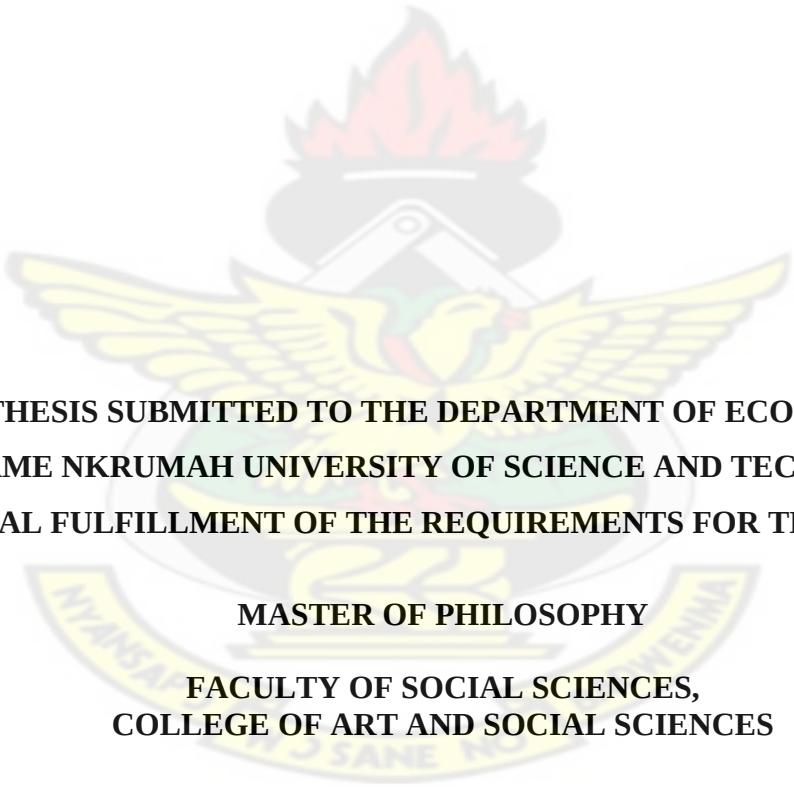


**MICROFINANCE AND ITS IMPACT ON SELECTED DISTRICTS IN
EASTERN REGION OF GHANA**

BY

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**A THESIS SUBMITTED TO THE DEPARTMENT OF ECONOMICS,
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MASTER OF PHILOSOPHY
FACULTY OF SOCIAL SCIENCES,
COLLEGE OF ART AND SOCIAL SCIENCES**

JUNE, 2008

CERTIFICATION

I hereby declare that this submission is my own work towards the Master of Philosophy. And that, to my best of knowledge, it contains no material previously published by another person or material which has been accepted for the award of any other degree of the University, except where due acknowledgement has been made in text.

NANOR MICHAEL AYERTEY

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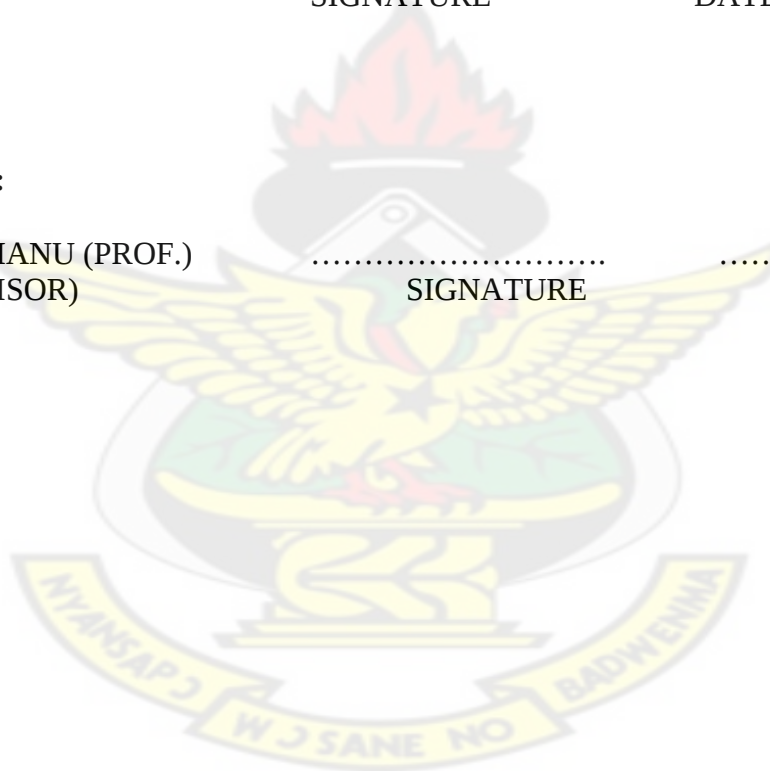
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ABSTRACT

Poverty is one of the most enthralling challenges facing Ghana in recent times. The gap between the 'haves' and the 'have nots' has been on a steady rise. Like a sick person moving from hospital to hospital in search of treatment, so is Ghana also on the quest of finding an antidote or cure to the problem of poverty. In the search for the antidote, Micro-finance has been found as a major antidote to poverty. Micro-finance brings on board products like micro-credit, micro-insurance and micro-savings. The concentration in Ghana has been on micro-credit. That is, credit is given to the poor to help them start some income generating activities which in the long run will augment the defect in income levels thereby lifting them above the poverty line. The overall aim of the study was to explore the impact of Micro-finance on households. That is, how Micro-finance has impacted on the household income, profit levels and expenditure on children education for participating households. The study is conducted in four selected districts in the Eastern Region of Ghana. The districts were Kwahu North, Manya Krobo, Yilo Krobo and West Akim. The sample survey method is used and data was collected using a quasi-experimental questionnaire. In all 710 households were interviewed.

The results from the analysis show that there was significant difference in the expenditure made on children's education by program households and non program households in all the districts except Manya Krobo. The results also showed that Micro-finance had positive impact on the household income of households in the Manya Krobo and West Akim districts. There was no impact on income in the other two districts. There was also positive impact on the profit levels in the Manya Krobo and West Akim districts. In the Yilo Krobo district, the impact on profit levels was negative. The study has shown that microfinance has some impact on the programme household. However, an in depth analysis to these programmes showed that there has not been any significant decline in the overall level of poverty. This contradictory finding may be due to the fact that microfinance programme has not yet

reached the hard core poor in the society. Microfinance institution must expand their base to reach the hard core poor in the catchment areas.

Based on the findings of the study the following recommendations were made. There is the need to increase the loan size for clients, given the fact that poverty levels have not significantly changed in the study area. An increase in loan size will have a greater multiplier effect on households' income through profits from income generating activities. This will intend create many jobs for other unemployed people. The end result will be an increase in the Gross Domestic Product (GDP). Also, there is the need to establish a National Autonomous Microfinance Fund. It will help expand the capital base of Microfinance Institutions (MFIs) so that MFIs can reach a lot of people. The fund would also serve as regulator to Microfinance Institutions (MFIs). It is recommended that MFIs should rather concentrate much resource into savings mobilization. From basic knowledge in economics, capital accumulation has a greater strength to reduce poverty. Savings provides an asset for the economy's investment in future production. Without them, the economy cannot grow unless there are alternative source of investment. There is also a problem of Information Asymmetry. The bank must employ qualified staff to check background of each client. In this case also it is recommended that proper and strong monitoring teams should be put in place to monitor client activities and how they put the credit facility to use. There is no time frame set for client to be sustainable after which time no credit will be given again. MFIs just enjoy having more clients. This only means that, their programmes do not have the require impact. If MFIs are able to set this time frame for their clients after which no credit would be given, the programme will have significant impact on the lives of its clients. Finally, client must be given basic training in Book Keeping and Budgeting.

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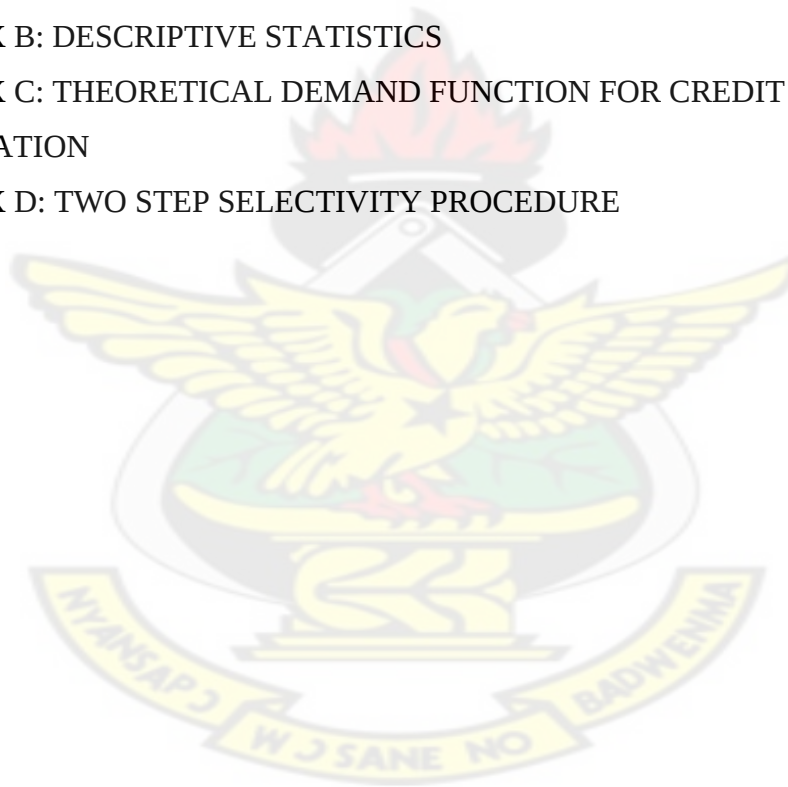
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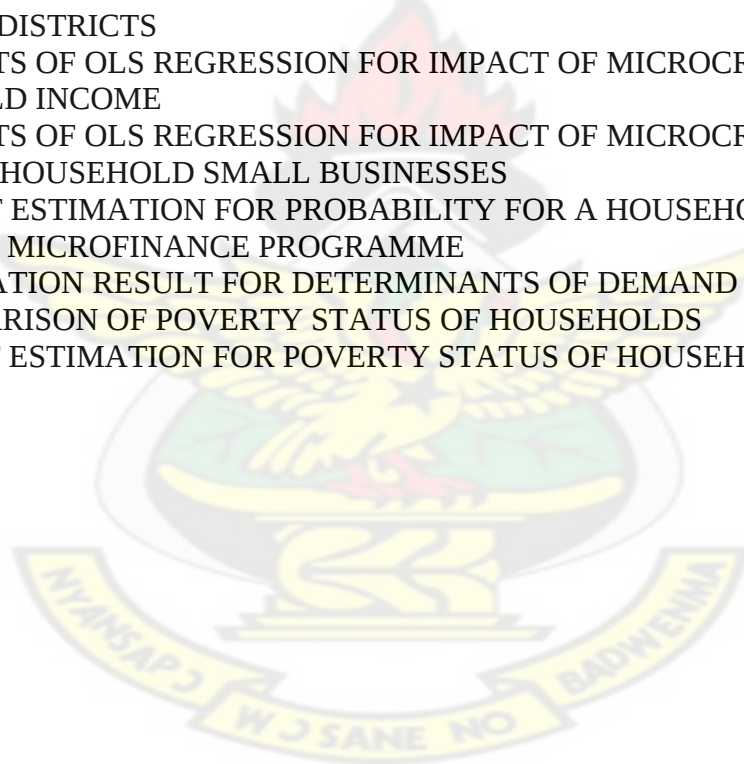


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CHAPTER ONE

INTRODUCTION

1.1 GENERAL BACKGROUND ISSUES

In this world of abundance, almost half of the world's 6.5 billion people live on \$2 a day or less and the number living on less than one dollar has increased over the past 15 years. (World Bank, 2000). Almost one-third of the world's population suffers under-nutrition due to insufficient intake of calories, protein or critical micronutrients.

Ghana being one of the countries south of the Sahara has had its own share of high poverty rate. Like any other developing country, Ghana has gone through several poverty eradication programmes. That is, policies put forward by herself and those prescribed by the Bretton Wood Institutions and other donor agencies, all geared at reducing poverty.

Poverty reduction has been the agenda on the table of most developing countries. As a measure of reducing poverty, most of the developing countries have adopted the system of empowering the individual to be self-reliant. As a means of helping the individual to be self-reliant, the Government, Non-Governmental Organizations (NGOs), Rural Banks and Commercial Banks have been giving these individuals some amount of help in the form of capital. This is to help the individual to start some income generating activities so as to save them from poverty.

Lack of access to credit is generally seen as one of the main reasons why many people in developing economies remain poor. Usually, the poor have no access to loans from the banking system, because they cannot put up acceptable collateral and/or because the costs for banks of screening and monitoring the activities of the poor, and of enforcing their contracts,

are too high to make lending to this group profitable. At the break of the 1980s, however, the poor in developing economies heaved a sigh of relief as they continually gained access to small loans with the help of so-called microfinance programmes.

In a developing country context, credit is an important instrument for improving the welfare of the poor directly (consumption smoothing that reduces their vulnerability to short-term income shocks) as well as for enhancing their productive capacity through financing investment in human and physical capital (Khandker, 1995). The demand for credit for productive investments usually comes from those poor who are less risk-averse and enables them to overcome liquidity constraints, making it possible to undertake investments that can boost production, employment and income. Formal lenders normally provide this type of credit. Informal lenders usually provide credit for consumption purposes, which can have a long-term positive impact on household productivity, allowing acquisition of skills or improvement in health status if such loans are used for education or health care. These may enhance or at least preserve the productivity of the labour force. The credit market is also, at least potentially, an important instrument for consumption smoothing. An investigation of household credit thus has implications that link together micro-level analysis with factors that determine long-term macro-economic performance.

Commercial Banks forms a greater percentage of formal lenders in Ghana and access to them are restricted to a small proportion of the population who can meet their stringent requirements, which include high minimum balances for account opening, onerous collateral requirements for loans, and long and costly bureaucratic processes. Banks are, furthermore, mainly urban based, thereby adding the burden of transport costs if the predominantly rural population wishes to use bank facilities. Due to the lack of access to formal credit, the poor rely almost exclusively on the informal financial sector. Informal lenders innovatively seek

to solve the problems of high risk, high cost and low returns that banks face when serving the poor. In practice households apply for credit, but lenders determine how much credit is allocated to them, based on their perception of the household's credit-worthiness. This often results in credit rationing that reflects the lender's perception of the household risk profile.

The failure of formal banks to serve the poor is due to a combination of high risks, high costs and consequently low returns associated with such business. In the credit market, the exchange between borrowers and lenders does not occur simultaneously. The delay involved in discharging the debt obligation exposes the credit transaction to considerable risk. To lower these risks, banks perform three tasks: they screen potential borrowers to establish the risk of default; they create incentives for borrowers to fulfill their promises; and they develop various enforcement actions to make sure that those who are able to repay, do so. When transacting with the poor these actions are difficult and costly to undertake. The scarcity of information results in information asymmetries between the poor and the banks. To address this problem, banks usually attach collateral requirements to loans. Collaterals do not only assist in determining creditworthiness, but also solve the incentive and enforcement problems.

Unfortunately, conventional collateral requirements usually exclude the poor who hardly ever have sufficient forms of conventional title, resulting in banks failing to meet the poor's demand for credit. Informal lenders have often, however, innovatively succeeded in limiting loan default. For instance, by lending to groups of borrowers, the joint liability and social collateral that are created ensure the strict screening of members, the incentive to honour commitments and members of the group monitoring each other's actions.

In Ghana, whenever we talk about informal lending what immediately comes to mind is the *Susu system*. They provide collection and safe-keeping services for the savings of, mostly, women market vendors and operators of microenterprises. Talking in technical terms the *Susu system* is not supposed to be involved in intermediate aggregate saving which they collect. Out of this savings that these women have been making, the *Susu* collectors are able to give loans out of the savings to those who need them. There are also private people who also give some kind of loans to needy market vendors and microentrepreneurs.

Given the failure of commercial banks to help the poor get access to credit to help them come out of poverty, economists started thinking of new ways of helping the poor get access to loans. It was at this point that what we now call microfinance came to mind.

Micro-finance is generally an umbrella term that refers to the provision of a broad range of services such as deposits, loans, payment services, money transfers and insurance to poor and low-income households and their micro-enterprises (Khawari, 2004). In a much narrower sense though, micro-finance is often referred to as micro-credit for tiny informal businesses of micro-entrepreneurs. An outstanding feature of micro-finance programmes is that the end users of the services are by definition the poor, the ones who benefit.

During the last ten years, these programmes have been introduced in many developing economies. We can talk of examples like the Grameen Bank in Bangladesh, Banco Sol in Bolivia and Bank Rakyat in Indonesia. The Grameen Bank System of Group Lending (established in 1976 by Mohammad Yunus, a Bengal Banker and Economist), in particular, has been widely replicated in other developing countries. Between December 1997 and December 2005 the number of microfinance institutions increased from 618 to 3,133. The

number of people who received credit from these institutions rose from 13.5million to 113.3 million (84% of them being women) during the same period (Daley- Harris, 2006).

For the last two decades, we have witnessed a significant development of initiatives around the world. This rapid proliferation is a result of success story of microfinance in providing financial services primarily credit and savings to a large number of poor clients who do not have access to formal financial institutions in many third countries. As a development tool, microfinance is considered as one of the important financial resources for poor people to conduct household economic and income generating activities, which can reduce their vulnerability, and allow them to accumulate capital and own valuable assets.

In another perspective, microfinance is also a means of helping micro-entrepreneurs to expand their businesses to the point of becoming viable ones and therefore eligible for credit from commercial banks. Recently, microfinance has been more advance in order to challenge the needs of millions of the poor for financial services. As human beings, they need these services for the same reasons as everyone else, to save some cash in a secure and convenient manner, to finance their businesses, to obtain loan for buying piece of land and property, to pay electricity bill, to send money to their children who study in cities and to insure against risk.

In recent public debates, microfinance has been mentioned as an important instrument for combating extreme poverty. To support this view, the UN declared 2005 to be the International Year of Microcredit. According to the UN, microfinance can contribute significantly to the achievement of the United Nations Millennium Development Goals, as agreed upon by world leaders at the UN Millennium Summit in September 2000, and which aims at halving extreme poverty by 2015

In Ghana, despite the strides made in the area of macroeconomics, most people are still under the poverty line. Judging by the fact that per capita income is around \$370-\$400 which means that most people are impoverished. The figure for per capita income is below the average level for all African countries (\$450). It is far below that of Sub-Sahara Africa which is \$520.

In a country where the economy is growing rapidly at an average of 6%, opportunities for individuals and, indeed, opportunities for macroeconomic growth are likely to be constrained by the lack of access to resources to invest. In order to bridge the gap between micro-economy, opportunities for individuals and the macroeconomics performance of the economy, it is important to make sure that access to resources for investment is readily available. It is therefore important to look at the role of credit in a country like Ghana which is doing everything possible to get to a middle-income country status. Given the benefits microfinance was offering to the poor in the Asia and Latin Americas, Ghana could not do anything but join the many developing countries which had adopted microfinance as a way of reducing poverty.

How many Microfinance Institutions (MFIs) are there in the developing world? Where are they located? How many households do they reach? How well do they do in terms of repayment and outreach? While there have been previous efforts to inventory MFIs and to look for commonalities in their development and performance, one question that still remains is the extent to which MFIs have impacted on the livelihood of their client. Some Studies have shown that microfinance allows poor people to protect, diversify, and increase their sources 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 school fees, or to bridge a cash-flow gap, can be a first step in breaking the cycle of poverty. Similarly poor

households will use a safe, convenient savings account to accumulate enough cash to buy assets such as inventory for a small business enterprise, to fix a leaky roof, to pay for health care, or to send more children to school. Microfinance also helps safeguard poor households against the extreme vulnerability that characterizes their everyday existence. Loans, savings, and insurance help smooth out income fluctuations and maintain consumption levels even during the lean periods. The availability of financial services acts as a buffer for sudden emergencies, business risks, seasonal slumps, or events such as a flood or a death in the family that can push a poor family into destitution.

At the heart of this discussion lies the question on how much clients actually benefit from microfinance loans and whether or not poorer households benefit more than others. As long as the majority of Microfinance Institutions use subsidies in one form or another, one has to compare costs and benefits of supporting microfinance programmes to alternative ways of development aid. As long as the impact of microfinance programmes has not been assessed, the discussion about the use of subsidies has to remain inconclusive.

The impact of microfinance in Ghana is a subject worthy of serious examination for a number of reasons. Since the inception of MFIs in Ghana their activities have grown from strength to strength although up to date data on MFIs in Ghana are not readily available. According to Ghana Microfinance Network (GHAMFIN), the organization which coordinates the activities of MFIs, in Ghana there were about 233 regulated and non-regulated MFIs in Ghana as at 2001. These MFIs together served over 360,000 clients. These rough statistic shows that Ghana had the largest group of MFIs in Africa. Once the activities of MFIs have come to stay, there is then the need to assess their impact on their clients. The question, however, is whether microfinance really will be able to significantly reduce poverty in Ghana.

1.2 STATEMENT OF THE PROBLEM

The extent of poverty and the importance of the rural sector to the economy make it pivotal for microfinance interventions. Poverty in Ghana, like in most other sub-Saharan African countries, is predominantly a rural phenomenon. The poverty line are estimated by the Ghana Statistical Service for the GLSS III and IV was based on the total consumption expenditure per equivalent adult of the household to which a person belongs expressed in constant prices. Two nutritionally- based poverty lines have been established. The lower line is 49.6% of mean consumption levels in 1998/99 compared to the upper line which is 63.7% of mean consumption in the same period. Figures from GLSS IV showed that 39.5% of the population was poor and 26.5% were found in the extremely poor bracket.

Rural poverty is estimated to contribute approximately 85% to national poverty. More than one-half of the population living in the rural Savannah regions of Ghana continues to be extremely poor. Poverty is highest among self-employed households, farmers and petty traders. In spite of these, agriculture, which is mainly rural-based and the core of the Ghanaian economy, remains the principal sector for the development and growth of the economy.

There have been so many attempts in time past to solve or reduce poverty in rural Ghana. We have had the Structural Adjustment Programme and Economics Recovery Programme all aimed at increasing the welfare of populates of the urban and rural area. We have also had so many different models which were geared at poverty reduction. We also had the era of subsidies to small scale farmers and artisans. Unfortunately, all these programmes failed to reduce poverty. In the face of the failure, most of the development economists started thinking of new approaches and strategies to poverty reduction. It was at this point that the

idea of microfinance was developed in Ghana. This was after there had been claims of the miraculous power of microfinance in reducing poverty in the Asia and Latin America.

As the idea of microfinance began to spread, so many Microfinance Institutions also began to spring up. According GHAMFIN, there are more than 233 MFIs operating in Ghana. Some are banking institutions, NGOs, Christian Organizations and Non-banking Financial Institutions. They are spread across the whole country. However, with the emergence of many MFIs in Ghana there seem to be some hope for the poor, but some questions that come to mind are: what is the degree of the impact of these micro-loans on the livelihood of the poor? Have those who contracted these loans rather not been burdened with the problem of repayment and thereby becoming poorer.

The issues at stake now is not about how many MFIs we have in Ghana or where they are found in Ghana, but it is about what they are supposed to do. The issue is, are these MFIs having any impact on the lives of people in the areas where they are operating? Has the poverty level reduced in those areas as has been trumpeted to be the miraculous nature of microfinance? What are the answers to these questions? It is for this reason that this study is being undertaken. The whole country will be too large for a study like this. Out of the ten regions, one is chosen for the study. That region is the Eastern Region.

The ensuing paragraph will justify why there is the need to assess the impact of microfinance in the Eastern Region of Ghana. There is an average of two MFIs in every district in the Eastern Region of Ghana.

In the Kwahu North (Afram Plains) district alone there are more than five MFIs. Some are government institutions and others are NGOs. There is also a banking institution in the

district providing the service of microfinance. According to the Kwahu North District Assembly, over \$5million dollars have been released by various MFIS over the last six years. The money was given in the form of cash and training to various groups and individuals to help them start some income generating activities or to supplement their capital for their small businesses. In spite of all the capital inflow to the district aimed at reducing poverty, statistics available at the Kwahu North District Assembly showed that the poverty level in the Kwahu North district remained at 65%. If after six years of such huge capital injection, poverty remains as it is, then there are some mind bugling questions which need to be answered. Why is poverty still high in Afram Plains district and even higher than the national poverty level? Did the capital inflow in the form of cash and training have any impact on the livelihood of the people? Was the impact negative or positive?

Also, when we consider a district like the Manya Krobo district, the story is not different. This district has even received more cash inflow than that of Afram Plains. The Yilo Krobo district has more than seven MFIs operating in it. A town like Nkrurakan found in the Yilo Krobo district has about five MFIs operating in the town alone. Available statistics at the Manya Krobo and the Yilo Krobo district Assemblies have poverty levels hovering around 65% and 68% respectively. The question which still remains is, with the concentration of the various MFIs in the two districts, why is poverty still at such a high level in the district. Are the activities of the MFIs not having any impact on the people?

On the contrary, the West Akim district which has it share of MFIs activities has a poverty level of about 38%. Are the activities of the MFIs having so much impact in that district, for which reason why poverty is that low or is there something else responsible for the low poverty level. In 2003 over ₵825 million was allocated to microfinance directly under the Ministry of Women and Children Affairs (MOWCA Report, 2002). Also in that same year,

Community banks in 38 districts received increased funding for onward-lending to farmer groups. In addition to that 43,156 farmers in 10 regions in Ghana received loans through microcredit initiatives funded by the Office of the Senior Minister.

Given the scenarios painted in the above paragraphs and the amount of money going into microfinance, there is the need to assess whether the programmes are really reducing poverty among the poor in Ghana. Just running microfinance does not signify reduction in poverty. Most Microfinance Institutions take the high repayment of loans to mean successful implementation of programmes and therefore poverty reduction. This is not necessarily true. If high repayments of loans do not mean poverty reduction, then what should we do?

The answer is to do a thorough study of the whole programme i.e. an impact assessment of the programmes. Impact Assessment has become popular among MFIs but this is lacking in Ghana. It is in this vain that the researcher would want to do an extensive impact assessment of some the MFIs in Ghana especially in the Eastern Region of Ghana. Microfinance has been said to be a major source of improving in the livelihood and welfare of the poor especially in the rural areas.

With the huge inflow of capital in the form of microcredit into most of the districts in Ghana and for that matter the Eastern region, one may ask why poverty is still high in the districts in which the programmes are taking place. Given the amount of monies pumped into Ghana's economy in the form of microcredit, it will be worthwhile to look at the impact of microfinance on the lives of the people of Ghana using the Eastern Region as a case study with **Kwahu North, Manya Krobo, West Akim and Yilo Krobo as the focus districts.** Further more, with the recent launch of Millennium Challenge Account Compact

(US\$50million) to be disbursed to various groups and individuals it will be good to take a careful look at how earlier microfinance programmes have impacted on the people of Ghana.

In order to answer these questions one thing is sure and that is **impact assessment**. Since the first Microfinance Institution was formed in Bangladesh there has been a number of studies on the assessment of the impact of microfinance activities on the recipients of these small loans. Impact Assessment usually aims at shedding light on the extent to which the policy change is successful in attaining its objective. Good impact assessment presses further, attempting to assess impact on a broader list of outcomes, including potential harmful side effects and behaviours and attitudes that shed light on the reasons for success and failure.

In so doing, this work will not only justify the existence of institutions which will be studied but also for a larger purpose of improving the stewardship of poverty reduction resources. Comparison of assessments of various programmes is useful in weighing how future resources will be allocated across activities. An impact assessment will also make available a data of poverty reduction project undertaken by these banks. These will help researchers in the field of microfinance to gain a wealth of insight about realities on the ground and relative merits of various poverty reduction approaches in various contexts. It is also important to look at the determinant of microcredit. The study will provide a guide for all institutions involved in microfinance as to how to fashion out their programmes so that they will not just throw money down the drain but implement proper programme which will be beneficial to their clients.

1.3 OBJECTIVE OF THE STUDY

The general objective of the study is to assess the impact of micro-finance on households and their small business enterprises in four districts in the Eastern Region.

The specific objectives of the study are to:

- (i) determine the impact of small loans on business-level profit and household-level income by credit-constrained clients in the four selected districts
- (ii) determine the poverty reducing potential of all the microfinance programmes selected for the study in the four districts
- (iii) identify factors which determine the demand for micro credit in the four selected districts.

1.4 HYPOTHESES

In all, three hypotheses statements were subjected to empirical test as indicated below.

1. The hypothesis was tested to establish the link between household income and access to credit:

H₀: There is no relationship between amount of credit taken by household and the household's income.

H₁: There is a positive relationship between amount of credit taken by a household and the household's income.

2. The hypothesis was tested to establish the link between access to credit and enterprise profitability:

H₀: There is no relationship between amount of credit taken by household and the Household's business profit.

H₁: There is positive relationship between amount of credit taken by household and the Household's business profit.

3. The hypothesis was tested to establish the link between access to credit and expenditure on children's education.

H₀: Access to microcredit has no relationship on the expenditure of education of children by households.

H₁: Access to microcredit will result in an increase in expenditure of households on the education of children in households.

4. The hypothesis was tested to establish the link between access to credit and expenditure on food.

H₀: There is no relationship between the amount of credit taken by households and expenditure on food.

