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THE COMPLEMENTARY ROLE OF NON-BANK FINANCIAL INSTITUTIONS (NBFIS) IN SIERRA LEONE FINANCIAL INTERMEDIATION SPACE: A CASE STUDY OF NATIONAL CORPORATIVE DEVELOPMENT BANK, SIERRA LEONE

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Abstract

In the past, little or no attention was directed to the informal sector in the development agenda in Sierra Leone. The inability of the formal sector to absorb all the available resources in the country has led to the rapid growth of the neglected informal sector. The aim of this research is to assess and evaluate the role played by the National Cooperative Development Bank as a Non-Bank Financial Microfinance Institution in providing financial services to class of economically poor people in the Western Area whom hitherto were been neglected by the formal sector. A sample of 30 "Barrays" with each constituting 5 members totaling to 150 respondents were thoroughly investigated 2001 to 2005. The OLS econometrics estimation technique was used to analyse the data employing a Probit Regression model. The result reveals that the probability of access to credit is increased if the individual is a; trader, self employed, widow and with increases in the initial amount deposited which was used as a proxy

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variable for cash collateral. However, the probability of access to credit is reduced if the individual's education is primary. The Probability value of the Wald Test(chi^2=0.0991) also indicates that the overall regression is significant at 10%.The research has proven that NCDB is vital and this understanding is important for academics and policy makers in shaping the future performance of the Non-Bank Financial Institutions.

Keywords: Non-Bank Financial Institutions (NBFIs), National Cooperative Development Bank (NCDB), Financial Intermediation, Microfinance, Probit model

INTRODUCTION

Sierra Leone financial system constitutes both the formal and the informal sector that engages in the performance of Financial Intermediation. Research scholars and regulators have proven that the Formal sector consisting of the Central Bank, Commercial Banks, Community Banks, Development Banks and National Social Security and Insurance Trust (NASSIT)etc, have been long neglected financial services access to the economically active poor and poorest of the poor clients in Sierra Leone; whilst the Informal sector consisting of Non-Bank Financial Institutions(NBFIs) such as Cooperative Banks(say NCDB), SME's and Microfinance Institutions(MFIs) were engaged in providing financial services to this neglected group in the economy. In spite of its vast natural resources endowment, Sierra Leone still remain one of the poorest and the least developed country in the world as reflected in the country's continuous ranking on the lowest scales of the UNDP Global Human Development Index. Poverty was already pervasive and endemic in Sierra Leone even before the outbreak of the civil war and the current ebola menace outbreak. The 1989/90 household income survey revealed that 82% of the total population lives below the poverty line. Poverty is worse in the rural areas where about 88% of the rural population live below the poverty line depending on subsistence agriculture and micro enterprises/household enterprises indicating that macro of the people residing in the rural areas are micro entrepreneurs or small holder farmers or both. The 10 years old civil conflict exacerbated the poverty situation in the country. The war resulted in massive displacement of the rural population and disruption in economic activities. As a result, GDP per capita declined by 35% between 1990 and 2000 (Sierra Leone Government National Micro-finance Policy, 2003).

However, it is acknowledged that these people lack access to basic education and health facilities, operate small parcels of land, have high dependency ratio and low per capita income. They also lack good market opportunities which are exacerbate by poor feeder road network, poor quality & inadequate communication network and inefficient and poor source of

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energy supply. In a nut shell, they lack access to financial services except those offered by family, friends, relatives, irrational money lenders, thrift & credit societies, other informal credit & savings scheme and diverse financial Intermediaries such as the Rotating Savings and credit Associations (RoSCAs) locally known as "Osusu, in Creole. Empirical reports indicates that these economically active poor households/small-scale entrepreneurs/small holders farmer are credit worthy, can save and repay loans as the myriad of "Osusu" groups, arrangements between friends and relatives, SAPA and "Barray" repayment records and other networks have shown. However, moves to create access to credit facility to these farmers/households/entrepreneurs proved obscure. Furthermore, the informal credit that they have at their disposal is expensive, inadequate and short-term though this form of credit overrides the bureaucratic procedures involved in formal loan applications to formal financial institutions like commercial banks and has desirable social implications.

In recent years a number of Microfinance Institutions (MFIs) have emerged in many Sub-Sahara African Countries to offer financial services that complement the intermediation role of formal Financial Institutions like Commercial Banks. This was motivated with the fact that Commercial Banks are reluctant to provide financial service facility to the rural and urban poor partly because of the relatively high cost and risk associated with their various activities. Coupled with the unsustainability of most government sponsored development financial schemes, the situation resulted in increasing numbers of MFIs as the main source of funding for micro enterprises/household enterprises.

A Microfinance Institution(MFIs) is construed as any company licensed to operate as an intermediary in carrying on the business of providing financial services such as savings, loans, remittances and other financial support services that micro enterprises need for effective performance and expansion of their various businesses. Following the Post-war reconstruction in Sierra Leone, several MFIs are seeking to offer micro credit/finance services. By then microfinance has been delivered by the Government through NaCSA's Microfinance window, Post office Savings Bank, National Co-operative Development Bank(NCDB), Non-Governmental Organisations including the association for Rural development(ARD), America Refugee Committee(ARC), GTZ implementing unit, Christian Children's Fund(CCF) and other traditional groups such as "Osusu" which work together for the mutual benefits of their members. However, some of the NGOs by then wanted to transform themselves in to deposits as well as non-deposit taking MFIs which aim was to ensure sustainability in the provision of financial services to meet increasing demands from their clients to be able to finance both short and medium-term investments. In the case of deposit taking MFIs, the mobilization of substantial amount of savings deposit will provide additional funds for financing more loans to low income household

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and entrepreneurs. Micro credit activities will increase the opportunities of beneficiaries to acquire productive assets and skills that can generate expansion in income. In addition, creating enabling environment for members to cope with economic fluctuations and risk, hence mitigating their vulnerability to economic risk hazards.

It was becoming increasing clear that MFI sector should be encouraged to expand, improve and sustainability for the accessibility of financial services to the poor particularly in rural areas where these services are grossly negligible. Before, there have been several micro-credit/finance providers with each agency implementing its own scheme because no guidelines in terms of policies and regulatory framework and created a tendency of discouragement in the sector. This necessitated the formulation of the National Micro finance Policy based on "best practices" which is currently one of the statutory and prudential requirements of MFIs operating in Sierra Leone. The MFI Policy is to promote the evolution, outreaching, expansion, security and development of a viable and sustainable MFI sector which is accessible to all. The policy was drawn largely from the National Recovery Strategy (NRS) in the short-term and the Poverty Reduction Strategy Paper (PRSP) in the medium-term both of which formed driving indicators of the strategy to alleviate and mitigate poverty in the Country for sustainable human livelihood. It is in this vein that micro-finance has become a chosen vehicle for sustainable development to enhance Sierra Leone from coming at the bottom of the human development index.

An Overview of the Micro-Finance Sector in Sierra Leone

This shows the reasons why the provision of small savings and credit services by micro-finance Institutions matters to the poor people and to social and economic development in Sierra Leone. He micro-finance revolution is the process – recently begun, but underway in many developing countries – through services for the economically active poor are implemented on a large scale by multiple, competing, financially self-sufficient institutions credit services matters to poor people and to social and economic.

Micro-financing is not new in Sierra Leone and has been the main vehicle for providing financial services for the poor in the short and medium terms. It should be recalled that micro-credit has been used in various forms in the recent past to address the needs of the most vulnerable in post conflict in Sierra Leone. To rise up to the new challenge of reaching every Sierra Leone in need of financial services, the government of Sierra Leone, in collaboration with its development partners, formulated a National Micro Finance Policy, based on the principles of best practices elsewhere. Comparison is made of two main approaches to financing the poor, the poverty lending approach, which promotes donor-funded credit to the poor, especially the poorest of the poor; and the financial systems approach, which advocates commercial micro-

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finance for the economically active poor and others, subsidised and charitable non-financial methods of reducing poverty and creating jobs for the extremely poor.

There are numerous groups of providers of micro-finance services in Sierra Leone. Private traders, co-operatives and various NGOs, like Association for Rural Development (ARD-by April 2003, had1,500 clients and three branches), American Refugee Committee (ARC-by April 2003had a branch network of five branches and 2,440 clients, Christian Children's Fund (CCF), Sierra Leone Indigenous Business Association (SLIBA), World hope International (has 4,337 active clients, with 2,987 in Freetown and 1,350 in Makeni), promoting initiatives for micro-enterprise development (PRIMED-May 2003, 657 clients), among others provide credit/grant of some sort directed at improving the health and wealth of smallholder producers, traders and women. Most of these are limited in outreach and have small loanable funds and staff to properly target the vulnerable. There are several main groups of providers of micro-finance services in the country. Most of these are very small in both outreach and loanable funds. The largest micro-finance programmes are those funded by the African Development Bank (ADB) and the government through Social Action and Poverty Alleviation (SAPA) programme now NaCSA's micro-finance window. SAPA has managed two schemes including the NGO model and the other being the chiefdom model.

