weekly and weekly bases. Some of the MFIs have more than one period of loan collection. Gasha micro finance institution is the only MFI that collects loan on weekly, bi-weekly and monthly bases. The summary of loan collection period for the six microfinance institutions is shown below.

Table 4.1.2 Loan Collection Periods

Name of the MFIs		Loan collection Period
1	GMFI	Weekly, bi- weekly and monthly
2	SFPI	Bi-weekly and monthly
3	AVFS	Weekly
4	ACSI	Bi-weekly
5	AMFI	Monthly
6	MMFI	Weekly and bi-weekly

Source: obtained from primary data

4.1.4. Lending interest rate

The National Bank of Ethiopia has removed ceilings on lending interest rates of financial institutions. The national Bank of Ethiopia, however, continued setting minimum (floor) interest rate for deposits. The minimum interest rate for deposits is currently 4% per annum. A microfinance institution charges interest rate on its loans sufficient to cover operating cost.

The lending interest rate of MFIs for the study ranges from 12% in AMFI to 22% in MMFI, the following table shows the lending interest rate of the MFIs under consideration.

Table 4.1.3 Lending interest rate of MFI

Name of the MFIs		Lending interest rate in percent
1	GMFI	13%
2	SFPI	16%
3	AVFS	13% + 3% service charge
4	ACSI	12.5%
5	AMFI	12% +2% service charge
6	MMFI	22%

Source: obtained from primary data

4.1.5. Group Lending Methodology

Most of MFIs in Addis Ababa follow a group lending approach. Grouping is formed on free choice of members. In this system, if one of the members defaults, the other members are supposed to repay. This lending approach helps the poor to increase their social interaction and develop self-confidence among each other. The number of group in each MFIs is not the same. The minimum number in a group is three in GMFI. But it is reported that the number of members in a group is frequently five.

4.1.6. Savings

MFIs have designed both voluntary and compulsory savings. Especially the compulsory savings is an obligatory one, which is mainly intended to encourage savings and serve as collateral in time of loan default. Almost all of the MFI have designed a compulsory saving mechanism; for example, in the case of GMFI, every borrower is forced to save 2 birr per week; in SFPI, 5 birr per week, in Africa village 1 birr per week and AMFI 10% of the loan.

Table 4.1.4 Amount of compulsory saving by MFI

Name of the MFIs		Compulsory saving
1	GMFI	Br 2/Week
2	SFPI	Br 5/Week
3	AMFS	Br 10/Week
4	ACSI	Br 1/Month
5	AMFI	10% of the loan

SOURCE: obtained from primary data

4.2. Descriptive Analysis

4.2.1. Demographic Characteristics

In any research, samples are expected to be a representative of the population under consideration. In this study, both clients and non clients are assumed to come from the same population group. This can be further examined by comparing the mean values of certain selected variables between clients and non clients at 95% confidence interval.

As indicated in the previous chapter, the total number of households included in the sample is 200. Of the total households in the sample,

159(79.5%) are client households, while the other 41(31.5%) are non client households. Furthermore, of the total 159 client households, 62% of them are male headed households, while female–headed households account 38%. On the other hand, from the 41 non client households, male–headed and female–headed households, accounts 37% and 63% respectively.

Table 4.2.1 Descriptive Statistics of Household's marital status

Description	Categories	Whether the Household is a client of MFIs or Not		
		non client	client	Total
Sex of the Household Head	male	15 (36.6)	99 (62.3)	114 (57)
	female	26 (63.4)	60 (37.7)	86 (43)
	Total	41 (100)	159 (100)	200 (100)
Marital Status of the Household Head	Married	32 (78)	93 (58.5)	125 (62.5)
	Divorced	1 (2.4)	13 (8.2)	14 (7)
	Widowed	2 (4.9)	15 (9.4)	17 (8.5)
	Single	6 (14.6)	38 (23.9)	44 (22)
	Total	41 (100)	159 (100)	200 (100)

Note: Values in brackets indicates percentages

Source: computed from primary data

Martial status: with respect to the marital status of the sample household heads, majority of them, (62.5%) are married followed by single household heads, (22%). In addition to this, table 4.2.1 indicates that, marital status of household heads among client and non client household categories does not seem to be the same. The proportion of married in the clients and non clients is 1/3 and 1/2 respectively. Statistically significant difference of marital status between clients and non clients is reported at 95% of confidence interval.

Family size: As it can be depicted from table 4.2.2 average family size for the total sample households was found to be 4.77. The average family size for client and non client has shown minimum difference that is 4.73 for the former and 4.93 for the later. However, a t-test was made to check the significance of the difference in average family size among the two

categories. The result indicated that the difference is statistically insignificant.

Age of household head: The average age for household head, for client and non client is close to each other. For the sample client average age of household was estimated to be 31.69 years while for non clients was found to be 31.38. Hence, the mean age difference is not statistically significant. It can be conclude that both clients and non clients have almost the same age.

Maximum level of schooling: The Maximum level of schooling for household head in both groups is similar. For the clients, the household head has on average 7.38 years maximum level of schooling where as for the non clients the maximum level of schooling was found to be 7.73 years. The difference between the means of the two was not statistically significant.

Table – 4.2.2 Descriptive Statistics of Household characteristics

	Whether the Household is a client of MFIs or Not	N	Mean	Std. Error Mean	t-test for Equality of Means		
					t	df	Sig. (2-tailed)
Family Size of the Household	Client	159	4.73	0.121	-.747	198	.456
	Non-client	41	4.93	0.222	-.780	65.956	.438
	Total	200	4.77	0.106			
Age of the Household Head	Client	159	31.68	0.767	.114	198	.909
	Non-client	41	31.49	1.678	.107	57.833	.915
	Total	200	31.65	0.698			
Maximum level of Schooling of the Household Head	Client	159	7.38	0.306	-.524	198	.601
	Non-client	41	7.73	0.601	-.525	62.429	.601
	Total	200	7.45	0.272			
Number of Income earners in the Household	Client	159	1.89	0.047	4.710	198	.000
	Non-client	41	1.39	0.098	4.564	59.885	.000
	Total	200	1.79	0.045			
Number of dependent family members in the Household	Client	159	4.68	0.115	-.491	198	.624
	Non-client	41	4.80	0.235	-.480	60.630	.633
	Total	200	4.7	0.103			

Source: computed from primary data

Number of dependents on households: The number of dependents in each category is very close to each other. For the clients, the number of dependents on average is 4.68 while for the non clients, it is 4.8. Like the other variables discussed, the difference is found to be statistically insignificant.

Number of income earners: Like marital status a significant difference between client and non client income earners is reported. On overage 1.89 number of a household members are income earners where as, for non clients the number is reduced to 1.39. The differences in income earners between clients and non clients could be resulted from the opportunity of employment created in the clients as a result of credit facilities.

The comparison made between clients and non clients mean value of various variables, would imply that there is no big difference in the demographic characteristics of the two parts. The result supports the conclusion that households of clients and non clients generally come from the same population group.

4.2.2. Impact on Vulnerability to risk and income failure

Credit has much to do in reducing household vulnerability. Low income household could use credit to smooth out consumption. In this study an attempt was made to see whether credit significantly tackles household economic vulnerability or not. Clients and non clients were asked about their meal status over the last month. The number of meals per day is slightly higher for client than non clients; but, the difference was not statistically significant. Likewise, clients experienced positive change in meal variation and composition. That is, 34.6% of clients feel that their meal status was improved where as, for the non clients it was only 7.3%.

On the other hand 28.9% of clients and 41.5% of non clients claimed that their meal status is worsened. Most of the respondents (both clients and non clients) said that their meal status deteriorated as a result of increased cost of living. A decrease in meal status does not directly imply decline in money income; Even if nominal income remained fairly stable, (because of the double digit inflation facing the country) their meal status could get worsen and worsen. Hence, we can safely conclude that clients were better off than their counter parts in terms of food provision. The result implies that credit could further worsen the status of clients if it is not used for productive purpose.

Table – 4.2.3 Household Nutrition Status

		Whether the Household is a client of MFIs or Not		
Description	Categories	non client	client	Total
Whether the HH covers its basic expenses during the previous year	Yes	29 (70.7)	142 (89.3)	171 (85.5)
	No	12 (29.3)	15 (9.4)	27 (13.5)
	Don't know		2 (1.3)	2 (1.0)
	Total	41 (100)	159 (100)	200 (100)
Whether the HH has encountered food shortage during the past one year	Yes	14 (34.1)	43 (27)	57 (28.5)
	No	27 (65.9)	116 (73)	143 (71.5)
	Total	41 (100)	159 (100)	200 (100)
Status (quantity & quality) of the HH meal in previous year	worsened	17 (41.5)	46 (28.9)	63 (31.5)
	stayed the same	20 (48.8)	57 (35.8)	77 (38.5)
	improved	3 (7.3)	55 (34.6)	58 (29)
	Don't know	1 (2.4)	1 (0.6)	2 (1)
	Total	41 (100)	159 (100)	200 (100)
Health condition of the HH member	Good	38 (92.7)	149 (93.7)	187 (93.5)
	Poor	3 (7.3)	10 (6.3)	13 (6.5)
	Total	41 (100)	159 (100)	200 (100)

Note: Values in brackets indicates percentages
Source: computed from primary data

Respondents were also asked about their experience on food shortage during the last four weeks. Accordingly, 12.4% of non client and 7.5% of clients confirmed that at least one time they have been encountered with food shortage. The respondents were also asked to express their strategies in coping up during bad time. About 73% of clients primarily rely on microfinance institutions as means of over coming food shortage. Likewise, 65% of non clients claimed that they heavily depend on informal sources of credit during bad time. Both, clients and non clients have given additional means of tackling the problem. These include: saving at home, sales of an asset, “equib”, and “meredaja mahber”. It

would seem that microfinance institutions were used significantly as a primary means in tackling households' vulnerability when clients face with food shortage. The argument can be substantiate from the fact that 40.3% of clients confirmed that at least some portion of the last loan was used to pay basic household expenses. Such as; food, non business debts and house rent.