H₁: Access to credit will result in an increase in expenditure of households on food.

5. The hypothesis was tested to establish the link between access to credit and expenditure on non-food items.

H₀: There is no relationship between the amount of credit taken by households and expenditure on non-food items

H₁: Access to credit will result in an increase in expenditure of households on non-food items.

6. The hypothesis was tested to establish the link between access to credit and poverty reduction.

H₀: There is no relationship between the amount of credit and poverty level of a household.

H₁: Access to credit will result in in a decrease in the poverty level of programme household.

1.5 ORGANIZATION OF THE STUDY

The study is organized in six chapters as follows. Chapter one provides general background issues to the study. It also provides the statement of problem in terms of research questions. Again, it sets out the objectives of the study and provides justification for the objectives. Chapter two reviews pertinent literature of the study. Both theoretical and empirical issues are reviewed in the literature. Chapter three presents a historical and operational overview of the microfinance sector in Ghana. Chapter four discusses the methodological issues of the study and also discusses the analysis of the empirical results presented for policy consideration. The final chapter, which is chapter six, summarises the main findings of the study and provides suggestions and policy recommendations.



CHAPTER TWO

LITERATURE REVIEW

2.1 DEFINITIONS, THEORIES AND STRUCTURE OF MICROFINANCE

The sections below will review definitions of terms in the field of microfinance. There will also be a review of the various theories in microfinance and structures involved in the delivery of microfinance.

2.1.1 DEFINITIONS AND CONCEPTS OF MICROFINANCE

Microfinance, according to Otero (1999) is “the provision of financial services to low-income poor and very poor self-employed people”. These financial services according to Ledgerwood (1999) generally include savings and credit but can also include other financial services such as insurance and payment services. Schreiner and Colombet (2001, p.339) define microfinance as “the attempt to improve access to small deposits and small loans for poor households neglected by banks.” Therefore, microfinance involves the provision of financial services such as savings, loans and insurance to poor people living in both urban and rural settings who are unable to obtain such services from the formal financial sector. Microfinance is an economic development approach that involves providing financial services, through institutions, to low-income clients, where the market fails to provide appropriate services. The services provided by the Microfinance Institutions (MFIs) include credit saving and insurance services. Many microfinance institutions also provide social intermediation services such as training and education, organizational support, health and skills in line with their development objectives.

Robinson (2001) microfinance refers to small scale financial services for both credits and deposits- that are provided to people who farm or fish or herd; operate small or micro

enterprise where goods are produced, recycled, repaired, or traded; provide services; work for wages or commissions; gain income from renting out small amounts of land, vehicles, draft animals, or machinery and tools; and to other individuals and local groups in developing countries in both rural and urban areas. Microfinance has also been defined as the means by which poor people convert small sums of money into large lump sums (Rutherford 1997)

One of the main components of microfinance is **microcredit**. It is the extension of small loans to entrepreneurs, who are too poor to qualify for traditional bank loans. Especially in developing countries, micro-credit enables very poor people to engage in self-employment projects that generate income, thus allowing them to improve the standard of living for themselves and their families.

Microsaving is also a microfinance service that allows impoverished individuals to safeguard money and other valuables items and even earn interest. It allows a lump sum to be enjoyed in future in exchange for a series of savings made now.

Insurance is an important service in every aspect of life. It therefore not surprising that **microinsurance** is also a component of microfinance. It is the provision of insurance to low-income households. Poor households are especially vulnerable to risk, both in the form of natural calamities as well as more regular occurrences of illness and accidents. Microfinance Institutions (MFIs) have played an active role in reducing or protecting against this vulnerability through providing credit for increasing income earning opportunities and through providing savings services to build up resources that can be drawn down in cases of emergencies.

Finally a **microfinance institution (MFI)** is an organization, engaged in extending micro credit loans and other financial services to poor borrowers for income generating and self employment activities. An MFI is usually not a part of the formal banking industry or government. It is usually referred to as a NGO (Non-Government Organization).

In literature, the terms microcredit and microfinance are often used interchangeably, but it is important to highlight the difference between them because both terms are often confused. Microcredit refers to small loans, whereas microfinance is appropriate where NGOs and MFIs supplement the loans with other financial services (savings, insurance, etc). Therefore microcredit is a component of microfinance in that it involves providing credit to the poor, but microfinance also involves additional non-credit financial services such as savings, insurance, pensions and payment services. The microfinance as a product has several characteristics. Some of the characteristics put forward by Mohammed and Mohammed (2007) have been explained in ensuing paragraphs.

The key characteristic of microfinance entails little amounts of loans which are given to individuals and groups to help them start some income generating activities. Little savings over time is also an integral aspect of microfinance as it serves as security for the poor households and also helps them accumulate substantial capital to overcome their capital constraints. The loan which are given out are also short- terms loan which is usually up to the term of one year. Payment schedules are usually on week basis. Installments made up from both principal and interest, which amortized in course of time.

Easy entrance to the microfinance intermediary saves the time and money of the client and permits the intermediary to have a better idea about the clients' financial and social status. In terms of application the clients need not go through the cumbersome procedures which are

required in the traditional commercial banks. There is also short processing periods between the completion of the application and the disbursement of the loan. No collateral is required contrary to formal banking practices. Instead of collateral, microfinance intermediaries use alternative methods, like, the assessments of clients' repayment potential by running cash flow analyses, which is based on the stream of cash flows, generated by the activities for which loans are taken. The use of tapered interest rates decreasing interest rates over several loan cycles as an incentive to repay on time. Large size loans are less costly to the MFI, so some lenders provide large size loans on relatively lower rates. The clients who pay on time become eligible for repeat loans with higher amounts.

2.1. 2 THEORETICAL MODELS OF MICROFINANCE

Microfinance as has been explain above has a lot of interesting characteristics. Although microfinance has been formalize with laid down structure most of the model of microfinance fall with the purview of informal credit market..

Standard economic theory assumes perfect information, perfect contract enforcement and heterogeneous borrowers and lenders. It is based on these assumptions credit markets are modeled perfectly competitive, with results of zero profit in equilibrium. In considering this type of model we expect to observe one equilibrium interest rate in one region reflecting the interception between demand and supply of credit in the area. However, empirical studies of the credit market in developing countries demonstrate the existence of a dual credit market and prove a gap between formal and informal interest rates charged within the same region.

The basics of lending are to provide a loan today and get it repaid, usually with an interest rate, some time in the future. This natural time delay in a debt contract, as compared to an instant exchange of two goods, makes lending potentially risky (Bardhan and Udry, 1999). A credit contract involves a promise of future payments. Unless the provider of credit can

ensure that this promise is kept in the future, there will always be a risk that the promise is not kept, and hence, repayment can fail. In formal credit markets in well-developed countries these problems are largely overcome by strong legal enforcement in combination with some kind of collateral and information databases where information about individuals' creditability is stored and equally available for all lenders. In developing countries such devices are not readily available and formal lending institutions are usually not willing to lend to poor individuals who are landless and with an unknown credit history.

In developing countries we observe that individuals that are unable to get loans from formal institutions can still obtain credit from informal lenders. This indicates that informal lenders are able to handle information- and enforcement problems. In a credit market there are typically asymmetric information between a borrower and a lender, where borrowers have full information about their productivity and their risk types, but a lender lacks this information. This kind of information asymmetries may be captured in a standard principal-agent model. When borrowers have private information about their risk types, the lender is facing an adverse selection problem. Adverse selection is a precontractual problem and we refer to this as the lenders **screening problem** later in the thesis. If post-contractual action by the borrower is not verifiable for the lender, the problem is called moral hazard. This problem can be thought of as a monitoring problem and we refer to this as the **incentive problem** (Haugen, 2005).

Stiglitz (1990) looks at how peer monitoring can help improve the operations of MFIs and welfare of borrowers. He attributes the success of the flagship of MFIs, the Grameen Bank to peer monitoring. Peer monitoring is largely responsible for the successful financial performance of the Grameen Bank of Bangladesh and of similar group lending programs elsewhere. But peer monitoring has a cost. It transfers risk from the bank, which is in a better

position to bear risk, to the cosigner. In a simple model of peer monitoring in a competitive credit market, this article demonstrates that the transfer of risk leads to an improvement in borrowers' welfare (Stiglitz, 1990).

Stiglitz (1990) first looks at a basic model by describing the equilibrium which would arise in the absence of peer monitoring. He assumes that there are two projects (Safe (S) and Risky (R)), which MFIs would undertake. They are relatively safe project which if successful yields a return of $Y_S(L)$ when undertaken at scale L (measured in cedis of expenditure). He further explained that the second project is the risky project, which if successful gives a return of $Y_R(L)$. This also means that if any project is fails the yield is zero. Stiglitz (1990) further explained that the probability of success for each project is p_S and p_R with $p_S > p_R$. He state that the return (Y) is an increasing function of scale and that cost $\bar{L}$ is fixed and cost of risky projects are larger i.e. $\bar{L}_R > \bar{L}_S$. Figure 1 shows the relationship between the Gross Returns and giving out credit (Investment) into safe and risky projects on the assumption that the projects are successful.

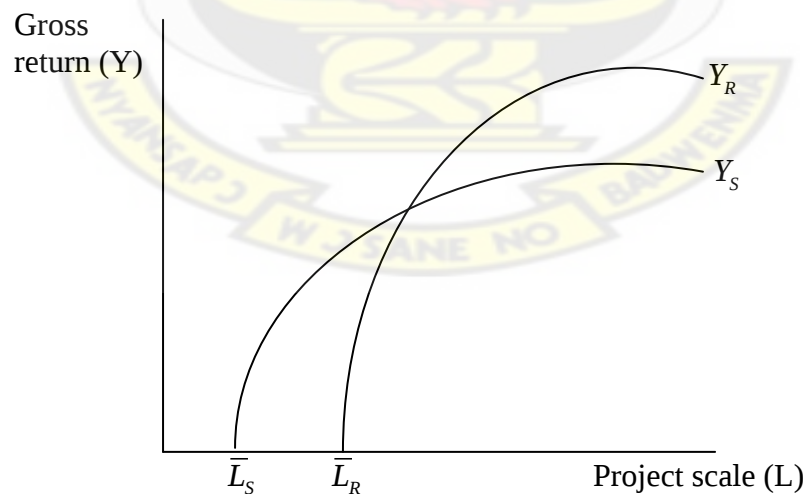


Figure 2.1. Relationship between Gross Returns and Investment (Assuming Success) for Safe and Risky Projects

$$Y_S(L)P_S - (1+r)L > Y_R(L)P_R - (1+R)L \quad \forall L \text{ where } r = \text{interest rate.}$$

If we take into account the probability of success of each project then we can assume that safe projects always yield higher return than risky ones.

Stiglitz (1990) postulated that the expected utility from undertaking project i is

$V_i(L, r) = U[Y_i(L) - (1+r)L]p_i - v(e(L))$. The term $v(e(L))$ is the disutility effort e ; $U(Y)$ is utility of income; V_i = expected utility from project i Where $U(Y)$ is the utility of income, $U' > 0$, $U'' < 0$, and the utility function is normalized so that $U(0) = 0$. He further developed what he calls the “Switch Line”. The “switch line” defines the set of (L, r) combinations that make the agent indifferent between the risky project and the safe project. The switch line places an upper bound on the size of loan that the bank can offer to individuals without collateral: at the equilibrium interest rate, the borrower might like to take out a larger loan, but cannot credibly commit to undertake the safer of the two projects. This leads to credit rationing in the individual liability credit market.

In Stiglitz’s (1990) model, joint liability creates a prisoner’s dilemma in borrowing groups of size two: holding the partner’s behavior constant, each player prefers the risky investment to the safe one; however, borrowers prefer the symmetric equilibrium when both choose the safe project to the case where both choose the risky investment and face a high probability of having to repay the partner’s loan. Because individuals are identical and can costlessly observe the behavior of their borrowing partners, Stiglitz assumes that agents cooperate when they take out a group loan. Group lending can be welfare enhancing because, under certain regularity assumptions, borrowing pairs can credibly commit to the safe project at loan sizes that would be above the switch line under individual liability.

Natarajan (2004) asserts that the rural credit markets in developing countries are often described as repressed, imperfect and fragmented (or absented) in the sense that different

segments of borrowers are observed to have different level of access to certain types of loans and certain types of credit institutions. In some markets, would-be borrowers may find themselves excluded or dissuaded from obtaining access to collateral requirements and other non-price terms. They may then adjust by turning to substitute, but possibly more expensive financing sources or may modify their first best allocation plans in other ways (Conning and Udry, 2005). This explains for the fact that informal moneylenders still exist (even dominated the market in

Natarajan (2004) models an informal credit market by considering a credit market populated by a continuum of size 1 of households and many lenders which we refer to as banks. Each household is endowed with a risky investment project that requires one unit of capital and labour. Each household commits its own labour to the project. The households lack the capital investment required to enter the project as they have no wealth and will have to finance this through borrowing by means of a debt contract. Projects once started will yield either a high return or will fail and yield 0, we call these outcomes success and failure respectively. Households are indexed into two groups, safe (s) and risky (r) depending on the type of project, r, or s, they are endowed with. The term p_i represents the probabilities of success of the project of type i .

The gross return of a project of type $I = s, r$ as follows:

$$\bar{R} = \begin{cases} R_i & p_i \\ 0 & 1-p_i \end{cases} \text{ with } i = s, r$$

Natarajan (2004), assumed that $0 < p_r < p_s < 1$ and this means that type-s projects are safe ones, since they have a higher probability of success. As for the expected return,

$R_s p_s = R_r p_r = \bar{R} > 1$. By this assumption, risky and safe households have the same mean return, but the risky projects have greater spread around the means.

According to Anderman and Kropp (2006) neo-classical growth models emphasises the importance of savings in order for a country's economy to grow. For any given capital stock the production function¹ determines how much output the economy produces. The capital stock changes over time and those changes may lead to economic growth. Investment and depreciation affect the capital stock and there is one single capital stock at which the amount of investment equals the amount of depreciation; the steady state level of capital. The steady state level of capital is the long run equilibrium in an economy. The savings rate in an economy determines the allocation of output between consumption and investment and is thus a key determinant of the steady-state capital stock. This is a classical case of micro foundation of macroeconomics issues.

The emergence of microfinance institutions represents an option to going to informal moneylenders and presents a way to eliminate the borrowing constraint in developing countries. In countries where the financial system is not well developed and functioning, microfinance can lead to an increase in the individual's utility and wealth by enabling him or her to increase consumption and saving. It allows the individual to dissave and save which makes it possible for each individual to smooth consumption and follow his or her optimal lifetime consumption. (Todaro and Smith, 2003)

There are two diverse approaches of microfinance in the literature. These are the welfarist approach (also called the direct credit approach) and the institutionalist approach (or financial market approach) as explained below.

The **welfarist approach** focuses on the demand side, which is to say on the clients. This approach support the idea of subsidising microcredit programmes in order to lower the cost for the microfinance institutions so they can offer low interest rates on their loans. The performance of the MFI's are measured through household studies with focus on the living standard of the individuals; number of saving accounts, number of loans, productivity improvement, incomes, capital accumulation, social services such as education and health as well as food expenditures. (Congo, 2002).

The welfarists who are at odds with institutionalists over the issue of sustainability. Welfarists argue that MFIs can achieve sustainability without the institutionalist definition of self-sufficiency (Woller, Dunfield, and Woodworth, 1999). Welfarists also argue that gifts (i.e., subsidies) from donors serve as a form of equity, and as such the donors can be viewed as investors. Unlike investors who purchase equity in a publicly traded firm, MFI donors do not expect to earn monetary returns. Instead, these donor-investors realize an intrinsic return. These donors can be compared to equity investors who invest in socially responsible funds, even if the expected risk-adjusted return of the socially responsible fund is below that of an index fund. These socially responsible fund investors are willing to accept a lower expected return because they also receive the intrinsic return of not investing in firms that they find offensive.

The institutionalist view of microfinance argues that an MFI should be able to cover its costs with its revenues. Institutionalists feel this self-sufficiency leads to long-term sustainability for MFIs, which will facilitate greater poverty alleviation in the long-term. The institutionalist argument is consistent with Hollis and Sweetman (1998) who discuss historical cases in an attempt to identify the institutional designs that facilitated success and sustainability for 19th century loan funds in the UK, Germany, and Italy. The authors

conclude that subsidized loan funds were more fragile and lost focus more quickly than those that obtained funds from depositors.

The **institutionalists** criticise the subsidization because it leads to high, unpaid rates and transaction costs, which have lead to the failure of many microcredit programmes. They mean that it is not sustainable for the MFI's to be subsidised and that the subsidies leads to an inefficient allocation of the financial resources. The economists supporting this view mean that the welfarists make the wrong assumptions when they say that the repayment interest rate must be low, that the clients are not creditworthy and unable to save and that commercial banks could not survive in rural areas because of the high costs of offering financial services to poor households. The Institutional view of self-sufficiency as a requirement for MFI sustainability seems untenable until one realizes that there appears to be a trade-off between self-sufficiency and targeting.

Most MFIs that have proven self-sufficient have tended to loan borrowers who were either slightly above or below the poverty line in their respective country. These MFIs are able to capture economies of scale by extending larger loans to the marginally poor. Although still an open question, this evidence leads many to conclude that if MFI self-sufficiency is desired, then the very poor will not be reached by MFI services. That is, the MFI will not be able to achieve enough depth to reach those who need the credit the most.

Morduch (2000) has termed the differing viewpoints of the institutionalists and welfarists approaches as the “**microfinance schism**”. Welfarists often point out the success of the Grameen Bank and its ability to provide financial services even for the very poor of Bangladesh (Woodworth, 2000). On the other hand, the Grameen Bank, the flagship of MFIs

depended on subsidies. For example, in 1996 the Grameen Bank required subsidies of US\$ 26-30 million for its operations (Morduch, 1999).

Most MFIs that have proven self-sufficient have tended to loan to borrowers who were either slightly above or below the poverty line in their respective country (e.g., Navajas et al., 2000). These MFIs are able to capture economies of scale by extending larger loans to the marginally poor. Although still an open question, this evidence leads many to conclude that if MFI self-sufficiency is desired, then the very poor will not be reached by MFI services. That is, the MFI will not be able to achieve enough depth to reach those who need the credit the most.

Morduch (1999) further contributed to the debate by deriving a social welfare function for participants in microfinance programme. According to Morduch (1999), the starting point is a social welfare (W) function $W=W(w_1, w_2, \dots, w_n)$, where w_i represents the measure of welfare of the i^{th} household. Individual household welfare is assumed to be additively

separable and indexed over the entire population N in such a way that:

$$W = \sum_{i=1}^n \alpha_i w_i$$

where α_i represents the social welfare parameter for the i^{th} household and $i = 1, 2, 3, \dots, n$.

The total amount borrowed from all sources is L_i and the borrower's average return per unit is δ_i , where returns are both pecuniary and non-pecuniary. Borrowers pay an average interest rate r_i , depending on the sources of loans. He assumed that household's welfare is a function base income Y plus borrowed income y_i or in mathematical terms $w_i = w(Y + y_i)$. Morduch further states y_i is a product of total amount of loan (L) borrowed from all sources and the discrepancy between average return per unit (δ_i) and the interest rate (r_i) or $y_i = L_i(\delta_i - r_i)$.

Thus a change in social welfare for a small decrease in subsidization (i.e. a small increase in

r) is finally represented by
$$\frac{dW}{dr} = \sum_{i=1}^n \alpha_i \frac{dw_i}{dy_i} \frac{dr_i}{dr} \left[\frac{dL_i}{dr_i} (\delta_i - r_i) + L_i \left(\frac{d\delta_i}{dr_i} - 1 \right) \right] .$$

According to Morduch (1999) the equation illustrates points of contention and priorities for empirical research. The first issue, moving from the left, is the need to make explicit social judgments about the distribution of social weights α_i , and this will hinge on knowledge of the baseline welfare levels of all households—a critical determinant of how income affects welfare, dw_i/dy_i . A starting point is documentation of the baseline income levels and demographic characteristics of both participants and non-participants, a task possibly made easier by linking surveys of participants with existing randomized household surveys.

Morduch (1999) further explains that $d\delta_i/dri$ reflects the interaction of average returns, production technologies, risk, and capital costs. Will increased interest rates push borrowers toward riskier but more profitable technologies? Will it reduce equilibrium credit demand and thus limit scale economies (and thus reduce average returns)? Do better-off households have projects with higher returns than poorer households? Household surveys with disaggregated production data can be used to address these questions through estimates of profit functions, again with an eye to the responsiveness to capital availability and capital costs.

As explained by Morduch (1999) the debates about microfinance subsidization have often been stymied by differences of opinion about the levels of these parameters. Those who oppose subsidization tend to assume a relatively flat distribution of social weights α_i , low sensitivity of credit demand to interest rates dL_i/dri , positive impacts of interest rates on returns $d\delta_i/dri$, very low returns to investments by poorer households, and negative

externalities of subsidized credit programmes on other lenders: $dri/dr < 0$. Those who support subsidization, on the other hand, tend to put much greater social weight on consumption by the poor, assume highly sensitive credit demand to interest rates, low impacts or perhaps negative impacts of interest rates on returns, moderately high (but not extremely high) returns to investments by poor households, and small or beneficial spillovers onto other lenders.

Despite the lack of evidence, experienced practitioners on both sides of the debate hold their views strongly. Discussion about the role of microfinance in development thus remains stalemated early in the game, with assertions checked by counter-assertions and no immediate route to resolution. Fortunately, apart from the social judgments, these are all issues that can be resolved by fairly straightforward empirical studies. It is the peculiar circumstance of the microfinance policy context—with donors eager to spend on new programmes and ample funds available for subsidization—that has prevented further progress in getting to the roots of these most basic issues.

2.1. 3 THE STRUCTURES OF MICROFINANCE INSTITUTIONS

In this study five main structures of microfinance institutions are identified, namely **Rotating savings and credit associations (ROSCAs)**, **Village Banking**, **Microfinance Integrated with Social Services (MFISS)**, **Credit with Education** and **Credit unions**

2.1.3.1 Rotating Savings and Credit Associations (ROSCAs)

Rotating savings and credit associations (ROSCAs) and group lending schemes are the most common microfinance alternatives for poor individuals. In ROSCAs, around 40 to 50 persons form a group and each group member saves a fixed amount of money. The savings work as an interest-free loan, which is distributed on a rotating basis to each member by a designated

leader. Group lending schemes function in the way that possible loan takers form a group and apply for a credit on a jointly basis.

After receiving the loan they distribute it among the group members. Each individual is liable for the repayment. When one loan period has ended with successfully repaid loans, each individual in the group is granted a larger loan in the following loan period. This increase in credit amount induces the repayment of the loans. The group lending makes it possible for poor individuals to get access to commercial credits and to reduce the risk. (Todaro and Smith., 2003)

2.1.3.2 Village Banking Structure

Village Banking is the type of group based lending most common today. The Foundation for International Community Assistance (FINCA) in Latin America developed village banking in the mid 1980's. The method emerged as a tool for fighting poverty and it targets women clients. The founder of FINCA, John Hatch, states that: "Our focus on women was the result of a growing conviction that the fastest way to affect the welfare of children was through aid to their mothers." (FINCA, 2006) In the places where MFI's provide village banking (often in areas where no formal financial institution is present), individuals who want to receive a loan for income-generating activities may together form a village bank. Typically, the village bank consists of women formed in groups with between 20 to 40 members.

(Dunford, 2001) The main idea with the village banking is to give the responsibility to the clients. Participation is a key word and the entire management of the loan (distribution, collection of repayment, repayment, book keeping etc.) is handled by the group members. There is initially a period of training when the groups learn to manage their own village bank and its rules. (Dunford, 2001)

2.1.3.3 Microfinance Integrated with Social Services (MFISS)

Microfinance integrated with social services is a type of structure where MFI's combine microfinance services with social services such as education and health, is another alternative. This form emerged since it is often not enough to have access to financial services such as loans and savings for the very poor. There are principally three forms of how to integrate financial and social services: (Dunford, 2001)

The first form is the **Linked service** which is a specialized MFI which offers financial services to its clients and cooperate with one or more independent organisations that offer social services at the same time to the same clients. The next form is the **Parallel service**. The same organisation/MFI offers financial and social services at the same time to the same clients through two or more different programmes. Lastly there is the **Unified service**. One organisation/MFI offers both financial services and social services at the same time to the same clients, through one unified programme. The same personnel handle the two services.

2.1.3.4 Credit with Education Structure

In the **Credit with Education** programme there is a field agent, usually from the local area, who is responsible for promoting and recruiting new village groups, providing the new groups with initial training and attending each village bank's group meeting in order to assist with its financial matters. At each meeting the field agent also give a learning session (usually 20 to 30 minutes). In the learning session the field agent introduces a topic with relevance to issues in the group members lives. The field agent is responsible for helping the group members understand why the topic is relevant. The idea is to give basic information about practical actions the group members can undertake in order to improve their lives. Each Credit with Education programme has its own mix of educational topics; examples are health, child nutrition, micro business, management etc. (Dunford, 2001)

Credit with Education is a Freedom from Hunger worldwide strategy to bring self-help solutions to the fight against poverty. It was first launched in West Africa in 1988. It is the combination of microcredit loans to very poor women with vital health and business education.

The loans transform women into entrepreneurs who run home-based businesses, such as making food products or crafts to sell. No longer forced to scrape together whatever money they can earn, the programme helps the women to generate a regular income, along with new sense of accomplishment and self esteem. But the increasing income is only the beginning of this self-help process.

The programme also provides vital education to women at their weekly meeting. As women gather to pay back their loans, they learn about health, nutrition, family planning and sound business practices. Figure 2.2 shows the organogram of the Credit with Education model.

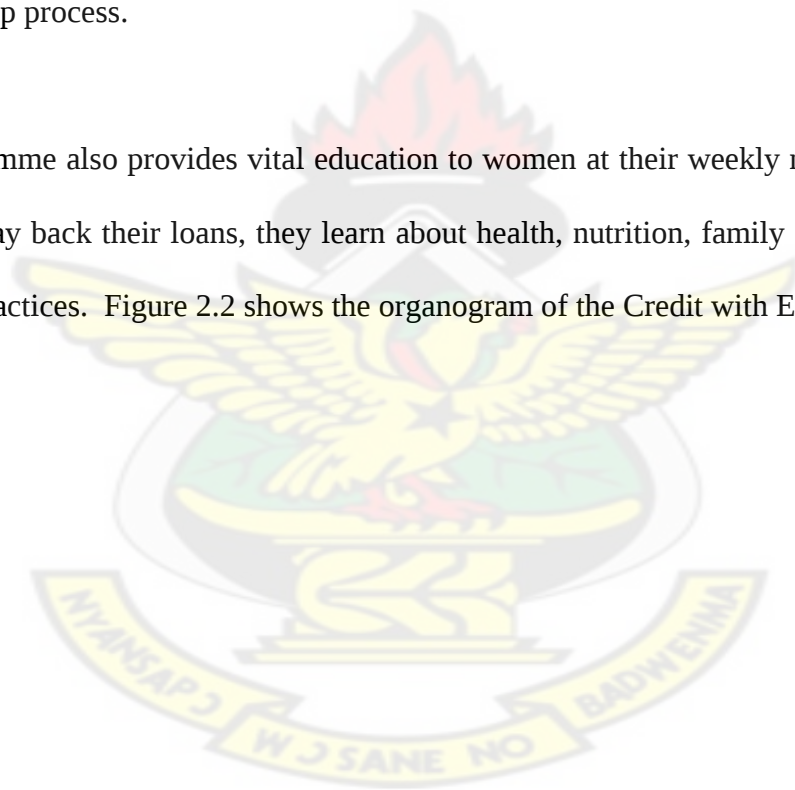
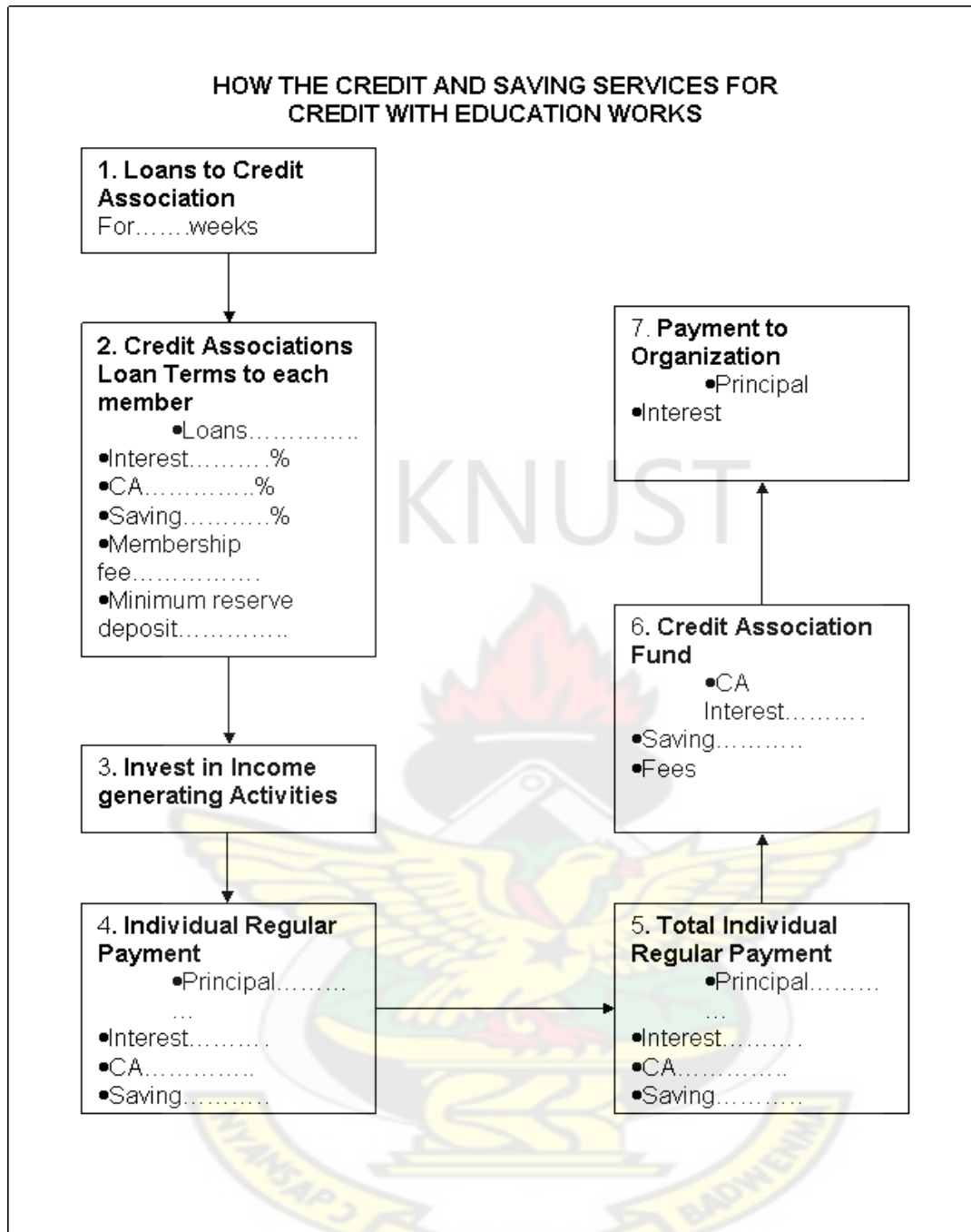


Fig. 2.2: General Framework for Credit with Education



Source: Adopted from “Village Bank Manual for Community Leaders and Promoters by John Hatch (2006)

Since three out of the four institutions, used in the present study operates on the credit with Education structure, it was deemed prudent to describe the network of the structure.