National Cooperative Development Bank (NCDB)

The case study is based on the fact that National Co-operative Development Bank (NCDB) as it is expected to play a very important role in economic development in Sierra Leone (Poverty alleviation and employment) etc. Sierra Leone, like many other third world countries, is characterised by abject poverty. The formal financial institutions such as Commercial Banks, and other licensed financial institutions etc, rarely give loans to the vulnerable poor. The need to operative a co-operative bank therefore to provide loans to poor and marginalised people, was in place. National Co-operative Development Bank is exclusively for co-operative societies registered under the co-operative Act 1977. It was established by an Act of Parliament in 1971 with approximately 350 co-operative societies as members. The Bank operates three (3) types of windows:

- Commercial window – savings deposit
- Development window – loans housing and project to fund
- Micro finance window – loans to the vulnerable poor

The NCDB, which is the focal point of study, operate only in the western area of Sierra Leone. Its operations stretch from the peninsula villages to Hamilton, Laka through Goderich, Juba hill, that is extreme west, across central unto Waterloo and Tombo. For the purpose of this study,

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the entire operational area of the bank was divided into three zones. Zone one covers from Hamilton to central Freetown, zone two is from Kissy to Calabatown and zone three is from Waterloo, Tombo and the mountain villages. A representative sample of these zones was selected for the study.

Statement of Need

In the past, development agenda in the country were directed to the formal sector. Little or no attention was directed to the informal sector. The inability of the formal sector to absorb all the available resources in the country has led to the rapid growth of the neglected informal sector. This sector has now become incubator for small and medium enterprises, which are invaluable in economic development. This necessitates the need to integrate the informal sector into the main stream of economic management policies of the country.

According to Morris and Pire, (1995) such business generally relies on indigenous resources and small-scale operations. The concept is also used to describe small enterprises that do not use high technology in their production activities and do not employ modern management techniques. They operate outside the control of the state, the output in this sector is largely unrecorded in the official statistics of the country.

The National Co-operative Development Bank for example, has been operating a Micro-finance programme in Western Area of Sierra Leone since1971. For the past years, before the National Co-operative Development Bank started such a venture, some form of micro-financing such as the "osusu", money lenders were in operations. Other institutions such as the Integrated Agricultural Development Project (IADP); the co-operative loan fund under the supervision of the co-operative department incorporated micro-financing as part of their activities. However, most of these institutions did not achieve much in their fight to alleviate poverty due to poor credit management, inadequate funds and logistics.

With the problems faced by these institutions, the commercial banks became the only source of credit but could only target the high-income farmers that can meet their loan requirements. This prevented most of the economically poor active people of the society from access to credit.

The main purpose of this study is to evaluate the impact of Non-Bank Financial microfinance Institutions (NBFIs/MFIs) services in the process of Financial intermediation on various communities in the Western Area of Sierra Leone as carried out by National Co-operative Development Bank (NCDB) during the period under review. The specific Objectives of this paper are segmented in to three (3) as follows;

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- Assessing the operational procedures and performance of the existing formal and quasi-formal credit sources in availing credit services to smallholders clienteles
- Suggesting best approach and practices for the promotion of effective and sustainable economic growth in Sierra Leone
- To make policy recommendations

Research Questions

Q1: How relevant are the operational procedures and conditionalities of existing formal and quasi-formal credit arrangements to the needs and aspirations of smallholder clienteles and to the sustainability of the credit arrangements?

Q2: What socio-economic factors influence accessibility to credit by small clienteles?

Research Hypotheses

The main assumption of this study is that MFIs in Sierra Leone can be instrumental as a vehicle in eradicating poverty and promoting human development while being financially viable institutions, which will justify two (2) hypothetical issues:

1. Smallholder farmers, traders and artisanal fishermen have limited access to formal and quasi-formal credit facilities
2. Socio-economic factors such as age, gender, level of education, income, assets values and others have direct influence on individual's chances to access credit from formal sources.

In this regard, the research findings will show whether the poverty level has been substantially alleviated. Finally this research will recommend methods to improve micro-finance activities in order to bridge the informal and formal finance sectors to form a homogenous financial system.

LITERATURE REVIEW

This section reviews theory and empirical literature in the context of Non Banks Financial Institutions (OFIs) as Microfinance Institutions (MFIs) and to review a broader literature strand on the connection between Non-Banks performance/MFIs and Financial Intermediation (credit delivery and savings mobilization) to clients. The connection between Non-Banks performance and Financial Intermediation is very crucial and important in the understanding of carrying out an empirical analysis on Non-Banks/MFIs performance and its implication on Financial Intermediation.

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Theoretical Analysis

Micro-finance is now regarded as a tool for development. Formally it was a charity to alleviate poverty. The goal of Micro-finance is therefore to enhance the well being of the service users. The example of Bangladesh is been widely quoted as a proof of success of micro-finance. With all this, the question still arises: Does micro-finance alleviate poverty? Evidence concerning this question in the African context can be traced from a survey conducted by Mead of Michigan State University (1996) in micro-finance enterprises in Kenya, Zimbabwe, Malawi and Swaziland. He concluded that:

- Net employment in micro-finance enterprises absorbed more than 40% of the new jobs created in the Southern African region.
- Net employment in micro-finance enterprises in South Africa grew roughly by 7% a year.
- 75% to 80% of all new jobs in small enterprises came from new business sponsored by existing micro-finance institutions.

Recent thinking looks to micro finance enterprise development as a major tool with which to reduce poverty. Micro-finance institutions are seen as a vehicle for the poor to increase their income. Impact assessment of borrowers from several micro-finance programmes confirms that recipients of micro-finance loans have been able to increase and stabilise their income (Webster, 1996).

Also, Dhaka (2000) looks beyond the success of micro-credit in many developing countries. From humble beginning, the concept has grown into a large self-financing, multibillion dollar business helping millions of people. Micro-finance has set an example to the rst of the world in alleviating poverty.

In Bangladesh, the Grameen Bank, which has proven to be successful, has shown a high rate of recovery more than 95% of its clients are promptly despite the high rate of interest ranging from 18% to 38%, which critics say, are exploitative Saurif (2000). This criticism was attacked by Yunus (2001) that the high interest rate charged by MFIs are necessary to cover the high cost of collecting small loans on a weekly instalments from a remote village. Nevertheless, MFIs have performed better than Bangladesh state run commercial banks due to the fact that the rich that are usually given loans in these institutions hardly pay.

The current debate regarding the importance of micro-finance is centred on two counter-arguments. The first asserts that micro-finance enterprises create a large number of jobs, but these jobs are of poor quality and that workers employed in such areas would be better off working for working for large companies. (Fidler, World Bank 2000). This assertion was also supported by World Bank's regional programme on enterprise development managed by the African Technical Department (ATD). From a survey they conducted in Cameroon, Kenya,

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Zimbabwe, Zambia in 2000, they found out that manual and non-manual wage employees of large firms with more than 250 workers earn significantly more than manual and non-manual wage employees of micro-finance enterprises with less than 10 workers.

However, casual observation shows that, working conditions in many micro-finance enterprises are physically uncomfortable and sometimes dangerous; the work is tedious and reliable wages, pensions and job security usually are lacking.

The second counter argument asserts that although micro-finance enterprise support programme to raise income of the poor, only individuals are at or near the poverty line are positioned to benefit from such programmes. The universities of Reading and Manchester carried out a large study of six (6) micro-finance institutions and in their report argued that micro-finance enterprise promotion programmes are unlikely to benefit the very poor and the credit programmes might not actually service the poorest of the poor (Hulme,1995).

The other point that needs to be taken into consideration is the outreach of micro-finance to the poorest of poor. Most MFIs take their services to the rural communities, thereby offering the poor and marginalised the opportunity for credit, which according to Yunus(2001), founder of the Grameen Bank, is a “human right”.