4.2.3. Impact on saving Saving

Amount of credit is expected to be positively related with the amount of saving. To this end, saving related questions were forwarded. Majorities of respondents confirmed to have saving of at least 100 birr; that is, 98% of clients and 63.4% of non clients had saving in cash during the time of interview. But, clients tended to have higher saving than non clients. Moreover, a significant number of clients (24%) had no any prior saving before joining MFIs. When mean amount of savings between clients and non clients is compared, clients' savings was almost twice of the non clients' savings. But surprisingly, if we exclude forced saving, clients saving will be 0.65 times of the non client saving. From personal observation, lower saving in the part clients emanates from the fact that allocation of the money on productive asset was preferred to saving in cash. Related to saving questions were also forwarded to assess the change in saving status during the last year. The result showed that increment in saving was larger, for clients (60.4%) than for non clients (27%). But, increase in saving on the part of clients was mainly resulted from forced saving.

Table – 4.2.4 Status of Household Saving

Description	Categories	Whether the Household is a client of MFIs or Not		
		non client	client	Total
Status of the HHH personal cash saving during last year	decreased	12 (29.3)	16 (10.1)	28 (14)
	remained the same	6 (14.6)	41 (25.8)	47 (23.5)
	increased	7 (17.1)	96 (60.4)	103 (51.5)
		16 (39)	6 (3.8)	22 (11)
	Total	41 (100)	159 (100)	200 (100)

Note: Values in brackets indicates percentages

Source: computed from primary data

All respondents have almost the same reason for a decrease in saving. Most of the clients and non clients whose saving decreased, said that they had to withdraw saving to cover daily living expenses. More over 22% of client whose saving decreased, stated that their saving significantly decreased because they were made indebted as a result of program participation in microfinance institutions.

In this study, clients and non clients were observed to have slight differences in choice of formal financial institutions as a place of saving. 98% of client have some saving in microfinance but 42.7% clients who have saving in MFIs were found to be of a forced type of saving. Clients were the least participators in a formal bank (31%) as compared with (45%) of non clients in terms of voluntary saving, Equip was found to be the most significant means of saving both for clients and non clients.

For different income groups, a comparison in choice of place of saving between clients and non clients were claimed to be similar except for the last quintile classes (the richest quintile class), in that for the richest income group saving in formal bank was significantly higher than the non clients of the same income classes. This would tend to imply that higher income households use a multiple institutions as places of saving.

4.2.4. Impact on decision making and empowerment

For comparison purpose various decision making and empowerment indicators variables have been asked to clients and non clients. But, valid responses were obtained from women respondents only. Hence, the analysis is made based on the data collected from client and non clients' women.

To examine women' role on household decision making, a number of questions have been forwarded, these include on the decision making style of households meal, number of children, basic living expenses and other non food expenditures. Result from married women, would tend to reveal that there was no significant difference on decision making between client and non client women.

Table – 4.2.5 Household's Decision Making

Type of household decision		Whether the HH is a Client of MFIs or Not		
		Non- Client	Client	Total
Who decides on the type and variation of the Household meal Who	Wife	4	25	29(25.4)
	Husband	2	4	6(5..3)
	Both	8	60	68(59.6)
	Total	15(13.2)	99(86.8)	114(100)
Who decides on the non-food basic living expenses of the Household	Wife	2	6	8(7)
	Husband	2	9	11(9.6)
	Both	10	82	92(80.7)
	Total	15(13.2)	99(86.8)	114(100)
Who decides on the purchase or improvement asset of the Household	Wife	1	4	5(4.5)
	Husband	3	11	14(12.5)
	Both	10	81	91(80)
	Total	15(13.2)	99(86.8)	114(100)
Who decides on the allocation of loan of the Household	Wife	1	12	13(11.5)
	Husband	4	16	20(17.5)
	Both	7	74	81(71.5)
	Total	15(13.2)	99(86.8)	114(100)
Who decides on saving and use of saving in the Household	Wife	1	9	10(8.8)
	Husband	2	6	8(7)
	Both	9	83	92(80.7)
	Total	15(13.2)	99(86.8)	114(100)

Note: Values in brackets indicates percentages within a Given Decision

Source: computed from primary data

The decision on households' food and related basic expenses seems to be females' responsibility as 25.4 % of households confirmed it. On the other hand about 60% of both client and non client women claimed that such decision is usually made by wife and husband together. In decision making related to non food expenditures, 13.3 % of client women and 9.1% of non clients women, said that it is primarily the responsibility of the husbands. The result would tend to indicate that credit was not the main determinate on household's decision making. But, some studies indicates that credit have positively affected the decision making of

women, especially in rural and semi-urban areas. This would mean that household decision making in urban area is explained by some other characteristics, perhaps it may heavily influenced by the rapid process of modernization and civilization.

Similarly, an attempt was made to see whether credit brings a positive impact on clients' awareness or not. To examine the extent of awareness, certain variables were selected, some of these includes: Means of transmission for HIV/AIDS, name of the mayor of the city, and knowledge on minimum age of marriage. The study indicated that client women seemed to have better awareness; How ever, this was not statistically significant.

Table – 4.2.6 Social Impact Indicators

	Whether HHH is client of MFI		
	Non-client	Client	Total
Are you aware of how Hiv-Aids transmits			
Yes	12	92	104
	92.31	100	99.05
	11.43	87.62	99.05
No	1	0	1
	7.69	0	0.95
	0.95	0	0.95
Total	13	92	105
	100	100	100
	12.38	87.62	100
Pearson chi2(1) = 7.1450 Pr = 0.008			
HHH membership in any social association			
Yes	10	83	93
	76.92	92.22	90.29
	9.71	80.58	90.29
No	3	7	10
	23.08	7.78	9.71
	2.91	6.8	9.71
Total	13	90	103
	100	100	100
	12.62	87.38	100
Pearson chi2(1) = 3.0330 Pr = 0.082			
HHH membership in any social committee			
Yes	3	29	32
	23.08	32.22	31.07
	2.91	28.16	31.07
No	10	61	71
	76.92	67.78	68.93
	9.71	59.22	68.93
Total	13	90	103
	100	100	100
	12.62	87.38	100
Pearson chi2(1) = 0.4436 Pr = 0.505			

Source: computed from primary data

Credit is deemed to increase social interaction, especially for women. In this study effort was made to look for evidence whether clients were made better off or not. Respondents were asked; whether they participated in the national election or not, whether they have ever been elected as a committee of any associations or not. The result showed that

there was a significant difference on social participation and interaction between client and non client.

However, the difference in social interaction may be resulted from some other reasons out of credit. To this end, clients were asked to rate their participation before and after they joined the credit programs; As a result, a significant number of clients confirmed that their interaction increase after they joined the program. More over, 32% of women client reported that main reason for higher social interaction was resulted from group formation required for the service. For more than 21% of women clients their main social interaction was explained in terms of participation and communication among their group members. This would imply that credit alone is not the single important thing in improving clients social interaction, rather programs should be well designed to help their participation specially, when it is primarily aimed at improving the status of poor women.

4.2.5. Source and Utilization of Loan

Informal source of loan was claimed as a main source of finance, for both clients and non clients. But, clients stated that after they joined microfinance institution their dependency on informal sector have been decreased significantly. For majorities of clients (69%), microfinance institutions are not only a source of sustainable finance but also; (relative to informal source of credit) provide higher amount of credit that other wise could have never been obtained through other means. Respondents were also asked to express their demand for additional credit. Accordingly, significant number of the clients (35%) was not satisfied with the amount of loan taken in the last time. This would tend to indicate the existence of unsatisfied demand for microfinance institutions.

Table – 4. 2.7 Household Loan Utilization

Description		Frequency	Percent
Whether any portion of the last loan used to pay basic Household expenses(health, education, rent, clothing?)	Yes	64	40.3
	No	85	53.5
	No Response	10	6.3
	Total	159	100.0
Whether any portion of the last loan used to pay for Household debts?	Yes	72	45.3
	No	77	48.4
	No Response	10	6.3
	Total	159	100.0
Whether any portion of the last loan used to start (expand) business?	Yes	111	69.8
	No	38	23.9
	No Response	10	6.3
	Total	159	100.0
Whether any portion of the last loan used to buy raw materials?	Yes	109	68.6
	No	40	25.2
	No Response	10	6.3
	Total	159	100.0
Whether any portion of the last loan used to hire more labor?	Yes	14	8.8
	No	135	84.9
	No Response	10	6.3
	Total	159	100.0
Whether any portion of the last loan used to pay business debts?	Yes	47	29.6
	No	102	64.2
	No Response	10	6.3
	Total	159	100.0
Whether any portion of the last loan used to cover expenses for social interaction?	Yes	57	35.8
	No	92	57.9
	No Response	10	6.3
	Total	159	100.0
The repayment status of the Household	Behind in repayment	67	42.1
	Timely in repayment	77	48.4
	A head in repayment	4	2.5
	No Response	11	6.9
	Total	159	100.0

Source: computed from primary data

Non clients were also been asked whether they have demand for credit or not, 78% of non client confirmed that they have demand for credit. But, 45% of non clients said they did not want to take loan from microfinance institutions; their argument is that MFIs charges high interest rate, and this was mentioned as a main reason for not taking loan from such institutions. This would tend to indicate that the non client either did not have business at hand (or in mind) that generate a reward more than the cost of capital, or those households didn't want to assume any risk in making use of credit.

Clients were also asked to express the reason for their last demand. Accordingly for most of them (78%), the loan was taken to expand or start up businesses, while 11% of the clients demanded the last loan to buy raw materials or to hire labors. This would seem that loan has been largely demanded for productive purpose.