2.1.3.5 Credit unions

Credit unions are the organizations that are formed on the basis of financial relation of savings and loans between its members. They accumulate savings from its members and provide short-term credit to the needed members. The demand for loans in general exceeds the supply of savings. In most rural areas credit unions are still the solitary source of deposit and credit services, besides the informal financial market. Because credit unions have social as well as commercial objectives, they may have a key role to play in offering pro-poor financial services. It has been observed that some women have not benefited much from the credit unions because the level of savings required is too high.

Credit unions have achieved financial self-sufficiency within the last few decades. According to one statistics from the World Council of Credit Unions (WOCCU), by the end of the 1980s there were about 17,000 credit unions in 67 developing countries around the world. These unions maintain nearly 9 million members and 60% of these members are from Africa and the Caribbean Islands. These credit unions handled approximately US\$2 billion in deposits and share capital. It is estimated that they are disbursing US\$300 million in small loans to about 1.5 million small businesses.

2.1.4 Individual-based lending versus Group-based lending

Another aspect of Microfinance structure is the difference in Individual-Based lending and Group-Based lending. MFIs have also developed models that can provide financial services to individual borrowers. These institutions successfully combine mechanisms from the formal and informal lending sectors. They use different mechanisms, which help them reduce adverse selection and moral hazard problems, such as frequent and close contact with individual clients, to provide credit products tailor-made to specific needs.

Individual-based lending “draws on traditional banking practices and involves a standard bilateral relationship between the bank and customer”. It is mostly predominant in East Asia and the Pacific. This method appears as the most vulnerable one to weak enforcement policies and information asymmetries Zeynep Ugur (2006). Unlike MFIs, there are very few conventional financial institutions which provide individual loans to low-income people because poorer clients are considered higher risk clients due to their lack of collateral, plus the labor-intensive nature of the credits and hence the lack of profitability of small-credits.

Furthermore, increasing the investments on the workforce increase the profits as the lender cannot rely on the client for information. In general, individual-based lending is practiced for larger loans and therefore with less severe poverty levels. Furthermore, this method has proven to help MFIs become financially self-sufficient. Zeynep Ugur (2006) found that labor costs are associated with higher profitability with this method of lending, as borrowers would receive larger loans once they are identified as reliable customers.

Most of the loans given out to the poor in developing countries are given in groups. Group-based lending, as the term already indicates, requires individuals to organize themselves into groups in order to gain access to financial services from a programme. We witness different programmes and projects to be involved in providing loans to these people. Sometimes, governments own and run these programmes; in other cases international institutions, local and foreign NGOs are involved in reaching poor borrowers.

Normally, group-based lending works as follows. Loans are made to individuals, but all members of the group are held responsible for the loan repayment (joint liability principle). In some programmes loans are given strictly for a certain period of time (usually a year), while in other programmes the members are allowed to decide the loan terms themselves.

Repayments are made on a weekly or monthly basis; this is done at group meetings or directly to the branches of the microfinance institution. Nowadays, worldwide many programmes use group-based lending to forward loans to the poor.

Dunford (1998) also said that microfinance provides credit for investment in small-scale self-employment activities chosen by the poor themselves. He further stated that these loans seem to increase income and savings for the poor. But also the taking, investing and repaying of loans seems to empower the poor through a personal transformation from a feeling of "I cannot" to one of "I can." I can do something about my poverty.

Again Dunford (1998) said that in theory at least, this self-financing feature allows for massive expansion of microfinance to reach tens if not hundreds of millions of underserved people. For most populations, this strategy seems to have the broadest utility and the least cost per beneficiary. If you had to choose just one development intervention, you would accomplish the most by helping people gain access to financial services.

2.2 REVIEW OF IMPACT ASSESSMENT METHODOLOGY

An impact assessment (IA) is a study to identify changes that result from a programme by employing methods to establish plausible association between changes experienced and participation in the programme. A simple paradigm for an impact assessment is: X causes Y or a programme results in changes. In reality, however, other factors intervene to influence the impacts (e.g., gender, role of enterprise income in the household, location of the enterprise). Also, Y may happen irrespective of X, so it is necessary to pay attention to attribution and rule out plausible rival reasons about why the changes may have occurred. The level and nature of programme participation should affect the impacts of the programme, so this needs to be taken into account. Impact Assessment may link an institutional review of

programme components and procedures with client level data to determine what is working well and what can be improved. (Barnes and Sebstad, 2000)

The measurement of the impacts of microfinance projects is obviously fraught with a number of methodological problems. One such problem is the difficulty of estimating the counterfactual situation in order to compare with factual conditions of the target group. It is encouraging to note, however, that in recent years some progress has been made in developing methodologies that address this problem. In fact, impact assessment methodologies are being improved through the application of methods like “with” and “without” approach and pre-project baseline studies. The methods help not only in assessing the counter factual situation but also in reducing errors associated with memory difficulties of respondents (Moser & Kalton, 1971)

Impact assessments compare changes in impact variables between two or more points in time. This can be accomplished through a longitudinal study consisting of a baseline and one or more follow-up studies using the same variables and measures. Or, it can be done by a one-time retrospective study that compares the present with a previous point in time in order to assess changes. Johnson (1998) also describes Impact assessment in microfinance as focusing on the impact of services on users and the ability of the organisation delivering those services to sustain its operations into the future.

According to Gaile and Foster (1996) making a case that a particular microfinance programme led to an observed or stated change can be done in several ways. Approaches can vary in their level of complexity. Complex approaches, for example, may involve econometric models that require rigorous assumptions about behaviors to obtain control mechanisms and parameter estimates. The use of this approach requires knowledge of

production functions, utility, and other econometric concepts that may be unfamiliar and off-putting to many potential users of impact assessments

2.2.1 A DICHOTOMY VIEW OF IMPACT ASSESSMENT

Hulme (1997) suggests that approaches to the role of impact assessment range from what can be termed 'proving impact' to that in which impact assessment is a process whose objective is to 'improve practice'. These two approaches exist in a spectrum along which donors, practitioners and researchers can locate themselves depending on their needs and interests at a particular time. While this spectrum is general to assessing the impact of development projects, the debate in microfinance has its own particular circumstances. Heated debate has occurred over the rationale, need, practicability, and cost-effectiveness of carrying out impact assessment of the 'proving impact' variety. The two approaches within microfinance are termed by Hulme (1997) the 'intended beneficiary' school and the 'intermediary' school.

According to Johnson (1998) the intended beneficiary school sits clearly within the traditional project cycle approach and derives from the view that the impact of aid-funded projects on poor people needs to be measured and attributed in order to justify the intervention. Johnson (1998) further explained that the intended beneficiary approach sees financial services, but especially credit, either as a productive input in their own right, or more widely as services which can be instrumental in improving livelihood opportunities through a combination of raising incomes, reducing vulnerability or alleviating oppressive debt relations. However, the idea that it is feasible and possible to trace the effect of highly fungible credit through to particular beneficiaries has been strongly questioned and attribution and additionality are by now standard concerns of the impact assessment literature.

The intermediary school, by contrast, therefore concerns itself with the health of the financial organisation being supported in terms of its sustainability (both organizational and financial) and judges the social benefit of this intervention in terms of its outreach to numbers of poor people and their poverty profile. If the intended beneficiary school was deficient because it could consider the effect of credit provision on livelihoods without considering whether the rural financial market (RFM) was being 'undermined' by the organisations undertaking the delivery (Adams, Graham and von Pischke 1984), then those who have argued the need for user-level impact assessment maintain that demonstrating the outreach and sustainability of organisations is not sufficient if it undermines the impact on the intended beneficiary (Johnson and Rogaly 1997).

In an attempt to reconcile the two views, Sebstad, Neill, Barnes and Chen (1995) asserted that in practice, there appears to be a pragmatic consensus emerging around the reasons why impact assessment is necessary, which views these two approaches as complementary rather than competing. Such a view recognises that a judicious combination of impact assessment on users and of the health of the financial organisation itself is necessary since an organisation which is not benefiting its users is more likely to struggle to survive. What is involved in impact assessment has also moved beyond assessing the effect on user incomes, profitability and employment alone to examining impact on assets, coping strategies and livelihoods profiles and assessing these in the interconnected domains of individuals, enterprises and households (Sebstad, Neill, Barnes and Chen 1995)

Hulme (1997) states that the way impact assessment is carried out have also been extensively debated. The cost-effectiveness of large-scale quantitative surveys has to be considered alongside their failings in important areas, such as ability to measure income. At the same time the emergence of participatory and qualitative techniques as mainstream tools has led Hulme to conclude that there is no 'optimal' approach, but that better practice is about

'achieving fit' in meeting the specific objectives of the impact assessment 'at an acceptable level of rigor, that is compatible with the programme's context, that is feasible in terms of costs, timing and human resource availability' (Hulme 1997). The challenge is therefore to strike the right balance between monitoring organizational performance, participatory impact monitoring and "set-piece" qualitative and quantitative impact assessment.

The idea of building sustainable microfinance institutions (MFIs) derives from the Ohio School and its view of Rural Financial Markets (RFMs). This view suggests that building financial organisations which can cover their costs and be financially self-sustaining will widen the market for financial services in a sustainable way and avoid the earlier pitfall of 'undermining' the market with cheap credit (Adams et al. 1984). As a result of analysing measures of outreach and sustainability, the intermediary school judges the intervention 'beneficial because it has widened the financial market in a sustainable fashion' (Hulme 1997).

Furthermore, while cheap credit to users may no longer be seen as good practice, cheap capital for the establishment of MFIs is still the norm. Drawing on infant industry arguments, Hulme and Mosley (1996) argue that subsidies are valid because the benefits of developing the technology of lending to poor people involves externalities of knowledge which cannot be internalized by the organisation itself. However, the case made is a general theoretical one and has not been applied to specific financial markets to demonstrate the legitimacy of subsidies in a particular context. This would require the development of criteria to be used in assessing what a "correct" level of subsidy might be which would avoid undermining already existing financial service providers.

Before a market analysis is further explored, it is worthwhile to ask why proponents of the intermediary school might have neglected such analysis. There are two possible reasons: first, that it is too methodologically difficult and therefore not worthwhile. Issues of

fungibility and attribution occurring at the level of the user become even more problematic in the context of a market. This argument can obviously be turned into an argument for an effort to improve methods. Problems of attribution and fungibility at the user level have not finally negated the view that impacts on the livelihoods of users can be established.

The second reason is even more fundamental and is the view that it is not necessary to look beyond the creation of a profitable MFI which is fit and can survive in the market. This approach adopts a Schumpeterian model of innovation, which allows for the creative destruction of competitors in search of ever greater allocative efficiency (Bhatt 1977). But aid is about more than improving efficiency alone and, for those concerned with poverty elimination, requires an analysis of the distributional consequences deriving from market power (DFID 1997).

2.2.2 ALTERNATIVE METHODS OF IMPACT ASSESSMENT

The commonest methods used in impact assessment are sample surveys, rapid appraisal, participant observation, case studies and participatory learning and action (Hulme, 1997)

2.2.2 .1 Sample Surveys

The sample survey method is most common method use in impact assessment. In using this method, we collect quantifiable data through questionnaires. Usually a random sample and a matched control group are used to measure predetermined indicators before and after intervention. Sample surveys are appropriate when the project affect a large number of beneficiaries. Again it is helpful when policymakers require accurate estimates of the project impacts. Statistical comparison can be made between groups over a period of time. When sample surveys are used for impact assessment project delivery and implementation

mechanisms operate well. The sample survey may not be appropriate if the project affects a small number of beneficiaries. Policymakers who are mainly concerned with project outcome may not find the method appropriate. If the purpose of the assessment is to study and evaluate complex activities or processes (eg. The development & operation of community-based organization) sample survey is not appropriate.

Rapid Appraisal

A range of tools and techniques developed originally as rapid rural appraisal (RRA). It involves the use of focus groups, semi structured Interview with key informants, case studies, participant observation and secondary sources.

Participating Observation

Extended residence in a programme community by field researchers using qualitative techniques and mini-scale sample surveys

Case Studies

Detailed studies of a specific unit (a group, locality, organisation) involving open-ended questioning and the preparation of 'histories'

Participatory Learning and Action

The preparation by the intended beneficiaries of a programme of timelines, impact flow charts, village and resource maps, well-being and wealth ranking, seasonal diagrams, problem ranking and institutional assessments through group processes assisted by a facilitator. For comparative purpose, the five (5) methods of Impact Assessment are provided in a table form (Table 2) to show their comparative strengths and weakness as used in Montgomery's (1996) classification.

Table 2: Comparative Strengths and Weaknesses of different methods

Method Criteria	Sample Survey	Rapid Appraisal	Participant Observation	Case Studies	Participatory learning and Action
Coverage (Scale of Applicability)	High	Medium	Low	Low	Medium
Representativeness	High	Medium	Low	Low	Medium
Ease of data standardization, aggregation and synthesis	High	Medium	Medium	Low	Medium
Ability to isolate and measure non project cause of change	High	Low	Low	Low	Low
Ability to cope with attribution problem	High	Medium	Medium	Medium	Medium
Ability to capture qualitative information	Low	High	High	High	High
Ability to capture causal processes	Low	High	High	Medium	High
Ability to capture negative and unexpected impact	Low	High	Very High	High	High
Degree of participation encouraged by method	Low	High	Medium	Medium	Very high
Probability of enhancing downwards accountability	Low	High	Medium	Medium	High
Timescale	Very high to medium	Medium to low	high	High to medium	Medium to low

Source: Adopted from Montgomery et al (1996)

2.3 EMPIRICAL REVIEW OF PREVIOUS STUDIES

This work cannot be complete if literatures on empirical evidence of the impact of microfinance are not review. The scope of the empirical review of existing literature will be based on evidence from out side Africa, evidence from some African countries and finally that of Ghana.

In 1991/92 the World Bank surveyed 1769 households from 87 villages that were randomly chosen. They surveyed households within three different microcredit banks; BRAC (Bangladesh Rural Advancement Committee), Grameen Bank and BRDB's (Bangladesh Rural Development Board) RD-12 project and households that were not participants in any programme. The villages that were randomly chosen had been within the project for at least three years and the survey was made during three different seasons.

The same households were used for the follow-up survey made in 1998/99. During this survey some new households were included and the sample of households reached 2599. The programme participant's poverty reduced with 20 percent whereas the poverty for the non-participants reduced with 15 percent (Khandker (2003). The overall reduction in extreme poverty was 12 percentage points between 1991/92 and 1998/99. He also looked at the consumption rates and could see that the consumption level had increased for participants in comparison to non-participants. The results are very strong.

The effects of microfinance programmes on wages and employment are examined in Khandker, Samad, and Khan (1998) and Pitt (1999), who found evidence for increases in wages and self-employment. McKernan (2000) and Madajewicz (1999) analyze the impact of participation in these programmes on profits. While McKernan founds a significant impact with profits increasing by roughly 175%, Madajewicz (1999) focused on the distinction of

group loans versus individual loans. She finds that when compared to individual loans, group loans from the Grameen bank increase profits by 8% for households with no land and by less for wealthier households (with a negative influence on profits for households with more than 2 acres of land). That is, wealthier households benefit more from individual loans than from group loans.

Coleman (2001) analyzes a microfinance programme in Northeast Thailand. Correcting for selection bias, he finds that the impact of microfinance institutions on household wealth is either non-significant or negative. He attributes the negative impact to the small size of the loans being too small for investment, the loans are used for consumption and households turn to moneylenders to finance the repayments, leading to a vicious circle. When he distinguishes between wealthy and poor clients, he finds that only the wealthy client's benefit from the loans.

The results by Coleman (2001) and Madajewicz (1999) have a similar structure in that they show the large influence of wealth. While the authors found negative or insignificant effects if averages are considered, there are significantly positive effects for groups with high wealth (Coleman (2001) and individual loans or low wealth group loans (Madajewicz, 1999).

According to (Madajewicz, 2003) the mean profits of this group are higher than those of eligible households in villages without a programme by 280 taka, or 37% of the average profits in villages without a programme. The difference suggests that group loans do increase profits; however it is not statistically significant.

Mosley (2001) and Copestake, Bhalotra, and Johnson (2001) used the sample survey and the case study approaches to assess the impact of micro-loans in Bolivia and Zambia,

respectively. Both found a positive impact of loans on the clients' economic situation and Mosley also founds evidence for poorer clients benefiting less because they prefer low-risk and low-return investments.

According to Parienté (2000) access to markets has also a very significant impact on micro-enterprises sales and profits. On the other hand, use of credit card has a negative impact on sales and profit: fast credit is very expensive (more than 10% per month) and not adapted to investment; allocation of credit is also an interesting proxy of impact. Full allocation on stocks has a negative effect on sales and profits. The fact that commerce activities have highest sales level could invalidate the latter result (since them stock-intensive activities), however credit is very often used for infrastructures (improvement of facilities and shop extension). Marginal effects show that borrowing more than 5000 \$R raises sales of 50% while borrowing more than 2000 \$R raises sales of 35%, on the other hand very low loan sizes, even if they are not significant in the model, have a lower marginal effect on sales. Results show the existence of a ceiling upon which microcredit has a significant impact.

One exception is McKernan (2000), who estimates a reduced form profit equation. While she founds that participation in a microfinance group increases profits, the analysis is restricted to contemporaneous effects. That is, profits are higher while participating in the programme. The data do not allow inferences about longer term effects such as growth of the businesses. In addition, most of these studies use data from Asian countries where the samples consist of very poor households in a restricted rural economic environment. Microfinance in South America, in contrast, caters to a different group of clients. The loans distributed are considerably larger and are targeted to the better-households among the poor. Interest rates charged are higher and more institutions work on a cost-covering basis. As a consequence,

we can expect the structure of the micro enterprises and the way income is generated to differ considerably.

Remenyi and Quinones (2000) household income of families with access to credit is significantly higher than for comparable households without access to credit. They further found that in Indonesia a 12.9 per cent annual average rise in income from borrowers was observed while only 3 per cent rise was reported from non-borrowers (control group). Remenyi notes that, in Bangladesh, a 29.3 per cent annual average rise in income was recorded and 22 percent annual average rise in income from no-borrowers. Sri-Lanka indicated a 15.6 rise in income from borrowers and 9 per cent rise from non-borrowers. In the case of India, 46 per cent annual average rise in income was reported among borrowers with 24 per cent increase reported from non-borrowers. The effects were higher for those just below the poverty line while income improvement was lowest among the very poor.

In a Zimbabwe study by MkNelly, Barbara and Dunford (1999), there were major differences in income distribution. For example, nearly half of the new client and non-client households had a monthly income of less than Z\$2,000, compared with about one-fifth of the repeat client households. In contrast, half of the repeat clients had an estimated monthly household income of Z\$4,000 or more. Members of repeat borrower households had on average one year of education more than those of non-client households. The average number of income sources was 2.5 for clients households compared with 2.1 for non clients. Similar numbers in the Uganda study were 3.23 compared with 2.53.

In a Uganda study, although no findings were reported on the level of poverty between client and non-client households, total expenditures on education, business and household assets, remittances to rural households, and agricultural inputs were used a *proxy indicator* of the

relative poverty or wealth level of client and non-client households. Client households on average spent 35% more than non-client households. Borrower households spend 38% more on education than non-client households and have an average an extra year of education.(Barnes and Carolyn, 1999)

Clients in the FOCCAS microfinance programme in Mbale receive instruction in breastfeeding, disease prevention (including AIDS, diarrhea, and malaria), and family planning practices. Of those who had learned about improved health and nutrition practices, 95% of clients compared to 72% of non-clients had tried a practice related to improved health or nutrition of their children. 32% of clients compared to 18% of non-clients had tried an AIDS-prevention practice

A study in Ghana and South Africa by (Afrane, 2002) shows the evidence from these two studies indicates that although microfinance programmes have every potential to improve the conditions of beneficiaries, they also tend to create disturbing negative impacts if necessary counteracting measures are not taken. The challenge, therefore, to MFIs is to be mindful of these negative tendencies so that appropriate steps can be taken to minimize these effects as much as possible in the design of credit.

He found that a comparison of the impact situations in both countries reveals that the impact trends and levels were not all that different. However, both positive and negative impacts observed in South Africa were more extreme than those of Ghana. For instance, South Africa scored an overall positive impact of 56% as compared with 50% in Ghana. On the negative side, the figures were 7.6% and 3.3% for South Africa and Ghana, respectively. In addition, the level of negative impacts with respect to the social and spiritual indicators was more pronounced in South Africa than in Ghana. He suggested that the trend may be attributed to

the different socio-cultural and economic situations in both countries. In South Africa, where level of sophistication and inequalities are higher, more extreme impact results are likely to occur than Ghana.

(Afrane, 2002) concluded that the two impact studies have established that microfinance projects have impacted the businesses and lives of the beneficiaries in several positive ways, particularly in their economic circumstances and access to essential life-enhancing facilities and services. The studies established that 43% and 44% of the enterprises sampled in Ghana and South Africa, respectively, took on new workers. In addition, the total number of people employed by the enterprises surveyed increased by 46% and 49%, respectively, for SAT and SOMED. About 20–25% of these employees comprised unpaid family labor. This applied particularly to the home-based enterprises

(Afrane, 2002) was however quick to point out that microfinance projects in the two countries had some disturbing and unintended effects were observed in the social and spiritual dimensions of the lives of the clients. This implies that although microfinance projects are expected to generate positive impacts, in some cases, such projects tend to have some adverse effects, particularly on the social and spiritual lives of beneficiaries

In a study by (MkNelly and Dunford. 1998) in the Lower Pra district in conjunction with Lower Pra Rural Bank, they found out that majority of 1997 participants (67%) (7 % reported a decrease) and 23% said no change felt that their incomes had ‘increased’ or ‘increased greatly’ since they joined the *Credit with Education* programme. There was no significant difference between the baseline and follow-up periods in participants’ own non-farm monthly profit when compared to non-participants and residents in control communities. However, when pooling women’s own non-farm income with general household non-farm

income, the 1997 participants' monthly estimated profit was significantly higher than the pooled non-farm income earned by residents of control communities.

A significant difference in the percentage having savings and the value of cash savings between years for participants versus controls and participants versus non participants. While the majority (1,131) of the women was taking loans, approximately one quarter (360) of the women were participating in the education sessions and depositing savings only.

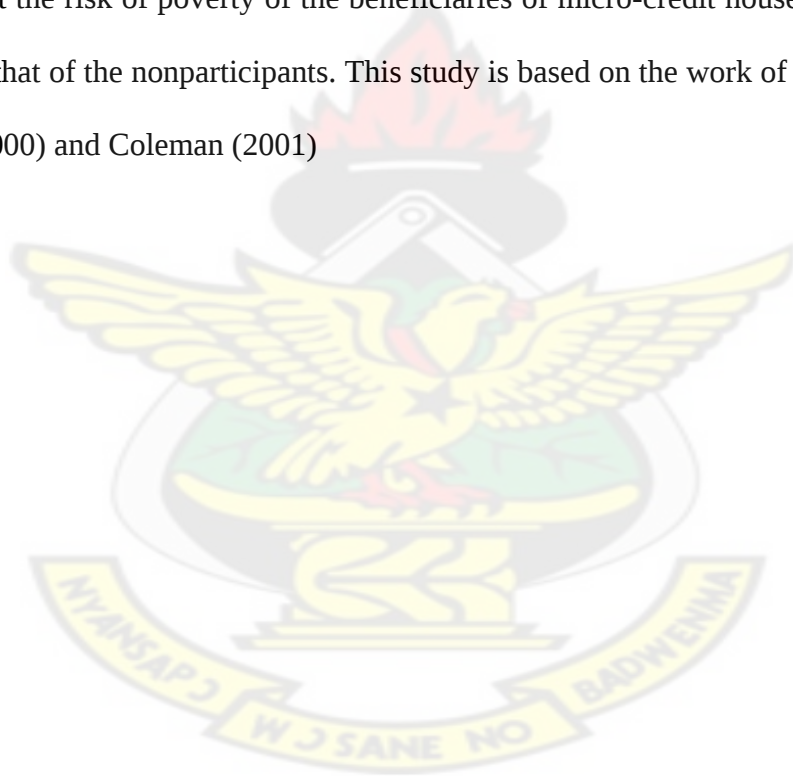
In 1997, the media monthly non-farm profit for the participant sample was 2.5 times more than the profit earned by the non-participants and more than 5 times the profit earned by the residents in the control communities. The majority (57%) of loan-funded enterprises were categorized by women as being 'family' rather than 'primarily their own' income generating activities. Clients diversified loan-use strategies suggest the programme allowed participants to augment household assets (chiefly animals) and smooth consumption needs by purchasing foods in bulk and meeting other basic needs.

A report by Hishigsuren, Beard and Opoku (2004) on Client Impact Monitoring some clients of Sinapi Aba Trust in Ghana also give an empirical impact of microfinance. A total of 487 clients were sample. 71% were old clients, 25% were new clients and 4% were old clients who did not receive credit in their first cycle of loan. Out the total sample 87% were women. The report showed that there was a significant difference in sales revenue for old clients and new clients. It was reported that there was no significant difference in Net profits, saving and expenditure on children education for old clients and new client.

The report showed that remittance had a significant impact on the income of both old and new clients. Most of the clients were interested in the Training programmes offered by SAT.

Only 0.4% of the clients complained about interest rate. The study control unobservable influences and therefore controlled for selection bias

Chowdhury (2000) examined the impact that the micro-credit program of Grameen Bank in Bangladesh has on household poverty. Chowdhury (2000) used both subjective and objective measures of poverty. A comparison group was selected from the members who have just registered with the program to compare their poverty status with that of existing members of one year or more. Based on data collected through a household survey by the author, both the subjective and objective poverty measures show that micro-credit reduces poverty. Our data indicate that the risk of poverty of the beneficiaries of micro-credit households is about 47% lower than that of the nonparticipants. This study is based on the work of Chowdhury (2000), Parienté (2000) and Coleman (2001)



CHAPTER THREE

OVERVIEW OF MICROFINANCE OPERATIONS IN GHANA

3.1 HISTORICAL DEVELOPMENT

The word Microfinance may seem to be relatively new in Ghana but the concept of microfinance is not new in Ghana. It has always been common practice since pre-independence days. It has been a practice for people to save or take loans from individuals and families within the context of self-help in order to engage small business or farming ventures. In those days people were given items like plots of land to work on so that after they have gotten their produce they would pay for the cost of hiring the land. This practice helped those who did not own land and any other huge property to also make a living for themselves. This system collapse with the increasing demand for collateral from those who owned the landed properties.

There has not been any formal evidence stating when the concept begun in Ghana or in Africa but some sources has it that the first credit union in Africa was formed in the Northern part of Ghana in 1955. That credit union was established by the Canadian Catholic missionaries who were at Northern Ghana at that time. However, other sources have it that, Susu which originated from Nigeria, which is one of the current microfinance schemes in Ghana was said to have spread through out the country in the 1900s.

The Susu system started market women wanted to save some part of their income for future use. One trustworthy person went round daily through the community to collect the small token each person was ready to contribute each day. As went on, the Susu collects started given out loans from the chunk of money they have collected with some amount of interest on the loans. This system helped the market women who wanted to expand their business but

had no huge some of money to do so. The Susu system helped women to pay their children's fees easily. The savings with Susu collectors also served as insurance for future eventualities.