According to Johnson and Rogaly (1997), micro-finance is the supply of credit, savings and other services such as adult literacy programmes to the poor. Although the major donor initiative focuses on sustainability, micro-finance practitioners are closely split between two extreme approaches:

The poverty approach and self-sustainability approach. The sustainability approach targets less poor segment of society and focuses on both savings and credit services. In this approach, credit is only needed to start up operations. This is however, approved by some donor organisations like the World Bank and other agencies like DFID that there is need to broaden the cycle of sustainable MFIs by incorporating certain programmes like adult literacy, gender awareness and some other awareness training programmes on AIDs.

The poverty approach targets the poorest of the poor and is a very costly proposition. Proponents of this approach support credit – led institutions only. This approach criticised commercialisation of MFIs on the basis of trade-off between the aims and objects of MFIs and self-sustainability.

Micro-finance institutions can also be criticised if the policies are formed on ideological and political motives and do not necessarily fulfil the objectives of poverty alleviation. This was seen in Pakistan in the 1990s when there was substantive increase in poverty due to political violation in the MFIs and hence investment was crippled.

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People like Emigiamugoe, founder of life above poverty, 1990, and Offiong O.J. in a paper presented in 1999 made mention that micro-credit facilities can lead to employment creation for the "Borrower" increase in the volume of activities income. To them the "Borrowers" have access to funds on affordable terms for their business. This will, however, make them (Borrowers) to have a high-self esteem and increase "say£ in the affairs of the family unit and the entire community they belong.

However, Pischike et al in "Introductory Overview": Principles and Perspectives, 1996 expressed skepticism on the impact of micro-finance. To them, "Borrowers", are said to be incapable of reaching a level at which they could stand on their own due to the size of the loan disbursed and the interest rate charged. This thinking they attributed largely to the perspective of micro-finance as a more poverty alleviation tool, rather than a development strategy.

In Sierra Leone also, urban traders appear to demonstrate informal financial savings. These traders, mostly women engage in petty trading, tend to favour the "osusu" groups are otherwise known as Rotating Savings and Credit Associations (ROSCAs). ROSCAs have been reported in most developed countries and more than half of the countries in Africa (Miracle et al, 1989). They have also been reported to operate among migrant groups in the USA (Light, 1972, Bonnet, 1981). They are ample evidence that ROSCAs provide economic services and that they are not merely social gathering, such instances have been provided by Hospes and Nelson (1995), Deng L.A.(1995), Rowland (1995), Burman and Lembete (1995) and many others. The operations of ROSCAs in Sierra Leone have not yet reached the advanced stage of operations as those in Nigeria, Ghana, Cameroon and Indonesia. Research in this area is continuing.

There is no doubt that MFIs play an important role in allocating resources efficiently by channelling funds from the surplus economic units to the deficit economic units and from less profitable economic endeavours to more profitable ones (Webster and Fidler, 1996) and hence, the fight against the present global war – poverty. Micro-finance specialists increasingly, therefore, view improvement in economic security of those low-income earners who have access to micro-finance as the first step in poverty reduction (Dreze and Sen 1998, P-12). It is only when people have access to credit and are able to utilise or manage these credit properly that can help them move out of poverty by improving the productivity of their enterprises or creating new sources of livelihood. In a key note address by the then Minister of Development and Economic Planning, "Micro-finance has emerged over the two decades as a key instrument of international financial institution strive to combat increasing poverty in the world today. Sierra Leone too has identified micro-finance as a key instrument to fight the prevailing poverty and to raise the standard of living of the average Sierra Leonean" (Sesay, 2002).

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However, with the aid of micro-finance, it has been possible to provide the poor with access to financial services. But the process of applying this, to fight this global menace is faced with some challenges. Susan Johnson and Ben Rogers in their book Micro-finance and Poverty Reduction, (1996) made mention of the following challenges faced by MFIs:

For a micro-finance to operate efficiently and hence sustainably, it must be able to cover its institutional transaction costs. According to Yunus (2001), the Grameen Bank receives revenue from clients, interest payment and its costs arise from raising loanable funds, organising and training clients groups, administering recovering bad debts. To meet these costs, the programme should charge an interest rate that generates revenue equal to or exceeding per unit of principal lent.

The financial system in most countries especially sub-Saharan African countries is very poor. Saving mobilisation in Liberia and Sierra Leone for the past eleven (11) years is been limited to their respective capital headquarters due to political instability (African Region Micro-credit Summit, Arms 2000).

According to statistics, 2/3 of the World’s population is poor and about 80% of these are found in Africa and Asia. In most of these regions, there is no clear-cut and credible microfinance policy that will act as a springboard towards overcoming this problem. However, in order to move from this state, government of these regions should provide resources so as to capitalise MFIs of their respective countries (African Region Micro-credit Summit, ARMS, 2000).

Unlike other regions, the Sierra Leone Government created a Microfinance policy formulation taskforce in 2001 that came out with a formidable policy on microfinance on the basis of which UNDP, UNCDF, World Bank and IMF etc. have given their blessings and financial impact.

For a micro-finance institution to be credible and be able to operate at full capacity, it must have trained and qualified staff. Most staff of MFI lacks the expertise to implement micro finance scheme. Present day micro-finance goes beyond mere giving of credit and collection of loan repayment. An MFI must have the capacity to offer other services to the respective communities of their clients. This assistance could be in the form of provision of literacy programmes, sensitisation on communicable diseases such as AIDS and STDs,(Johnson & Rogaly,1997P-16).

Review of Empirical Studies

Mohamed (2003) examined the socio economic factors that influence credit accessibility and its impact on small holder farmers and rural producers in Zanzibar. Using a semi and formal structured questionnaires, the data used in the study was collected from 300 household in

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twelve (12) randomly selected villages. The logistic regression was used to examine the factors that influence the household access to credit while the t-test analysis was employed to evaluate the impact of credit used. Among the explanatory variables included in the logistic regression model include gender, marital status, age, educational attainment, income earned etc. The result of the study reveal the farmers' education, gender, annual income earned, awareness to credit accessibility influence the probability of access to credit. The author recommended that credit policy for rural and micro-enterprises lending, needs to be formulated in order to mobilise savings and maximise the availability of credit to the population in rural and urban areas of Zanzibar.

Tyler, Mayank and Pradeep (2001) examined the impact of ethnic networks on access to finance on Kenyan firms, using an exceptionally rich data set. The data used was collected from a sample of 207 Kenyan manufacturing firms in four sectors that together account for 72% of manufactured output in Kenya, textile and garments, wood-working and furniture, food processing and metal working. The probit regression model was used to examine the impact of ethnic networks on access to finance of Kenyan firms. The author recommended that ethnicity not per se, but because of its strong overlap with credible information flows, is an important determinant of access to trade credit in Kenya. It is these information flows that enable reputation to emerge as an enforcement mechanism, thereby enabling credit contracts.

Alexandra (2003) examined the determinants of access to credit for corporate firms in Russia. Using market principles, the data was collected from a sample of corporate firms from three oblasts. The logistic regression model was also used for a sample of corporate firms in 2003 BASIS survey to examine the factors that affect the access to credit. The result of the study shows that, factors affecting economic efficiency are the main determinants of access to credit. Firms with higher profitability have a higher probability of borrowing from financial institutions. The author recommended that, the Russian rural credit system, however limited and thin, behaves (to a certain extent) according to market principles. Whilst market endowments, such as land and capital stock, have a very weak effect on the ability to borrow, which is probably a reflection of low collaterisability of firm assets in Russia.

METHODOLOGY

The research study uses both primary data by conducting Personal interviews and questionnaires with some clienteles, field staffs were done and secondary data was collected from the Accountant and Deputy Operations Officer "Barray" in the bank, In eliciting secondary data, relevant to the study were obtained from NCDB, Bank of Sierra Leone quarterly bulletin, journals, gazettes, publications and periodicals. Libraries such as British Council, National

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Documentation Centre (NADOC) of the Ministry of Agriculture and Food Security, Fourah Bay College and Njala University College were also consulted. The interviews involve a total of 750 households for the purpose of identifying key socio-economic factors that influence credit accessibility among rural population. A simple random sampling method was used for sample selection of respondents. The bank is presently servicing about 75% “Barrays” each consisting of 30 to 36 members. Ten (10) “Barrays” were selected from each zone to get 30 “Barrays” for the survey. In each “Barray”, the leader and four (4) other randomly were selected to get a sample size of 150 investigated from the National Co-operative Development Bank (NCDB).