Effort was also made to examine whether clients used the last loan for the targeted purpose or not. The result indicated that about 71% of clients used the lion's share of the last loan for the same purpose initially claimed. This would imply that loan divergence rate was about 29%. More importantly, 92.4% of the diverted loan was to ward unproductive purposes. More than 75% of the client, who have used the loan for unintended purpose, mainly used the loan to pay households' basic expenditure and households debts. Hence; the remaining balance according to their weights, goes to pay business debts social needs and personal entertainments respectively.

Table – 4.2.8 Cross tabulation of Households Reason for taking loan and Main Use of the loan

		Main Use of the loan								
		To start (expand) business	To buy row materials	To pay business debts	To pay household debts	To buy food	To cover education, health and rent expenses	To cover expenses for social interaction	No Response	Total
Households Reason for taking loan	To start (expand) business	100 (71.9)	3 (2.2)	2 (1.4)	18 (12.9)	5 (3.6)		1 (0.7)	10 (7.2)	139 (100)
	To buy row materials		7 (100)							7 (100)
	To pay business debts			2 (100)						2 (100)
	To pay household debts				3 (100)					3 (100)
	To buy food						1 (100)			1 (100)
	To cover education, health and rent expenses						1 (100)			1 (100)
	No Response								6 (100)	6 (100)
	Total	100 (62.9)	10 (6.3)	4 (2.5)	21 (13.2)	5 (3.1)	2 (1.3)	1 (0.6)	16 (10.1)	159 (100)

Note: Values in brackets indicates percentages within a Households Reason for taking loan

Source: computed from primary data

Additional investigation on utilization of loan showed that along the productive use of loan as a main use, part of it has been allocated for unproductive purpose. For instance, 40.3% of clients stated that at least 25% of the credit was spent to pay household expenses. Likewise, 35.8% of clients have partially used their last loan for socialization and entertainment purpose.

Effort was made to estimate the rate of repayment. The amount of uncollected loan that should have been paid in the past six months was regarded as proxy for loan repayment rate. Accordingly repayment rate was estimated to be 87.3%. Moreover, 42% of clients are at least one week late in their repayment habit, 52% of men clients and 39% of women clients fall in this category. The result would seem to indicate that females were better in their habit of repayments than males.

The study tried to see for a possible relationship between loan divergence and repayment rate. Clients that are characterized by poor repayment habit were observed to encounter high loan divergence rate. Almost half of clients (46%) who were late in loan repayment have used a significant part of the last credit for unintended purpose. The result would tend to imply that when loan is used for unproductive purpose, the probability of repayment is likely to diminish.

4.2.6. Economic Impact

The role of credit can be shown intuitively using pair wise correlation among major household variables. Three main variables were selected to be correlated pair wisely; those are sum of total household income, sum of total household expenditure and sum of total household asset. Household income is assumed to be associated with other variables. Pair wise correlation coefficients were estimated between income and some

other variables. Those variables are; value of household asset, total amount of credit, number of income earners in household, and maximum years of schooling for household head. The pair wise correlation coefficients were estimated both for the total sample and for each quintile classes. The result would tend to reveal that total amount of credit is positively and significantly correlated with income level for the whole sample (pair wise correlation coefficient is 0.21), but the estimate for all quintile groups showed a positive but statistically insignificant.

Similarly pair wise correlation between income and the remaining variable were estimated on the same ground, both for the total sample and quintile groups. The estimated coefficient is positive and significant for total sample; however, neither of the quintiles exhibited a significant correlation.

Table – 4.2.9 Pairwise Correlations: Income with Other variables

Variable		Total Sample	Q1 (Lowest 20%)	Q2 (Second 20%)	Q3 (Third 20%)	Q4 (Fourth 20%)	Q5 (Highest 20%)
Total amount of credit	Pair wise Correlation	.206***	.201	-.014	.063	.249	.166
	Sig. (2-tailed)	.002	.192	.927	.725	.122	.313
Total HH Asset Value	Pair wise Correlation	.618***	.180	.169	.128	.138	.311**
	Sig. (2-tailed)	.000	.243	.280	.471	.395	.054
Number of Income earners in the HH	Pair wise Correlation	.364***	.162	-.013	-.171	-.056	.638***
	Sig. (2-tailed)	.000	.293	.935	.333	.733	.000
Maximum level of schooling of the HHH	Pair wise Correlation	.371***	.018	.159	.175	.046	.068
	Sig. (2-tailed)	.000	.907	.310	.324	.778	.679

Total number of observations is 200 and the quartiles account 44, 43, 34, 40, and 39 observations on Q1, Q2, Q3, Q4, and Q5 respectively.
Note: ***, **, and * denotes the significance level at 1%, 5%, and 10% respectively.
Source: computed from primary data

In interpreting pair wise correlation coefficient, close examination on the causality of variables is required. The existence of pair wise correlation between income and credit does not precisely indicate role of credit in

increasing household income; Rather, this would sharpen the postulate that amount of credit positively affects household income.

Table – 4.2.10 Pairwise Correlations: Expenditure with Other variables

Variable		Total Sample	Q1 (Lowest 20%)	Q2 (Second 20%)	Q3 (Third 20%)	Q4 (Fourth 20%)	Q5 (Highest 20%)
Total amount of credit	Pair wise Correlation	.360***	.428***	.673***	-.110	.112	.345**
	Sig. (2-tailed)	.000	.004	.000	.534	.493	.032
Total HH Asset Value	Pair wise Correlation	.660***	.646***	.303**	-.030	.220	.429***
	Sig. (2-tailed)	.000	.000	.048	.867	.172	.006
Sum of all Income of the HH	Pair wise Correlation	.861***	.489***	-.020	.443***	.357**	.644***
	Sig. (2-tailed)	.000	.001	.901	.009	.024	.000
Family size of the HH	Pair wise Correlation	.171**	.301**	.209	.246	.367**	.121
	Sig. (2-tailed)	.016	.047	.179	.160	.020	.462

Total number of observations is 200 and the quartiles account 44, 43, 34, 40, and 39 observations on Q1, Q2, Q3, Q4, and Q5 respectively.
Note: ***, **, and * denotes the significance level at 1%, 5%, and 10% respectively.

Household expenditure is also associated with some variables such as amount of credit, asset value, household income, and family size among other things. Pair wise correlation coefficients were estimated both for total sample and each quintile groups. The result revealed that there exists a positive and significant pair wise correlation for total sample, the poor (quintile one and quintile two) and the rich class (quintile five); where as for middle income group (quintile three, and quintile four) the result was statistically insignificant.

Similarly the pair wise correlation coefficient estimated for the other variables indicated the same trend, in a sense that the result was positive and significant for the total sample and first quintiles, but for the remaining middle income group (2^{nd}, 3rd and 4^{th} quintiles) most of the estimates were found to be statistically insignificant.

Table – 4.2.11 Pairwise Correlations: Household Asset with Other variables

Variable		Total Sample	Q1 (Lowest 20%)	Q2 (Second 20%)	Q3 (Third 20%)	Q4 (Fourth 20%)	Q5 (Highest 20%)
Total amount of credit	Pair wise Correlation	.272***	.469***	.432***	-.187	.126	.171
	Sig. (2-tailed)	.000	.001	.004	.291	.438	.299
Sum of all Income of the HH	Pair wise Correlation	.618***	.180	.169	.128	.138	.311**
	Sig. (2-tailed)	.000	.243	.280	.471	.395	.054
Age of the HHH	Pair wise Correlation	.015	.134	.178	-.090	-.106	.018
	Sig. (2-tailed)	.832	.385	.254	.613	.514	.914

Total number of observations is 200 and the quartiles account 44, 43, 34, 40, and 39 observations on Q1, Q2, Q3, Q4, and Q5 respectively.

Note: ***, **, and * denotes the significance level at 1%, 5%, and 10% respectively.

Source: computed from primary data

Finally pair wise association test is made between value of household asset and other variables such as household income and amount of credit. Like the other main variables, value of asset was also significantly and positively correlated with amount of credit (hence the coefficient is 0.27) for total sample, but the 3rd, 4th quintile group were found to be statistically insignificant. The result seems to support the postulate that credit positively impacts household asset.

Table – 4.2.12 Status of Household Income and Asset

Description	Categories	Whether the Household is a client of MFIs or Not		
		non client	client	Total
Status of HH income over the last 12 months	Decrease	3 (7.3)	20 (12.6)	23 (11.5)
	Remain the same	19 (46.3)	33 (20.8)	52 (26)
	Increase	19 (46.3)	105 (66)	124 (62)
	No Response		1 (0.6)	1 (0.5)
	Total	41 (100)	159 (100)	200 (100)
The asset status of the HH over the last two years	Decrease	3 (7.3)	21 (13.2)	24 (12)
	Remain the same	32 (78)	75 (47.2)	107 (53.5)
	Increase	6 (14.6)	63 (39.6)	69 (34.5)
	Total	41 (100)	159 (100)	200 (100)

Note: Values in brackets indicates percentages

Source: computed from primary data

At a household level, amount of credit is expected to affect income and assets. To this end, household change in income and asset were assessed. 46% of non client and 66% of clients experienced a significant increase in income.14.6% of non clients and 39.6% of clients also reported an improvement in value of household assets. Surprisingly enough, the portion of client who was experienced with a decrease in

income and asset was also higher than the non clients. That is 12.6% clients stated a significant decrease in household income where as for non clients, it is only 7.3%. Income and value of assets remained relatively stable for non clients, but on the part of clients a significant positive and negative changes were observed.

To examine whether change in income and asset is related with amount credit or not, a number of questions were forwarded for both clients and non clients. 35% of non clients and 54.5% of clients, whose income increased in the previous year, reported that their main reason for increment in income is higher profit from business; where as 40% none of clients and 22.7% of clients stated that the main reason for increase in income was not related with performance of their businesses. Increase in remittances, and improvement in wage were the two main sources of additional income.

On the part of respondents whose income decreased, 63.7% of non clients and 40.8% of clients said the main reason was a decrease in profits from their main businesses. However, 44.6% of clients believe that they are impoverished as a result of indebtedness of MFIs. The result would tend to imply that credit could further worsen the status of clients, if it is not used for productive purpose. This can be evident from the study that about 25% of clients did not use their last loan for the intended purpose. Moreover, 72.6% of those clients who did not use the last credit for the purpose they took the loan, experienced a decrease in income but, for most of them the value of an asset remained the same.