The paragraph above tells us that the concept of microfinance is never new in Ghana. The microfinance sector has evolved from the simple Susu and credit union system into its current state where even traditional banks who under normal circumstance would not given loans without collateral are now venturing into the area of microfinance.

Over the years various financial sector policies and programmes have contributed to the growth of the Microfinance sector. Some of such policies are the provision of subsidized credits, establishment of Rural and Community Banks (RCBs), the liberalization of the financial sector and promulgation of PNDC Law 328 of 1991, that allowed the establishment of different types of non-banking financial institutions, including saving and loans companies, finance houses and credit unions.

According to Steel and Andah (2003) as part of the financial sector reforms, Ghana developed a National Strategic Framework to remove impediments to improving delivery of financial services to the micro and small enterprises. The framework aimed at fostering a fully integrated financial sector supported by a reliable regulatory system and that offers a broad range of financial products and services to the micro and small enterprises, especially those in the informal sectors, on a sustainable basis. The objective is to establish a decentralized and sustainable micro-finance system, prudentially regulated with close linkages with the formal financial sector, and an effective outreach to the poor.

The government constituted the National Microfinance Centre (NAMFIC), to facilitate administration of government and donor credit funds, and to coordinate the efforts of

microfinance practitioners and stakeholders. Government is strengthened GHAMFIN to provide financial and managerial capacity building services to MFI networks and service providers.

3.2 GHANA MICROFINANCE POLICY

In the year 2005 when the United Nations declared that year the International Year of Microcredit, there was the need to put Ghana's microfinance sector into a right perspective. But before the declaration of the Year of Microcredit preparatory works had begun in the year 2003 toward the formulation of a National Microfinance Policy. In November 2006 the Ghana Microfinance Policy was outdoored. The paragraphs which follow give highlight on the Ghana Microfinance Policy (GHAMP, 2006) from the same document.

3.2.1 RATIONALE FOR THE MICROFINANCE POLICY

Several governments since independence have themselves involved in microfinance; the microfinance sector which was seen as an informal sector all along had no specific guidelines and goal. Partly due to the lack of direction, there has not been a coherent approach to dealing with the constraints facing the sub-sector. Among the constraints are inappropriate institutional arrangements, poor regulatory environment, inadequate capacities, lack of coordination and collaboration, poor institutional linkages, no specific set of criteria developed to categorize beneficiaries, channeling of funds by MDAs, lack of linkages between formal and informal financial institutions, inadequate skills and professionalism, and inadequate capital. Better coordination and collaboration among key stakeholders including the development partners, government and other agencies, could help to better integrate microfinance with the development of the overall financial sector.

Furthermore, the activities of the traditional commercial banks have not favored micro and small enterprises. Primarily, this is due to the fact that the credit methodology being utilized requires documentary evidence, long-standing bank-customer relationship and collateral, which most micro and small businesses do not possess. The commercial banking system, which has just a few major banks, reaches only about 5% of households and captures 40% of money supply.

Since Ghana has a reasonably diversified and supervised regulatory framework for formal financial institutions licensed by BoG, there was the need to get appropriate regulation which will extend to other institutions operating in the microfinance sub-sector in order to improve the outreach, sustainability and efficiency of savings, credit delivery, and institutional arrangements. The existing situation has informed the development of this policy. Based on the assertion above the Ghana Microfinance (GHAMP) was formulated.

3.2.2 THE POLICY FRAMEWORK

The goal of GHAMP is to promote the delivery of efficient and sustainable microfinance services to achieve wealth creation and poverty reduction, within the context of the objectives of Ghana's poverty reduction, growth and financial sector development strategies.

The primary objectives of the policy are to create an enabling environment at the macro, meso and micro levels that supports the operations of the sub-sector. The policy also seeks to provide avenues for the sustainable flow of funds, adequate infrastructure and development of human capital. The policy tries to ensure a harmonized and coordinated sub-sector. There was also the need to get proper financial service for the poor and in that sense the GHAMP seeks an integrated and sustainable financial system that reaches the poor. Finally, the policy

in the final end tries to get all consumer of microfinance together and facilitate activities that ensure consumer protection.

The general policy contains directions and guidelines which in the long run improve the microfinance sub-sector which is to say that Government of Ghana seeks to improve and deepen financial intermediation to serve the poor and low-income populations by supporting the building of an inclusive, sustainable and efficient financial services system. In line with national financial policies and other relevant programmes and projects, in order to achieve a good results from the implementation of GHAMP most of the implementation would be done through activities with MDAs and MMDAs, development partners, practitioners, service providers, supporting institutions and end users. The intention is for all these key stakeholders to act in concert to achieve the objectives of the policy and in accordance with internationally accepted best practices, principles and standards.

3.2.2 .1 Institutional Arrangements, Coordination, Collaboration and Capacity Building

In order that key microfinance stakeholders act together in a coherent and sustainable manner to build a strong microfinance sub-sector, the policy provide for institutional arrangements outlining the roles, responsibilities and functions of key stakeholders. It was intended that coordination and collaboration among institutions within the sub-sector will minimize duplication and foster complementarity of activities by all stakeholders within the industry. The policy makes provision for capacity building in the areas of human capital, physical infrastructure and funding among other things.

In terms of human capital, the policy seek to develop consistent, comprehensive and coherent training programmes targeting various stakeholders in accordance with their roles, needs and category. Specific competency-based programme shall be designed for practitioners. In this

regard, technical service providers shall endeavour to develop and/or adopt standardized Training Manuals appropriate for their needs. Microfinance Apex Bodies, Training Service Providers and Microfinance Practitioners are expected to develop well focused programmes to train end-users as well as specialized training programmes for the identifiable groups such as women, people with disabilities and the youth. The policy also provide a platform for stakeholders including training and service providers to collaborate with national and international teaching and research institutions to develop programmes that meet local demands and are comparable to international benchmarks. The microfinance policy framework is to develop physical infrastructure. Infrastructure development is to be pursued with the aim of establishing a base and the provision of adequate logistics to support operations and activities. As part of the process mechanisms shall be put in place to systematically harmonize the development of infrastructure and the provision of logistics.

There is no way any policy can be implemented without funding. Under the policy framework a fund is to be created to meet the needs of the sub-sector. Other funds from diverse sources are also encouraged to meet the needs for capacity building. Coordination and tracking at all levels shall be vigorously pursued, to ensure the judicious use of all available funds.

3.2.2 .2 Financial Services Delivery, Management and Consumer Protection

A diverse, sustainable and efficient financial services delivery system is essential for the success of the microfinance sub-sector. Addressing issues regarding credit delivery systems (access to loans, interest rates, and repayment), the categorization of institutions as well as classification potential beneficiaries are key to the operations of the sub-sector. MFIs are encouraged to develop and provide diversified and efficient credit delivery systems that meet the varying demands of the market. Also the policy address the minimum standard

requirements which all MFIs are expected to meet. The protection of potential and actual end-users of microfinance products and services from unfair practices such as usurious interest rates are to be ensured through public disclosure and transparency in the operations of institutions. In the absence of national consumer protection legislation/regulations that cover financial services, MFI apex organizations is to be encouraged to develop and implement industry standards.

Research, monitoring and evaluation are essential elements in the promotion of efficient planning, implementation and review of interventions. In line with the objectives of Microfinance policy, management is expected to conduct baseline studies on operations and outreach of institutions as well as on a wide range of issues such as policies, institutional arrangements, levels of collaboration and regulatory mechanisms. The management is also expected to conduct operations research geared towards improving the efficiency of on-going projects and MFIs. Further more microfinance institutions are expected to collaborate with universities and other research institutions to conduct periodic research into various aspects of the operations of the sub-sector. The microfinance policy also seeks to ensure the development of key indicators for monitoring and evaluating the impact of programmes and activities and feedback mechanisms for review of implementation and policy.

3.3 REGULATORY FRAMEWORK FOR MICROFINANCE OPERATIONS IN GHANA

Ghana's financial system can be broadly divided into three categories- formal, semi-formal and informal. The formal institutions are incorporated under the Companies Code 1963 and licensed by the Bank of Ghana (BOG) under the Banking Law, 1989, or the Financial Institutions (Non- Banking) Law, 1993. Commercial banks and rural banks are incorporated under Banking Law, while the Savings and Loans companies and Credit Unions are

incorporated under the Non Banking Financial Institution (NBFI) law. The Credit Unions, however, are not regulated by the BOG, but by the Credit Union Association (CUA) which acts as a self regulatory apex body.

3.3 .1 BANK OF GHANA

The Bank of Ghana has a history of promoting the financing of Micro, Small and Medium Enterprise (MMSE). In 1969 it started the Credit Guarantee for Small Borrower scheme which was administered through Development Finance Department of the Bank. It has supported a lot of Microfinance programmes. It also participated in the Rural Financial Service Project.

BOG, the central bank of Ghana, regulates the banking and non-banking financial sub-sectors. The legal framework governing the central bank were revised that is the Bank of Ghana Act, 2002, giving enhanced autonomy to BOG in framing monetary policy, regulation and supervision of banking and non banking financial institutions. The Banking Law, 2004 governs all banking companies in Ghana. The Financial Institutions (Non Banking) Law, 1993 and the rules framed under the Act are applicable to Savings and Loan Companies. Ghana has so far not setup a separate framework to cater to the regulatory requirements of the Micro-finance sector.

The present requirements for institutions that can offer microfinance services are: Local commercial Banks must have a minimum capital of 70 billion Cedis of which 60% should be from resident Ghanaians. For a Foreign Banks it must have a capital of 70 billion Cedis with a minimum of 60% being subscribed in convertible currency. Also a Development Bank is required to have a capital of 70 billion Cedis. Rural Banks which the main suppliers of microfinance are required to have a capital of 500 million Cedis of which corporate bodies

should own at least 50% and individuals 20%. Savings and Loan companies should have a capital base of 15 billion Cedis, and if it is a foreign S&L then 60% of the capital should be in form of a convertible currency.

The liquidity requirements for banks and other deposit taking commercial institutions are laid down by BOG. They need to maintain a primary reserve in form of cash and deposits with BOG and a secondary reserve in form of investments in government securities and Treasury Bills. Up to 2002 the liquidity requirements for the rural banks was as high as 62%, to enable them to benefit from the high yields on sovereign securities and improve their financials. This has subsequently been brought down to the current level of 8% in form of primary reserves plus 5% deposit with ARB Apex and a 30% secondary reserve. Thus, rural banks currently need to have 43% of their assets in form of liquid assets. Banks and NBFIs are subjected to capital adequacy requirements. The current requirements stipulate that a bank's capital should be at least 6% of its risky assets. For a deposit taking NBFIs it should be at least 10% of its risky assets. The primary or Tier one capital (equity and free reserves) should constitute at least 50% of the total capital adequacy requirement. Subordinated debt component in the secondary capital should not exceed 50% of the total secondary or tier two capital. The capital adequacy requirements in the country are well below the 1st Basle Accord prescriptions.

BOG has laid down exposure norms for banks as per best practices in banking. The current stipulations on group and individual exposure etc. are listed below:

- To any one group or individual not more than 25% of the net worth of the institution;
- Unsecured Credit should not be more than 10% of net worth of the institution;
- Loans to Director and employee credits have a ceiling;

- Investment in immovable property other than for own business is not permitted

3.3.2 APEX RURAL BANK

Currently the Apex Bank looks after the clearing and settlement needs, specie and treasury management needs of the rural banks. It is also responsible for training rural bank officials, improving the MIS system of rural banks and for developing a standard reporting system. The Apex Bank may eventually emerge as a sub regulator/ supervisor of the rural banking system under the purview of the BOG.

3.3.3 CREDIT UNION ASSOCIATION

The Credit Union Association (CUA) serves as a self-regulatory apex body for the credit unions. The Department of Cooperatives has laid down eligibility norms for full registration of a new credit union. CUA applies prudential norms that are similar to the operating and financial standards of the World Council of Credit Unions (WOCCU). BOG has desisted from extending its regulatory jurisdiction authorized by the 1993 NBFIL Law to the Credit Unions. A new Credit Union law is proposed, which is expected to streamline the delegation of specific supervisory functions to CUA. CUA will then report to a Supervisory Board with BOG rather than to the Department of Cooperatives as at present. CUA enforces its regulations by downgrading status of CUs who default in meeting its requirements. Ghana Cooperative Susu Collectors Association. The Ghana Co-operative Susu Collectors Association (GCSCA) imposes a number of regulatory barriers to entry as well as providing services to its members.

A prospective member must be recommended by a zonal executive, provide two sworn guarantors, deposit 1 million Cedis into a security fund, save 5,000 Cedis a month, take a medical examination, and undergo a three month training with an existing member. Other

measures intended to improve the confidence of the public in doing business with members of GCSCA include wearing uniform colors, paying off clients' deposits from the security fund in case of the death or disappearance of a collector, and assisting in arbitration of disputes. GCSCA monitors performance of the industry by collecting quarterly data from its zonal societies on the number of clients, amounts mobilized, problems encountered, and assistance given.

3.3.4 GHANA MICROFINANCE INSTITUTIONS NETWORK (GHAMFIN)

Ghana Microfinance Institutions Network evolved from a research program sponsored by the World Bank designed to strengthen micro-finance institutions and to contribute to a mechanism for supporting sustainable grass root institutions that provide financial services to the poor. GHAMFIN's main objective is to support and facilitate processes that help in addressing the constraints faced by its members. These constraints have been identified by various studies of the Ghanaian microfinance sector, and include lack of access to on-lending funds, poor MFI staff skills, inappropriate financial technologies and inadequate operational strategies, poor MIS, absence of performance standards, codes of conduct, conflict resolution mechanisms and so on. These constraints affect Ghana, since the microfinance sector in this country is still young. Hence, the capacity-building of Ghanaian MFIs presents a major task, high on GHAMFIN's agenda.

GHAMFIN is establishing performance indicators and putting in place reporting structures for the members in line with CGAP and MIX standards. GHAMFIN organizes seminars, workshops and conferences aimed at sharing experiences and evolving best practices in the industry. It works very closely with the Government, donors, regional networks, and service providers. GHAMFIN is likely to emerge as a self regulatory organization with reporting and

disclosure requirements for its members ranging from *Susu* collectors to the rural banks. In the brief span, GHAMFIN has emerged a key facilitator in the Ghanaian microfinance sector.

3.3.5 Other Government Monitoring Bodies

Microfinance and Small Loans Center (MASLOC) under the policy framework is to be established in every region. It is expected to institute reforms and development measures that would strengthen microfinance operation as an effective and viable strategy for poverty reduction. MASLOC is also expected to advocate for and advise Government on policies that would enhance development of a decentralized microfinance system which is integrated with or linked to the formal financial system, so as to enhance sustainable growth.

Ministry of Finance and Economic Planning (MoFEP) which is the whose main function is to implement government fiscal policies under the GHAMP is expected to create an enabling macroeconomic and financial policy environment for accelerated development of the microfinance sub-sector. **(MoFEP)** is expected to establish linkages with relevant MDAs and other relevant bodies to monitor and evaluate all aspects of the sub-sector. Under the provisions of the GHAMP **(MoFEP)** is also expected to harmonize and coordinate technical assistance and financial resources from development partners

Ministries, Departments and Agencies (MDAs) engaged in microfinance activities are to Liaise with MASLOC and the MoFEP in the design and implementation of interventions. MDA are also expected under the provisions of GHAMP to develop modalities for interventions that are consistent with the broad objectives and strategies for the sub-sector and also ensure adherence to standardized formats for data collection, management and reporting systems for their programmes.

Metropolitan, Municipal and District Assemblies (MMDAs) are the main bodies which deal directly with the consumers of microfinance at the grassroots. Within the framework of their decentralized system MMDAs are the main implementers of government programmes and activities at the local level. As such, they constitute an important element within the microfinance sub-sector. In the context of the Microfinance policy MMDAs are expected to play the role as active intermediaries in the design and implementation of Public Sector Microfinance programmes.

There are over 500 Microfinance institutions in Ghana. The list of some of the major microfinance institutions include;

1. Sinapi Aba Trust
2. Opportunity International
3. KROBODAN
4. Technoserve
5. Christian Mother Association
6. Freedom From Hunger
7. Action Aid Ghana
8. Catholic Relief Services
9. Enowid
10. Plan International Ghana
11. Adra-Ghana Microfinance Project
12. Kraban Foundation
13. Rural and Community Banks(RCBs)
14. Social Investment Fund- Government

Of these MFIs the last two on the list operates in all the ten regions of country.

CHAPTER FOUR

METHODOLOGY AND CONCEPTUAL FRAMEWORK

4.1 SAMPLE SELECTION OF STUDY AREA AND CLIENTS

Four-stage random sampling technique was applied in selecting programme households and non-programme households. In the first stage, four districts were randomly selected out of 17 districts in the Eastern Region. In the second stage of random sampling, four MFI were randomly chosen, i.e. one from each district. The districts were selected randomly for data collection purpose. Programme households had been selected from MFIs which were more than three. In the third stage, we randomly selected 5 centres for non-programmes households and 10 centres for the programme households in each district. In the fourth and final stage, the study randomly selected members from each of the programme branch centre and members from each of the non-programme household centres.

In total, the study collected information from two hundred (200) households of the non-programme household branch. However, during the examination of the completed questionnaires of non-programme households, it was found that some questionnaires contained inconsistent as well as incomplete answers. The study dropped these questionnaires. This left us with one hundred and thirty five useable questionnaires from the non-programme household groups.

In the case for the programme households, the study grouped all members of each randomly. Thirty (20) households were selected in each programme household groups. Since ten (10) centres were selected randomly for data collection. The study expected 200 randomly selected programme members from each group. No questionnaire was dropped in this case since they were carefully administered this time. Four districts were randomly selected from

the groups of relatively poor district. These were Manya Krobo, Yilo Krobo, West Akim and Kwahu North (Afram Plains) districts. In all 710 households were interviewed. There 200 respondent each from Manya Krobo, West Akim and Kwahu North District.110 households were interviewed in the Yilo Krobo district.. The households were selected based on the randomization method.

Randomization means that individuals are allocated to groups and in this case programme households and non-programme households. Randomization also justifies the use of hypothesis tests. If clients are randomly assigned to programme households and non-programme household groups but the entire study group is not a random sample of the population of interest, statistical inferences apply to differences in the effects of credit between study samples but not necessarily to the population.

Based on sampling method, the Upper Manya Kro Rural Bank from the Manya Krobo district, South Akim Rural Bank in the West Akim and Afram Rural Bank which also happens to be the major MFI in the Kwahu North district were selected. KROBODAN which is an NGO was selected from the Yilo Krobo district. The NGO was selected as balanced to the Rural Banks. This will help give a fair assessment of microfinance operations in the Eastern region.

A structured questionnaire was used for the data collection. The questionnaire comprised of background questions about age, education, number of family members and living standards and questions related to income, expenditures.

4.2 SOCIO-ECONOMIC AND INSTITUTIONAL FEATURES OF THE STUDY AREAS

This section gives brief descriptions of the study areas and the MFIs selected. The description of the study areas was discussed along the lines of location, size, demographic characteristics, occupational distribution, agricultural activities, income distribution and expenditure patterns. Since each district is unique, there will be discussion on certain characteristics which peculiar to each district. Districts have been described based on the information provided by the various district assemblies.

4.2.1. PROFILE OF MANYA KROBO DISTRICT

Located in the Eastern Region, Manya Krobo District is the main gateway from the Volta basin to the Accra plains and the Akwapim ridge and further north into the Afram plains of the Eastern Region. The district shares boundaries with the Afram Plains District to the north east, Fanteakwa in the North West, Yilo Krobo to the south east, Dangme West to the southwest, North Tongu to the south east and Asuogyaman to the east. The district capital is Odumase-Krobo.

4.2.1.1 Demographic Characteristics

The size and rate of growth of population is one of the most important statistical measurements of human population. These determine, to a large extent, many developmental factors about a Country or District, including its present and future ability to feed, to house and to provide social services. It also determines its ability to deal with poverty.

4.2.1.2 Age – Sex Structure

The age – sex composition is of much significance in the planning process for poverty reduction. It affords the opportunity to know the numerical strength of each sex and age group. This in turn helps to determine what needs to be done to improve their well-being.

Table 4.1 shows the male-female split within each age group in the year 2000 for the District as well as the region and the nation.

Table 4. 1: Age Structure of Manya Krobo District

Age – Sex Structure									
Age Group	District			Regional			National		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
	%	%	%	%	%	%	%	%	%
0-14	18.5	19.6	38.1	21.2	20.5	41.7	22.9	22.1	45.0
15-64	29.3	29.2	58.5	25.4	27.2	52.6	25.1	25.9	51.0
65+	1.6	1.9	3.5	2.5	3.2	5.7	1.7	2.3	4.0
Total	49.3	50.7	100.0	49.1	50.9	100.0	49.7	50.3	100.0

Source: Manya Krobo District Assembly, 2000

Like in the national and regional situations where there are more females than males, this is the case of the sex composition of Manya Krobo District. The economically active population (ages 15 to 64) constitutes 58.5% of the total population, resulting in an age dependency ratio of 1:07 (i.e. one active person to 0.7 inactive people) this means that if the active population is effectively utilized for development, the resultant effect on poverty will be positive.

4.2.1.3 Household Characteristics

Household is defined as a person or group of persons who live together in the same house or compound, share the same house or compound, share the same housekeeping arrangements or are catered for as one unit (Ghana Statistical Service 2002). The average household size in the District is 75. The figure is higher than both the regional and national averages of 4.6 and 5.1 respectively. The large household size is a reflection of the social structure of the society. Thus despite modernization and the erosion of the external family household composition, the household in the District still maintains its traditional nature. Socio-economic data from the field reveals that women head 40% of the households in the urban areas of the District.

4.2.1.4 Occupational Distribution

Table 4.2 shows the minor and major occupational distribution in the District

Table 4.2: Occupational Distribution in Manya Krobo District

Occupation MKD -2006			
Major Occupation	Percentage	Minor Occupation	Percentage
Farming	82.5	Trading	66.0
Laborer	8.8	Distilling/Tapping	21.3
Teaching	3.5	Laborer	10.6
Trading	1.8	Farming	2.1
Sewing	1.8	-	-
Carpenter	1.6	-	-
Total	100.00	-	100.0

Source: Field Survey by District Assembly, 2006

From table 4.2, it can be seen that farming is the major occupation of most of the inhabitants in the District accounting for about 82.5% of the total workforce. As with the nation, farming is the backbone of the local economy of the district. It is therefore prudent to give farming the needed attention towards the development of the District.

Trading is the leading minor occupation of the people and those involved are mostly petty traders due to inadequate capital to expand their activities. It could have been people's major occupation if they had enough capital. Again, this is also a reflection of a larger national trend where there is a preference for trading and not direct production activities. Efforts should therefore be made to create an enabling environment to promote productive activities.

4.2.1.5 Income and Expenditure level and pattern

As exists everywhere, income varies from one person to another, place to place, class to class among others. In Manya Krobo District, income is derived from six major sources that are detailed in Table 4.3.

Table 4. 3: Major Sources of Income in Manya Krobo District

Major Sources of Income	
Sources of Income	Percentage
Sale of farm produce	44.7
Sale of animals	23.7
Trading	19.8
Salary	5.3
Susu	5.3
Sale of furniture	1.2
Total	100.0

Source: Field Survey by District Assembly, 2006

From Table 4.3 it can be seen that income from farm produce is the main source of income to the people. It constitutes 44.7% of the main sources of income. This buttresses the point that the people are mostly farmers. Sales of reared animals (animal farming) constitute the second largest source (23.7%). It can be realized that the backbone of the local economy is agriculture and must be considered vigorously in planning for the District to enable it to develop and to reduce its poverty.

Trading (mostly petty trading) is another important source of income to the people. Many people are in trading but the capital involved is so meager that enough income is hardly realized. Income from salaried sources is considered to be more secure, but it is low in the District, due to the presence of only a few salaried workers. Most of these are education and health workers.

Generally, about 20% of the people receive more than 40% of the income, whilst more than 60% receive less than 20% of the total income. Over 70% of the low income people are farmers who live in the rural parts of the District and who are mostly women. In addition, about 60% of the people live on 23,000 cedis per month. This demonstrates the magnitude of poverty in the District.

Although income is skewed to a few areas, household expenditure is even, covering various activities. Food items take about 40.3% of the total expenditures, whereas 13.3% is spent on clothing. These two items are necessities of life, hence expenditures on them is usually high. However, overspending on them will adversely affect the other sectors as well as investment of the people. Surprisingly, expenditure on education, which is the engine of growth and development, is only 10%. This portrays how difficult it is for people to spend on education in the District. The low expenditure on education is a major contributor to the low level of education in the District.

Expenditure on health is also low. This can be attributed to the inability of the people to pay for conventional health care. Hence, they depend on traditional, herbal and spiritual treatment, instead of orthodox treatment. Agriculture production is mainly at subsistence level with an average farm size of 3.4 acres. The land tenure arrangements, which are important in agriculture, are owner occupancy (farmer's own land) and share tenancy (land lease to farmer to cultivate and produce, sharing outcome between the land owner and the farmer). The total land under cultivation is about 20.3 hectares. The main agricultural activity that is carried out in the District is farming (crop farming), with quite a significant proportion of the people engaged in fishing and livestock rearing.

Besides the crops identified in the tables, other legumes such as groundnuts, cowpeas, as well as tree crops such as mangos, palm tree products and cereals (especially rice) are also produced on a small scale. The major farming areas in the District are Asesewa, Sekesua, Akateng, Otrokper, Tenguanya and the mostly rural areas.

A common feature existing in the farming areas is that farm holdings are small and scattered in distant locations. Such distribution of farm holdings in different places is the result of inadequate land at one place. This inhibits the use of farm machinery for commercial

agriculture. The type of tools used on the farms is energy sapping which only the youth can do better. However, information gathered revealed that about 58% of farmers are aged above 40 years. Out of this 12% are above 60 years old. Farming is therefore undertaken by the aged in the District. Household labour is mostly used with some depending on hired labour while others combine the two. Few people use co-operative labour.

The principal source of funding for farming activities is the farmer's own savings. Thus, about 68.7% of the District farmers depend solely on their own savings. Some farmers are also utilizing other sources like private moneylenders and help from relatives. Credit facilities, in terms of soft loans from the financial institutions, are naturally non-existent (the Manya Krobo Rural Bank and the Upper Manya Kro Rural Banks). This could have helped the farmers improve or expand their activities. Data available shows that only 9.3% of the farmers in the District benefit from bank loans, which implies that micro-financing support would help.

There are two major rural banks, the Manya Krobo Rural Bank at Odumase and the Upper Manya Kro Rural Bank at Asesewa. The former has an agency at Kpong and the latter has opened two agencies at Koforidua. There is also a Ghana Commercial Bank situated at Akuse. Rural banks provide loan facilities to the people, especially traders and farmers. The Upper Manya Kro Rural Bank, in conjunction with two NGOs at Asesewa, provides micro-financing facilities to the people in the surrounding villages.

4.2.1.6 Microfinance Institution under study: Upper Manya Kro Rural Bank.

The Upper Manya Kro Rural Bank (UMKRB) was incorporated as Limited Liability Company in 1982. The Head office is located at Asesewa in the Manya Krobo District in the Eastern Region.

The Bank has two agencies at Koforidua and Somanya and six mobilization centres at Asokore, Nkurakan, Agogo, Obawale, Sesesua and Akateng, all in the Eastern Region. UMKRB is currently one of the fastest growing rural banks in the country.

The Upper Manya Kro Rural Bank (UMKRB) at Aseewa recorded an after-tax profit of 2.02 billion cedis in 2006 as against 1.5 billion cedis for 2005, representing nearly 35 percent increase. Total assets recorded a 31 percent rise moving from 26.7 billion cedis in 2005 to 34.9 billion in 2006. In 2006, the bank stepped up its social responsibility by spending 90.3 million cedis as against 27.6 million cedis in 2005 on some community support interventions for the benefit of a number of institutions and individuals in its operating areas. The stated capital of the bank increased from 585 million cedis in 2005 to 1.2 billion cedis in 2006

The bank for the year under review was its admission as the 45th member of "Ghana Club 100" for 2005 and that in the rural banking category of Ghana Club 100 for 2005; the bank was ranked first in the Eastern Region. By the end of 2006, after 6years of operation in microfinance, the organisation had almost 5000 borrowers (90% are women), with a loan portfolio of around ₵300million. Compulsory savings range from 11% to 16% depending on the loan size, and have grown at an annual average rate of 80% from 2001 to 2006, amounting more than ₵500million by the end of period. Deposits represented 2.38 times the loan portfolio that resulted in a loan-to-savings ratio of 32%.

4.2.2 PROFILE OF KWAHU NORTH (AFRAM PLAINS)

4.2.2.1 Location and Size

Created in 1988 out of the Kwahu District Council as part of the Government's local reform policy, the Afram Plains District is located in the northern most part of the Eastern Region. This makes it the largest district in the Eastern Region in terms of land mass.

The district capital is at Donkorkrom. The district shares boundaries with the Kwahu South District to the south, the Volta River to the east, the Ashanti Region to the west and the Brong Ahafo Region to the north. The District is located in the Northern - most part of the Eastern Region. It covers an area of 5,040 sq km and is the largest District in the Eastern Region in terms of landmass. The Afram Plains District shares boundaries to the south with Kwahu South District, to the east with the Volta River, to the west with two Districts in the Ashanti Region precisely the Sekyere-East and Asante-Akim Districts to the north with two districts in the Brong Ahafo Region namely Sene and Atebubu.