Empirical Model Specification

Following the theoretical literature, our empirical model used to determine the factors that influence individual’s ability to secure/access loan from NCDB follows Mohamed (2003) and Biggs et al (2001). Although Mohamed (2003) used a logistic regression in his analysis, likr Biggs et. al (2001).Although Mohamed (2003) used a logistic regression in his analysis, like Biggs et. Al (2001), we employ a Probit Regression model to examine the phenomenon under consideration. Either the logistic or probit model could be used when the dependent variable is binary, taking values of either one or zero. It is an attempt to overcome the limitations inherent in the Linear Probability Model (LPM) i.e. applying Ordinary Least Squares (OLS) techniques to the regression in which the dependent variable is binary. One of the limitation of LMP is that the predicted probabilities may lie outside the admissible range of (0,1).

Secondly, the error term will not be normally distributed since it will only take two values corresponding to the values of zero or one of the dependent variables. This implies that the variance of the error term depends on the values of the explanatory variables i.e. the error term is heterscedastic (jones, 2001).

To overcome these limitations, the probit model assumes that there is an underlying response variable Y_i* referred to as the latent variable replacing the dependent variable y and takes the range $-\infty \leq Y_i^* \leq \infty$ i.e. continuous (Maddala, 1983). The latent variable is assumed to be a linear function of the observed explanatory variables. That is;

$$Y^* = \beta' X_i + \varepsilon_i \text{ -------------------------- } (1)$$

Where, β is the parameter vector, x is a vector of characteristics (socio-economic factors) to be related to occurrence of the outcome (access to credit), and ε denotes independent and identically distributed error term. However, Y_i^* is unobservable. What we observe is dummy variable y defined as:

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$$Y = 1 \text{ if } Y_i^* > 0 \quad \text{--------------------} \quad (2)$$

$$Y = 0 \text{ if } Y_i^* < 0 \quad \text{--------------------} \quad (3)$$

The Probit model assumes that the error term follows a normal distribution. If Y is the random variable (dichotomous), it can then be assumed that Yi takes on the values 0 or 1, where 0 denotes the non-occurrence of the event in question and 1 denotes the occurrence i.e. the individual accessed to credit from NCDB.

Data Procesing & Estimation Techniques

Data were scrutinized, coded and analysed using STATA 8 computer programme where statistical parameters such as means and frequencies were determined. Later, some selected predictors were regressed against the dependent variable (success in accessing credit or failure to access credit) to identify the predictors which highly influenced the observed situation of some individuals failing to access credit. The variables specified in the model are age, educational level, occupation, collateral security and marital status. Some variables earlier included in the model had to be dropped due to high correlations with other explanatory variables and also due to their weak relationships with the dependent variables.

Description of the Explanatory Variables

AGE

Age is a continuous variable in years. The prediction of the household survey is that older people have poor chances from formal and quasi-formal financial institutions for accessing credit whilst younger ones have higher chances. This is because older people are always risk averse and would not like to enter into debt obligations. In additional, the older people find it difficult to understand the operations and conditions of formal and quasi-formal financial institutions and are also afraid of loan conditions. Thus, the probability of access to credit is likely to be reduced if the age of the individual increases beyond a particular level i.e. for older people.

GENDER

The gender variable is continuous and coded 1 if the individual female and 0 if male. Gender is also a significant variable and predicted that female has positive relationship to access to credit meaning that women have high access to credit whilst, men has low access to credit. It is evident that despite the presence of some targeted credit schemes in favour of women, they still face credit difficulties compared to men.

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MARITAL STATUS

The variable marital status is measured as a dummy and there are higher chances of accessing credit when married because of sense of responsibility whilst lower chances when single. Four categories of marital status are used viz: single coded 1, married 2, widow 3 and divorced 4 and are analysed relative to single individuals.

EDUCATIONAL ATTAINMENT

As the educational of individual increases, the higher the chances of the individual obtaining loan. Education is measured as a dummy variable coded 0 for no education, 1 for primary school, 2 for secondary school, 3 for higher courses. Those with no education find it difficult to undertake the formalities in terms of filling procedures and the variable is therefore analysed relative to no education.

COLLATERAL

The initial amount deposited by the “Barray” members is used as proxy foe collateral to access credit from the institution under consideration. The procedure is that members are usually required to pool their savings and deposit them with the bank to serve as collateral, which may hedge against risk of default in loan repayment. As a result, the higher the initial amount deposited, the greater the probability of members having access to credit from the institution since these funds can be used to partially offset the loan repaid.

HOUSEHOLD SIZE

Household size also influences the probability of access to credit. Individual from large family sizes are more likely to seek credit from MFIs than those from relatively small family sizes. Because of the economic burden to take care of the family, they are usually inclined to seek alternative sources of finance to maintain the family. The variable is measured as a continuous in terms of number of persons in the household. Thus, the probability of access to credit is likely to be higher with increase in the family size.

OCCUPATIONAL ACTIVITIES

The main occupational activities are always expected to be positive towards access to credit, since the type of activity and investment requirements could influence individual decision to request for additional money and hence access to credit. The occupational activities are coded as: traders 1, self-employed 2, civil service 3 and others 4. The variables are analysed with reference to other occupations since members of the “Barrays” are likely to be dominated by

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traders and self-employed people whose educational attainment may be too low to be able to attract lucrative formal employments. The probability of access to credit is likely to be higher for traders and self employed as they may need additional income to complement their relatively low income levels.

ANALYSES & EMPIRICAL RESULTS

The result discusses the presentation and interpretation of the findings in the survey with respect to the objectives earlier on stated. The presentation and interpretation of findings was analysed using both; Econometric Analysis (Probit Regression Model) and Descriptive analyses (tables, charts, product moment correlation coefficient and Gini-coeffecient).Based on the above methodology, the following results are obtained; The result of the prohibit regression model are reported in the table below:

Table 1: Probit Regression Model Results

Variable	Coefficient	Robust Standard Errors	Z- Statistic	Probability values
Trader	0.5884	0.3254	1.81^{8}	0.071
Age	-0.0198	0.0193	-1.03	0.305
Self employment	0.7129	0.3387	2.10^{**}	0.035
Civil Service	0.1006	0.3258	0.31	0.757
Divorce	0.2189	0.4486	0.49	0.626
Married	0.3942	0.3734	1.06	0.291
Widow	0.6254	0.3761	1.66^{*}	0.096
Primary	-0.4867	0.2885	-1.69^{*}	0.092
Secondary	0.1448	0.4268	0.34	0.734
Collateral Security	0.0107	0.0062	1.71^{8}	0.087
Higher Education	-0.5172	0.5884	-0.88	0.379
Household size	-0.0211	0.0633	-0.33	0.739
_Constant	0.3741	0.9047	0.41	0.679

n= 150; Wald Chi ^2(12) =18.58; Probability >Chi^2 = 0.0991*

Pseudo R^2 *=0.0911*

Log Pseudo-Likelihood = -86.7777

Note '' – Significant at 10% and '**' Significant at 5%*

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It should be noted that a positive coefficient indicates that the variables increase the probability of access to credit while a negative coefficient indicates a reduction in the probability of access to credit.

Relative to the client with no educational attainment, the probability of access to credit at the NCDB is reduced if the individual's educational attainment is primary. This is however not surprising since the procedures involved in accessing credit from the institution under consideration involve form filling exercise. Individuals with relatively lower level of education usually encounter difficulties in following the recommended procedures, which reduces their chances of having access to credit facilities. The result is consistent with Mohamed (2003) although his analysis used the number of years of formal education as a variable.

The probability of accessing credit is increased with increase in collateral. The result is consistent with theory since collateral may serve to hedge against potential default in loan repayment. In this study, the initial amount deposited is used as proxy for cash collateral as a member of each "barray" usually pool this resources, which are deposited at the bank to enable them access credit.

Relative to the individuals with other occupation, the probability of access to credit by the individual is increased if he or she is a trader or self employed. This is not surprising since the majority of clients in the bank consist of individual traders and self-employed people.

In the case of marital status, relative to individual who are not married or single, the probability of accessing credit is increased in the individual is a widow. This may not be unconnected with the additional burden individuals may face as a result of the loss of their parents who may be the breadwinner of the family. This extra burden may induce them to seek other sources of funds to enable them meet their financial obligations.

The other variables such as age of the individual, civil servant, secondary and higher education, married and divorce are not significant explanatory variables.

The probable value of the Wald test (i.e. prob> Chi A2=0.0991), (see table 1) also indicates that the overall regression is significant at 10% level of significance.

Descriptive Statistics

The descriptive analysis will take into consideration the following: General characteristics of respondents, Forms of investment of loans given to respondents, Capacity building of the respondents, Other areas of intervention by the Bank and Distribution of credits.

The general composition of the respondents interviewed will be looked at under the following: age and sex, marital status, educational level, household, access to credit and occupation of respondents under the micro-finance section of the Bank.