4.3. Econometric Analysis

Statistical tests conducted on various variables earlier, give insight in impact assessment of microfinance services. However, it is much better if a precise measurement of magnitudes are made and compared. To this end, impacts of micro-credits on major economic variables were estimated using system of equations.

In the econometric model, value of household asset, income, credit and expenditure were treated as endogenous variables and, the other variables are treated as exogenous variables. The estimators were finally determined using two stage least square in instrumental variable method. Moreover, estimators were made for total sample and for various quintile classes. Major results of the regression are presented shortly below.

Initially the model was specified as:

$I = i_o + i_1(totcred) + i_2(scholi) + i_3(noincom) + i_{4\,Hs}(sexhhh) + \alpha$ ---equation1

$E = e_0 + e_1(totcred) + e_2 I + e_3 A + e_4(famsize) + e_{5\,Hs}(sexhhh) + \varepsilon$---equation2

$A = a_0 + a_1(totcred) + a_2 I + a_{3Hs}(sexhhh) + \mu$----------equation3

But, due to problem of multicollinality, sum of asset (A) was dropped from equation 2 (E). Like wise due to the problem of identification, the third equation (A) was also dropped from the system of equation. After the necessary modifications have been made, to the system of equation, the estimated value for the above model (for the entire sample) is depicted as:

$$I = -98.16 + 0.054c + 53.41L - 344.04NI - 97.29SH$$

p value= (0.529) (0.008) (0.00) (0.00) (0.157)

$$E = 56.2 + 0.022C + 31.72FS + 0.63I - 37.79SH$$

p value = (0.263) (0.019) (0.001) (0.00) (0.20)

Before directly reporting the IV regression result, an attempt has been made to check whether the instrumented variables are over identified or not. After many trials have been made, the existing instruments have been accepted and are confirmed by the relevant test for over identification. The null hypothesis is that instruments are correctly identified and it is tested against the alternative hypothesis that there is a problem of identification. Accordingly in both equations we can see that there is no evidence to reject the null hypothesis as a result the model should not be dropped for problem of over identification.

Tests of over identifying restrictions for income equation are given as:

Sargan N*R-sq test	3.450	Chi-sq(1)	P-value = 0.1531
Basmann test	3.405	Chi-sq(1)	P-value = 0.1579

And similarly,

Tests of over identifying restrictions for expenditure equation are given as:

Sargan N*R-sq test	1.220	Chi-sq(3)	P-value = 0.7481
Basmann test	1.179	Chi-sq(3)	P-value = 0.7581

Like wise an effort has been made to test for endogeneity problem. In a model that involves Instrumental variables; endogenous variable must be instrumented using some variables. These instrumental variables in general have to fill full two conditions: (1) must be highly correlated with the instrumented variable and (2) uncorrelated with the disturbance term. The instrument variables have been selected based on the discussed criteria. To test on the validity of instruments, 'ivendog' command can be used under the null hypothesis that regressor is exogenous. Accordingly the following results have been obtained.

Tests of endogeneity of: totcredi
H0: Regressor is exogenous
Wu-Hausman F test: 0.00000 F(1,194) P-value = 1.00000
Durbin-Wu-Hausman chi-sq test: 0.00000 Chi-sq (1P-value = 1.00000

Tests of endogeneity of: totcredi sumhhinc
H0: Regressors are exogenous
Wu-Hausman F test: 0.00000 F(2,193) P-value = 1.00000
Durbin-Wu-Hausman chi-sq test: 0.00000Chi-sq (2)P-value = 1.00000

In both Income and expenditure equations the p-value is 1, which implies perfect rejection of alternative hypothesis; as a result accepts the hypothesis that regressor is exogenous. But such perfect rejection for endogeneity does not seem sound of accepting as it is; it may be resulted from internal problem of the statistical package, hence effort has been made to look for additional evidence. Accordingly linear regression have been made between regressor, the instruments are not only insignificant determinants in the model, but also highly correlated with the instrumented variables this may further justify for the soundness of the instrumental variables included in the model.

To see how efficient the estimates are, test for hetroskedasticity has been conducted. Accordingly, different tests for hetroskedastic have been adopted; in all cases the test is made against the null hypothesis that distribution is homoskedastic. The results displayed below indicate that there is really a problem of hetroskedasticity for both equations that is for income (I) and expenditure (E) equations. In practice, the problem is specially prevailing in the income equation. The result of the tests is given below.

ivhettest, all (For income equation)
IV heteroskedasticity test(s) using levels of IVs only
Ho: Disturbance is homoskedastic

Pagan-Hall general test statistic : 24.018 Chi-sq(5) P-value = 0.0002
Pagan-Hall test w/assumednormality:42.237Chi-sq(5)P-value = 0.0000
White/Koenker nR2 test statistic : 17.959 Chi-sq(5) P-value = 0.0030
Breusch-Pagan/Godfrey/Cook-Weisberg:51.490Chi-sq
(5)P-value= 0.0000.

ivhettest, all (For expenditure equation)
IV heteroskedasticity test(s) using levels of IVs only
Ho: Disturbance is homoskedastic
Pagan-Hall general test statistic : 10.527 Chi-sq(7) P-value = 0.1606
Pagan-Hall test w/assumed normality:27.314Chi-sq(7)P-value= 0.0003
White/Koenker nR2 test statistic : 11.368 Chi-sq(7) P-value = 0.1234
Breusch-Pagan/Godfrey/Cook-Weisberg : 29.075 Chi-sq(7)
P-value = 0.0001

In both of the equations, to correct the effect of problem of hetroskedasticity, robust option has been included in the regression process. More over to decrease the effect of hetroskedascity, independent estimation has been made for each quintile classes.

Turning back to the regression part, the analyses is presented for both entire sample and income quintile classes. First the result for the entire sample will be discussed next to that the result of the income quintiles will be analyzed. To start with the entire sample result, amount of credit has a positive and significant impact on household income and expenditure. The results obtained in this part are consistent with the statistical tests carried earlier.

Table – 4.3.1 IV Two – Stage Least Squares Regression Result

Regression		**Intercept**	**C**	**SL**	**SH**	**NI**	**FS**	**I**	**R-sq**
Total	Income	-98.00	0.54***	53.40***	-97.29	344.04***-	-	-	0.36
Sample	Expenditure	56.20	0.022***	-	-39.97		31.71***	0.634***	0.76
First	Income	381.32***	0.0093	0.702	61.96***	25.18-	-		0.16
Quintile	Expenditure	114.77	0.055	-	0.579	-	40***	0.807***	0.39
Second	Income	663..31***	0.002	3.498	-12.75	14.27	-		0.045
Quintile	Expenditure	711.45**	-0.015	-	-149.83**	-	26.70	-0.075	0.18
Third	Income	908.1***	0.001	1.35	-22.48	-3.33-	-	-	0.08
Quintile	Expenditure	-329.o7	-0.011	-	-32.95		18.38	-1.26**	0.25
Fourth	Income	1170.65***	0.0144*	-2.094	-71.84	10.76*-			0.172
Quintile	Expenditure	1622.58	0.0062	-	-67.34		-0.8733	-0.179	0.31
Fifth	Income	934.87***	0.011	11.49	42.75***	435..35***	-		0.422
Quintile	Expenditure	85.37	0.051***	-	67.66		71.011***	0.447	0.577
Instrumented: totcredi (**C**) ,sumhhinc (**I**)									
Instruments: scholevl (**SL**) sex (**SH**) maincact (**MI**) noincome (**NI**) famsize (**FS**) ,age(**G**)									

Note: *** denotes Significance at 0.01 level
** denotes Significance at 0.05 level
* denotes significance at 0.1 level

- C and **I** are instrumented in the **E** equation, where as C is the only instrumented variable under **I** equation.

Source: computed from primary data

It is not difficult to see how amount of credit positively affected income of households. When credit is made available, it creates an opportunity to expand and diversify income generating activities, which in turn increases the level of income. Result from regression revealed that for every one birr credit, income increased by six cents. Increment in income is, therefore, an important step in reducing poverty.

As it can be seen from the model, credit had a positive and significant contribution to household expenditure. It was estimated that for every birr increased in amount of credit, expenditure increases by about two cents. In the context of low income households, positive relationship between amount of credit and households expenditure would be required to smooth out consumption. For this part of society, credit played a predominant role in reducing their vulnerability. Thus part of credit used for consumption smoothing can be treated as positive contributions of the program in fighting against poverty.

In this study however, it is very difficult to conclude that higher expenditure is meant really consumption smoothing. Practically from personal observation, it is evident that quite a significant number of clients have already used the money from micro-credit to buy some 'luxurious' commodities. It is obvious that when credit is used for unintended purpose, it would significantly affect loan repayment status, which ultimately constrains supply for a sustainable and reliable source of finance in the context of low income households. In effect it could negatively affect future success of the clients.

In the analysis of economic impact of credit, value of an asset is not an exceptional one. Both, statistical tests and econometric model indicated a positive and significant change in asset but due to problem of

identification this equation was dropped. Perhaps increase in household asset is one step in reducing household's poverty.

A comparison in impact of credit on income, expenditure and asset may give insight on the extent of the poverty. High impact on expenditure is usually deemed as indication of higher incident of poverty. On the other hand, high impact of asset would imply a wealth accumulation strategy which is usually made by relatively richest part of the clients. On this ground when the total sample is viewed, it seems that most of the households are not at least from the very poor parts of the society.

In the econometrics model the impacts of other variables (other than credit) are shortly explained below.

In income equation, (besides to amount of credit) maximum amount of schooling for the household head, and number of income earners are found to be the significant determinants of household income. The estimators are all positive and significant. The interpretation of the coefficients for the entire sample could be summarized as follow.