4.2.2 .2 Demographic Characteristics

According to the provisional figures released by the 2000 Population and Housing Census, the Afram Plains District has a population of 143,950. The population is male dominant with the males being 65%. The higher male population is due to the fact that the district is a typical migrant destination. Most of the people in the District are migrants from the Kwahu South District, the Volta Region, the Ashanti Region and the Northern Ghana who have been attracted to the area basically for employment in the agricultural sector and it is usually the men who migrate.

The population is scattered in 544 towns, villages and hamlets spread over the 5040 sq km land area. Hundreds of these villages are on islands and can only be reached by boat. Owing to the widespread nature of the population, the district has a low population density of 19 persons per square kilometre. There are three urban settlements namely, Donkorkrom, Tease and Ekye-Amanfrom. Poverty prevalence is about 70%, that is 70 % of the people in the district live on less than \$2 a day. The major ethnic groups are the Akans (twi) in the west. Ewe in the east and the banks of the Volta Lake while people of Northern extraction are found in most of the farming communities.

4.2.2.3 Occupation and Investment Potential

The residents are mostly farmers, fishermen and charcoal burners. The Kwahu North District combines the presence of abundant natural and human resources with well developed basic social infrastructure provided through the collaborative efforts of the Government, non-governmental organizations and the District Assembly itself.

The migrant nature of the district provides fertile and feasible grounds for investment in the provision of hotel or hospitality services. Also investment into Agriculture especially crop, animal and Agro-Forestry development is another area that would be worth investing into and which will definitely yield results. The majority of the soils in the district are fine sandy loams, clay loams and semi-clay loams.

The District has a potential for the cultivation of non traditional export crops such as ginger, black and hot pepper, cassava for processing into gari, maize, yam cashew, sunflower and citronella. With the abundant water from the Volta, Kwahu Obosom Rivers the District has the potential for the promotion of irrigation farming for cultivation of vegetables such as tomatoes, garden eggs, okro, onion, chili, cabbages and pepper.

Animal Husbandry involving the rearing of cattle, breeding of sheet and goats and keeping of poultry is very successfully practiced in the District whose predominant savannah vegetation is suitable for livestock. Agriculture provides more than half of the employment in the district, accounting for 54% of the labour force. The service sector follows with 37%, while industry employs 9% and fishing, one percent. Agricultural production and sheer productivity reflect high performance. Large scale production of yam, maize, cassava, beans, cocoyam and plantain, as well as legumes, such as cowpea and groundnuts and vegetables is undertaken. Tree crops such as cashew, citrus and oil palm are also cultivated.

Added to all these is the strong potential for the cultivation of non-traditional crops such as ginger, black and hot pepper, sun flower and citronella. Being almost surrounded by the Volta River, and also drained by the Kwahu and Obosom Rivers, the district has great potential for irrigation farming with which vegetables such as tomatoes, garden eggs, okro, onions, chilies, cabbages and pepper can be cultivated. Animal husbandry, involving the rearing and breeding of cattle, sheep, goats and poultry, is also proving to be greatly successful in the Kwahu North, whose predominant savannah vegetation is very suitable for livestock. Despite the large-scale agricultural production in the area, agro-based industry is yet to be fully developed there.

Thus, there is still plenty of opportunity for investors to take advantage of the availability of abundant agricultural raw materials to turn primary products into secondary products and so create value. For instance, cassava can be processed into cassava chips for export, while oil can be extracted from groundnuts and sunflower.

Favourable conditions for cattle rearing translate into great potential for the development of the dairy industry. Indeed, cattle abound all over the district, especially on Dwarf islands. The ceramics industry, concentrated primarily at Bebuso and Adeemmra, also holds strong potential due to the presence of large clay deposits in the district. Women at Bebuso, for instance, are engaged in pottery and other aspects of the clay-based industry. With three rivers, the Volta, Kwahu and Obosom, providing for lake transport and for inland lake fishing, the district's potential for tourism is enormous.

4.2.2 4 Microfinance Institution under study: Afram Rural Bank Ltd.

The bank started operating in 1982. Currently it has an asset base of ₦8,000,000,000. It has a board membership of seven and staff strength of 100. The main financial products of the

bank include: Savings and Current accounts, Fixed deposits, loans, microfinance and domestic transfers of the ARB Apex.

In 1999, the Afram Rural Bank Ltd Credit with Education program was installed. It has an aim of eliminating poverty, chronic hunger among other and sustaining food security among the rural productive poor women.

The program is a collaborative venture between the Banks, with Freedom from Hunger providing the technical support. The UNICEF provided the initial funding for the program. The support lasted for only one year. Ever since the bank has been continually funding the program until it broke even. Recently, the program has been able to source for external funds to support the activities of the program.

As at 2006, the program was operating in 13 communities with 36 CSAs, a total outstanding loan of ₦1,466,100,000 with a cumulative savings of ₦320,900,000. The total membership stood at 1,039 with borrowers totaling 958 and two credit officers manning the program. Within the year repayment had been very outstanding. Women made conscious effort to repay their loans on time. The program did not record any late or written off loan. The program staff and women alike continue to develop and implement stringent measures to curb loan repayment default. Over the period, women savings habits have improved tremendously. Women were mandated to save a minimum of 1% of their individual loan amount at every meeting either weekly or monthly. This step has yielded some positive effect on the bank's deposit mobilization drive.

Afram Rural Bank is still a very small bank with limited resources, it can comfortably boast of sound credit and portfolio management practices. As a matter of priority, money was readily made available for disbursement to its clients. This continually stimulates women

enthusiasm to repay their loans on time to access bigger loans possibly. Credit funds were always made available and disbursement were never delayed.

The program staff has been able to design a simple and flexible repayment schedule for program beneficiaries who access below one million cedis repay weekly whilst those who access above one million cedis repay monthly. This innovation and creativity continues to be a plus and has therefore whipped up women enthusiasm in the program.

The program is sustained financially institutionally and asset base. The program has put in place certain indicators to promote the sustainability. The effective monitoring of loans from appraisal through to the repayment stage, adequate logistics have been provided and an enabling environment has been created by management to the credit officers for optimum

The program is performing creditably well as a result of efficient service delivery practice coupled with innovations and creativity, which has given the program staff the edge over other competing programs in the district. We hope to improve upon our performance in terms of quality and profitability in the year 2007, with the signing of the MCA and the Afram Plains Agricultural Development Project in mind where the bank shall be used as the disbursing bank. The program has worked assiduously to combat most of its life threatening challenges and have not turned them into opportunities. Mention cannot be made of any tall challenge. Measures and strategies are always devised to overcome any adverse challenge. We were only faced with strengthening our structure and making available to women bigger loans to make good income.

4.2.3 PROFILE OF WEST AKYEM DISTRICT

4.2.3.1 Location and Size

The West Akyem District is in the Eastern Region of Ghana. It has an area of about 1,018 square kilometers. The District capital, Asamankese, is located 75 kilometres North-West of

Accra off the main Accra-Kumasi trunk road. West Akim District is located in the southern portion of the Eastern Region and shares boundaries with the Birim South District to the west, the Kwaebibirem District to the north, the Ewutu Effutu Senya and Ga Districts to the south and the Suhum Kraboa Coaltar District to the east. The district capital is Asamankese. The district falls within the semi-deciduous forest of the country. The vegetation is mainly characterized by tall trees with evergreen undergrowth and contains valuable and economic trees. Scattered patches of secondary forest are a characteristic of the vegetation.

4.2.3.2 Demographic Characteristics

According to the 2000 Population and Housing Census report of Ghana, the population of West Akyem District was 91,382 in 1970, 126,794 in 1984 and 154,161 by 2000, and growing at an annual growth rate of 2.5%. It is estimated to be 165,931 by the year 2004. The population density is 125 persons per square kilometer.

4.2.3.3 Age-Sex Distribution

The 2000 Population and Housing Census revealed that 48.9% of the district population is males as against 51.1% females. This gives a sex ratio of 95.7 males to 100 females, which is lower than the Regional sex ratio of 96.4 males to 100 females. The district has about 57.5% of its population falling within the potential labour force (i.e. 15 - 64) and the economic dependency ratio is 1:0.8.

4.2.3.4 Occupational Distribution

The predominant occupation in the district is subsistence agriculture, employing 52.1% of the total labour force. Trade/commerce employs 25.3%, Tradesmen/Artisans 12.0%, Public Servants 7.5% and the unemployed 3.0%.

4.2.3.5 Settlement Patterns

With the exception of Asamankese, Adeiso and Osenase which are urban, the rest of the settlements are non-urban and very small communities. However, there is a very strong economic, social and political interaction between the smaller settlements and the urban centres. These settlements are separated from each other by a distance of between 2-8km and vehicles mostly speed along the main trunk roads within the district and from the district capital by an average distance of 25km. The remaining smaller settlements are scattered all over the district, with their nucleus consisting of a primary school and an "odikro's" palace/house. Most settlements are nucleated with a few dispersed ones.

4.2.3.6 Housing Characteristics

The average house occupancy rate in the district is about 13 persons and the average household size is 6 persons. Room occupancy rate is 2.0 which is lower than the standard of 2.5 person/room and the national figure of 3.0

4.2.3.7 Agricultural Sector

Agriculture is the main economic activity in the West Akim District and employs about 52.1 % of the labour force. Generally large-scale farming activities are limited in the district. Agriculture in the district is on subsistence level, and very few farmers engage in plantation farming. Production situation in the district is shown in the Table 4.4.

Table 4.4 Agricultural Production in the District

Agricultural Production in the District			
Crop	Estimated Area (Ha)	Estimated Yield (MT/HA)	Production (MT)
Maize	9,900	1.60	15,840
Cassava	12,100	12.40	150,040
Plantain	7,120	7.70	54,824
Cocoyam	9,100	6.80	61,880
Yam	600	14.27	8,562

Source: MOF A, 2006

Farms sizes in the district range from 0.2 ha to over 2 ha (see table 4.4). The few medium-size farms average 0.84 hectares. About 52% of the total district land area of 1018km² is under cultivation. Most farmers cultivate in 2 or 3 locations of an average of 0.83 ha in a sedentary farming system. With an increase in population there is every tendency that in the future, there would be pressure on farm land and might result in encroachment on forest reserves which could enhance the deforestation problem.

Table 4.5: Farm Size per Farmer

Farm Size		
Farm Sizes (Ha)	No. of Farmers	% of Farmers
0.2	30	15.2
0.4	72	36.4
0.8	36	18.2
1.0	12	6.0
1.5	12	6.0
Above 1.5	36	18.2
Total	198	100

Source: Baseline Survey, Kesse- Tagoe & Associates, October, 2002.

The major cash crops cultivated in the district include cocoa, oil palm, citrus, and others. These are cultivated by both peasant farmers and companies on plantations. The largest company in citrus cultivation and processing is the PINORA Company at Asamankese. Cocoa which is an exportable crop and a major foreign exchange earner for the country is widely produced in the district. The district used to be the leading cocoa producing district, but has now declined due to the intensive bush fires and the diversification of economy in which some farmers now cultivate other crops like citrus, pineapples and non-traditional export crops. The average farm size of the crop is 0.6 hectares. Oil palm extraction is done locally and on a small-scale in the district. Farmers cultivate the crop in the gently sloping low lying but well drained sites. The crop is marketed by private peasant farmers. There is one medium-scale processing factory at Topease

Livestock are kept by farmers who are also engaged in crop farming. The animals reared are sheep, goats, poultry and pigs. About 89% of livestock farmers rear sheep, goats and fowls using the backyards of their living areas. Poultry farming, which is the pre-occupation of 8.6% of farmers engaged in livestock farming, is predominantly found in Asamankese, Adeiso, and Mepom. Only about 2.6% of livestock farmers engage in piggery. High production cost is limiting producers from increasing their stock. Cattle rearing are not much practised.

Financing of farming activities in the district is largely from own savings. As savings are very low, capital formation becomes difficult and even when it is accomplished it is too low to impact positively on agricultural production in the district. Other sources of finance are from own sources and from money.

4.2.3.8 Sources of Household Income

The main sources of household incomes in the district are crop farming, livestock farming, fisheries, business/trading, family workers salaries, manufacturing, food processing and remittances. The next important source of income is in the area of commerce. Trading, manufacturing and agriculture related processing constitute a total of 40%. Further analysis of the source of income from the district revealed that though income from crop farming ranked 4th as a source of income in terms of earnings, the bulk of the population is derived their incomes from this source. Thus any attempt to raise household incomes of the bulk of the people of the district must target the agricultural sector.

4.2.3.9 Inequality and Incidence of Poverty

Inequality in the distribution of income is very much in the district: Though the average household income is around ₦992,353, the distribution is highly skewed. 60% of the district's

income is in the hands of only 20% of the population. Based on the method used by the Ghana Statistical Service for the study of poverty in Ghana, the poverty lines identified represent two-thirds and one-third of the value of the district's average living standards (per capita) respectively. These give us ₵661, 569, per annum as the actual poverty line and ₵330,784 per annum as the hard-core poverty line defining the very poor. This indicates that about 60% of the population of the district earn below ₵661,569 per annum.

Whilst about 52% are at the hard core poverty level as at 2002. With the current district population of 154,161 (Ghana population and housing census, 2000) and with 60% of the population earning less than ₵661,569, the population which fall below the poverty line it is estimated at 92,867 with the incidence of poverty at 0.60 or 60%.

In the district property ownership by households is seen as an indicator of the standard of living of the people in the district. Results of baseline survey indicate that 88.5% of households have a radio/radio cassette whilst 44.9% have television set. Though figures are not available from previous surveys, for comparison, this, compared to other districts in the region, indicate a moderate standard of living, if household property is anything to go by.

With the current district population of 154,161 (Ghana Population and Housing Census, 2000) and with 60% of the population earning less than ₵661,569, the population which fall below the poverty line is estimated at 92,867 with the incidence of poverty at 60%. The poverty gap as the income shortfall of the poor is 0.56 or 56%. This identifies the extent to which incomes of those who are poor fall below the poverty line. The measure of aggregate poverty gap for the district computes to ₵24,910,270,000. This means that the district must raise the incomes of all the poor people in the district by approximately ₵25 billion to enable them get out of poverty and reach the poverty line.

4.2.3.10 Microfinance Institution under study: South Akim Rural Bank Ltd.

This Bank is part of the Ghana Club 100 companies. This organization mainly operates in Suhum Kraboa District, West Akyem District and the New Juaben District. The South Akim Rural Bank made a profit of ₵1.021 billion for 2006 despite challenges faced during the year. The amount was slightly lower than the ₵1.142 billion made the previous year. It is one of the foremost providers of microfinance in the Eastern region. It provides service to all sorts of artisan.

4.2.4 PROFILE OF YILO KROBO DISTRICT

4.2.4.1 Location and Size

It shares boundary with Manya Krobo district in the North and East; Dangbe West and Akwapim North Districts in the South; New Juaben and Fanteakwa District in the West. The district covers an estimated area of 805 sq. km. Somanya is the capital of the Yilo Krobo District. It is 69.0 km from Accra (the capital) and about 50.0 km from Koforidua (the regional capital).

4.2.4 .2 Demographic Characteristics

The district total population according to the 2000 population was 86,107 signifying a 4.1% increase over the population in 1984. With a growth rate of 2.6%, the district's population is currently estimated at 97,898. The 2000 population census gave a sex ratio of the district as 96 indicating the presence of more females than males. The population in the age group 0-14 accounts for 39.07% of total district population, this couple with an 8.45% population above 60 years does not only mean a high demand for social services and health facilities, but also high age dependency ratios. The district has a population density of 107 persons per square kilometer. The district is predominantly rural with more than 67% of its population living in rural areas. The average household size for the district is 4.9 persons.

4.2.4 .3 Settlement Pattern

There are 237 settlements in the district, out of these only 25 have populations up to 500 and above, the rest have populations below 500 people. This makes the provision of facilities and services economically not viable since most of the settlements would not have the required threshold for the provision of such facilities. The only urban settlement in the district is the district capital (Somanya). The gap between the population sizes of Somanya (23, 973) and the 3 other large settlements (Nkurakan, Klo-Agogo and Huhunya) combined (7,153) is very wide, and therefore better spatial spread of development intervention is needed to reduce the dominance of Somanya.

4.2.4 .4 Environmental Situation

Majority of the households in the district live in dwellings constructed with modern materials. Most of these dwellings are compound houses, which are potentials for quick spread of communicable diseases, especially cholera. The major economic activities in the district are, Agriculture, Services, Trading and Small Scale Industrial activities. About 58% of the working population is engaged in agricultural activities. Service, Trading (Commerce), and Small Scale Industrial activities employ 18.1%, 12.9% and 7.2% of the working population respectively. Effort at promoting economic activities in the District by the District Assembly is not encouraging. Analysis reveals that spending by the District Assembly on Agriculture and Industry in 2001 was 6% and 0% respectively.

The current spending trend of the district needs to be changed if the issue of poverty is to be addressed in the district. The average household income for the district is ₦4,418,823.00 (\$552.35), and the average per capita income for the district is estimated at ₦901,895.00 (\$112.73) per annum. These figures are very low and cannot pay for individuals' basic necessities, if one takes into consideration the current cost of living in the country. The

district depends largely on external sources of revenue. The external revenue sources in 2001 for instance contributed about 82% of the total revenue of the District Assembly.

4.2.4 .5 Agricultural Sector

Crop farming is the principal agricultural activity in the district. The main crops grown in the district are maize, cassava, yam, cocoyam and plantain. A wide range of vegetables like tomatoes, garden eggs, pepper and okro are also grown. All these crops are cultivated largely on small-scale basis. The district has however seen the emergence of a few medium scale farms within the last few years. Plantation crops – large scale (typically mango) are gaining much ground as a result of the interventions of the Food and Agriculture Ministry and some NGOs (e.g. ADRA). Tables 4.6, 4.7 and 4.8 provides data on types of crops produced, types of livestock reared and the educational background of farmers in the Yilo Krobo District respectively.

Table 4.6 Crops and Growing Areas

Crop	Main Areas of Cultivation
Oil Palm	Akpo, Akpamu, Huhunya, Apersua, Obenyemi, Korm
Tomatoes	Akpo, Akpamu, Huhunya, Boti
Garden Eggs	Akpo, Akpamu, Huhunya, Agogo
Pepper	Oterkpolu, Huhunya, Sikabeng, Agogo
Maize	Throughout the district
Plantain	Ahinkwa, Nsutapong, Agogo
Yam	Akpo, Akpamu, Boti, Perpetifi
Cassava	Throughout the district
Okra	Perchiri, Okwenya, Akorley
Mangoes	Somanya, Upper Yilo

Source: MOFA, Somanya 2006

Table 4.7: Production figure for various livestock from 1999-2005

Type	1999	2000	2001	2002	2003	2004	2005
Cattle	2,047	2,174	2,374	2,070	2,153	2,178	2,112
Sheep	4,733	5,287	5,478	5,183	5,358	7,561	4,637
Goats	5,260	7,293	6,246	6,297	5,659	8,313	6,152
Pigs	753	286	315	286	175	714	304
Poultry	20,500	25,908	18,345	16,512	11,755	11,755	7,917

Source: MOFA, Somanya 2006

Table 4.8: Level of Education of Farmer

Level	Percentage
None	35.5
Primary	1.0
JSS/MLSC	58.8
SSS/Technical	2.6
Higher Education	2.1

Source: MOFA, Somanya 2006

From table 4.7, poultry production fell from 20500 birds in 1999 to less than 8000 birds in 2005. This shows that the production of birds reduced by about 75%. Production of sheep and goats generally went up though they declined in number in 2005. Table 4.8 also shows that most of the farmers in the district have educational background below secondary school level.

4.2.4 .6 Major Economic Activities

The major economic activities in the district are Agriculture, Services, and Trading and Small Scale Industrial activities. About 58% of the working population is engaged in agricultural activities producing mainly staples like maize, cassava, plantain and cocoyam. Service, Trading (Commerce), and Small Scale Industrial activities employ 18.1%, 12.9% and 7.2% of the working population respectively.

The Service Sector consists predominantly of Government sector employees. The main trading activity in the district is the sale of provisions and hard wares most of, which is imported into the district from Accra, Tema and Koforidua. This situation does not promote the growth of the district economy. Trading in agricultural produce especially foodstuff is also common and great number of the people who trade in foodstuff sell fish from Volta and Greater Accra regions.

4.2.4.7 Income/Expenditure Analysis

Income levels of 388 households were assessed using per capita household expenditures as a proxy indicator. The underlying assumption is that households can only spend what they have earned. Based on the above assumption, the estimated total income 1,714,503, 600. This gives an average for the 388 households interviewed was ₦4,418,823.00 (\$552.35). Based on the average household size household income of 4.418,823, the average per capita income for the district was estimated at 901,895.00 (\$112.73) per annum. This figure is very low and cannot pay for individuals' basic necessities, if one takes into consideration the current cost of living in the country. The Table below shows income levels by area council in the district.

Table 4.9: Annual Total Household Income by Area Council

Area Council	Annual Total Income (in cedis)	Per capita Income (in cedis)
Boti	119,660,400	425,859
Klo-Agogo	114,509,400	702,511
Nkurakan	374,674,560	1,070,498
Obawale	70,005,600	897,507
Nsutapong	148,906,200	1,019,905
Oterkpolu	145,680,240	771,244
Somanya	744,061,200	1,233,932
Total	1,717,497,600	6,121,456

Source: District Assembly

4.2.4 .8 Expenditure Pattern of Households

Expenditure patterns show that food constitutes the highest household expenditure item. It constitutes 39 percent of total household expenditures. Expenditure on water is the next highest. It constitutes 6.4 percent and expenditure on health constitutes 6.1 percent. On the average more is spent on clothing (5.6%) than on education (5.1%) Expenditure on Gas is the least expenditure item. It constitutes 0.6 percent of the total expenditure.

4.2.4 .9 Microfinance Institution under study: KROBODAN GHANA

KROBODAN GHANA is an NGO operating in the Yilo Krobo district in the Eastern Region of Ghana. This NGO has its sister partner by name Krobodan Denmark operating in Denmark. Hitherto, this organization was called Ghana Wanzambiapa Denmark Community Friendship Organisation (GWDFCO), so Krobodan is a continuation of a friendship organization which started its operations in the 1989. The organization's foundation came as a result of expansion in the areas of operation to cover a whole district. The mission of Krobodan is to work with the poor, vulnerable and marginalized to eradicate poverty and ignorance, promote the growth of civil society and gender balance by overcoming the injustice and inequalities that hinders development Management of Krobodan.

The departments are, Single Mothers Micro Credit Project, Landless Farmers Project, Krobodan Transport, Krobodan Internet Café, Computer Training Center, the Youth Department and the Guest House. The last structure is the zonal executives who are responsible for the work in the various zones. The organization has demarcated the district into twenty zones. A zone is made up of a number of communities coming together to form a zonal committee with Chairman, Secretary and Treasurer. Out of these zonal committees, people are elected to executive board.

Locally Krobodan works with Yilo Krobo District Assembly, Department of Social Welfare, District Health Administration, District Directorate of Education, and the District Directorate of Food and Agriculture all in the Yilo Krobo District. Aside these collaborators the organization works with Ghana Denmark Community Project (GDGP) at DALUN Tamale in the northern region. KROBODAN has Micro Credit Project for Single Mothers. This project started on a pilot base in 2003 with ten (10) single mothers. In 2005, the project gained sponsorship from DANIDA. The first year of DANIDA sponsorship saw sixty (60)

Vulnerable and Marginalized Single Mothers recruited into the project in 2005. In the following year, eighty (80) more beneficiaries were added to the existing number of sixty. Another group of beneficiaries numbering eight (80) were recruited in 2007 and added to the beneficiaries on the project. The total number of beneficiaries on the project now stands at two hundred and twenty (220)

Microcredit activities Beneficiaries on this project are organized into activities such as: Beads making, Palm oil /Kennel oil extraction and Soap making. Beads making is a process of recycling waste glass to produce glass beads jewelry. This aspect of the project has Pernille Bulow A/S as a project developer from Denmark. Bulow as a project developer, runs workshops to train women in colour works and design of beads and glass beads jewelry, and buys the finished products on fair trade principles. Many of the items produced by the women are sold on the Scandinavian markets and America.

4.3 THE CONCEPTUAL AND EMPIRICAL MODEL OF THE STUDY

4.3.1 THE CONCEPT OF THE MODEL

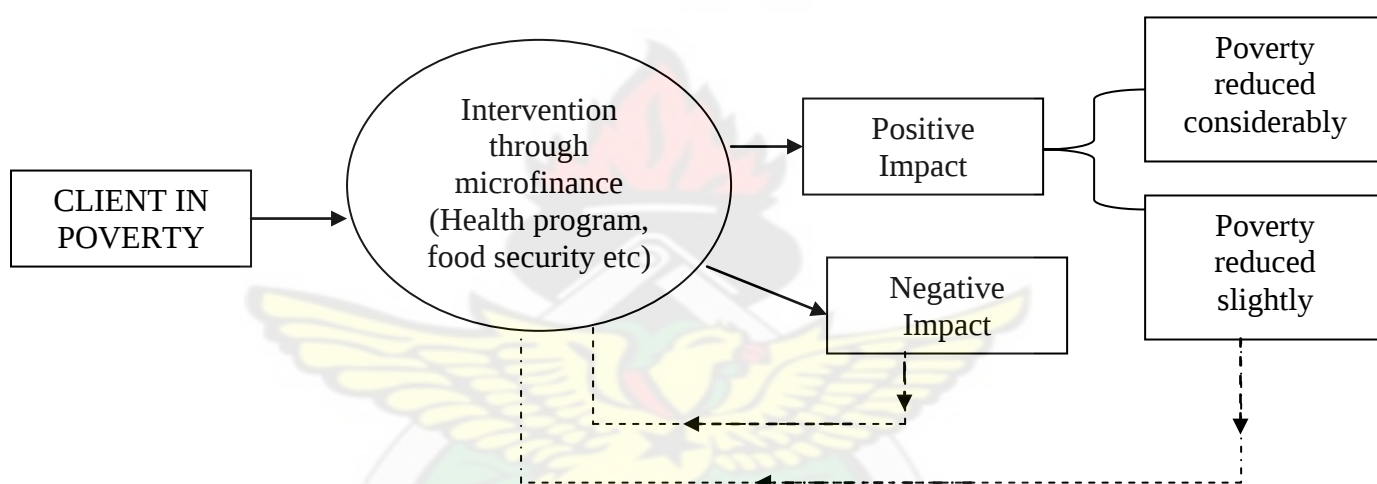
A type of quasi-experiment that is often referred to as *a non-equivalent, post test-only quasi-experiment* in which two groups of households were interviewed. A major problem that emerges with the *non-equivalent, post test only quasi-experiment*, referred hereafter as simply *quasi-experiment*, is that the two groups, treatment and control, may differ in important ways that influence the decision of borrowing and thus, the outcome of interest.

In order to reduce potential selection problems, households who had self selected to participate in a credit programme and had been accepted by the lender and therefore were actively participating in the credit programme were eligible to be sampled as *programme*

household group. Participants with loans in arrears were also included in the group in order to strengthen the internal validity. Similarly, households who had self-selected to participate in a credit programme and had been accepted by the lender, but had not received a loan by the time the quasi-experiment was conducted, were eligible to be sampled as the *non-programme household group*.

The conceptual model used in the present study is illustrated in Figure 4.

Figure 4: Conceptual/Working Model for the Study



Source: Author's own construct (2008)

In this model, it is assumed that right from the beginning a client is in poverty as shown in the first rectangle in figure 4. An intervention programme is designed for the poverty client. This microfinance intervention may either be Health programme, education programme, food security or microcredit programme. Clients are taken through one or a multiple of these interventions. The intervention may either have positive or negative impact. When clients experience poverty impact which means poverty has considerably reduced then it means that the microfinance programme or intervention is successful. On the contrary, if the result of the programme shows positive impact but poverty could not reduce considerably or there is a negative impact, then there is the need to go back to the stage where the intervention was

implemented. That is, the type of intervention should be changed or different combination interventions should be tried.

4.3.2 SAMPLE MODEL OF THE SAMPLE SURVEY METHOD

According to Maddala (1983) the benefit from an intervention programme can be estimated using the following model.

$$Y_i = X_i\beta + I_i\alpha + u_i$$

Where Y_i is the outcome (income, profit, value of business assts, expenditure on children education, household expenditure on food and expenditure on non-food household expenditure).

X_i is a vector of exogenous households characteristics and I_i is a dichotomous variable with value $I = 1$ if household i is a programme household, $I = 0$ otherwise. The model measures the impact of programme participation by the coefficient of the parameter estimate, α . An important assumption here is that programme participation is *always* voluntary. The variable I_i cannot be treated as exogenous if we assume a potential problem of *selection bias*, i.e. if the decision of a household of whether or not to participate in the credit programme depends not only on the effort, abilities, preferences and attitudes towards risk that generate individual *self-selection*, what we refer to as a demand-related bias, but also on the *selectivity discrimination* made by credit programmes, referred here to as a supply-related bias)

In the case of self-selection programme participant, I is an endogenous variable. According to Maddala (1983), if I is an endogenous variable then the equation must be estimated by instrumental- variable technique.