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Table 2 Age and Sex distribution of respondents

Age Range	Male		Female	
	Number	Percentage	Number	Percentage
20-25	2	10	45	34.6
26-30	10	50	66	50.8
31-40	6	30	15	11.5
41 and above	2	10	4	3.1
Total	20	100	130	100

Table 2 shows that 130(86.7%) of the respondents are women while 20(13.3%) are men. The large proportion of women in the scheme can be attributed to many factors. Majority of women in the country are poor, coupled with large number of dependants to take care of. According to the survey findings, 80% of the respondents have 6 to 10 dependants while only 20% have 2 to 5 dependants. Of these dependants, 75% of them are school going children, Another factor can also be that women are reliable, hard working and so can pay their loans mostly on time. Of the 130 women, 50.8% are aged 26-30 years. This is the age bracket in which many women are married to give birth to many children and most times their husbands alone cannot meet the full cost of running the home. Because of this, the women are faced with no alternative but to take loans to run a business so as to be in the position to assist their husbands. The low percentage of men in the scheme can be attributed to the fact that many of them are not involved in petty trading and even those who take loans are not reliable clients.

Table 3 Marital status of respondents

Marital Status	No. of Representatives	% of Respondents
Married	72	48.0
Widow	45	30.0
Single	20	13.3
Divorced	13	8.7
Total	150	100

Table depicts that 48% (72) of the respondents interviewed are married. This means that about half of the clients receiving micro-finance from the Bank are married women and in most instances involved in small business of different types to meet the daily needs of the family. Of the remaining, 30% (45) are widow, 13% (20) are single, 8.7%(13) are divorced. The high proportion of married by widowed can be attributed to the fact that they have a high family burden to take care of and also they fall under the banks priority for loan especially widows whose little consideration is been given to them by the Central government.

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Table 4 Occupation of respondents

Occupation	No. of Respondents	% of Respondents
Trader	79	52
Civil servant	10	7
Self employed	42	28
NGO worker	0	0
Others	19	13
Total	150	100

Table 4 shows the different occupations of respondents. The highest recipients who account for 53.3% (80) of the loans are traders. They are composed of mainly petty traders who sell fish, cookery, fruits and assorted items. 26.7% (40) of the respondents are self-employed and mostly engaged in Gara tie-dyeing, Hairdressing and Gardening. Finding shows that NGO workers are not recipients of the Bank s micro finance scheme. This is because they can at least earn a leaving wage from their work and hence not a priority to the Bank.

Table 5: Loans, Interest rate charged and savings made by respondents

Name of Barray	No. of Respondents	Number of years with the Bank	Initial Loan Le' 000'	Present Loan Le' 000'	Interest paid Le' 000'	Savings Le' 000'
Appatilong	5	4	250	2,000	300	350
Mugomeh	5	6	250	2,000	600	150
Ol-Sobeh	5	4	500	1,500	225	200
Thanthokuru	5	5	250	2,000	600	290
Amuloma	5	4	500	1,500	225	180
Future Plan	5	4	500	1,500	225	250
Samalayn	5	4	500	1,500	450	309
United Family	5	4	500	1,500	450	315
Rogbaneh	5	5	500	1,500	225	203
Hands Together	5	4	500	1,500	225	189
Lomthibul	5	4	500	1,500	450	265
Daily Bread	5	4	500	1,500	450	405
Gingrecy	5	3	500	1,500	450	260
N'bankoh	5	3	500	1,500	450	394
God Mark	5	3	500	1,500	225	279
Kalamarah	5	4	500	1,500	450	354
Believe God	5	3	500	1,500	450	377
Agbotima	5	6	250	2,000	450	408
Moborhada	5	6	250	2,000	450	315
Koyakusor	5	6	250	2,000	225	451
Smart	5	3	500	1,000	150	340
Woman Power	5	3	500	1,000	300	160
WAP	5	3	500	1,000	300	270
Tamtamneh	5	3	500	1,500	450	268

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Sa-Dorr	5	2	500	1,000	300	259
Yamapa	5	2	500	1,000	300	254
Tatry	5	2	500	1,000	300	145
Patient	5	2	500	1,000	300	203
Kaireno	5	3	500	1,000	300	168
Lewegobefo	5	3	500	1,000	150	292
Total	150		12,000	43,500	10,425	8,303

From table 5, it is noticed that the initial loan varies from Le 50,000.00 to Le 100,000.00 (Le 250,000/5 = Le 50,000.00, Le 500,000/5 = Le 100,000). Reason for this is that, when the Bank started its credit programme, the first “Barrays” established were given a loan of Le 50,000.00 to each member. It shows that they had 100% repayments and because of this, they increase the start-up capital to Le 100,000. After successful repayment of the first circle loan, an increment loan of one hundred thousand leaone (Le 100,000) would then be made to the clients. This shows a massive increase in the number of client been serviced by the bank in their micro-finance programme. Presently, they are servicing three thousand (3,000) clients.

The total number of loans disbursed to respondents increased from twelve million Leones (Le 12,000,000) to forty-three million, five hundred thousand Leones (Le 43,500,000). From this amount, 27% was given to those who had spent three to four years with the bank. Also, almost eleven percent (11%) was given to clients that had spent five (5) years and above with the bank. Of the respondents under investigation, 50% had received loans of three hundred thousand leones (Le 300,000) each, while 30% received two hundred thousand leones (Le 200,000) each and 20% received four hundred thousand leones (Le 400,000) each.

The interest paid has a direct bearing with the amount of credit and the duration for which the loan is taken,A 15% interest is charged for loan duration of six months while a 30% interest on loans going for one year. 33.3% of the respondents took their loan for six months whilst 66.7% took their loans for one year. The NCDB has no external source of funding and all operational cost are been met by the interest rate charged on loans.

Two types of savings are operated in the bank – compulsory group fund savings and personal savings. The compulsory group fund savings act as a collateral security since loans are given to clients just by merely signing a loan agreement. The sum of one thousand leones (Le 1,000) is collected on a weekly basis as group and anything in excess of five hundred leones (Le 500) as personal savings. In case of default, the bank uses the group fund to settle out debts and if it could not, then the personal savings of the defaulter is tempered with. The sum of eight million, three hundred and three thousand leones (3,303,000) is recorded as savings occurred by the NCDB from micro-finance loan given to respondents for the year 2005.

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Other sources of credit

Many micro-finance/micro credit institutions are operating in the Western area of Sierra Leone. Some of these are the National Commission for Social Action (NaCSA), National Development Bank (NDB), Association for Rural Development (ARD), American Refugee Committee (ARC), etc. 26% (39) of the clients of NCDB also receive loans from these institutions while 74% (111) said they do not receive loans from any other institution. However, table 3b indicates the views of those who said no to other institutions.

Table 6: Reasons for not taking loan from other Institutions

Reasons	No	%
I am satisfied with loan given by NCDB	26	23
I don't want problems	20	18
I don't know other institutions that gives credit	30	27
There are savings opportunity at NCDB	21	19
Provide training and other facilities to me	14	13
Total	111	100

From the table 6, 27% of the respondents said they have little knowledge about other micro-finance institutions such as SAPA, which is the micro-finance window of NaCSA. Reason for this could be the way they are implementing their micro-finance programme, which is done through NGOs and not directly to the clients. 23% said they are satisfied with the incremental loan system and repayment pattern operated by the Bank. The satisfaction expressed by the respondents could not be unconnected to the other facilities such as the weekly personal savings opportunity offered by the Bank as indicated by 19% of the respondents. This view was also supported by the 18% of the respondents who said they do not want problems since they are satisfied with the loan amount, interest rate charged and the duration of loan. 13% said that in addition to the loan given, the Bank also offers training and other facilities and that there is no need to take another loan from an institution that does not provide these opportunities.

Nevertheless, the survey findings indicate that 26% of the NCDB clients also receive loans from other institutions. Reasons for this shown on Table 7 below.

Table: 7 Reasons for taking loans from other Institutions

Reason	No	%
They give big loan	13	33
Loan repayment period is short	10	26
Interest rate charged on loans is small	8	21
No compulsory savings system	6	15
Others	2	5
Total	39	100

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The survey finding shows that 33% of those who took loans from other institutions did so because of big loans they give to their clients, which is enough to operate a big business. 26% said the loan repayment duration of these institutions are three (3) to four (4) months. This is short enough to enable them to work hard, pay their loans within the speculated time so as to receive another loan and hence make them better off. 21% said the low interest rate charged, coupled with the savings system which is not compulsory enable them to hold enough cash at hand to increase and meet their basic needs. The remaining 5% said the system of obtaining loans from these institutions is not rigid as compared to NCDB that gives many conditions that needs to be met before a loan is given to a client.