- One year of schooling for households head, increases income by birr 53.4.
- In a household, when number of income earners increase by one, income of the household increases by birr 344.04.

In the expenditure equation the significant determinants are: family size, and income. The results could be interpreted as:

- Value of expenditure increases by birr 31.71 when family size increases by one person.
- For one birr increase in income, expenditure increases by 63 cents.

Earlier studies on impact assessment revealed a statistical significant difference among various income groups. In this part effort has been made to see whether there exist differences in the estimate value among quintile income classes or not. To this end, the same economic model was applied to estimate the parameters of each quintile classes. The result reveals that there is a significant difference among quintile income classes.

The impact of credit in income was significant for higher quintiles. This would imply that impact on income seems significant for relatively non poor households compared to extremely or fairly poor households. The result supports the assertion that credit alone does not increase income of households. When credit is used for productive purpose, the lives of low income households can be improved. Taking higher incidence of economic vulnerability on the part of low income households, it would be difficult to allocate the amount of credit for income generating activities alone, hence, limited impact in income for low income households could be quite natural.

Meantime impact of credit in households' expenditure was insignificant for most of the income quintiles. For the fifth quintile, significant and positive impact on expenditure was observed. The result would tend to show that for higher income group credit has positive impact than for the lower income group (that is for the poor and middle income classes). Personal observations witnessed that most of lower income group have taken loans in group form and, were faced with high self monitoring among members of the same group -because of high social relations; this would contribute a significant role in utilization of the loan for the intended purpose.

In the asset equation due to problem of identification the result is mainly analyzed using descriptive method. Unlike to the total sample, the last two quintiles reflected insignificant impact. On the other hand, the 1st two quintiles had a common trend in a sense that all experienced a positive and significant impact on asset. The result would indicate that relatively, for lower income household credit has played a significant role. The result seems to be contrary to the findings of other similar studies in a sense that low income households usually aspire for higher assets after they have improved their income and fulfilled their basic needs; But, in this study low income household (the poor and middle income classes) are characterized by higher impact on asset than the higher quintiles. To explain the possible source for the deviation, result from descriptive statistics and personal observations have been used as additional means of justification.

In the descriptive statistics it was reported that 62% of clients have purchased at least one type of household asset after they joined the microfinance programs. 78.25% of these who purchased an asset have reported that radios, tape recorders and beds were their major purchases. These assets were not only basic for a household but also, of a fairly lower price in the market. On the other hand, for relatively higher income households, their incidence of asset purchase was limited; but, once they decided to buy, it was found to be of higher price. These households' assets are like refrigerator and color television. The on-going analysis would imply that credit had a significant role for low income households' asset than relatively higher income household; but, this trend did not seem to sustain for long period of time. Because, when income is higher and stable, households asset is expected to be increased; Hence, households with higher income, are expected to buy more on an asset than low income ones.

CHAPTER FIVE: CONCLUSION AND POLICY IMPLICATIONS

MFIs have been suggested as instruments of fighting against poverty. The born of MFIs dated back to 1970s when professor Mohammed Yunus, established Gremeen Bank for the first time. Since then, to improve the lives of low income households, government and NGOs have been actively involved in such programs through out the world.

In Ethiopia MFIs was introduced in 1993 in Tigrai region, as one branch under REST, with the name of DECSI. Currently about 27 MFIs are under operation through out the country, with main objective of fighting against poverty.

In Ethiopia, most of MFIs are concentrated in Addis Ababa, but their impact at household level is not clearly known. Few studies have been undertaken to assess impact of MFIs. On top of that, the studies primarily focus on descriptive analysis with out estimating parameters precisely. This study therefore, tries to fill in some gaps by assessing impact of microfinance on poverty and living condition of low income in Addis Ababa.

In the survey, both primary and secondary data are used. Taking financial and time constraints in to consideration, 200 households were selected for interview from (one of the sub-city in Addis Ababa, recognized as a region of low living standard) “Addis kifle ketema”. Finally, the entire sample was selected from two kebeles in proportion to the total population each represents.

In the survey, the demographic characteristics of clients and non-clients showed minimum difference. The mean value of household head; age, maximum years of schooling, sex and type of occupations for clients and

non-clients were similar. But, marital status of clients and non clients seemed to be different. Moreover, the number of income earner was found significantly higher for clients than non clients this would indicate that access to credit generates employment opportunity in clients' part.

In evaluating the impact of MFIs on living condition of households, multidimensional poverty concepts were considered which include: economic, vulnerability and empowerment dimensions. A household economic portfolio model is adopted to evaluate the role of credit in particular to the household's economic status.

On the economic aspect, credit positively and significantly increases income, expenditure and asset of households. But, the result is not uniform on various income classes.

Increase in income is resulted from business expansion and diversifying sources of income. Households that use the credit service for income generating activities have been relatively better off. This would imply that when a program targets poverty reduction, it has to be designed appropriately. This requires strong monitoring by group members and by microfinance institutions so as to influence the clients to use the credit service for productive purposes. Moreover, to maximize the return of MFIs, the entrepreneurial ability of the clients must be improved. To this end, a continuous need assessment has to be made on the critical problems of clients in the utilization of the loan on income generating activities and accordingly a relevant and appropriate training has to be designed and effected based on the immediate need of the beneficiaries. Furthermore, to increase the technological adoption of clients on their production process and ultimately to increase return from such projects, policy makers and development partners should introduce insurance products against yield failure.

Credit has also increased expenditure. In this study two main different reasons have been stated to explain for higher expenditures, these are consumption smoothing and higher expenditure on non-basic household's consumptions, including entertainments. However, for the majorities' higher expenditure was not on the ground of consumption smoothing. This would mean that higher expenditure is not necessarily an implication of a positive impact on the program. MFIs therefore, have to discourage higher expenditure on consumptions by adopting appropriate mechanisms. This may include: credit rationing for beneficiaries based on their past performance, financial and non-financial rewards for outstanding clients and there must be also a continuous program follow up.

Impact deemed to be reflected on asset too. For significant number of the respondent, business asset and household's asset are not separated; this would explain the reason for large impact on assets. Improved in asset therefore, is not necessarily an indicator of positive impact of the MFIs. But, the study has also clearly indicated that productive asset have been improved as a result of program participation. It should be recognized that for sustainable and positive impact of MFIs, investment on productive assts is a critical thing, because and the return from such assets would create multiplier effect; hence, its long run impact is thought to be higher than its immediate return in short period. Policy makers and development partners therefore, have to encourage clients to allocate their loan for purchasing of productive assets. It can be suggested that higher and increasing amount of loan should be provided for those beneficiaries who utilize money on productive assets. Moreover, to encourage investment on productive assets, loan repayment duration should be differently and appropriately designed based on the nature of the business and the maturity period of the projects.

Economic dimensions of credit shows a significant variation on various quintile income groups. Higher impact on income showed for the relatively better off income groups. It may be resulted from the fact that higher income classes are less vulnerable than the lower income classes hence, such group of the households predominantly allocate credit for income generating activities which in return would fetch higher income. This would imply that lower income groups require additional supports so as to be in a position to allocate the loan for income generating activities. Programs such as "food for work" have to be provided to minimize their short term vulnerabilities and bring them economically matured and able to withstand competition by themselves.

Unlike to other similar studies, higher impact on expenditure was reported for the richest income groups. As highlighted earlier, for such income groups higher expenditure did not seem a consumption smoothing strategy, instead it tended to mean a loan diversion for unproductive purpose. The implication is that improved on expenditure can be stated as negative impact too. Policy makers therefore, should discourage higher consumption expenditure by adopting appropriate mechanism including strong screening policy especially for higher income classes.

As far as impact on asset is concerned unexpected result was found. It is common knowledge that asset is highly associated with level of income, but in this study for higher income groups, the impact in asset was found to be insignificant; to the contrary, for low income household's impact on asset was a remarkably large one. It was learned from the study that the impact difference on asset among quintile classes resulted from variation in household's current status of assets and price of the immediate asset require at the margin. On the other hand, it may be also

resulted from the cross sectional nature of the data in a sense that improvement in asset is not realized immediately when credit is taken. It can be noticed that in short period relative to other impacts, the role of credit on assets is less reliable therefore; one can suggested that its impact has to be assessed using a time serious data for better accuracy.

MFIs have enabled clients to improve their status of income, expenditure and asset. Over the last year, a significant difference on the status of economic impact between clients and non-clients was claimed. It was found that clients were experienced positive and significant change in income and expenditure. But, when comparison was made among income groups; for lower income group, change in status of asset and income was relatively remained stable. On the contrary, a significant number of non clients and a few clients replied that their economic status have been deteriorated specially as a result of macroeconomic instabilities.

In regards to impact of saving, it seems to have a positive role. In the study, higher saving was reported among clients than non-clients. But, when voluntary saving alone is taken as a means of comparison, the result was found to be the opposite in that voluntary saving was higher for non-clients than clients. It can be claimed that clients' low voluntary saving, emanated from high demand for cash resulted from improved business activities in part of clients. This would imply that the role of credit on saving is a function of the amount of the loan, and years of clients' participation in the program. The result would suggest that frequent and matured borrowers are relatively better off in terms of the habit and amount of saving.

In terms of choice of saving, both clients and non-clients stated that informal sector, particularly 'equib' frequently used as temporary means

of saving. The implication is that informal sectors still continue to be an important place of saving even with the presence of formal financial institutions. But, from the formal financial sector, clients heavily rely on MFIs, although they slightly used formal banks, while for non-clients formal banks were the dominant place of saving.

In reducing households' vulnerability and risk, MFIs have been widely helpful especially for the low income societies. In this study clients tend to be less vulnerable than non-clients. But, a significant number of clients and non-clients were faced with food shortage. Moreover, the vulnerability coping mechanism for clients and non-clients seemed to be different. For non-clients informal sector were the main source of credit during bad time while, for the clients it was MFIs. However, a significant number of clients stated that when vulnerability was resulted from inability to repay loan of MFIs, informal sector were the only source left.