Maddala (1983) derives a more general model for estimating benefits of the programme:

$$Y_{1i} = X_{1i}\beta_1 + I_i\alpha + u_{1i} \quad (\text{For programme household})$$

$$Y_{2i} = X_{2i}\beta_2 + u_{2i} \quad (\text{For non programme household})$$

$$I_1^* = Z_1\gamma_1 - \varepsilon_1$$

$$I_2^* = Z_2\gamma_2 - \varepsilon_2$$

Where I_i is defined by two components: I_1^* refers to the decision of a household of whether or not to participate in a credit programme, and I_2^* refers to the decision of the credit officer or group members of whether or not to accept such applicants. In this sense,

$I_1 = 1$ if household i choose to participate in the credit programme

$I_1 = 0$, otherwise

$I_2 = 1$ if household i is accepted by group members or the credit officer

$I_2 = 0$, otherwise

$$Y_{1i} = X_{1i}\beta_2 + u_{1i} \quad (\text{Programme household})$$

$$Y_{2i} = X_{2i}\beta_2 + u_{2i} \quad (\text{Non programme household})$$

$$I_i^* = Z_i\gamma = \varepsilon_i$$

Maddala (1999) suggests to define I_2^* over the whole population i.e. identify households with business activity or living in the same neighbourhood, and then analyse the model from the truncated sample where the parameters γ_1 and γ_2 can be estimated by maximising a likelihood function, e.g. Probit or Tobit. The argument is, Maddala states, that in principle I_2^* exists even for the non applicants (1999). Thus, the observed Y_i can be defined as $Y_i = Y_{1i}$ if $I_i = 1$, and $Y_i = Y_{2i}$ if $I_i = 0$, where the participation decision function is given by $I_i^* = Z_i\gamma = \varepsilon_i$.

Maddala (1983) therefore derives the covariance matrix as follows

$$\text{Cov}(u_{1i}, u_{2i}, \varepsilon_i) = \begin{pmatrix} \sigma_{11} & \sigma_{12} & \sigma_{1\varepsilon} \\ \sigma_{12} & \sigma_{22} & \sigma_{2\varepsilon} \\ \sigma_{1\varepsilon} & \sigma_{2\varepsilon} & 1 \end{pmatrix}$$

In that case we can now specify the following for both programme participants and non-participants.

We can therefore calculate the programme benefit by deducting the expected outcome without the programme [i.e. $E(Y_{2i} | I_i = 0)$] from the expected outcome with programme [i.e. $E(Y_{1i} | I_i = 1)$]. In that case the expected gross benefit from the programme is

$$E(Y_{1i} | I_i = 1) - E(Y_{2i} | I_i = 0) = X(\beta_1 - \beta_2) + (\sigma_{2\varepsilon} - \sigma_{1\varepsilon}) \frac{\phi(Z_i\gamma)}{\Phi(Z_i\gamma)}$$

$\phi(\cdot)$ and $\Phi(\cdot)$ are the density of the distribution function and the cumulative distribution function of the standard normal, respectively. Under self-selectivity, $(\sigma_{2\varepsilon} - \sigma_{1\varepsilon}) > 0$, therefore equation (10) will report greater coefficients. In other words, households with comparative advantages will benefit more from the credit programme than disadvantaged households.

4.3.3: EMPIRICAL MODEL OF THE STUDY

The two empirical methods used are the statistical difference test method and regression analysis. The two-sample (programme household and non-programme household) problem arose because the study employed a randomized comparative experiment. In using the statistical difference test, the study compared the mean of the various variables (Expenditure on children education, expenditure on food, expenditure on non-food items and household income) among the control and treatment groups. This was done using the standard two-sample test procedure.

For the regression analysis four main were estimated and analyzed. Regression analyses were used to capture the effect of regressors on the main impact variables. The statistical difference test could not do that.

A probit regression model was used to **determine the probability of sample households to participate in a microfinance programme**. A probit model is used in order to explain the determinants of microfinance participation. The participation equation is the following:

$$I_i^* = Z_i\gamma + e_i \quad (1)$$

Where I_i^* = the i^{th} household's status variable (**PARTICI**)

Where $I_i = 1$ (for a programme household) and

$I_i = 0$ (for a non programme household).

Z_i = key business characteristics and household characteristics which indicates the i^{th} household's participating in microfinance scheme.

The **probit method** of estimation was used to estimate the household participation functions. The probit specifications are designed to analyze the qualitative data reflecting a choice between two alternatives. It provides a way of qualifying the relationship between the individual characteristics in addition to other explanatory variables and the probability of choosing an alternative. Estimating the probit model is performed by maximizing the likelihood function with respect to all coefficients. A probit model is an appropriate choice here, as the information is available only on whether a credit transaction was observed or not, rather than on the amounts of credit received.

Secondly, the **demand function** for microcredit was estimated. The model that was estimated was as follows

$$y_i^* = \alpha + \beta_1 X_{ki} + \beta_2 V_{ij} + \varepsilon_i \quad (2)$$

y_i^* $\equiv$ The amount of credit (**AMT**) demanded by the i^{th} household

X_{ki} = the k^{th} characteristics of the i^{th} household

V_{ji} = the j^{th} explanatory variable that affect demand for credit for the i^{th} household.

Interest rate which is the cost of borrowing was not included in the model because interest had no direct or indirect relationship with the amount which is borrowed by the i^{th} household. Since interest rate does not vary from household to household but remains the same no matter the amount borrowed and therefore interest rate has no apparent effect on the amount borrowed. The data is first tested for selection bias using the Two-Step Heckman procedure. Research has it that such bias is equivalent to missing variable bias, and can be overcome by including the inverse Mills ratio from the sample selection equation in the equation of interest. Thus the use of a Heckman two-stage selection model (Heckit), where the selection into the sample of those who demand credit is first modeled, and the inverse Mills ratio (lambda) from this regression is incorporated into the equation of interest.

It is calculated for each observation of the selected sample (those who applied for loans) from the PROBIT model used for microfinance participation analysis. If the coefficient of the IMR (λ) is found to significant, sample selection bias is really exists and including IMR as an additional regressor is relevant and increases efficiency. In the contrary, insignificant effect of Inverse Mill's Ratio indicates no sample selection bias is detected That is if $H_0: \lambda = 0$, we have no selection bias other $H_1: \lambda \neq 0$, we have a problem of selection bias. If there is no selection bias then the Ordinary Least Square regression procedure is used. This model is used to determine the factors which affect the demand for microcredit in a household.

Thirdly, the regression ***model for estimating the impact of microfinance*** was defined as

$$y_{ji} = \alpha + X_{hi}\beta + A_i\delta + G_{ki}\phi + u_i \quad (3).$$

Where y_{ji} = is the j^{th} outcome of the i^{th} household

X_{hi} = is a vector of exogenous i^{th} households' characteristics

Where h = age, marital status, occupation etc.

A_i = is the total amount credit (**AMT**) taking by i^{th} household

$A > 0$ if household i is a programme participant,

$A = 0$ if household i is not a programme participant.

G_{ki} = vector of i^{th} non household exogenous factors

Where k = shock and remittances

α, β, δ , and ϕ Parameters to be estimated and u_i = the disturbance term.

Equation (3) was estimated using OLS regression method. This model is used to test hypothesis number 2.

In the empirical results provided in chapter five, the following regression variables have been aptly defined.

- Household income= (**HHICOME**),
- Monthly profit= (**PROFITMTH**),
- expenditure on children education= (**EXPEDUC**),
- household expenditure on food =(**EXPFOOD**
- expenditure on non-food household expenditure = (**EXPNONFOOD**).
- Age= (**AGE**),
- Sex =(**SEX**),
- marital status =(**MARISTA**),
- number of household members= (**NUMHME**),
- dependency ratio= (**DEPRATIO**)
- occupation of the person who took the credit= (**OCCUP**).

- shock experienced by household in the last six months before interview (**SHCOK**), remittance from friends and relative elsewhere (**REMIT**)
- number of months household has been part of the microfinance programme (**LENPART**)
- number of dependents = **DEPENDET**
- purpose for which credit was taken = **PURPOSE**
- distance from clients house to where MFI is = **DISTANCE**
- total household expenditure = **TOTALEXP**
- Repayment ability = **REPAYPRO**
- Total amount of credit taken = **AMT**
- Value of business assets = **VALUEBUSASST**
- Level of education = **LEVELEDUC**

The model measures the impact of programme participation by the coefficient of the parameter estimate, δ . An important assumption here is that programme participation is *always* voluntary. The variable A_i cannot be treated as exogenous if we assume a potential problem of *selection bias*, i.e. if the decision of a household of whether or not to participate in the credit programme depends not only on the effort, abilities, preferences and attitudes towards risk that generate individual *self-selection*, what we refer to as a demand-related bias, but also on the *selectivity discrimination* made by credit programmes, referred here to as a supply-related bias).

The variable number of months household has been part of the microfinance programme (**LENPART**) will determine the distinct impact of credit on household's income. Therefore, the coefficient measures the distinct impact of program on the dependent variables. Also the coefficient of **AMT**, γ will measure the actual impact.

Finally, a regression was estimated to determine the impact of microcredit on poverty, while controlling for socio-economic variable. That is estimating the marginal effects of borrowing across the poverty line. The model would be used to test hypothesis five.

The first step was to establish objective poverty status of households in programme household group and that of the non-programme group. The calculation is based on the World Bank's definition of poverty. That is any person living on less than US\$2 a day is below the poverty line. A comparison of the poverty status of program households to that of non-program households is done using cross tabulation. The test statistic was the Pearson chi-square. Any person living on US\$2 or more is given a dummy of 1 otherwise 0

To establish the real marginal effect the model below was used. Estimation was done using a logit equation.

$$\text{prob}(Pl_{ij} = 1) = f(X_{hi}, LENPART_i, v_i) \quad (4)$$

Where $Pl_{ij} = \begin{cases} 1 & \text{if } ith \text{ household is above poverty line} \\ 0 & \text{otherwise} \end{cases}$

X_{ih} = vector of household characteristics for the ith household and jth observation

$LENPART_{ih}$ = length of days with credit for the ith household and jth observation

v_{ij} = error term the ith household and jth observation

Equations 1, 2, 3 and 4 were estimated for each of the four districts. The same equations were also estimated for all the four districts put together. The estimation for the four districts put together was done to help get an idea about the impact of microfinance at regional level. Also it was done to fish out variable which are significant four all four districts. The estimations of the regressions were facilitated by the use of SPSS and GRETL software. The estimated are presented in chapter five.

CHAPTER FIVE

EMPIRICAL RESULTS, DISCUSSION AND ANALYSIS

5.1 Results and Analysis of Microfinance Impact using the Statistical Difference Test method

The main aim of this study is to assess the impact of Microfinance in the four districts under study and this is what we have in the sections that follow. The impact will be measure in variables like Household income, expenditure on children education, expenditure on food, expenditure on non-food items and profit of household business. In this section the impact would be measured by comparing the means of the treatment group (programme households) with control group (non-participants). The t-test statistic was used to test for significance.

5.1.1 Impact of Microcredit on Expenditure on Children Education

To compare of the expenditure on children education for the two groups is base on the null hypothesis that there is no significant difference between the expenditure on children education of programme households group and non-programme household group.

Table 5.1: Average Expenditure on Education of Children for the Four Districts

Statistic/District	Kwahu North	Manya Krobo	West Akim	Yilo Krobo	Pooled sample
Mean exp. for non-participants(¢)/number of households	179,189.19 (37)	468,030.30 (33)	672,545.45 (55)	355,000.00 (10)	463,814.81 (135)
Mean exp. for participant(¢)/ number of households	491,429.45 (163)	619,395.21 (167)	124,4068.97 (145)	212,300.00 (100)	669,846.96 (575)
Mean exp. for total sample(¢)	433,665.00	594,420.00	1,086,900.00	225,272.73	630,671.83
t-statistic	-3.495	-1.103	-2.664	2.507	-2.491
Sig.(2-tailed)	0.001	0.274	0.008	0.029	0.013
Degree of freedom	198	74	196	11	420
Sample size	200	200	200	110	710
Decision	Reject H_0	Accept H_0	Reject H_0	Reject H_0	Reject H_0

Source: Estimation (2008)

The result of the estimation for client of Kwahu North District as shown in table 5.1 shows that the null hypothesis should be rejected. The non-programme group has a mean expenditure of (GH ¢ 17.9189) is less than the programme group has a mean expenditure of (GH ¢ 49.1142). Comparing the t-statistic of (-3.495) in the t-test procedure with the critical value of (-1.645) and a p-value=0.001. The conclusion is that there really strong evidence to reject that null hypothesis. This confirms the fact that microfinance is to help support clients (poor) to get their children to school to be educated. What the results portray is what is supposed to happen when the poor are taken through microfinance programmes. Based on the test statistic we can conclude that there is an impact on expenditure on children education.

The result of the estimation for households in the Manya Krobo district gives a strong evidence to accept the null hypothesis. There is a slight difference in the mean expenditure but the test statistics shows that the difference is statistically insignificant. The result showed a t-value of (-1.103) as compared to the critical value of (-1.645). The p-value of 0.245 is also greater than the significance level value of 0.05. The only explanation to this will be the implementation of the capitation grant by the government of Ghana. Since most children in these rural areas do not go to school beyond the Junior High School level there is no incentive to spend on education.

In table 5.1 the result for client of West Akim District who belong to the South Akim Rural Bank shows that non-programme households had a mean expenditure which less than the mean for the programme households. Given the general average expenditure of GH¢ 108.7 on children education for the total sample the programme households expenditure was greater than that of non-programme households. This difference was significant. The t=-

2.664 and the p-value is less than 0.10. With these figure there was an evidence to reject the null hypothesis and accept that programme households spent a lot on their children education than non-programme households. The clients in the West Akim District had a lot of their children in the secondary schools. This may be the reason why programme group has an average greater than that of the average of the three banks pooled together. We can conclude that the microcredit has had some impact in the district.

The programme households who are client of KROBODAN in the Yilo Krobo district had mean monthly expenditure on children education greater than the mean expenditure for non-programme households. Though the difference was statistically significant given value of the t-statistic the difference rather portrayed a negative impact. The result gives a strong evidence for us to reject the null hypothesis.

The results for the estimation when the observations for the four districts were pooled together it showed the following evidence. The means expenditure for non-programme households was less than that of the programme households. The participating households had mean expenditure greater than the general mean expenditure for total sample of 200. The t-test ($t = -2.491$) showed that the difference in expenditure between the groups is significant thereby showing some level impact. The p-values give enough evidence for us to reject the null hypothesis.

5.1.2 Impact of Microcredit on Food Expenditure for Households

One of the most important aim of any microfinance institution is to help the reduce poverty among the poor. When it comes to poverty reduction one of the issues which stands tall is helping poor households get enough food to reduce malnutrition. Therefore it will not be out of order if the to compare the expenditure made on food by those who have go through a

microfinance programme to those who are yet to participate. This would show whether participating in microfinance programme has an impact on expenditure made on food. The comparison is done using the t-test. The analysis was based on the null hypothesis that there is no significant difference between food consumption expenditure of programme households and that for the non-programme households.

The second column of table 5.2 shows the average monthly food consumption expenditure of households who are clients of Afram Rural Bank in the Kwahu North district. The average monthly food consumption expenditure of non-programme household which was ₵307567.57 (Gh₵30.75) was less than the average monthly food consumption expenditure for programme households is ₵ 563717.79 (Gh₵56.37). The results showed that the t- value of (-2.422) was statistically significant and rejects the null hypothesis. The rejection of the null hypothesis provided evidence of impact of the credit in the Kwahu North district. This result is consistent with the main idea behind microfinance.

Table 5.2: Average Expenditure on FOOD for the Four Districts

Statistic/District	Kwahu North	Manya Krobo	West Akim	Yilo Krobo	Pooled sample
Mean exp. for non-participants(₵)/number of households	307,567.57 (37)	555,454.55 (33)	539,272.73 (55)	360,000.00 (10)	466,444.44 (135)
Mean exp. for participant(₵)/ number of households	563,717.79 (163)	625,628.74 (167)	676,682.76 (145)	312,150.00 (100)	566,434.78 (575)
Mean exp. for total sample(₵)	516,330.00	614050.00	638895.00	316500.00	547422.54
t-statistic	-2.422	-1.274	-2.545	1.886	-2.626
Sig.(2-tailed)	0.16	0.208	0.12	0.254	0.009
Degree of freedom	195	51	137	15	528
Sample size	200	200	200	110	710
Decision	Reject H_0	Accept H_0	Reject H_0	Accept H_0	Reject H_0

Source: Estimation (2008)

The result for clients of Upper Manya Kro Rural Bank in the Manya Krobo District presented in table 5.2 shows that average monthly food consumption expenditure for programme

households is less than the average monthly food consumption expenditure for the non-programme households. The difference in the average food consumption expenditure for programme households is only 11% greater than that of the non-programme households. The t-test value (-1.274) in table 5.2 was not statistically significant. The p-value (0.208) also gives strong evidence acceptance of the null hypothesis. This means that the 11% difference is not statistically significant and not different from zero. There is no statistically significant difference in the food consumption of programme households and non-programme households. The reason for this may be due to the fact that the households are found in farming communities where people do not spend a lot of money on food since they normal feed themselves from the farms.

Also the results in column four of table 5.2 shows the average monthly food consumption expenditure for clients who belong to the South Akim Rural Bank Microfinance scheme in the West Akim District. The results presented an average food consumption expenditure of ₵539272.73 (GH₵53.927) for non-programme households and an average of ₵676,682.76 (GH₵ 67.668) for programme households. Programme households average food consumption expenditure is 21% greater that of the non-programme households. The table for the t-test also shows that the difference is statistically significant and also gives a base to reject the null hypothesis. Although most of the clients in this district were farmer there was a statistically significant difference between the treatment and control households. The results also give some evidence of impact of microfinance.

The results for the comparison of average monthly food consumptions expenditure for households which belong to KROBODAN Microcredit Scheme in the Yilo Krobo District is shown in column five of table 5.2. The average monthly food consumption expenditure for non-programme households is ₵360000.00 (Gh₵ 36.) and the average monthly food

consumption expenditure for programme households is ₵316500.00 (Gh₵31.65). The percentage difference is 6.4 and it is in favour of non programme households. Notwithstanding the value of the difference the t-test result shows that the difference is not statistically significant meaning that difference is not different from zero. Again most of the household were engaged small food animal farming which provided them basic food. This accounts for insignificance of the difference.

The results as presented in table 5.2 column six show the result for the pool sample data for four districts in terms of average food consumption expenditure for households. The table shows that average food consumption expenditure for non-programme households is ₵466444.44 (Gh₵ 46.64) and that for programme households is ₵566434 (Gh₵ 56.64). These averages depict a difference of 9% in favour programme households. The value for the t-statistic in column six of table 5.2 also shows that the 9% difference is significant at (5%) significance level. The p-value provides enough evidence to reject the null hypothesis. This is a good sign for microfinance in Ghana.

The results of all the estimation for food expenditure shows that microcredit increases entitlement on food through increase in income of programme households and these households can afford more to expend on food. In terms of significance The Kwahu North, West Akim and the Pooled Sample showed signs of impact on food expenditure.

5.1.3 Impact of Microcredit on Non-Food Expenditure for Households

This section of the study looked at the comparison between non-food expenditure for programme households and non-programme households. The composition of this expenditure is basically made up of expenditures made on energy, utilities and any other miscellaneous expenditure. Microfinance practitioners have always defended the view that a poor household

receives a microfinance intervention in the form of credit; there will be a transformation in that household income and this will translate into their household expenditure. That is, programme households mostly exhibit high household expenditure as compared to that of the non-programme household. The basic aim of this section of the study is to discuss the results in table 5.3 confirm whether view held microfinance practitioners is true or not for microfinance institutions under review. The null hypothesis says that there is no significant difference in the non-food expenditure made by non-programme households and that of programme households.

Table 5.3: Average Expenditure on NON FOOD ITEMS for the Four Districts

Statistic/District	Kwahu North	Manya Krobo	West Akim	Yilo Krobo	Pooled sample
Mean exp. for non-participants(¢)/ number of households	353,775.68 (37)	582,121.21 (33)	326,581.82 (55)	91,000.00 (10)	379,049.63 (135)
Mean exp. for participant(¢)/ number of households	456,060.12 (163)	109,4101.80 (167)	594,310.34 (145)	236,290.00 (100)	638,011.83 (575)
Mean exp. for total sample(¢)	437137.50	1009625.00	520685.00	223081.82	588772.54
t-statistic	-1.9064	-3.3220	-2.753	-7.078	-4.501
Sig.(2-tailed)	0.290	0.002	0.006	0.000	0.000
Degree of freedom	94	47	194	105	336
Sample size	200	200	200	110	710
Decision	Accept H_0	Reject H_0	Reject H_0	Reject H_0	Reject H_0

Source: estimation (2008)

The average expenditure made on non-food items for programme households in the Kwahu North district is ¢353775.68 (Gh¢35.37) and the average for non programme households is ¢456060.12 (Gh¢45.61). The difference between the averages of the two groups in terms of percentage is 23. Although this difference is quite substantial the t-value shows that the difference is not statistically significant meaning that the difference is not different from zero. This leads to the acceptance of the null hypothesis and for that matter no impact.

The results for Manya Krobo district as shown in column two of table 5.3 shows that the average expenditure made on non-food items by the non-programme client is less than that of the programme households by an amount of Gh¢ 51.9 representing a 50% difference. The difference is very substantial and judging by the t-test values the difference is statistically significant and gives strong evidence for the rejection of the null hypothesis. From the results it can be concluded that there is a statistically significant difference between the average expenditure made on non-food items by the non-programme households and programme households for client in the Manya Krobo district.

Average expenditure made on non-food item by the households in the West Akim is presented in the column four of table 5.3. The figures in the table for the West Akim district showed that non-programme household had an average expenditure which was about 45% low than the average expenditure made on non-food items by programme household. The t-value for the West Akim district in table 5.3 also shows that the difference was statistically significant. Also the p-value gives way for the rejection of the null hypothesis. It could be concluded that the average expenditure of programme household of SARB is higher than that of the non-programme households and the difference is also significant statically. In district the impact of microfinance is very high of non-food expenditure.

The difference between the average expenditure of Non-programme households in the Yilo Krobo District who and programme households is very substantial. The difference between these two average expenditures represents a percentage difference of 65%. The difference is very significant statistically. This difference really shows that the credit given to the households is supporting the households since poor households always find it difficult to pay non-food expenditure.

Finally, the result for average expenditure made on non-food items for the pool sample for is presented in table 5.3 gave enough evidence for the rejection of the null hypothesis. There was a significant difference between the average expenditure on non-food items for the control households and the treatment household. In a nutshell, the results showed that, with the exception of the Kwahu North district, the three other districts plus the pooled showed enough evidence of impact of microcredit. When a comparison was made with the results for expenditure on children education and expenditure on food, it is evident that the impact is really felt the area of non food expenditure. The may be so because the capitation grant and self owned farms may have mitigated the hardship in the first and second results respectively.

5.1.4 Impact of Microcredit on Income Households

The impact of Microcredit on household income is the main area of concern most donors and microfinance practitioners. As usual this section will consider the significance of the difference in the income of both programme households and non-programme households in the various districts.

Table 5.4: Comparison of Average Household income for the Four Districts and the Pooled Sample

Statistic/District	Kwahu North	Manya Krobo	West Akim	Yilo Krobo	Pooled sample
Mean exp. for non-participants(¢)/number of households	105,1702.70 (37)	128,1818.18 (33)	691,454.55 (55)	406,000.00 (10)	913,355.56 (135)
Mean exp. for participant(¢)/ number of households	685,828.22 (163)	230,7185.63 (167)	109,3793.10 (145)	410,800.00 (100)	1,211,773.91 (575)
Mean exp. for total sample(¢)	753,515.00	2,138,000.00	983,150.00	410,363.64	1,155,032.39
t-statistic	1.879	-3.787	-2.341	-0.095	-2.698
Sig.(2-tailed)	0.067	0.000	0.020	0.926	0.007
Degree of freedom	40	54	176	13	261
Sample size	200	200	200	110	710
Decision	Accept H_0	Reject H_0	Reject H_0	Accept H_0	Reject H_0

Source: estimation (2008)

As shown in table 5.4, there is no statistically significant difference between the average household income of non-programme households and programme households who are clients of Kwahu North District. Non-programme households had an average household income which was greater than average household income for programme households. The t-value and the p-value give enough bases to accept the null hypothesis. A final conclusion can be given if this result is compared with the results in the regression analysis.

Secondly the table above also presented the result for the average income for households in the Manya Krobo district. From the table average household income of non-programme was about 44.4% less than the average for programme household. The difference between the two averages was ₵1,025,368 and goes in favour of programme households. The t-value result in table presented evidence for the significance of the difference. The p-value also gives cause for the rejection of the null hypothesis. The difference depicts evidence of impact of microcredit on household income in the Manya Krobo district.

The West Akim District had an average household of ₵983,150.00. The average households income for non-programme households is less than the average by an amount of ₵ 291,695.45 and that for the programme households was greater by an amount of ₵119,643.10. The difference between the two average incomes in terms of percentage is 40%. The t-statistic showed that the difference was significant and therefore rejects the null hypothesis. It can be conclude that there is a statistically significant difference between the average household incomes of programme households and non-programme households and therefore an impact.

A further consideration of table 5.4 shows that the average incomes for treatment households were not different from the average household income for the control households in the Yilo

Krobo district. A cursory glance at the figures without looking at the t-value gives the conclusion. This means that for now we cannot talk about an positive impact of microcredit on household income in the Yilo Krobo district. This result raise questions as to how the difference in expenditure for non-food items was significant but difference in income is not significant. The regression result gives more insight into this situation.

The tables that present the results for the pooled sample for the four districts showed that there is statistically significant difference between the average household income of programme households and non-programme households. The t-value table show a t-value of (-2.698) and a p-value of (0.007). In a nutshell impact of microcredit on household income at the pooled sample level is significant. Finally, one thing was certain, that is, all the results for the pooled sample in all the four estimations were statistically significant.

5.2 IMPACT OF MICROCREDIT ON HOUSEHOLD INCOME HOUSEHOLD SMALL BUSINESS PROFITS.

5.2.1 Results and Analysis of the Impact of Microcredit on Household Income

In this analysis we will control for some variable which are likely to impact on household income. Examples of some of these variables are Shock in last six months, remittance, household size, number of other household borrower and the number of household members who earn wage. The results of the estimation in this section are based on equation 3 in chapter four.

The result in table 5.5 for the Kwahu North clearly shows that main impact variable was (AMT) significant. The other impact variable which the number of months the household has been with the credit was positive but the coefficient is not different from zero. The

coefficient of the intercept is also positive. This means that the programme has a positive impact on household income and this impact is significant. The variable AMT being significant and positive mean that the impact of per cedi borrowed has some kind of impact on household income.

We can also see from the result for the Kwahu North district that change in household income could not solely attributed to their participation status in microfinance scheme. Variable like Number of wage earner and remittance impacted positively and significantly on households' income. On the other hand the type of occupation of those who took the loan impacted negatively on their household income.

The R^2 was very small but was consistent with previous studies. (e.g. Niño-Zarazúa, 2007). The F-statistic shows that the model was also significant. Though the regression results show that there has been some positive impact of microcredit on household income in the Kwahu North district the marginal impact is quiet negligible. Thus is consistent with the test results in the difference method where the H_0 was accepted.

TABLE 5.5: RESULTS OF REGRESSION IMPACT OF MICROCREDIT ON HOUSEHOLD INCOME

<i>Variable/Districts</i>	KWAHU NORTH	MANYA KROBO	WEST AKIM	YILO KROBO	POOLED SAMPLE
const	660217* (1.7860)	3.36994e+06 (1.4008)	699172 (1.3569)	235138 (1.4880)	1.04028e+06*** (4.4691)
AGE	-4908.84 (-1.1572)	-39287.2*** (-3.4482)	-10281.9 (-1.1459)	-1348.27 (-0.6941)	-20606.2*** (-5.2821)
MARISTA	-19525.4 (-0.4437)	-13029.3 (-0.0967)	-10609.4 (-0.2008)	-10122.8 (-0.9498)	-58460.8** (-2.2651)
OCCUP	-33905.5*** (-2.8507)	6529.4 (0.1977)	13663.1 (0.4578)	5374.57 (0.8385)	-9657.95 (-0.5365)
LENPART	13336.1 (0.3091)	188420 (1.6023)	26157.6 (0.2474)		40863.8 (0.9699)
OTHERHHBOR	109885 (0.4214)	338010 (0.9754)	-144821*** (-2.6161)	-120205*** (-3.7851)	-38847.1 (-0.5285)
HHWOKWAGE	161834** (2.2002)	-72294.8 (-0.7448)	84955.5 (1.3438)	66862.7 (1.6615)	17963.8 (0.3601)
SHOCK			-90103.9 (-0.3885)	-18429.1 (-0.7373)	-64401.4 (-1.0553)
REMIT	315162** (2.0636)	-379855 (-0.3247)	233896*** (3.1669)	118813** (2.3017)	433312*** (7.8703)
AMT	0.0573403** (2.3925)	0.0767515* (1.7687)	0.172182*** (2.7128)	0.119121 (0.8342)	0.160711*** (6.6242)
<i>Unadjusted R²</i>	0.07691	0.12423	0.13961	0.09681	0.19182
<i>Adjusted R²</i>	0.03825	0.08755	0.09885	0.01741	0.18128
<i>F-statistic</i>	(8, 191) = 3.77	(8, 191) = 3.386	(9, 190) = 5.20268	(8, 91) = 22.1017	(9, 690) = 22.6954
<i>Log-likelihood</i>	-2978.64	-3139.03	-3099.87	-1359.88	-10813.2

Source: Estimation (2008) (* Sig. 10%, ** sig. 5%, *** sig. 1%) * Values in parenthesis represent estimated t-values.