Table 8 Areas of Investment of loans

Areas of Investment	No. of Respondents	% of Respondents
Petty Trading	75	50
Fish Processing and Marketing	33	22
Gara tie-dying	24	16
Gardening	12	8
Animal Husbandry	6	4
Total	150	100

The survey finding shows that 50% (75) of the respondents invest their loans on petty trading. Goods sold by these petty traders include rice and other local foodstuffs such as palmoil, pepper. Mainly clients that resides around central Freetown and belong to ‘Barry’ such as united family, Believe God, future plan, ‘N’bankoh’, do such type of business. 33% (33) of the respondents invest on fish processing and marketing and mostly belong to ‘Barray’ that are located around fishing communities. Some of these ‘Barrays’ are daily bread located in Hamilton village, ‘Lomthibul’ in laka village, ‘Tamtamneh’ in old wharf, Women Against poverty (WAP) in Goderich village etc. The study also shows that 16% (24) of the respondents invest their loans in Gara tie-dying and basic Gara tie-dying equipments in collaboration with Action Aid Sierra Leone (AASL). 8% (12) said they invest their loans in buying seeds, fertilizer and pesticides for gardening. Respondents from such ‘Barray’ as ‘Samalayn’, ‘Kaireno’, ‘Lewegobefo’ do invest in these areas because they are allocated in mountainous areas and the predominant occupation of mountain communities is gardening. Animal husbandry does not look a favoured area of investment since only 4% (6) of the respondents are engaged in it. Reason for this could be that it takes a long time before such investment start to pay off.

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Capacity Building

This takes into consideration training facilities offered by the Bank to its clients. The survey findings shows that the Bank provide facilities in the following areas. Gara tie-dying, business management, basic book-keeping, financial management, fishing processing and marketing etc. This is shown below:

Table 9: Areas of training

Areas of Training	No	%
Gara Tie-dying and Business Management	25	16.7
Gara Tie-dying, simple Book-keeping and Business Management	35	23.3
Business Management, simple Book-keeping and Financial Management	47	31.3
Business Management, simple Book-keeping, Financial management and Fish Processing	34	22.7
Others	9	6
Total	150	100

The NCDB does not only give loans to its clients but in addition, provide training facilities to build their human capacity. The survey findings revealed that 31.3% of the respondents had received training in business management, simple book-keeping and financial management before loans are given to them. 23.3% received training in Gara tie-dying, simple book-keeping and business management. 22.7% said added to the above areas was also fish processing. 6% of the respondents said other areas of training such as Barray pledge, community awareness in some communicable diseases such as AIDS and sexually transmitted diseases was also covered.

The above findings qualify the NCDB as a micro-finance institution since according to Godwin (2000), micro-finance does not only involve in providing credit to its clienteles, but also the provision of other facilities such as training in simple book-keeping, business management, financial management etc.

Other Areas of Investment

According to the findings, 100% of the respondents said they are faced with many problems in their communities. Of this, 93% said the bank is giving a helping hand in resolving them while 7% said the bank has done nothing to solve them. The Bank does not only give loans and collect repayments; it also renders other assistance to its clients. Some of the problems they highlighted in which the bank has done nothing in their communities are poor road network and

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lack of safe drinking water. However, the areas of assistance expressed by clients are shown in the table below.

Table 10: Assistance Rendered by NCDB to its Clients

Areas of Assistance	No.	%
Adult literacy	43	29
Adult literacy, Awareness raising in HIV and sexually transmitted disease	62	41
Causes of poverty, Adult literacy and awareness raising in HIV and sexually transmitted diseases	45	30
Total	150	100

From table 10, 29% of the respondents said the only assistance they have received from the bank is adult education literacy learning. 41% said the bank has provided them with adult literacy classes, awareness raising on HIV and sexually transmitted diseases while 30% said added to the above, the bank has also provided them with training in the cause of poverty. Investigation with both the clients and the bank officials revealed that filed officials concentrate more on adult literacy learning and awareness raising in communicable diseases. However, the bank has created so much impact especially in adult literacy learning since most of their clients can now write and sign their debit note for withdrawal of personal savings.

Conditions for 'Barray' Formation

Investigation shows that 86% (129) of the respondents are satisfied with the conditions of the 'Barray' while 14% (21) indicated that conditions set by the bank are not favourable. However, Table11 indicates the reasons advanced by the respondents who said the 'Barray' conditions are favourable.

Table 11: Reasons why the 'Barray' conditions are favourable

Reasons	No.	%
The entire group form as a collateral security	66	55
It act as a peer pressure for the repayment of loans	45	35
Members meet and share common problems	15	12
Others	3	2
Total	129	100

The study revealed that 51% of the respondents are satisfied with the 'Barray' because the entire group provides a collateral security. For a member within the group to qualify for a loan from the bank, he/she must undergo an interview set by the group on the purpose of the loan. This, however, could account for the high rate of repayment of 'Barray' conditions because each

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member exerts peer pressure. Each member monitors the business performance and loan repayments for his/her group member and where there are lapses in repayments, it is brought to the notice of other members so that pressure would be exerted to recover backlog. During weekly meetings, members share common problems and possible solutions are put in place and it is because of this that 12% of the respondents said the 'Barray' conditions are favourable. The views of the 14% who said the 'Barray' conditions put in place by the bank are not favourable are shown in table 12.

Table 12: Reasons why the 'Barray' conditions are not favourable

Reasons	No.	%
If anyone default, the entire group pays	10	48
Compulsory payment of group fund	3	14
Weekly meeting attendance is difficult	7	33
Signing of loan agreement	1	5
Total	21	100

From table, 48% of the respondents indicated if any member is unable to pay his/her loan, it is the responsibility of the entire 'Barray' to pay. 33% said weekly attendance on meetings is not favourable. This is because, majority of the clients are engaged in petty trading which needs close supervision and the time meetings are organised is mostly in the morning hours which are usually the selling hours, so by moving away from it to attend meetings on weekly basis affects their sales. 14% said compulsory payment of group funds must be done before loan is given, and 5% said the name of the client must be written by him/herself. The clients find it very difficult to write their names on loan agreement especially during the first loan year because they are illiterates.

Financial Efficiency of the Micro-Finance Programme of the Bank

The only source of finance to support the operations of the micro-finance programme in the bank is through interest collected from loans disbursed. The bank presently charges two different interest rates on loans to its clients. -15% and 30%. These interest rates are charged in a function of the loan duration. That is, if the loan duration is six (6) months, 15% interest could be charged on the loan, and if the loan duration is twelve (12) months, 30% will be charged. In the process of collecting these loans, the bank is incurring administrative and supervision costs. These include salaries for staff in the micro-finance department, running costs for vehicles and motorcycles for staff, stationeries and other admin costs.

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However, to determine the financial viability of the micro-finance programme of the bank, the interest received, administration and supervision costs incurred by the bank for four consecutive years, is taken into consideration for analysis. Interest received and expenses incurred in the micro-finance department during year 2005 are as follows:

Table 13: Showing interest received, administration and supervision costs for five years

Year	Interest Received	Administration and Supervision costs	Variance
2001	38,881,200	45,346,720	<6,465,520>
2002	75,853,110	75,779,274	73,836
2003	93,315,417	99,238,390	<5,922,973>
2004	93,565,101	118,949,106	<25,384,005>
2005	102,921,611	124,896,561	<21,974,950>

For mere inspection of the above Table, the administration and supervision cost incurred by the Bank in 2001 was Le45, 346,720 as against Le 38,881,200 interest income received. This shows a deficit of Le6, 465,520 in the operation of the Bank in that year. In year 2001, the interest received exceeded Administration and Supervision costs by Le 73, 836. In year 2003, a deficit of Le 5,922,973 was recorded. Year 2004 and 2005 registered a deficit of Le 25,384,005 and Le 21,974,950 respectively in the books of the bank. A breakdown of Table 13 is shown on Appendix 3.According to the Financial Viability Criterion for efficiency, the figures on Table 13 shows that the NCDB is not financially viable because on the average, its administration and supervision costs outweigh the interest receivables. For such an institution to be financial viable according to Prof. Mohamed Yunus, it must do the following: It must charge a high interest rate, It must increase the size of its loan, Administrative and Supervision costs must be drastically reduced and Government must subsidize the institution heavily.

Distribution of credit to clients

In year 2001, the bank distributed credits to its clients worth One hundred million leones (Le 100,000,000) to two thousand (2000) clients. This credit was disbursed as shown in table 14.