MFIs are deemed to enable program participant to increase their social interaction, especially for women. In this finding women clients tended to be better interacted socially. Clients have better participated in different social associations and some of them were also members of at least one social committee but, for majorities' social participation is reflected by higher social interaction and recognition among group members. Hence, this could be an important step in improving their social status.

MFI is believed to be a tool of development in improving clients' awareness. To this end, a number of awareness indicator questioners, were selected and asked to women respondents; But, the result indicates that there was no evidence to substantiate the existence of difference in awareness between clients and non clients. The result would imply that awareness is mainly determined by other than credit factors.

In regards to women decision making and empowering, credit has a positive impact. In the study however, a household's decision making is determined mainly by the norm of the society. Certain tasks have been recognized as husband's and wife's activities separately; still much of the households' decision is expected to be managed by both wife and husband together. But on average, client women slightly seemed to be better involved in household decision making than non-client women.

To sum it up, in this study there is evidence that microfinance institutions have improved the living conditions of low income households. However, for sustainable positive impacts, it requires utilization of loan on income generating activities and enhancing the productive capacity of households through provision of additional technical supports. But still the extent of the impact will be more clear in the long period, as a result cross sectional data has to be supplemented by panel data and/or time serious data. Moreover, for better understanding of the impact of MFIs additional studies should be made at individual, enterprise and community levels, besides to the household's level.

REFERENCE

Aims teams. 2001. Conceptual frame work for assessing the impact of micro enterprise Services. USAID –AIMS Washington DC.

Anne. 1996. A review of approaches for measurement of micro enterprises and household Income. USAID –AIMS Washington DC.

Barnes.C. 2001. Microfinance program clients and impact: An assessment of Zemburko Trusr, Zimbabwe.USAID –AIMS Washington DC

Besley.T and Coate.S 1995. Group lending, repayment incentives and social Collateral. Journal of development economics.vol.46.USA.

Cohen.2001. Making microfinance more client led. USAID AIMS Washington DC.

CSA . (1994). The Population and Housing Census of Ethiopia, Results at Country level. Volume II Analytical Report. Federal Democratic Republic of Ethiopia Office of Population and Housing Census Commission Central Statistical Authority

_____(2004). Welfare Monitoring Survey, Analytical Report. 339-A STATISTICAL BULLETIN 339-A Addis Ababa.

_____(2006). Federal Democratic Republic of Ethiopia Office of Population and Housing Census Commission Central Statistical Authority statistical abstracts for 2006.

Dejene A. 2001. Gender and Micro Finance in Africa. Micro Finance Development Review, Vol. 2 No. 1, AEMFI, Quarterly Bulletin, Addis Ababa.

Edgecamb.E. 1996. PVO/NGO tools for household and business impact assessment: Report of planning meeting. USAID –AIMS Washington DC.

Elsabeth L. and Little.F. 2003. Is microfinance an effective strategy to reach the Millennium Development goals?

Elsabeth.2001.The impact of micro credit: A case study from Peru. USAID AIMS Washington DC..

Elzabeth Dunn 1997. Diversification of the household economic portfolio. USAID AIMS Washington DC..

Elzabeth Dunn,Martha Alter. 1996. Households economic portfolio. USAID AIMS Washington DC.

Federal Negarit Gazeta. 1996 Licensing and Supervision of Microfinance Institutions Proclamation No. 40/1996 (July5)

Gebrehiwot A. 2002. Microfinance Institutions in Ethiopia: Issues of Portfolio Risk, Institutional Arrangement, and Governance (Ed.) Zaid N. et al. Micro finance Theory Policy and Experience. Proceedings of the International Workshop on "The Dimension of Micro Finance Institutions in Sub Saharan Africa: Relevance of International Experience." Mekelle University..

Greene, W. H. 1997. Econometric Analysis, (3rded) London: Prentice-Hall International (UK) Limited.

Gary and Jennifer. 1996. A review of methodological approaches to the study of impact Programs. USAID AIMS Washington DC.

Koopman.1996. Clients impact assessment of women' entrepreneurship in Bangladesh: USAID –AIMS Washington DC.

Helen. 2000. Poverty reduced through microfinance: The impact of ASHI in the Philippines. USAID –AIMS Washington DC.

Horris and Raley.2000. Path ways out of poverty: innovation in microfinance for Poorest families. Kumawa press, inc.

Hossian.F.2002. Small loans, Big claims. Jstore Foreign policy.132. Garnenege Endowment for international peace.

Henry.c,Sharma.m,Lapenu.c and Zeller.m, 2003. Microfinance poverty assessment tool. International food policy Institute. Serial no.5. Washington DC.

Jennefer Sebstal,Catherine.N , Carolyn B and Gregory C..1995. Assessing the impact of micro enterprise interventions: A frame work for analysis. USAID AIMS Washington DC.

Johnson.S and Royal.B. 1999. Microfinance and poverty reduction: Current debate in Microfinance. Oxfam UK and Ireland.

Karland.d. 2000. Microfinance impact assessment: The perils of using new members As a control group. Journal of microfinance vol.3 no.2. Laie, Hawaio, USA.

Mench.S. 2000. Impact study report of the mercy crops international micro credit Program Bosnia-Herzegovina. USAID –AIMS Washington DC.

Mongstu and Thehay. 2002. The impact of microfinance services among poor women In Ethiopia: Occasional paper no. 6. AEMFI, Addis Ababa, Ethiopia.

Morduch J. 1998. Does microfinance really help the poor: New evidence from Flaship Programs in Bangladesh. Department of economics and HID, Harvard University and Hoover Institution Sanford University.

_____ 1999. The microfinance promise. Journal of economic letrature. Vol.3. American economic association.

MkNelly.B and Lippold.L. 1998. Practitioner led impact assessment: A test in Mali. USAID AIMS Washington DC.

IFAD.2001.Federal Democratic Republic of Ethiopia, rural financial intermediation Program (RUFIP). Appraisal report, volume II: working paper 1 and 2. Africa II division program . Department, Addis Ababa

Ray.1998 Study Development Economics and Economic Policy Analysis, England

Tassew W., 2000. Economic Analysis and Policy Implications of Farm and Off-Farm Employment: A case study in the Tigray region of northern Ethiopia.

Tassew.W, Gebrehiwot.A, and Woldeab.T, 2005.Marginalized groups, credit and empowerment: A case study of DECSI of Tigray,Ethiopia. Ethiopian association of microfinance institutions (AEMFI).Occasional paper no.14. Addis Ababa, Ethiopia.

Tilakaratna.G. 2005. Microfinance in Sri Lanka: A household level analysis of outreach and impact of poverty. IPD, Colombo, Sir Lanka.

Trufat.B. 1996. Poverty in Ethiopia: Masters thesis, Addis Ababa University.

Sadoulet E and de Janvry A. 1995. Quantitative development policy analysis. Baltimore and London: The Johns Hopkins University Press.

Sebsted.J. 1998. Toward Guidelines for low cost impact assessment methodologies for Micro-enterprise programs. USAID –AIMS Washington DC.

Sandgrass.D.1997. Assessing the effect of program characteristics and program context on the impact of micro enterprise services. USAID AIMS Washington DC.

Shiferaw B. and Holden S. T., April 2000, Policy Instruments for Sustainable Land Management: The Case of Highland Small Holders in Ethiopia, Journal of Agricultural Economics, Vol.22, and issue3.

Simanowit.A and Walter. A. 2000. Ensuring impact: Reaching the poorest while building financially self-sufficient institutions and showing improvement in the lives of the poorest women and their families. In (ed) Horris and Raley. 2000. Path ways out of poverty: innovation in microfinance for poorest families. Kumawa press, inc.

Wolday. 2000. Review microfinance development in Ethiopia. Regulatory framework and performance, occasional paper no.2 AEMFI, Addis Ababa.

_____ 2007. Empowering women thorough microfinance review of the experience of Ethiopia deposit taking microfinance institutions. Vol..No.1. AEMFI, Addis Ababa.

Zaman.H 1999. Assessing the poverty and vulnerability impact of micro credit in Bangladesh: S case study of BRAC. Office of the chief economist and senior Vice- president (DECVP) The World Bank.

Zoom microfinance, 2007. Tension between a marketing vision of microfinance and provision of services to the poor: A myth or a reality? The case of BUUSAA CONOFAA in Ethiopia. Ministry of foreign affair in Luxembourg.

_____ 2004. Bulletin on the eradication of poverty: Microfinance and poverty reduction.No.11. United nation secretariat. New York, USA.

Annex I Instrumental variables (2stage least square)

Instrumental variables (2stage least square) (for Total sample)

Instrumental vaeiables(2SLS) Regression								
Equation	Obs	Parms	RMSE	R-sq	F value	P		
I (sumhhInc)	200	4	460.68	0.3595	27.36	0.0000		
		Coef.	Std. Err.	Rub.std.Err	t	p value	95% conf.interval	
	totcredi	0.0537	0.0158	0.0200	2.68	0.008	0.0142	0.0931
	scholevl	53.4039	9.032	9.4619	5.64	0.000	34.7431	72.0647
	noincome	344.039	55.0654	74.0435	4.65	0.000	198.0097	490.0675
	sex	-97.287	68.5979	68.5432	-1.42	0.157	-232.468	37.8941
	_cons	-98.158	129.4787	155.7485	-0.63	0.529	-405.326	209.0095
Instrumented: totcredi(C)								
instruments: scholevl(SL),sex(SH),mainincact(MI),noincome(NI),famsize(FS),age(G)								

Equation	Obs	Parms	RMSE	R-sq	F value	P		
E (sumhhExp)	200	4	219.1	0.7644	158.21	0.0000		
		Coef.	Std. Err.	Rub.std.Err	t	p value	95% conf.interval	
	totcredi	0.022	0.0076	0.0093	2.37	0.019	0.0037	0.0403
	sumhhinc	0.6337	0.0297	0.0432	14.66	0.000	0.5485	0.7189
	famsize	31.7142	10.4625	9.1641	3.46	0.001	13.6408	49.7876
	sex	-39.971	31.6595	31.0607	-1.29	0.200	-101.229	21.2869
	_cons	56.1976	64.6148	50.0214	1.12	0.263	-42.4553	154.8496
Instrumented: totcredi(C), sumhhinc(I)								
Instruments: scholevl(SL),sex(SH),mainincact(MI),noincome(NI),famsize(FS),age(G)								