The OLS result for impact of microcredit on household income is found in the table 5.5 above for the Manya Krobo district shows that the coefficient of the intercept is positive although it is not significant. This gives the first signal that the programme has positive impact. The main impact variable AMT was positive and significant. That is the more a household participate in the programme, that household is likely to have increased household income.

The difference in the income in favour of programme households is coming from the amount of credit receive because its coefficient in the regression analysis is statistically significant. The result for Manya Krobo also showed that age of the clients had negative impact on household income. The R^2 and F-statistic was better than that of Kwahu North district and is still consistent with already existing knowledge.

The variable that measures the impact of microcredit AMT, on household income is positive and significant for West Akim district in table 5.5 above. This result is consistent with the results in the t-test. The significance of the remittance variable and its positive nature shows that the increase in income for programme household is partly affected by remittances and therefore we cannot assign the significant difference between programme households and non-programme household totally to microcredit.

Positive nature of the intercept shows that the programme is having a positive impact on households. The length of stay in programme is not significant because most of the respondents interview had be in the programme a little above one year.

On the other hand we can see that the number of other borrowers in the house impacts negatively on the income of household. Household should be advice not to engage itself in multiple credit schemes as that practice affects household income negatively. If we compare the results of the

three preceding district, the microfinance programme of South Akim Rural Bank had a high impact on the household income of its client than any of the other two institutions.

In terms of the strength of the model, the model for West Akim district was stronger than the entire model for the four other districts. With an R^2 of 0.139 and F value of 5.20268 the model is consistent with previous studies. The result of the regression analysis is consistent with the results in the t-test. Table 5.5 shows that the scheme in the Yilo Krobo district is having no impact on the income of the household.

The programme is not having any significant impact because the credit sizes are just too small to cause any real change in the income of the households. A loan of about ₵500, 000 (GH₵50) is just not enough to cause substantial change in household income. We can see that most of the changes in household income are due to remittances received from other source. Also the number of other borrowers impacted negatively on the household income.

Looking at the result for the pooled sample in table 5.5 the intercept is positive and significant, showing that the microfinance has positive impact on the income of poor households. The main variable that measure the impact of microcredit on the households in positive and significant. The remittance variable is also positive and significant. When we compare the coefficient of the main impact variable and that of remittance we can conclude that remittance has a greater impact on household income than microcredit. The impact per each cedi borrowed is also positive and significant. On the other hand marital status and age impacted negatively on household income. The R^2 and F values show a relatively strong relationship given the primary nature of the data used for the analysis. Judging from what we see from the table above there is no reason to doubt that microcredit has impact on the incomes of poor households in the Eastern region of Ghana even though the programmes of some of the institutions are not yielding the expected result.

5.2.2 Regression Result and Analysis of the Impact of Microcredit on Household Small Business Profits.

Since the main aim of microfinance is to extend credit to the poor who are not able to access loans from formal financial institutions for income generating activities, it will not be out of order to measure the impact of microfinance on the business profit of loans applicants.

In table 5.6 the results for the impact of microcredit on profits of small businesses is presented . All the intercepts are positive but only the one for Yilo Krobo district was significant. Although the most of the intercepts were not significant their positive nature proofs some level of positive impact. There was no result for the Kwahu North district because the estimation was spurious. The R^2 was very weak and the F value showed that the model was not significant.

The next variable for consideration was the type of occupation of loan applicants. From the table 5.6 we can see that with the exception of Yilo Krobo district all the coefficient were positive and significant. The nature of the coefficient of type of occupation plays an important role in volume of profit a small business may obtain. Since most of the respondent were farmers and traders, it means that farming and trading play an important role in our economy. Also it was not surprising to see that payment for employee had a positive and significant level of profits of small businesses. This means that some of the increase in profit can be attributed to payment of employees.

TABLE 5.6: Results of Regression Impact of Microcredit on Profit of Household Small Business

<i>Variable/Districts</i>	MANYA KROBO	WEST AKIM	YILO KROBO	POOLED SAMPLE
const	729368 (1.0910)	445233 1.2418	226671* (1.7227)	185888 (0.9278)
OCCUP	76777.9*** (2.6962)	54645.4** (2.0765)	3617.44 (0.6758)	40761.3*** (3.4291)
SECTORECON	-166669 (-1.4906)	-138173** (-2.0989)	-1277.74 (-0.06460)	-116076*** (-2.9858)
LENPART	-255950*** (-2.8772)	-234838*** (-3.7713)	-0.784114*** (-3.7403)	-0.805113 (-1.4465)
LEVELEDUC	3991.6 (0.0505)	-52250.7 (-0.8366)	43250.9** (2.1849)	-12165.8 (-0.3841)
YEAROFOPER	4892.65 (0.3166)	20464.3* (1.6684)	1683.86 (0.4093)	7260.04 (1.4448)
PAYEMPLOY	1.34133** (2.0582)	1.03729** (2.2644)	0.647554*** (4.0376)	0.890439*** (3.3233)
DAYWEEK	31742.5 (0.5471)	76734.7 (1.3513)	55320*** (2.7943)	29816.9 (1.2715)
AMT	0.156115*** (4.8517)	0.229353*** (7.1792)	-0.457698*** (-4.5427)	0.116453*** (8.9120)
<i>Unadjusted R²</i>	0.18286	0.30342	0.44225	0.15447
<i>Adjusted R²</i>	0.14395	0.27425	0.39763	0.14357
<i>F-statistic</i>	(9, 189) = 4.69929	(8, 191) = 10.3998	(8, 100) = 9.91142	(9, 698) = 14.169
<i>Log-likelihood</i>	-3063.37	-3019.44	-1467.4	-10701.6

Source: Estimation (2008)) (* Sig. 10%, ** sig. 5%, *** sig. 1%)

The main variable for the measure for the impact on profit, i.e. AMT had positive and significant coefficients for West Akim district, Manya Krobo and the Pooled sample. As a matter of fact the amount of credit taken by a household impacted negatively on the profits of small businesses for the clients in the Yilo Krobo districts. The means a negative impact on profits. Perhaps this may due to the small nature of the amount of credit which is given to the client of the KROBODAN microfinance scheme. The coefficients for Manya Krobo, West Akim and the Pooled sample are a sign of positive and significant of microcredit on profits.

On the contrary, the number of month clients spends in a credit scheme was found to be detrimental to profit of small businesses. The coefficients were negative and significant for Manya Krobo, West Akim and Yilo Krobo districts. Although the coefficient for pooled was not

significant it was still negatively. This situation calls for serious attention since some of the clients have microfinance schemes for about six years.

5.3 Results and Analysis of Household Participation in Microfinance Projects (Determinants of Applications for Loans)

The estimation was done to determine the factors, which influence microfinance market participation. Participation is determined by household characteristics but also by the institution which selects clients according to a set of criteria. As indicated in the previous chapter, the estimated regression results in table 5.7 are based on the Probit model of equation (1).

Estimated coefficient Kwahu north district in table 5.7 for repayment ability was negative and significantly different from zero. Repayment is negative and significantly related to household's probability to apply for a loan. This implies that households with low repayment abilities are likely to participate in the credit market in the Kwahu North District.

Looking at household income, the coefficient is negative but not statistically significant. This means that the probability that a household in the Kwahu North area is affected by the income of the household as we know from microeconomics. The negative sign gives a high probability for households with low income to apply for loans although it is not significant. The behaviour of the coefficient of household income is what translated into the negative nature of the coefficient of repayment ability. Marital status of the individual taking the credit for the household was positive and was also statistically significant in determining household's participation in the credit market in the Kwahu North District. Total expenditure which is made up of expenditures on food, non-food items, rent and expenditure on children education was also positive and statistically significant. This meant that poor families with higher expenditure had a higher tendency to participate in the credit market in the Kwahu North district.

Age, number of dependents in household, purpose for taking the loan, profit from small scale firms for households and distance of household from meeting site were all not statistically significant. This means that there is no relationship between Age, number of dependents in household, purpose for taking the loan, profit from small scale firms for households and distance of household from meeting site.

Occupation of the individual involve has a negative impact on the probability to apply for a loan. It is not surprising that occupation has a negative sign because it is related to the household's income. Most households look at the occupation of its members before they apply for loans. The intercept was also statistically significant. The negative coefficient for the intercept means clients with low income are less likely to participate in the credit market. A look at the goodness of fit shows that the model predicts correctly 178 (89.0%) of the 200 observations for the client in the Kwahu North District.

Estimate in table 5.7 for the Manya Krobo district showed that the estimated coefficient for household income was negative but not significant. This again is shows that the clients who participate in microcredit market may not necessarily be looking at their income before they participate in the credit market. This is due to the fact household with high income earners have the ability to repay loans and therefore are not afraid to enter the credit market.

Table 5.7: Probit Estimation for Probability for a household to join a Microfinance Programme.

<i>Variable</i>	<i>KWAHU NORTH</i>	<i>MANYA KROBO</i>	<i>WEST AKIM</i>	<i>YILO KROBO</i>	<i>POOLED SAMPLE</i>
const	3.99412*** (4.5129)	-1.96381** (-2.1377)	-1.81399** (-2.3652)	3.00202** (2.2236)	-0.538906* (-1.6981)
AGE	0.000544924 (0.0467)	0.0129544 (0.6960)	0.00934914 (0.7084)	-0.0188411 (-0.8942)	0.00298178 (0.5357)
MARISTA	0.25364* (1.7438)	0.0537175 (0.3182)	0.115994 (0.8145)	-0.115123 (-0.9817)	0.0786609 (1.5222)
OCCUP	-0.10043** (-2.1459)	0.0279264 (0.7060)	0.0593887 (1.3267)	0.0773611 (1.2251)	0.0315023* (1.6864)
DEPENDET	-0.0173979 (-0.3262)	0.0613801 (0.7798)	-0.0226827 (-0.4588)	0.143276* (1.7125)	0.014211 (0.6096)
PURPOSE	-0.280128 (-0.9752)	1.89792e-07 (1.0088)	-0.0820001 (-0.2883)	0.211008 (0.7116)	-0.11299 (-0.8866)
HHICOME	-2.10562e-07 (-1.0497)	-0.0613763 (-0.1564)	1.43128e-07 (0.8841)	9.09463e-07 (0.7682)	1.17406e-07* (1.7669)
PROFITMTH	1.66155e-07 (0.6285)	-2.39611e-08 (-0.1923)	-9.57804e-08 (-0.6404)		3.56537e-09 (0.0451)
DISTANCE	-0.0520104 (-0.4784)	1.3272*** (6.4825)	0.012953 (0.1124)		-0.0402667 (-0.7863)
REPAYPRO	-1.79366*** (-5.5188)	-0.234865* (-1.6561)	1.01994*** (7.1870)	-1.01624** (-2.4451)	0.494556*** (6.6995)
TOTALEXP	6.42064e-07** (2.5122)	3.37379e-07 (1.1133)	1.07294e-07 (1.1295)		(1.50744e-07** (2.4825)
<i>Number of cases 'correctly predicted'</i>	178 (89.0%)	183 (91.5%)	173 (86.5%)	98 (89.1%)	605 (85.5%)
<i>McFadden's pseudo-R²</i>	0.326	0.451	0.35	0.20	0.114
<i>Likelihood ratio test: Chi-square</i>	(10)=62.58	(10)=80.78	(10)=82.53	(7)=13.53	(10)=78.5
<i>Log-likelihood</i>	-64.485	-49.18	-76.368	-26.744	-304.24

Source: Estimation (2008)

* 10% level of statistical significance

** 5%level of statistical significance

NB. values in parenthesis represent t-values

***1% level of statistical significance

On the hand, the results for the estimation for the Probit model in table 5.7 for distance of households for MFI plays an important role in the Manya Krobo District. The coefficient for Distance is positive and statistically significant. This meant that households closer to meeting site have a higher tendency to continue in credit market participation than those who leave far way from the meeting site. This very true, given the fact that some have to walk long distances in order to get to the bank and attend weekly meetings. Notwithstanding the fact that the Bank travel to their village to serve them distance is deter the poor from applying for loans in the UMKRB.

The ability to repay the loan is an important factor when one is making the decision as to whether to borrow or not. This is reflected in the results for Manya Krobo District. The ability to repay variable is significant 10% level of significance. Having more than one loan may indicate good relations with lenders and eligibility. Age, level of education, value of household business assets, years of operation, occupation and profit per month of household business were all not significant. In terms of goodness of fit, the model was able to correctly predict 91.5% of the observation.

The results of the probit model in table 5.7 for the probability to apply for loan in the West Akim District showed that repayment ability and household saving have great influence on the probability for a house to apply for loan from SARB. The coefficient of repayment ability is positive and significant. This only emphasizes the results of the two banks discussed above. The coefficient of household income is positive but no significant and that of occupation, gender, household size distance and year of operation showed no relationship with the decision to apply for loan from SARB. The model correctly predicted 86.5% of the observation making it a good model.

The case of the clients of sampled in the Yilo Krobo district is different from the other selected districts. As stated early the client for the KROBONDAN MFI is selected based on the criteria of the client being a widow or a single mother. The agent of KROBODAN went into the community to find out vulnerable single mother who are selected into the scheme. But the fact that some single mothers who selected did not join the scheme meant that those who join took some things into consideration before participating in the KROBODAN scheme.

The analyses in table 5.7 showed that repayment ability was still an important factor the clients considered before they went for the loans. Given their single motherhood nature it is not surprising to see that Number of Dependent was an important factor that determined the participation of the clients in the Yilo Krobo District. The goodness of fit was 89.1% as the model correctly predicted 98 observations to be true to estimation. When all the observations for all the four districts were put together the following variable were found to be positive and statistically significant. They were household income, repayment ability, total expenditure and occupation by heads of households.

There was a positive relationship between income and participation in West Akim district and Yilo Krobo district and means that as the income goes up they apply for high loans. This gives an impression that household in West Akim district still considers the collateral they have before they apply for credit. There is a negative relationship between household income and applications for loan in the Manya Krobo and the Kwahu North districts. Secondly Repayment ability counts a lot in the decision to borrow. Here also household with high repayment ability had a high probability of applying for credit. The pooled sample result in table 5.7 does not deviate from the normal behaviour of the variable estimated as we have it is known in microeconomics. The model correctly predicted 85.5% of the observation as explaining the variation in the dependent variable.

The number of years household head had been in business did not matter in credit market participation decision at the pooled sample level.

5.4 Results and Analysis of the Determinants of demand for Microcredit

The results presented here were based on the model indicated in equation two of the empirical model of the previous chapter. The equation of interest includes age, education, household composition (dependency) and monthly profit of business, length of participation microfinance programme, total expenditure, years of operation of business, value of household business assets, and purpose for taking the credit. The selection equation includes variables relating to level of education and marital status.

The values for lambda that is the inverse Mills ratio in the test for selection bias was not statistically significant in all the districts and therefore the OLS estimation was used to estimate the demand function for credit in the study areas.

Table 5.8 shows that the coefficients of the period of participation or length of time one have spent in the microcredit are different from zero. The positive coefficient for the OLS regression shows that the longer a client stays in the credit scheme, that person is likely to ask for higher amount of credit. This is due to the fact that, bank agent develops confidence in those who have been part of the scheme for longer period of time and therefore are not afraid to risk in giving such client huge sums of loans. For the bank has been able to offer sums more than thousand (GH¢1,000) Ghana cedis to some client who started with the scheme about 6 years ago. Another determinant of demand for credit in the Kwahu North district is total expenditure for households. The results as depicted in table 5.8 shows that poor household with high expenditure will demand for larger credit facilities. The coefficient for the OLS is positive and statistically significant. This result is

consistent with already existing knowledge on the relationship between the expenditure of poor households and their demand for credit.

It is not surprising to see that the coefficient of the level of education which is statistically significant is negative. Already existing knowledge has shown that households' head that have higher level of education are those who are likely to participate in the credit market and demand for higher loan. By their education level they know the opportunities available. The results from the estimation show that ones level of education is very important factor in the determination of how much credit to take. Moreover the negative coefficient come from the fact that most of the MFIs are afraid to risk higher loan to less educated people.

The Kwahu North district is made up maize and yam farmers. Although microfinance scheme do not demand collateral, they look at the size of the asset of their client before they give out the amount the clients are applying for. This is evident in the estimation results in table 5.8 .The positive coefficient in both the OLS result for the value of business has clearly confirmed the notion stated above. Households with huge asset tend to demand bigger loan as they can use their asset to defray debt in case they are not able to pay for the credit.

Household income and age are also significant in the estimation. House income is not an important determinant for the demand for credit in the Kwahu North district since those in the scheme are already poor households. This is a good sign and shows that the MFI is really ready to help reduce poverty in the district. The adjusted R^2 figure in table 5.8 shows that only 11% of the variation in the amount of credit demanded can be attributed to the independent variable. The F-statistic 3.9495 also confirms that the overall strength of the model significant at the critical F-statistic for (12,

187) = 2.336 at $\alpha=0.01$. The results show that lambda is not significant which means that there is not selective bias and therefore the OLS estimates are consistent.

The coefficient for the intercept in both the OLS estimation is negative and significant at $\alpha = 0.001$. Judging by the OLS estimation it would mean that we have a positive sloping demand curve which is not different from what was found for demand curve for Kwahu North District. The coefficients for household incomes, total expenditure, marital status, occupation were all not significant. This is a good sign for microfinance market participation. It depicts that the MFIs are not giving out the credit based on the household income or household total expenditure.

In the Manya Krobo district the number of dependents was a major determining factor for how much credit a client will demand. Since high dependency ratio exerts huge consumption expenditure client with large families and dependent would demand for huge amount to help supplement the amount of money spent on dependents.

Here again the time spent in a microfinance scheme was important in how much credit a household would demand. As explained earlier clients who have been with the scheme for a long time poses low risk for MFIs and therefore MFIs are ready to give them huge sums of credit. The coefficient for the length of time a client has been with a microfinance scheme was positive and significant. The longer one stays in a credit programme the higher the sum of credit the person likely to demand.

The area in the Manya Krobo district where the clients were interviewed is a major market centre where a lot of the clients who are farmers also trade. The coefficient for monthly profit of household business is positive and significant. The implication of this positive and significant

coefficient is that households and client would look at their level of profit as security in the securing the credit from the MFIs. The positive nature of the coefficient tells us that the higher the profit of households that household is likely to demand a larger some of loan. MFIs indirectly use this profit variable also to determine whether they should give you the exact amount the client demand or not.

The adjusted R^2 of 0.35 gives a fairly strong coefficient of determination given the primary nature of the data. Also the F-statistic was significant meaning that the total variation in the dependent variable (total amount of credit) was explained by independent variables.

The result for West Akim District for the determinant for demand credit in table 5.6 is not different from the results we have in the estimations for the two preceding districts. The constant were significant and negative. The length of time a client stays in a credit scheme was also positive and significant just as what was found the Manya Krobo District. The coefficient for monthly profit was also positive and significant. The explanation given to that of the Manya Krobo district is valid for West Akim district. In addition to the variables described above, the variable PURPOSE which stand for the purpose for which the loan was going to be used for. The coefficient is significant at $\alpha=0.05$ and also positive. This is also one variable MFIs really looks at before they give out credit. The looking at the various reasons why the households went for the credit, one could infer that if the client is going to use the credit for income generating activity or start a small scale firm, they are likely to demand for bigger and larger loan. The South Akim Rural Bank is very conscious of this variable. For example the bank has been given loans amounting to more GH¢1,500 to some individual who trade in maize trading. The results also show that size of households is important in the amount of loan that is demand. Larger families tend to demand larger microcredit. This is due to the fact that larger house tend demand microcredit to support household consumption expenditure. The coefficient of determination for the West Akim district

which is about 46% is better than the one in the estimation of the two districts above. The F-statistic is also larger than that of the two preceding districts.

The estimation results for the Yilo Krobo district in table 5.8 present very interesting results. The results have been so because of the criteria for selection clients into the KROBODAN microfinance scheme in the Yilo Krobo district. Although the clients in KROBODAN do not determine how much they can demand, the results of the estimation has show that some other factors accounts for the amount the clients are given.

First, the coefficient for Occupation was found to be significant and positive in both the OLS. The KROBODAN MFI which basically deals with poor single mothers offers these women employment in form of bead making. The women pay for the credit from the profit they get from the beads they made. The beads are bought by MFI itself. This reason also accounts for the significance of the coefficient for the value for business assets.

The Profit per month is significant. The coefficient shows that there is a positive relationship between amount of credit given and profit level of household business. The picture we see above is so, basically because of how the clients are selected into the microfinance programme. You have to be a single mother who has no proper means of income to qualify for credit from KROBODAN. KROBDAN decides how much credit the client takes. The clients are credit rationed. The clients do not apply for the amount of credit they want.

The negative coefficient for time or the length time one stays in the credit scheme cannot be really explained. There is the need for more investigation into the time one spends in schemes like the KROBODAN and the amount of credit demand or given to the clients. The R^2 of show that 70% of

the variation the in the dependent variable is explained by the independent variable. The F-statistic is larger enough and significant.

The purpose for which credit are demand was found to be significant and positive. The results shows that clients do not just demand credit but look at the kind of use they are going to put the credit to. In this case most of the respondent took the credit for investment purpose. The purpose has a positive effect because lender attaches a lot of importance to the purpose for the microcredit is going to be use for.

The number of months one has been with the microfinance programme also showed a negative coefficient and has a significant impact on that volume of loan a client will demand. This is consistent idea that clients are suppose to be self sufficient and would have saved enough money as they remain in the credit scheme. With enough savings households would demand for less credit from the MFIs. This accounts for the negative coefficient of the number of months one has been in a credit scheme and the amount of loans the households demanded.

At the pooled sample level, one important variable which was not significant at the individual district levels had a positive and significant coefficient. With the level of significance of the coefficient of household income and it positive nature confirms that income is an important factor consider before the decision of how much loan to take is taken. The variable was significant in all three estimation.

A critical look at the results presented in the table 5.8 shows total expenditure which is made up of expenditure on non food items, expenditure on food, rent and expenditure on children education is very significant in all the three estimation. It also carries a positive sign. If there is one variable

that has a great impact on the volume of loan that demanded then it is total expenditure. For most of the observations expenditure took a greater percentage of household income. The higher a household's total expenditure, the greater the amount of credit that the household demand.

The last variable whose coefficient was found out to be positive and significant is monthly profits of household business. Households with high business profit demanded larger credit. This is not surprising because lenders look at the variable when they disbursing credit and this have given the businesses with huge monthly profits to demand larger credit. This may be due to the fact that a greater percentage of their profit may go into consumption expenditure.

It also surprising that household size and the number of dependent were not significant at district levels and also at the pooled sample level. These are variables most experts in the field of microfinance have considered as determining factors in the volume of loans taken by households. This raise questions about the stability of variables which affects the volume of loans demanded by households. The strength of the relationship is also not in doubt. The R^2 of 0.235 gives a fair coefficient of determination in the dependent variable. The F-statistic is also large enough and significant given the primary nature of the data.

In sum, one variable which remain significant throughout all the estimations was the number of months a household has been with microfinance scheme. Time is an important determinant in deciding the volume of credit a household would like to demand. In basic microeconomics analysis of demand, time is an important factor. This means that the demand function analysis does not deviate for already existing knowledge.

Profitability of the small scale firms are also important determining factor. Higher profits serve as security to credit acquisition. From the data collected families which had high yielding business and for that matter profits demanded for huge sums of loans. For example cocoa farmer demanded larger volumes of loans.

Table 5.8: Results for the Determinant for the Demand for Credit in the Study Area

Variable	Kwahu North	Manya Krobo	West Akim	Yilo Krobo	Pooled Sample
const	1.03669e+06 (1.4173)	-2.38164e+06** (-2.4185)	-1.50261e+06** (-2.3574)	414525*** (5.5031)	861441** (1.9775)
AGE	1699.5 (0.1410)	-9337.75 (-0.4428)	-18768.8 (-1.5935)	2472.67 (1.3013)	442.114 (0.0554)
MARISTA	-80998.8 (-0.5852)	50289.7 (0.2664)	-67168.8 (-0.4356)	-8852.35 (-0.9940)	-91915.3 (-1.52160)
NUMHME	159848 (1.1992)	70024.9 (1.0951)	59546.1* (1.8064)	-2612.3 (-0.3738)	36991.4 (1.1597)
OCCUP	120.756 (0.0025)	-8513.44 (-0.1305)	54726.6 (0.8206)	16422.5*** (3.1576)	3831.77 (0.1163)
DEPENDET	-147723 (-1.0306)	228920* (1.6929)	-38558.3 (-0.6647)	11830.5 (1.3459)	11354.8 (0.2229)
LENPART	390251*** (3.4387)	1.33326e+06*** (8.8671)	971531*** (11.5071)	-0.978146*** (-9.9609)	-1.9924*** (-5.4416)
PURPOSE	-352079 (-1.1585)	159314 (0.3465)	553838** (2.4521)	-4928.64 (-0.2258)	331373** (1.9784)
HHICOME	0.287499 (1.4835)	-0.076907 (-0.6557)	0.0989502 (0.9726)	0.0238161 (0.2623)	0.431436*** 3.6502
VALUEBUSASST	0.0819244*** (3.0944)	-0.0085006** (-2.1673)	-0.00198118 (-1.5461)	0.288414*** (5.2005)	-0.00125065 (-0.6875)
PROFITMTH	0.162036 (0.5733)	0.810931*** (3.8489)	0.88567*** (3.3387)	-0.319784*** (-3.7297)	0.642184*** (4.7412)
LEVELEDUC	-220874* (-1.6738)	6122.16 (0.0313)	63964.1 (0.5637)	16153.5 (1.3525)	-13797.5 (-0.1547)
TOTALEXP	0.228268** (2.1547)	0.194594 (0.8187)	0.0954355 (1.1534)	0.0363664 (0.5556)	0.28348*** (4.0690)
Unadjusted R ²	0.1687	0.39081	0.49831	0.73100	0.23569
Adjusted R ²	0.1154	0.35172	0.46612	0.69702	0.22249
F-statistic	(12,187)=3.9495	(12, 187) = 13.963	(12, 187) = 19.6228	(12, 95) = 80.2622	(12, 695) = 26.6024
Log-likelihood	-3173.22	-3226.26	-3157.56	-1426.27	-11373.7

Source: Estimation (2008)) (* Sig. 10%, ** sig. 5%, *** sig. 1%)

*Values in parenthesis represent estimated t-values

5.5 Results and Analysis of the Impact of Microcredit on Poverty Reduction.

This refers to the poverty risk reduction capacity of microcredit. The logit model was used for the estimation as indicated in chapter four. Before the empirical results of the model is presented, a comparison of the poverty status the households are provided using cross tabulation format in table 5.9. Table 5.9 discusses the result for difference in poverty levels between households which have participated in microfinance programme and those who have. It is assumed that those who have been through microfinance programme are supposed to have a better welfare than the house households which have not participated in microfinance scheme.

TABLE 5.9: Comparison of Poverty Status of Households

District	Status	Below poverty line	Above poverty line	Pearson chi-square test
Kwahu North	Non participants	94.6%	5.4%	0.885307 (1 df, p-value = 0.346752)
	Participants	89.6%	10.4%	
	Total	90.5%	9.5%	
Manya Krobo	Non participants	75.8%	24.2%	1.67683 (1 df, p-value = 0.195346)
	Participants	64.1%	35.9%	
	Total	66.0%	34.0%	
West Akim	Non participants	30.9%	69.1%	0.134283 (1 df, p-value = 0.714032)
	Participants	28.3%	71.7%	
	Total	29.0%	71.0%	
Pooled	Non participants	61.6%	38.4%	0.00364262 (1 df, p-value = 0.951874)
	Participants	61.9%	38.1%	
	Total	61.8%	38.2%	

Source: Estimation (2008)

The Pearson chi-square test for all the estimations showed that there was no statistically significant difference between programme households and non-programme households. This only meant that poverty among programme households is just the same as poverty among non-programme. All the results show that there is no difference between poverty among programme household and non-programme households. Afram Rural Bank has the highest number of people in programme household who are still under the poverty line, that 89.6% of the programme households are still

poor. No estimation was done for KROBODAN because all the clients are under the poverty line. Although the results for the impact of microcredit on households' income and small enterprise profits are statistically significant, the cross tabulation results presented above tells us that the depth of the impact is very shallow. The impact of the microcredit was not enough to change the poverty status of participating households although a few households were found above the poverty line of \$2 a day.