Table 14: Showing the distribution of credit in the year 2001

Clients in year 2001	Distribution of credit in the year 2001 in Million	Percentage Distribution of credit in 2001
870	4	4
600	9	9
500	26	26
30	61	61
2000	100	100

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In year 2001, 4% (Le 4 million) of the total credit was distributed to 800 clients. The large amount of clients receiving a small percentage of the total credit could be as a result of the pattern of disbursement of the bank. During the first year, the start- up capital given to clients ranges from fifty thousand leones to one hundred thousand leones. A small proportion of clients (one hundred of them) received 61% of the entire loan disbursed that year. This could be attributed to the fact that the clients within that bracket must have spent some time with the bank and most probably receiving higher loans.

With improvement of the Micro-finance sector, more clients were brought on board and as at December 2005, the bank had disbursed the sum of Le 650,000,000 (six hundred and fifty thousand leones) to three thousand clients. This is shown in the table below.

Table 15: Showing distribution of credit in year 2005

Clients in year 2005	Distribution of credit in year 2005 (million)	Percentage Distribution of credit in year 2005
990	99	15
790	150	23
680	175	27
540	226	35
3000	650	100

A similar picture of 2001 is almost repeating itself. From the table above 15% of the credit was given to 990 clients. This is because majority of them are receiving small loans ranging from fifty thousand leones (Le 50,000) to one hundred thousand leones (Le 100,000). 35% of the credit was received by five hundred and forty (540) of the clients and represents the smallest proportion of the total clients receiving the entire credit while the remaining 23% and 27% was received by seven hundred and ninety (790) and six hundred and eighty (680) clients respectively.

CONCLUSION

The research study has examine the socio-economic factors affecting individual's access to credit at the National Co-operative Development Bank (NCDB) as well as operational procedures and programmes of the 'Barray' system used to access credit form the Bank. Using personal interviews and questionnaires method, a sample of 150 individuals were randomly selected from 30 'Barray' groups operating at the National Co-operative Development Bank. While the Probit regression analysis was used to determine the socio-economic factors affecting access to credit, the sampling analysis was employed to analyse the operational procedures

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and performance of the 'barray' system as well as analysing some socio-economic determinants of credit access.

The result of the probit regression model reveal that probability of access to credit is increased if the individual is a trader, self employed, a widow and with increases in the initial amount deposited which was used as a proxy variable for cash collateral. However, the probability of access to credit is reduced if the individual's education is primary.

The descriptive analysis suggests that, total loans disbursed by the bank and total loans made by clients in the year 2005 shows a strong positive correlation coefficient of 0.998, indicating the impact of National Co-operative Development Bank made in alleviating poverty for better human livelihood by increasing the standard of living of the clients, since some of them attested of the facts that with the intervention of the bank, they can now attest meeting the cost of their basic needs. The increase in savings made by the respondents as a result of the gradual increase in the size of the loans given to clients by the bank (see appendix 1) for details. Also, the distribution of credits done by the bank as against the number of clients receiving it in the year 2001, resulted to a Gini-coeffecient of 0.787 year 2005 shows a Gini-coeffecient of 0.281. The vast reduction in the value of Gini-coeffecient from 0.787 to 0.281 also indicates the contribution National Co-operative Development Bank has made in the distribution of micro-finance services to the economically active poor clients in the Western Area of Sierra Leone that had been neglected by the formal financial institutions. (See appendix 3) for details.

POLICY IMPLICATIONS

The provision of micro-financing by the National Co-operative Development Bank to a class of people who hitherto were not considered by the Banking institutions is worth noting. This Bank has, however, played a very important role in the financial intermediation process in the country as it has provided credit delivery services to a large sector of the grass root populace and Savings mobilization as a proxy variable of cash collateral. In the process of trying to alleviate the suffering of these people, the NCDB is faced with many problems and challenges such as: Low financial base- The NCDB during the period under review was not capitalised and therefore faces with the problems of ready cash to give out loans to their clients. This problem has compounded as more clients are requesting for loans. During the period under review, there are over five thousand (5,000) clients who have applied for loans and hitherto where on the waiting list; The NCDB is presently faced with a very high running cost. In year 2003, the administration and supervision cost incurred by the bank in micro-finance is Le 124,896,561 (one hundred and twenty-four million, eight hundred and ninety-six thousand, five hundred and sixty-one leones) as against Le 102,921,611 (one hundred and two million, nine hundred and twenty-one

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thousand, six hundred and eleven leones) interest received which is far below the operational cost; The 'Barray' model of operation is one adapted from the Grameen Bank with little training by staff on its operations. Most of the field staff lacks the necessary training to efficiently implement the model. Added to this, both the field staff and the administrative staff lack the necessary logistics to operate fully as the interest charged by the NCDB cannot support their operation. According to Prof. Mohammad Yunus, for a micro-finance to be viable, it must charge an interest rate greater than equal to the cost of operation; The 'Barray methodology applied by the NCDB requires a lot of staff. At present, the bank has twenty-one (21) staff with nine (9) members of the Board and for a micro-finance to be operated efficiently; the number of staff must be increased to serve the number of clients with the bank. This cannot be unconnected with the high running cost expressed above for a small financial institution with no subsidy from government and other donor agencies; Almost 100% of the clients of the bank are poor and illiterate with little or no knowledge on banking. Staff are faced with enormous problems to get them understand the importance of taking loans which according to Prof. Mohammed Yunus is a human right. To get adults illiterate to learn how to read and write their names is a daunting task.

However, there is recognition of the significant role played by the micro-finance institutions in improving the incentives of their clienteles. In line with the results of the study, the following recommendations are made:

Credit policy for micro-enterprise lending, needs to be formulated to ensure access to credit not only for rural areas but also to assist the urban poor, particularly street traders, self-employed and the vulnerable groups residing in the urban areas.

New legislation is required to enable institutions engage in micro-lending to make unsecured loans to their clienteles and to allow these loans to be structured more to potentially productive activities.

The government should take deliberate initiatives aimed at restructuring the NCDB and other micro-lending institutions so as to reduce their costs of lending and computerise their operational systems in order to reduce their overhead costs. This will also reduce cumbersome from filling procedures and hence increase probability of the less educated individuals having access to credit.

Micro-finance programmes should be encouraged to extend credit facilities to women particularly widows who may be disadvantaged because of the extra burden incurred as a result of the loss of their husbands. Such programmes may not only encourage the micro-enterprise sector, but will also improve both rural and urban livelihood and hence, reduce poverty in these areas.

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Awareness raising be done on the importance of micro-finance and men should be encouraged to take loans from micro-finance institutions.

NCDB is not well capitalised because it lacks external funding. The operations of the bank are dependent on interest rate collected from loans, which is not enough to run the institution so as to be in the position to expand further into the provinces. On that note, government and other donor agencies should subsidize the micro-finance programmes of the bank.

To enhance full loan recovery rate in the bank, field staff should be given the necessary training in loan recovery.

Loan repayment period such as three (3) or four (4) months should be embarked on by the bank so as to increase the rate at which clients are receiving credits.

The size of credits given to clients must be increased so that they can increase the size of their business, which will impact heavily on the amount of savings made and hence increase receivable by the bank.

Discussion with bank officials revealed that there is no laid down policy to enforce repayment of loans by defaulters. The government the passing of the micro-finance policy into law so that those defaulters will be accountable before the law.

A sound micro-economic policy with micro-finance as its main aim has been put in place by the central government.

The NCDB has the potential to operate as an effective micro-finance institution in Sierra Leone. In order to put it in a better footing, the NCDB must be made as a leading micro-finance institution in which all funds pertaining to micro-finance in the country is channelled through it.

Finding shows that, other than giving out credit, NCDB also provides other facilities such as awareness raising on HIV/AIDS and adult literacy programmes. HIV/AIDS being the present global problem, the Ministry of Health and Sanitation should work closely with the bank by providing it with the necessary logistics to increase its coverage beyond their clients. The Ministry of Education should also give a helping-hand by providing the necessary materials on adult literacy so that the bank could intensify its adult literacy programme.

The finding also shows that the clients in the bank operate only two types of savings – group fund savings and personal savings. Additional loan facility should be granted to clients to develop the educational career of their children so that at the end of the school year, they would be able to pay school fees and charges for their children.

The financial intermediation process operated by the bank is very narrow. The bank should open up to the public and provide other saving opportunities such as time deposits for its clients.

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Authorities in communities (e.g. chiefs, justices of the peace etc) from which the 'Barrays were formed must sign in favour of loan given to their members by the bank to authenticate transactions and minimise the rate of defaulters.