Instrumental variables (2stage least square) (For Different Quintile Income Classes)

Household Income(Quantile 1)								
Instrumental vaeiables(2SLS) Regression								
Equation	Obs	Parms	RMSE	R-sq	F value	P		
I (sumhhInc)	44	4	93.836	0.156	2.66	0.0472		
		Coef.	Std. Err.	Rub.std.	t	p value	95% conf.interval	
	totcredi	0.0094	0.0104	0.0123	0.76	0.452	-0.0156	0.0343
	scholevl	0.7013	4.4262	4.1630	0.17	0.867	-7.7191	9.1217
	noincome	25.1803	29.2166	30.7389	0.82	0.418	-36.995	87.3556
	sex	61.9608	28.7289	30.3853	2.04	0.048	0.5007	123.4209
	_cons	381.314	55.5166	47.13	8.09	0.000	285.986	476.6449
Instrumented: totcredi(C)								
instruments: scholevl(SL),sex(SH),mainincact(MI),noincome(NI),famsize(FS),age(G)								

Equation	Obs	Parms	RMSE	R-sq	F value	P		
E (sumhhExp)	44	4	179.45	0.392	8.51	0		
		Coef.	Std. Err.	Rub.std.	t	p value	95% conf.interval	
	totcredi	0.0555	0.01971	0.0365	1.52	0.136	-0.0183	0.01292
	sumhhinc	0.8067	0.3154	0.2659	3.03	0.004	0.268	1.3446
	famsize	39.9965	24.9935	18.358	2.18	0.035	2.8639	77.1292
	sex	0.5792	58.0138	49.2691	0.01	0.991	-99.077	100.2354
	_cons	-144.77	158.4858	113.228	-1.28	0.209	-373.79	84.2588
Instrumented: totcredi(C), sumhhinc(I)								
Instruments: scholevl(SL),sex(SH),mainincact(MI),noincome(NI),famsize(FS),age(G)								

Household Income(Quantile 2)

Instrumental vaeiables(2SLS) Regression

Equation	Obs	Parms	RMSE	R-sq	F value	P		
I (sumhhInc)	43	4	62.094	0.0447	0.44	0.7773		
		Coef.	Std. Err	Rub.std.	t	p value	95% conf.	interval
	totcredi	0.0022	0.0063	0.0065	0.34	0.734	-0.0109	0.0153
	scholevl	3.4979	3.2859	3.6025	0.97	0.338	-3.7951	10.7909
	noincome	14.2665	21.5582	20.0647	0.71	0.481	-26.3525	54.8855
	sex	-12.748	21.2599	19.5572	-0.65	0.518	-52.3396	26.8434
	_cons	663.314	53.9587	60.5127	10.96	0.000	540.8121	785.8154

Instrumented: totcredi(C)

instruments: scholevl(SL),sex(SH),mainincact(MI),noincome(NI),famsize(FS),age(G)

Equation	Obs	Parms	RMSE	R-sq	F value	P		
E (sumhhExp)	43	4	1251.84	0.1822	4.68	0.0036		
		Coef.	Std. Err	Rub.std.	t	p value	95% conf.	interval
	totcredi	-0.0155	0.0208	0.0164	-0.94	0.352	-0.0487	0.0177
	sumhhinc	-0.0753	0.5429	0.3572	-0.21	0.834	-0.7983	0.6477
	famsize	26.6976	18.4065	19.5358	1.37	0.18	-12.8505	66.2457
	sex	-149.83	66.0038	83.166	-1.8	0.08	-318.188	18.5331
	_cons	711.454	414.74	266.937	2.67	0.011	171.0679	1251.84

Instrumented: totcredi(C), sumhhinc(I)

Instruments: scholevl(SL),sex(SH),mainincact(MI),noincome(NI),famsize(FS),age(G)

Household Income(Quantile 3)

Instrumental vaeiables(2SLS) Regression

Equation	Obs	Parms	RMSE	R-sq	F value	P		
I (sumhhInc)	34	4	52.842	0.0801	0.8	0.5353		
		Coef.	Std. Err	Rub.std.	t	p value	95% conf.	interval
	totcredi	0.0007	0.0053	0.0076	0.09	0.932	-0.0149	0.0162
	scholevl	1.3522	2.5201	2.429	0.56	0.582	-3.6158	6.3201
	noincome	-3.3373	16.5729	16.6411	-0.2	0.842	-37.372	30.6975
	sex	-22.4866	21.7182	23.3015	-0.97	0.343	-70.144	25.1704
	_cons	908.2052	50.7095	55.5286	16.36	$0.000	794.634	1021.774

Instrumented: totcredi(C)

instruments: scholevl(SL),sex(SH),mainincact(MI),noincome(NI),famsize(FS),age(G)

Equation	Obs	Parms	RMSE	R-sq	F value	P		
E (sumhhExp)	34	4	147.28	0.254	2	0.1202		
		Coef.	Std. Err	Rub.std.	t	p value	95% conf.	interval
	totcredi	-0.0112	0.01508	0.0152	-0.74	0.465	-0.0423	0.0198
	sumhhinc	1.2609	0.5154	0.5465	2.31	0.028	0.1432	2.3786
	famsize	18.379	18.4531	14.8422	1.24	0.226	-11.977	48.7346
	sex	-32.9492	57.7197	43.3412	-0.76	0.453	-121.59	55.6935
	_cons	-329.071	479.409	479.941	-0.69	0.496	-1304.5	646.3823

Instrumented: totcredi(C), sumhhinc(I)

Instruments: scholevl(SL),sex(SH),mainincact(MI),noincome(NI),famsize(FS),age(G)

Annex II Questioner

SURVEY OF THE IMPACT OF MICROFINANCE SERVICES ON LIVING CONDITION: THE CASE OF ADDIS ABABA

Name of the interviewer _____

Date of interview _____

Client ☐ Non client ☐

For clients only (Basic Information)

Sub city:_____

Kebele:_____

Center:_____

Group (if any):_____

Date of first credit:_____(month/year)

Amount of the first credit:_____

Date of the last credit:_____(month/year)

Amount of the last credit:_____

The total amount of credit you have got so far:_____

Name of MFI(s) from which you have got credit service:_____

INTRODUCTION

Good morning (afternoon) my name is …..Thank you for agreeing to participate in the survey. The survey is conducted by a student from Addis Ababa University. The purpose of the survey is to have a better understanding of the impact of microfinance service activities.

I want to assure you that the information will be used primarily for academic purpose and will be completely confidential. This information will not be communicated with the microfinance institution you are working with, hence it will not affect the relationship you have with the organization.

Thank you for participating in this survey.

A. Basic Information About respondents' Back ground

1. Name of households head:_____
2. Name of the respondent for the survey if different from (head)_____
3. Family size for the households :____(define households to the respondent)
4. Household's composition (Age, sex, main activity, marital status, educational status and etc. of each member of the house hold.)

Code	Name	**a**	**b**	**c**	**d**	**e**	**f**	**g**	**h**
01									
02									
03									
04									
05									
06									
07									
08									
09									
10									
11									

Key for the codes:

(a) relationship to the house hold head

Head…….1
Wife/husband……...2
Son/daughter……...3
Father/mother……...4
Other relatives……..5

(b)Age

< 5 years old……..1
5-7 years old…….2
7-17 years old……..3
17-30 years old……4
30-45 years old…….5
45-65 years old…….6
>65 years old……7

(C) Maximum level of schooling

Less than primary …….1
Some primary ……..……..2
Completed primary.....…....3
Attended technical school…....4
Attended secondary …….5
Completed secondary ……..…6
Attended university or college..7

(d) Main Occupation

self employed in agriculture……..1
self employed in non-farm enterprise…2
student.....…...3
casual worker…….……..…..4
salaried worker…….. . …5
household worker……..……..6
unemployed …….……..……7
unwilling to work or retired……..…..8
not able to work…….……..……9

(e) Sex

Male……..1
Female……2

(f) Martial status

Married ……1
Divorced……....2
Widowed ……..3
Single ……...4

(g) Health condition

good ……1
poor……..2

5. Would you tell me the main income generating activity of the household head
   State sector…….1
   Private business registered…….2
   Informal sector (none registered)……3
   Others (specify)……..4

B. ECONOMIC STATUS

Household property (Basic Asset)

1. Please tell me if you or any one in your household owns any of these items including its current estimate.

Items(it does not include business asset)	Does any one in the household own this item put"√" if yes	It's estimated current value (in birr)
Radio		
Tape recorder		
Bed		
Bicycle		
Motorcycle		
Car		
Television		
Sofa		
Refrigerator		
House		
Land		
Livestock		
Cattle		
Sheep and goats		
Horses and donkey		
If other specify it		

2. Over the last two years, have you made any repairs, improvements or addition to your home that costs more than 100 birr?

   1. Yes 2. No 99. Don't know

   If yes estimate the cost (in birr):_____

3. Over the last two years have you household asset…?

   1. Decrease 2. Remain the same 3. Increase

4. If <u>increased</u> why your asset has increased?

   1. Received money from remittance
   2. income from business increase
   3. some one got a job
   4. by shifting resources from productive to non productive
   5. credit was available
   6. others(specify):_____
   99. don't know

5. If <u>decreased</u> why has your asset decrease?

   1. Problem with my business
   2. Health problem in one or more household member
   3. Decrease in hired household income
   4. Increase in non-asset household expenditure
   5. Indebtedness
   6. Increase in business household expenditure
   7. Others (Specify):_____
   99. Don't know

II HOUSEHOLD INCOME

1. Who are the person(s) that contribute to income of the household

Member of the house hold	Code of household Income contributors	Average monthly income contribution to The household
Self		
Spouse		
Child 1		
Child 2		
Other( )		
Remittance		
Other contributor		
Total		

2. How many people are dependent on joint household contribution?____
3. Over the last 12 months has your household income-----?