Objective Poverty Status = $\text{Monthly income} / \text{Number of household members} = \text{Monthly per capita income}$

If monthly per capita $\geq$ \$2 then household is above poverty line and given a dummy of "1" otherwise "0"

Table 5.10: Poverty Reduction Capacity of Microcredit Estimate
Dependent variable: (Objective Poverty status of Households)

	Afram Rural Bank		Upper Manya Kro Rural Bank		South Akim Rural Bank	
Variable	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
const	4.49565	1.7938*	0.5418	0.2620	0.583867	0.4257
AGE	-0.0191118	-0.9180	-0.0503448	-1.5666	0.0112316	0.5633
MARISTA	0.329865	1.4021	0.422851	0.9136	-0.44554	-0.9395
HSEHH	2.07679	2.1013**	0.118785	0.5629	0.333387	1.5214
NUMHME	-1.85784	-4.3112***	0.237769	0.6681***	0.477756	1.7049*
OCCUP	-0.528912	-2.0306**	-0.451615	-2.9556	-0.242995	-4.2658***
DEPRATIO	2.2038	1.3971	-0.0168989	-0.2514*	0.121911	1.9408**
LEVELEDUC	-0.726324	-2.7283***	1.42233	1.8198**	-0.399883	-0.8774
HEALTHST	-1.59242	-2.6604***	0.403967	2.2543	0.184387	0.7823
LENPART	0.071462	0.2138	0.245306	1.3795	0.128358	0.9161
McFadden's R ²	0.514591		0.358609		0.1423	

The result in the table 5.10 shows that the variable of interest is not significant for any of the three institutions. None of the intercepts was also negative. It was expected that, as a household stay in a programme for a longer period poverty will reduce. This is not so for any of the programme. This confirms the earlier comment that the depth of penetration of microfinance is very shallow with

regards to moving the poor above the poverty line. There was no such result for Yilo Krobo district because all the households had percapita household income of less than US\$2.

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CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.1 SUMMARY OF MAJOR FINDINGS

The main aim of this study was to assess the impact of microfinance on the lives of the people in the Eastern Region of Ghana. Four Microfinance Institutions were chosen for the study in four districts. Also, the study sought to find out the factors that affect demand for microcredit. It also took a look at the poverty reduction capacity of the Microfinance programs of the four institutions. After a careful analysis of data collected for the study the following are the findings.

1. The first question asked in this study was: what characteristics of households determine their participation in a microfinance scheme. According to the research findings, it is apparent that the major factor which determined the probability of a household to participate in a microfinance scheme was the households' ability to pay back the loan. Ability to pay back loan was the main deciding factor for participating in a credit scheme.
2. It was also found out that Total Expenditure of households, profit levels of small businesses, Household Income and the number of months a client has been part of a microfinance scheme were the main factors which determined the amount of credit which was demanded by a client or household. Household basically took these factors into consideration before they decided on how much credit to demand.
3. The study also sought to find out whether the expenditure made on children education by programme households was different from that of non-programme households. According to the findings, with exception of the households in Manya Krobo district, there were

significant differences in the expenditure made on children education among the program households and non-program households. It came out that non-program household education expenditure was greater than program households in the Yilo Krobo district.

4. The findings on the difference in average expenditure on food among program and non program households were mixed. While the differences for the program households and non program households for the Kwahu North and West Akim were significant and in favour of programme households, the results for Manya Krobo and Yilo Krobo districts were not significant. It was found out that both Manya Krobo and Yilo Krobo were farming communities where people fed themselves from their own farms.
5. The research also came out with the fact that program households had significantly higher expenditure on non-food items (utilities, energy and miscellaneous expenses) than non programme households. This situation exists in all the districts except Kwahu North district.
6. The result for the difference in household income was also mixed. The West Akim district and the Manya Krobo districts showed significant difference between household income for treatment households and control households. The opposite could be said of the Kwahu North and Yilo Krobo districts.
7. The finding showed that the impact of the microfinance scheme on household income was positive and significant in the Kwahu North, Manya Krobo and West Akim districts. Notwithstanding the positive and significant nature of the programmes, the coefficients of the impact variables were not all that larger.

8. The regression results showed that Remittance had a greater impact on household income than the credit in all the districts.
9. The impact of microfinance on profit level of small businesses was positive and significant in the Manya Krobo and West Akim districts. Actual impact of microcredit in the Yilo Krobo district was negative. Also payments to employees had positive impact on Profit levels for Manya Krobo, West Akim.
10. One intriguing finding was that *time* impacted negatively on profit. The number of months a client stayed in a credit scheme negatively affected their profit. The longer you stay the lesser your profit.
11. Even though microfinance had positive impact on household income and small business profits, the impact was not big enough to reduce poverty and there was no statistically difference between the poverty levels of programme households and non programme households. Finally, the various programs were test to check their capacity to reduce poverty. None of the programmes showed a sign of a strong capacity to reduce poverty. Most of the programme households were still below the poverty line of US\$2 a day. This is a disheartening situation. It calls for a critical look at micro financing in Ghana.
12. Of all the four microfinance schemes, the scheme for South Akim Rural Bank (SARB) had the most positive impact on its clients. Upper Manya Kro Rural Bank (UMKRB) scheme came second, followed by that of the Afram Rural Bank (ARB).

13. It was also discovered that most of the households interviewed for the study were spending far above what they were earning as income. That is household expenditure was greater than household income for about 70% of the households studied.
14. It was discovered that the role of interest rate as the price of credit was not well defined and its effect on the demand for credit was not direct.
15. All the four MFIs studied had no proper facilities for microsavings and microinsurance.

6.2 RECOMMENDATION OF THE STUDY

1. There is the need to establish a National Autonomous Microcredit/Insurance fund (Ghana Microcredit Fund Authority). The managers of the autonomous microcredit funds should be given the authority to screen and monitor microcredit programmes according to standard criteria. Funding and support based on uniform standards create a level playing field. A set of monitoring requirements also contribute to more professional microfinance programmes which may be converted to professional microfinance institutions for poverty eradication. It is therefore recommended that MASLOC should be strengthened to carry out this duty.
2. Although most of the microfinance institutions are giving out credit, it seems the credit is not large enough to lift those living below the poverty line. It is therefore recommended that microfinance institutions increase their loan size. An increase in loan size will have a greater multiplier effect on households' income through profits from income generating activities.

3. Microfinance in Ghana seems to only concentrate on Microcredit. The other aspects like microsaving and microinsurance are lacking. The schemes are only interest in giving out credits. Saving play an important role in poverty reduction, in that savings in the absence of proper insurance serves as insurance for household. Saving help improve future consumption for household. It is recommended that MFIs should rather concentrate much resource into savings mobilization. From basic knowledge in economics, capital accumulation has a greater strength to reduce poverty. Savings provides the asset for the economy's investment in future production. Without them, the economy cannot grow unless there are alternative source of investment.
4. Microinsurance is very important to the poor even more than the rich. Most poor people do not have any form of insurance to safeguard them against bad days. From the study it was found that microinsurance is one aspect lacking in the field of microfinance in Ghana. For instance in 2005/2006, when the Avian Flu broke out most maize farmer lost a lot of their capital. There was no insurance for them and therefore had to go and borrow from other source to pay for microcredit they took from the MFIs. Again it is recommended that MFIs should concentrate much of their resources into microinsurance and how to improve on it.
5. My interaction with the clients during the data collection showed that there is a problem of information Asymmetry. The bank must employ qualified staff to check background of each client. In this case also it is recommended that proper and strong monitoring teams should be put in place to monitor client activities and how they are put the credit to use.
6. There is one thing that lacks in the microfinance programs in Ghana. There is not time frame set for client to be sustainable after which time no credit will be giving again. MFIs

just enjoy have more client. This only means that, their programs are not have the require impact. If MFIs are able to set this time frame for their client, the program will have significant impact on the lives of its clients.

7. Finally, the MFIs must step up the education of its member of basic business ideal. For example, how to keep record of expenditure and income.

6.3 LIMITATIONS AND SCOPE FOR FUTURE RESEARCH

One basic limitation of this study is with the data that was collected. Since most of the people interviewed were illiterate we had to write the responses as they said them. One problem was, what they said may not necessary means what the field assistant who collected the data may have written. Also at some point in time I had to use interpreters which is also a possible point where some the information could be distorted. The problem with the research as it tends to focus on a given specific locality and a small client group. It is very difficult to generalize or make reliable conclusions that reach across borders or the whole country in income levels or socio-economic status.

Another problem which is that the environment in one district may support the activities successful microfinance industry which may not necessarily be the case another district in the Eastern region of Ghana It is still a big challenge in measuring the impact of microfinance intervention because the data may not be reliable. However there is still some scepticism even if good data may be obtained that allows for some analysis of the impact of microfinance.

It is possible to conclude that there is a relationship between microfinance programmes and the improved quality of life. Notwithstanding what has been stated above field assistants pointed out

all the questions very carefully and wrote the response of the respondents from their verbal expressions. It was for this reason that most of the questions on questionnaire were fashioned out in the 'Likert Scale' procedure and as well as some multiple-choice and dichotomous questions.

Again one thing that may have affected the study is the sample size. For three of the districts 200 respondents were sampled from each of the district which had more than one thousand people being members on one Microfinance scheme or the other. It is extremely difficult to establish hundred percent the data in developing countries like Ghana. The issue is to try as much as possible to minimize the risks in order to make the research credible. Critics' question the degree to what extent the data in developing countries is reliable as reliability concerns the quality of measurement. Information given may not necessarily portray the true fact as information may be concealed by clients because of being regarded "private life" or confidential. This is likely to compromise the accuracy of the sought data but this cannot be given as an excuse to discourage researchers conducting research in the developing world.

It is my belief that even against the less representativeness of the sample size the result of this study is reliable and carefully determines the criterion for the sample. As have already mentioned that I selected the sample randomly with the help of local branches of MFIs and the local people of the specific area. I believe that, the data collected was authentic and based on this data I got the results, which reflects most of the previous studies. Moreover, the way we have analyzed and interpreted the data, based on theoretical framework and always tried to relate it back to reliable literature as well.

Finally, "**impact**" is a very complex abstract and therefore cannot be measured with perfect accuracy. There is no way one can measure every bit of impact a microfinance intervention with

certainty. Although the focus was on the impact of microcredit on income and profit the credit may have generated some impact on other variables which were not included in this study.

As an agenda for further research, one needs to identify all other key target values of the Microfinance Policy. Also most studies on microfinance have concentrated on the demand side of microfinance and there is the need to look at the supply side of microfinance. That is, there should be research into what factors MFIs consider before they give out credit, to ensure sustainability of their activities. A further research into the role interest rate plays in the field of microfinance will also help MFIs package their products very well.

Finally, there is the need to also look at the problem of asymmetry of information on the side of clients. That is, a search into adverse selection and moral hazard is important in the determinant of loan repayment. All these are researchable projects that can be pursued.

6.5 CONCLUDING REMARKS

In the year 2005, the UN declared that year the Year of Microcredit. Microcredit was seen as one major answer to the Millennium Development Goal of halving poverty by 2015. Since that time microfinance has received a lot of attention both from the developed and developing world. The power of microfinance to reduce poverty in the Asia and Latin America is not in doubt. But can this be said of Africa, after implementing several different kinds of microfinance model over the past ten years. The answer is definitely a big no. The findings microfinance impact studies showed that microfinance has had some positive impact on the variables like expenditure on children education, household income and profits of small businesses belonging to households. Notwithstanding these positive impacts, there was no evidence to show that poverty has reduced among households which were beneficiaries to the service of microfinance. Despite the enthusiasm

among MFIs, government and the donor community for microfinance programmes, there is little to jubilate about since their aim of reducing poverty is yet to come to fruition. There is the need for more careful and unbiased research on the outreach, impact and the cost effectiveness of microfinance programs. We cannot jubilate now because the story of microfinance and its power to reduce poverty is far from over. Impact studies have shown mixed results and the calls for further research.

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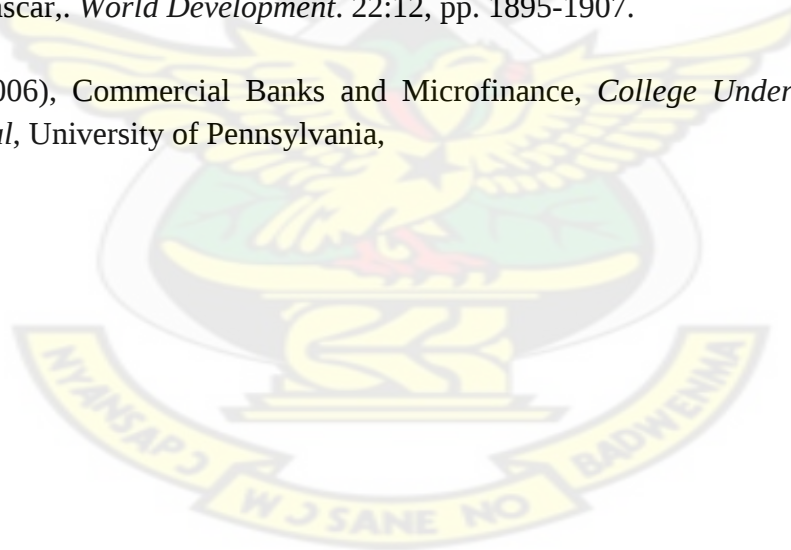
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APPENDIX A

KWAME NKRUMAH UNIVERSITY OF SCIENCE AND TECHNOLOGY **DEPARTMENT OF ECONOMICS**

This interview schedule is to enable me collect necessary information to complete my research on the topic:

“DOES IT WORK AND TO WHAT EXTENT?” An Impact Assessment of Microfinance Services in Some Selected Districts in the Eastern Region of Ghana.

All information provided in this study will be treated as confidential and your anonymity is assured.

Name of MFI respondent belongs to..... Respondent ID:.....

Group [G] / Individual [I]

Rural [R] /Urban [U]

HOUSEHOLD'S GENERAL INFORMATION

1. Age.....

2. Gender: Male [] Female []

3. Marital status [1] Single [2] Married [3] Divorced [4] Separated [5] Widow

4. Are you the head of the household? [1] Yes [2] No

5. Number of Household's members.....

6. What is your main occupation?.....Spouse's Occupation.....
other sources of income.....

7. Other source of income for individual.....

8. How many people depend on you?.....

9. How many children are in your household?.....

10. Do the children go to school?.....

11. How many are in ? [1] Basic.....[2] Secondary.....[3] Tertiary

12. If in basics Schools are they in [1] Public Schools [2] Private Schools

13. Expenditure on your children's education per month

CREDIT HISTORY

14. Do you receive credit from the above mention MFI? [1]Yes [2] No (If No, skip to 20.)

15. Length of membership with the MFI. [1] one week-1month [2] 2months- 6mnths [3] 7months – 1year
[4] more than one year

16. Have you received your first loan [1] Yes [2] No 17. What are you going to use the loan for.....

18. How much did you get in your first credit from the MFI?..... (b) How much did you apply for.....

19. How much did you get in your last credit from the MFI?..... (b) How much did you apply for.....

20. Do you have voluntary saving in the MFI? [1] Yes [2] No

20b. Number of other household borrowers.....

INTERSECTION WITH LABOUR MARKETS (WAGE-EARNING JOB) , INCOME SOURCES AND EXPENDITURE ON FOOD

21. How many members of your household work?.....
22. How many members of your household have a wage-earning job?.....
23. In case of having wage earning job, how much do they receive from employment (monthly).....
24. What is the household's income per month ?
25. What is the income per capita per month?
26. What is the household's expense per month (excluding repayments to credits and unexpected events)?.....
27. What is the expenditure on food per month?.....

HOUSEHOLD'S PHYSICAL CAPITAL (HOME ASSETS)

28. Is your house? [1] Rented [2] Owned [3] Borrowed (b) If rented, how much do you pay a month?.....
29. If owned, how did you get (build) your house? [1] I got a credit physical asset [2] I used my savings [3] I sold a [4] I inherited it [5] I live with my parents
30. Have you made recently improvements to your property(ies) or built rooms to let or premises to set a business? [1] Yes [2] No
31. If yes, where did you get the money from? [1] Credit from MFI [2] Savings at MFI [3] I sold out household's assets [4] I receive money from my relatives living abroad [5] Credit/Saving from other sources
32. Have you ever made changes to your walls? [1] Yes [2] No
When?.....
From what material [1] Wood [2] Clay [3] Brick [4] Concrete/Cement Blocks
To what material [1] Wood [2] Clay [3] Brick [4] Concrete/Cement Blocks

HOUSEHOLD'S PHYSICAL CAPITAL (BUSINESS ASSETS)

33. In case of having a micro enterprise (or self-employment activity), what is the value of your assets?.....
34. How did you get your assets? [1] Credit [2] Savings [3] selling out properties or assets [4] I inherited it [5] No business
35. Has there been any structural improvement in your business since joining the MFI? [1] Yes [2] No
36. Have you purchased any new assets/ in you business after taking the credit [1] Yes [2] No
37. How would you describe your business since joining the MFI? [1] Much worse now [2] A little worse now [3] Same [4] A little better now [5] Much better now [6] Don't know
38. What is the range of your profit per week?.....

39. What is your profit per month?.....

HOUSEHOLD'S HUMAN CAPITAL (EDUCATION)

40. What is your education level? [1] Primary [2] JSS [4] Secondary [5] Tertiary

41. Have you recently taken training courses? [1] Yes [2] No

42. What kind of training was its. [1] Business Management [2] Health Education [3] Non-formal Education

43. Have you stopped sending your children to the school due to economic problems? [1] Yes [2] No

HOUSEHOLD'S HUMAN CAPITAL (HEALTH)

44. How is the General health status of your family? [1] Very good [2] Good [3] Regular [4] Bad

45. Have you registered for the National Health Insurance Scheme? [1] Yes [2] No

46. What do you do to deal with health problems?

[1] I go to the NHIS; public hospitals [2] I sold out a household asset [3] I use my savings [4] I use part of my credit from the MFI

[5] Ask for a credit to informal agent (family, friend and moneylender) [6] I ask money to my relatives living abroad

INTERSECTION WITH FINANCIAL MARKETS (CREDIT FROM THE CURRENT MFI)

47. How did you know about the MFIs? [1] From a friend or relative [2] From advertisement/promoter [3] It is near home/business

48. What is the product that interested you most to join the MFI? [1] Savings [2] Credit [3] Insurance

49. How far the MFI is from your home/business? [1] Less than 10 minutes [2] Between 10 and 20 minutes [3] Between 20 and 30 minutes [4] More than 30 minutes

50. How do you get to the MFIs? [1] By walking [2] by public transportation [3] by owned car, bicycle or other vehicle [4] they come to my house

51. Have you faced problems to repay the credit? [1] Yes [2] No 51b. Reasons.....

52. Have you faced any problem in the last 6 months? [1] Yes [2] No

52b. what happened? [1] Poor sales performance in the business [2] I lost my job [3] Illness of one of the household's members [4] Robbery or assault [5] Indebtedness

53. Have you sold off some of your assets to pay back the credit to the MFI? [1] Yes [2] No

54. If yes, what assets had you sold out? [1] House [2] Clothing [3] Land [4] Animals [5] Farm Produce [6] Electronics, or other assets

55. Number of other credit institutions individual know.....

INTERSECTION WITH FINANCIAL MARKETS (REMITTANCES)

56. Do you receive money from relatives or friends living abroad? [1] Yes [2] No

57. How often do you receive money? [1] Every two weeks [2] Every month [3] Every two months [4] Occasionally

INTERSECTION WITH LABOUR MARKETS (SELF-EMPLOYMENT ACTIVITIES) AND INCOME SOURCES

58. What type of business do you have? [1] Manufacturing [2] Commerce(Trading) [3] Services
(restaurant, mechanics) [4]Agriculture (Farming) [5]No business

59. Are you the owner of the business [1]Yes [2] No

60. Where do you have your business? [1] At home [2] In a rented premise [3] In a owned premise
(not at home) [4] On the street market

61. When did you start the business? (Years ago).....

62. Where did you get the money from to start your business? [1] a gift (inheritance) [2] credit [3] savings
[4] By selling out properties or assets [5]Given to me by relatives

63. If savings, where do you deposit? [1] Formal institutions [2]MFI [3] informal mechanisms

64. If credit, where did you get the credit from? [1] Formal institutions [2] MFI [3] Informal agents

65. How many employees do work in your business? (non-household's members).....

66. In case of having employees, what is the salary per week (individual)?.....

67. How many hours do you work a day?.....

68. How many days do you work a week?.....

69. What are the revenues of your business per week?

70. How would you describe financial situation since having your own business?
[1] Much worse now [2] A little worse now [3] Same [4] A little better now [5] Much better
now [6] Don't know

QUALITY OF LIFE (SUBJECTIVE)

71. Since receiving the loan do you feel like you life has improved [1] Yes [2] No

72. Has receiving the loans been beneficial to you? [1] Yes [2] No

APPENDIX B

DESCRIPTIVE STATISTICS

Descriptive Statistics: YILO KROBO DISTRICT

	Minimum	Maximum	Mean	Std. Deviation
Age	18	69	40.71	10.25
Number of household members	1	19	6.68	3.77
What is the household's expenditure on food per month(₦)	35,000	1,500,000	316,500.00	188,004.43
What is range your household's income per month? (₦)	100,000	1,000,000	410,363.64	200,750.55
What is household's expenses per month(excluding food, repayment of credit and unexpected event) (₦)	19,000	850,000	223,081.82	187,468.81
What is your profit per month? (₦)	0	1,000,000	331,000.00	213,909.44
How many hours do work in a day?	3	14	7.75	1.90
How many days do you work in a week?	2	7	5.28	.97
What is revenue of your business per week? (₦)	20,000	600,000	154,872.34	120,335.66

Descriptive Statistics: KWAHU NORTH DISTRICT

	Minimum	Maximum	Mean	Std. Deviation
age	21	80	42.57	12.86
Number of household members	1	16	5.45	2.58
how many people depend on you?	0	20	3.98	3.00
what is range your household's income per month?	10,000	5,000,000	753,515.00	73,8058.70
what is household's expenses per month(excluding food, repayment of credit and unexpected event)	25,000	8,550,000	51,1271.93	772,293.64
what is the household's expenditure on food per month	20,000	13,200,000	573,700.00	1,108,493.44
what is your profit per month?	0	7,000,000	528,055.00	627,461.52
how many hours do work in a day?	1	15	8.55	3.15
how many days do you work in a week?	1	7	5.14	1.89
what is revenue of your business per week?	10,000	2,300,000	322,185.19	305444.14

Descriptive Statistics: WEST AKIM DISTRICT

	Minimum	Maximum	Mean	Std. Deviation
Age	20	68	39.32	9.97
Number of household members	1	20	7.69	3.92
How many people depend on you?	1	15	4.51	2.88
What is range your household's income per month? (¢)	100,000	15,000,000	983,150.00	140,8584.08
What is household's expenses per month(excluding food, repayment of credit and unexpected event) (¢)	25,000	8,550,000	520,685.00	911,992.00
What is the household's expenditure on food per month(¢)	100,000	3,000,000	638,895.00	400,764.19
What is your profit per month? (¢)	0	2,500,000	203,002.51	320,372.35
How many hours do work in a day?	2	15	7.12	2.29
How many days do you work in a week?	1	7	5.17	1.13
What is revenue of your business per week? (¢)	0	61,000,000	2,056,226.42	6,673,006.43

Descriptive Statistics: MANYA KROBO DISTRICT

	Minimum	Maximum	Mean	Std. Deviation
age	20	70	35.03	10.49
Number of household members	1	24	6.53	3.49
How many people depend on you?	0	13	4.52	2.53
What is range your household's income per month?	100,000	15,000,000	2,138,000.00	1,698,138.50
what is household's expenses per month(excluding food, repayment of credit and unexpected event)	25,000	3,200,000	1,009,625.00	856,354.01
what is the household's expenditure on food per month	50,000	2,000,000	614,050.00	319,825.80
What is your profit per week?	0	3,000,000	217,250.00	366,226.43
How many hours do work in a day?	2	16	8.03	2.85
How many days do you work in a week?	1	7	5.27	1.38
What is revenue of your business per week?	0	61,000,000	1,581,567.57	6,125,090.53

APPENDIX C

Demand for Credit and Analysis for the determinants of Participating in a Credit Market.

The level of credit demand is then defined as the amount, in cedis, of credit demanded by the individual. Total utility function can be expressed as:

$$U = U(X_1, X_2, \dots, X_n)$$

Where; U represents the total individual/household utility, which is assumed to be a function of goods and services consumed. X_i represent individual/household demand for consumer and durable goods, $i = 1, 2, \dots, n$.

If we let $P_1, P_2, \dots, P_n$ represent the prices of goods and assuming household income is equal to its expenditures, then we can write its total income as:

$$Y = p_1X_1 + p_2X_2 + \dots + p_nX_n$$

To the extent that financial services, for example, credit result in increased access to goods and services, demand for financial services is thought to ease the budget constraint. By using credit, a household is able to purchase more consumption goods because of the additional resources that are made available either for immediate consumption, or for investment and therefore increased consumption at a future date.

If we let F_i represent the credit demand by household such that $F_1 = F_1(C)$, and let r represent the price of credit (e.g. interest and other charges), then $FD_i = rF_i$ represents demand for credit, subject to household characteristics.

The demand credit can be stated thus;

$$FD_i = f(Y, X, Q, \dots)$$

Where

Y is household income,

FD_i is the demand function for credit.

X is a vector representing household characteristics including sex, age, level of education applicant, marital status and the number of household members and

Q is a set of dummies representing the main economic sector in which the individual is engaged.

Other factors such as experience with previous credit, and the attributes of the financial service provider may be important factors determining a household's decision to make use of the service. Therefore, demand for credit will depend on the households wealth, its characteristics; age, education, sex, purpose of service and the charges associated with the provider; interest rate.

To estimate the determinants of the amount of credit demanded, we make use of the Tobit model.

$$Y_i^* = \alpha + \beta_1 X + \beta_2 V + \beta_3 IR + \varepsilon_i$$

Where

Y represents the amount of credit demanded and the rest of the variables are as defined before and is the error term, following the normal assumptions. For those who do not demand for credit, Y^* cannot be measured and is set equal to 0.

The observed dependent variable is then given by,

$$Y_i = Y_i^* \text{ for } Y_i^* > 0$$

$$Y_i = 0 \text{ for } Y_i^* \leq 0$$

The coefficients provide an appropriate adjustment to obtain consistent estimates of the effects of changes in the explanatory variables on Y_i for those who demand credit and also indicate the proportion of the total effect due to induced changes in behaviour of those who demand for credit (Berndt, 1991).

Since aim of the study is to look at factors that increase the level of participation in the credit market. Ideally, the OLS model is applicable when all households participate in the market. In reality not all households participate. Some households may not prefer to participate in a particular market in favour of another, while others may be excluded by market conditions. If the OLS regression is estimated excluding the non-participants from the analysis, a sample selectivity bias is introduced into a model. Such a problem is overcome by following a two-stage procedure as suggested by Heckman (1979) or Tobit procedures. These procedures have been discussed broadly in Tobin (1958), Hanushek *et al* (1977), Greene (2003), Kmenta, (1986), Maddala, (1988, 1992), Judge *et al* (1988) and Gujarati (1995) and applied in several instances (Goetz, 1995; Fenwick, 1998; Nkonya *et al*, 1997).



APPENDIX D

Two-step selectivity procedure

The first step (or stage) of the procedure involves establishing the probability of participation in the output market by estimating a probit model. Following Goetz (1992) we can reasonably hypothesize that at least some households are prevented from selling because they face high transaction costs. Define $p_{ik} = 1$ for households which participate and $p_{ik} = 0$, otherwise and p_{ik}^* denotes the unobserved desire to participate in credit market. For the n observations sample suppose there are m observation for which participation is positive ($p^* > 0$), the rest of p and ε being truncated. The conditional expectation of p given $p^* > 0$ is

$$\begin{aligned} E(p \mid p^* > 0) &= \alpha + \beta X + E(\varepsilon \mid p^* > 0) \\ &= \alpha + \beta X + E(\varepsilon \mid \varepsilon^* > -\alpha - \beta X) \end{aligned}$$

Given that $\varepsilon^* \sim N(0, \sigma^2)$, the mean of the corresponding truncated variable, ε is

$$E(\varepsilon \mid \varepsilon^* > 0 - \alpha - \beta X) = \sigma \lambda$$

$$\text{Where } \lambda = f\left(\frac{\alpha + \beta X}{\sigma}\right) / F\left(\frac{\alpha + \beta X}{\sigma}\right)$$

and $f(\bullet)$ represents the density and $F(\bullet)$ the cumulative distribution function of standard normal variable.

To allow for nonzero mean of ε , the regression equation for m observation for which ($p^* > 0$) can be written as

$$p \geq -\alpha + \beta X + \sigma \lambda + \varepsilon^*$$

The indicator λ called the Inverse Mill's Ratio is not observable, but it can be consistently estimated by forming a likelihood function for the binary variable in the probit model. As such the first step (probit model) provides estimates of $(\alpha + \beta X)/\sigma$ and thus λ

The second stage step involves applying OLS using observations for which $p > 0$ in the regression model to be estimated. The OLS regression (or Heckit) coefficient for λ will be statistically significant if sample selectivity bias occurs, while the remaining variables will be consistent (Heckman, 1979; Goetz, 1995)

Maddala (1992), instead of using only the nonzero observations on p_{ik} , if I use all the observations, I get

$$\begin{aligned} E(p_{ik}) &= \Pr(p_{ik} > 0) \bullet E(p_{ik} \mid p_{ik} > 0) + \Pr(p_{ik} = 0) \bullet E(p_{ik} \mid p_{ik} = 0) \\ &= F(\bullet)i[\alpha + \beta X + \sigma\lambda] + [1 - F(\bullet)i] \bullet 0 \\ &= F(\bullet)i[\alpha + \beta X] + [\sigma f(\bullet)i] \end{aligned}$$

After getting estimates of $f(\bullet)i$ and $F(\bullet)i$, we can estimate equation by OLS. The threshold value in equation (20) is zero, thus not applying a very restrictive assumption. The components of equations (19) and (20) consist of two terms making total effects of the whole sample. The first component is the direct effect of the explanatory variables of those households participating in the market. The second component is the effect of the inverse mills ratio based on all the observation.