LIMITATIONS OF THE STUDY

The study was based on the assumption that the 150 respondents constituting sampled farmers, traders and fishermen were a fair representation of the rest of farmers, traders and fishermen because of their homogeneous characteristics in terms of cultural and socio-economic status.

Due to the fact that most households do not keep records, the accuracy of most of the data collected is dependent on individuals' ability to recall. However, it is believed that the data obtained provide a useful basis of information for making recommendations to improve access to credit by the majority of the rural poor and in the enhancement of the effectiveness and efficiency of the credit delivery and recovery mechanisms of various credit institutions and micro-credit programmes.

In the process of collecting the information for the survey, the following problems were encountered. Most of the clients found it difficult in qualifying their business in monetary terms. The level of illiteracy was also a problem especially in terms of understanding the questions.

The above, notwithstanding, the research was able to translate the respondents' business into monetary terms and assisted them to understand the questions in their own local dialects including; Temne, Limba, Susu, Loko and others.

SCOPE FOR FURTHER RESEARCH

Albeit this work, much attention was paid on the performance of Non-Bank Financial Microfinance Institutions(NBFIs/MFIs) in providing access of financial services in the form of credit to the neglected economically active poor and poorest of the poor in the Western Area of Freetown neglected by the formal financial institutions as a result of their traditional concept. Besides, the overall dynamics of Microfinance was not captured in this study hence, further researches on other factors associated with Non-Banks Financial Institutions/MFIs services might yield more information which will be necessary in explaining the correlation that exist between neglected economically poor client and the delivery of financial services such as credit delivery and savings mobilization.

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APPENDICES

APPENDIX 1. TOTAL LOANS DISBURSED & LOANS MADE BY RESPONDENTS IN 2005

ZONES	TOTAL LOAN DISBURSED IN 2005 (LE'000')	TOTAL SAVINGS MADE IN 2005 (LE'000')
1	19,800	4,402
2	18,600	3,380
3	17,100	2,321
TOTAL	**55,500**	**10103**

Using Product Moment Correlation Coefficient:

$r = \{n\sum XY - \sum X\sum Y\}/\sqrt{}\ \{n\sum X^2-(\sum X)^2\}\{n\sum Y^2-(\sum Y)^2\}$

Where; n= number of zones in which the western Area was divided in to for the research purpose.

X= Total loans disbursed to respondents in 2005

Y= Total savings made in 2005

r = correlation coefficient

N	X	Y	X^2	Y^2	XY
1	19,800	4,402	392,040,000	19,377,604	87,159,600
2	18,600	3,380	345,960,000	11,424,400	62,868,000
3	17,100	2,321	292,410,000	5,387,041	39,689,100
TOTAL	**55,500**	**10103**	**1,030,410,000**	**36,189,045**	**189,716,700**

Note:

$n = 3$ $\sum X = 55,500$ $\sum Y = 10,103$ $\sum XY = 189,716,700$ $\sum X^2 = 1,030,410,000$ $\sum Y^2 = 36,189,045$

$r = (3*189,716,700-55,500*10,103)/\ \{\sqrt{}3*1,030,410,000-(55,500)^2*(3*36,189,045-(10,103)^2)\}$

$r = 8,433,600/8,445,819$

r = 0.998(3 d.p) - depicting a strong positive correlation existing between X & Y Variables.

APPENDIX 2

MONTHS	2001		2002		2003		2004		2005	
	Interest received	**Admin & Supervision Cost**	**Interest received**	**Admin & Supervision Cost**	**Interest received**	**Admin & Supervision Cost**	**Interest received**	**Admin & Supervision Cost**	**Interest received**	**Admin & Supervision Cost**
January	3,682,100	4,380,600	5,258,600	5,258,400	9,368,417	6,500,870	10,038,700	6,708,161	1,104,640	9,306,700
February	2,543,200	3,549,200	6,683,250	6,683250	10,548,000	10,800,680	4,365,000	7,613,869	5,238,000	8,936,500
March	2,150,800	3,790,200	5,780,540	5,460,224	5,648,000	6,350,800	1,330,000	6,288,977	1,596,000	3,203,600
April	4,800,720	3,672,200	5,840,200	6,540,200	4,550,000	8,370,000	11,197,500	5,629,023	10,437,000	10,509,200

May	3,248,200	3,998,370	7,283,460	6,800,300	6,580,000	10,840,000	7,470,000	10,810,347	8,964,000	10,691,400
June	2,549,980	3,729,300	7,578,200	6,790,200	9,100,500	8,390,800	12,581,654	11,924,415	12,097,985	14,563,505
July	3,579,990	4,672,400	7,289,300	5,432,400	12,580,000	7,860,500	8,527,162	10,544,795	10,669,993	12,900,221
August	4,235,400	3,249,350	7,462,000	6,920,000	4,370,000	6,490,400	8,891,661	12,737,669	10,892,061	12,635,512
September	3,390,870	3,800,600	6,425,870	7,254,500	3,400,000	6,980,500	6,245,772	12,533,090	7,272,386	12,306,500
October	2,542,800	3,549,200	5,580,200	6,540,000	10,850,000	8,800,000	9,393,655	14,139,836	11,300,221	12,501,625
November	3,798,360	3,700,500	4,220,990	5,370,800	7,200,500	9,725,850	4,864,971	10,739,895	5,016,694	6,839,162
December	2,358,780	3,254,800	6,450,400	6,729,050	9,120,000	8,127,990	8,659,026	9,279,029	8,390,831	10,502,636
TOTAL	38,881,200	45,346,720	75,853,110	75,779,274	93,315,417	99,238,390	93,565,101	18,949,106	102,921,611	124,896,561

Source: NCDB

APPENDIX 3

Category in year(s) with the Bank	2001		2005	
	Population	**Distribution of Credit(LeMn)**	**Population**	**Distribution of Credit(LeMn)**
1	870	4	990	99
11-20	600	9	790	150
21-30	500	26	680	175
31-40	30	61	540	226
Total	**2000**	**100**	**3000**	**650**

Considering 2001 as the base period, using the Gini-Coefficient;

G = 1- ∑ni=1(Fi-Fi-1) (Ei +Ei-1)

Where; G= Gini- Coefficient Fi = Cummulative Proportion of Population Ei = Cummulative Proportion of Credit

Year 2001

Category in year(s) with Bank	Prop. of Population	Prop. of credit	Fi	Ei	Fi-Fi-1	Ei +Ei-1	(Fi-Fi-1) (Ei +Ei-1)
1	0.44	0.04	0.44	0.04	0.44	0.04	0.018
11-20	0.30	0.09	0.74	0.13	0.30	0.17	0.051
21-30	0.25	0.26	0.99	0.39	0.25	0.52	0.13
31-40	0.01	0.61	1.0	1.0	0.01	1.39	0.014
Total							**0.213**

G= 1- 0.213 =0.787

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Year 2005

Category in year(s) with Bank	**Prop. of Population**	**Prop. of credit**	**Fi**	**Ei**	**Fi-Fi-1**	**Ei +Ei-1**	**(Fi-Fi-1) (Ei +Ei-1)**
1	0.33	0.15	0.33	0.15	0.33	0.15	0.049
11-20	0.26	0.23	0.59	0.38	0.26	0.53	0.137
21-30	0.23	0.27	0.82	0.65	0.23	1.03	0.236
31-40	0.18	0.35	1.0	1.0	0.18	1.65	0.297
Total							**0.719**

G= 1- 0.719 = 0.281

APPENDIX 4

Probit Estimates:

No. of Observation = 150 Wald Chi ^2(12) =18.58
Probability >Chi^2 = 0.0991

Log Pseudo-Likelihood = -86.7777 Pseudo R^2 =0.0911

Variable	Coefficient	Robust Standard Errors	Z- Statistic	Probability values
Trader	0.5884	0.3254	1.81[8]	0.071
Age	-0.0198	0.0193	-1.03	0.305
Self employment	0.7129	0.3387	2.10**	0.035
Civil Service	0.1006	0.3258	0.31	0.757
Divorce	0.2189	0.4486	0.49	0.626
Married	0.3942	0.3734	1.06	0.291
Widow	0.6254	0.3761	1.66*	0.096
Primary	-0.4867	0.2885	-1.69*	0.092
Secondary	0.1448	0.4268	0.34	0.734
Collateral Security	0.0107	0.0062	1.71[8]	0.087
Higher Education	-0.5172	0.5884	-0.88	0.379
Household size	-0.0211	0.0633	-0.33	0.739
_Constant	0.3741	0.9047	0.41	0.679

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