   1. decreased 2.remained the same 3.increased

4. If <u>decreased</u> why your income has decreased?

   1. health problem
   2. problem with in my business
   3. indebtedness
   4. others (specify):_____

   99. don't know

5. If <u>increased</u> why your income has increased?

   1. income from business increased
   2. increase income from labour
   3. received money from remittances
   4. credit was taken
   5. others(specify):_____

   99. Don't know

III. HOUSEHOLD EXPENDITURE

1. Would you tell me the monthly estimated expenditure of your household on each of the following items?

Expenditure categories	Estimated monthly expenditure(in birr)
food	
house rent	
education	
health	
entertainment	
communication	
Others(specify)	
Total	

2. Over the last three years, has your household expenditure on average…..?
   1. decreased 2.remained the same 3.increased
3. If increased by how much percent?_____
4. If decreased by how much percent?_____
5. If increased why your expenditure has increased?
   1. because it become expensive now
   2. new members emerged to the household
   3. a shift of resource from business to household expenditure
   4. better income
   5. others (specify):_____

   99 don't know

6. If decreased why your expenditure has decreased
   1. because of a change in the household size
   2. decrease in income
   3. increase expenditure on income generating activities
   4. others (specify):_____

   99. don't know

IV. HOUSEHOLD LEVEL WELFARE (VULNERABILTY)

1. How many times per day do you consume?

   1. once 2. twice 3. three times 99. Don't know

2. Over the last year has your household diet (in terms of quality and variety of food consumption) ……?

   1. worsened 2.stayed the same 3 .improved 99. Don't know

3. (If worsened) how has it worsened?

   1. Forced to eat less amount of food
   2. The variety and quality of food deteriorated
   3. Some times unable to eat
   4. Others (specify):_____ 99. Don't know

4. (If improved) how has it improved?

   1. Increase the frequency and/or quantity of consumption
   2. Improve in the quality and/or variety of consumption
   3. Others (specify):_____
   99. Don't know

5. During the last years have you ever faced with shortage of food?

   1. Yes 2. No 99. Don't know

6. (If yes) how often the problem has happened?

   1. Frequently 2. Some times 3. Rarely 99. Don't know

7. How do you cope up with the food shortage problem?

   1. by borrowing from friends and family
   2. borrowing money at cost
   3. sold personal property
   4. selling of out put
   5. selling of livestock
   6. others (specify):_____
   99. don't know

8. During the last year were you able to cover clothing, health and food expenses of the household's need?

   1. Yes 2.No 99. Don't know

C. CREDIT AND SAVING

1. Over the last year has any one from your household taken out loan of at least 50 birr?

   1. Yes 2. No 99. Don't know

2. (If yes) please tell me the detail of the loan

Code	Source (a)	Reason of the loan(b)	Main use(b)	Amount of the loan	Amount to be repaid at the due date	Amount so far paid (principal +interest)			relation with the lender (c)
						Prin.	Int.	amount	

a) **Source of the Loan**

- loan from money lender/Arata/…….1
- Loan from friend/ relative…….…..2
- Loan from bank……...3
-Loan from EDIR……4
-Loan from EQUB……..5
-Loan from other MFI……..….6
-Other (specify)……7

(b) **Reason for the loan**

-to start (expand) business……1
-to buy raw materials …….2
-to hire more labors…….....3
-to pay business debts… ……4
-to pay household debts and expenses……..5
-to cover expenses for social interaction……..6
-other (specify) _____7

(c) **business relation with lender**

-supplier of input ……..1
-labor sharing……..…2
-employer ……4
-out put buyer……..……5
-relative/family…….6
-no direct relations……7
-others (specify)…….…...8

3. (For clients only) did you use any portion of your last loan to……? (Read to the respondents each statement).

   1. To buy food for your family……..1.Yes 2.No 3.don't know

   2. To pay basic HH expenses such as (health, education, rent and clothing)…

      1. Yes 2.No 3. Don't know

   3. A pay for HH debt 1. Yes 2.No 3. Don't know

   4. To start (expand) business 1. Yes 2.No 3. Don't know

   5. To buy row materials 1. Yes 2.No 3. Don't know

   6. To hire more labors 1. Yes 2.No 3. Don't know

   7. To pay business debts 1. Yes 2.No 3. Don't know

   8. To cover education, health and rent expenses

      1. Yes 2.No 3. Don't know

   9. To cover expenses for social interaction

      1. Yes 2.No 3. Don't know

4. (For clients only) Rank top three uses of the loan (use codes from q. 2)

   -large amount was spent for_____

   -Second largest amount was spent for_____

   - Third largest amount was spent for_____

5. (For Non clients only) ,has any of your HH applied for a loan from MFI

   1. Yes 2. No 99. Don't know

6. (If No) why didn't you apply?

   1. Complicated procedures
   2. High interest rate
   3. Inadequate loan term
   4. Small size of loan
   5. Do not need a loan
   6. Did not have guarantee or collateral
   7. Others (specify)_____

7. Rank top three causes for not applying according the relative importance.

   (Use codes from q.6)

   First_____

   Second _____

   Third _____

8. If you applied for a loan from MFIs, but were rejected please give the reason (do not read choices).

   1. Collateral not adequate
   2. unable to form groups
   3. Not fulfill the criteria of MFIs
   4. Others (specify)_____

9. At this time do any of your HH members saving in cash?

   1. Yes 2. No 3. Don't know

10. Households' saving characteristics

Code of household	saving			Place of saving (a)
	Forced saving	Voluntary saving	Total saving	

a. code for place of saving

1. MFI (specify)_____
2. Bank
3. Family/friend
4. Equib
5. Meredaja mahber

99.Others (specify) _____

11. During the last year has your personal cash saving …….?

1. decreased (go to 1) 2. remained the same 3. increased (go to 3)

12. (If decreased) why has your HH cash saving decreased?

1. Decrease income from business
2. Decrease income from non business source
3. Used for running business
4. Used to cover food and non food HH basic expenses
5. No more client of MFI,as a result the forced saving was released

99. Others (specify) _____

13. Rate the top three reasons for decreasing cash saving (use code from q. 12)

-First _____

-Second _____

-Third _____

14. (If increased) why has your HH cash saving increased?

1. Increase in income from business
2. Increase in income from non business source
3. Shift of money out lay from business
4. Decrease food and non food HH expenditure
5. Increased forced saving as a result of participating in MIFs

15. Rank the top three reasons for increasing cash saving

-First _____

-Second _____

- Third _____

16. (For clients only), what is your repayment status?

1. Behind in repayment (go to 17) 2. Timely in repayment
3. A head in repayment 99.Others (specify)_____

17. If you are behind in repayment what is the reason for?

1. One or more members of the group fail to repay 3. Financial (cash) problem
2. Business is not as usual (not profitable) 4. Inconvenient repayment period
99. Others (specify) _____

18. Name three things you like most about MIF's programe/ service (don't read answer)

1. Amount of the interest rate
2. Group collateral
3. Size of the loan
4. Continuous source of capital
5. Training or technical assistance
6. Easy accessible
7. Repayment schedule
8. Customer handing, treatment of the credit officers

99. Others (specify) _____

19. Name three things you dislike most about MFI's program/service (use code from 18)

- First _____
-Second _____
- Third _____

20. If you could change something about the MFI, you are involved with to make it better, what would you change?_____

_____

_____

_____

_____

_____

_____

(EXPRSS YOR APPRECIATION AND END THE INTERVEW FOR MEN RESPONDENT)

FOR WOMEN RESPONDENTS ONLY

D. INDIVIDUAL LEVEL (EMPOWERMENT AND SOCIAL PARTICIPATION)

1. Who decides on the following HH matters?

a) The type and variation of meal

1. wife 2. Husband 3. Both 99. others (specify) _____

b) Non food basic living expenses

1. Wife 2. Husband 3. Both 99. Others(specify) _____

c) Purchase of HH asset or improvement on asset

1. Wife 2. Husband 3. Both 99. Others(specify) _____

d) Allocation of loan (if any)

1. Wife 2. Husband 3. Both 99. Others(specify) _____

e) Who decides on the number of children, HH members

1. Wife 2. Husband 3. Both 99. Others(specify) _____

f) Who decides on saving and use of saving

1. Wife 2. Husband 3. Both 99. Others(specify) _____

2. Are you aware of (that) …..? (Read each questions)

a) Dowry is illegal 1. Yes 2. No 3. Don't know

b) Method of divorce 1. Yes 2. No 3. Don't know

c) Method of contraceptive 1. Yes 2. No 3. Don't know

d) How HIV-AIDS transmits 1. Yes 2. No 3. Don't know

e) The minimum age of marriage 1. Yes 2. No 3. Don't know

f) The name of mayor of the city 1. Yes 2. No 3. Don't know

3. Possession and participation knowledge

a) Do you have own jewelry?

1. Yes 2. No 3. Don't know

If yes (%) that can sell by yourself: _____

b) Do you have your own saving?

1. Yes 2. No 3. Don't know

c) Do you have any other asset owned independently (specify) ____

If yes % of the asset you possess independently _____

d) Have you ever visited Markato?

1. Yes 2. No 3. Don't know

e) Have you ever participated in the national election?

1. Yes 2. No 3. Don't know

f) Have you ever faced with forced pregnancy?

1. Yes 2. No 3. Don't know

g) Are you a member of at least one social association?

1. Yes 2. No 3. Don't know

h) Are you a member of at least one social committee?

1. Yes 2. No 3. Don't know

4. Please forward any comment (if you have) about microfinance service, women participation and empowering of women._____

_____

_____

_____

_____

_____

THANK YOU VERY MUCH FOR YOUR PARTICIPATION IN THIS SURVEY.