

**RELATIONSHIP BETWEEN CREDIT RISK MANAGEMENT  
PRACTICES AND THE LEVEL OF NON-PERFORMING LOANS OF  
MICROFINANCE INSTITUTIONS IN NYERI COUNTY**

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**DECLARATION**

This project is my original work and has not been presented for a degree in any other University.

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## **DEDICATION**

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## **ABSTRACT**

The management of non-performing loan has been a major challenge facing financial institutions. According to the Central Bank of Kenya's Bank Supervision Annual Report 2011, in the MFI sector, the net loan portfolio grew by 13.3%, however, the profit before tax dropped by 19% between 2010 and 2011. The reduction in profits was partly attributed to increased provisions for nonperforming loans. The objective of this study therefore was to establish the relationship between credit risk management approaches employed by MFIs in Nyeri County and the level of NPLs.

To achieve the objective of the assessment, primary data of the research was collected through administering questionnaires to 44 respondents of selected MFIs from their various levels of employment, that is, the top, middle and low level management. The data was then analyzed using Spearman's correlation coefficient statistical method.

The study found that the level of credit risk assessment and management was high in the MFIs. The study also found that the organizations have specified credit collection period. Respondents unanimously indicated that effective management of their institutions was affected by liquidity and profitability, and that asymmetric information in loan market affects the effective management of NPLs in MFIs in Nyeri County. The study found that inability to enforce covenants leads to NPLs among MFIs in Nyeri County to a very large extent. 90% of the respondents indicated that the inability to enforce covenant was high. In conclusion, the study found that the relationship between credit risk management approaches employed by Micro Finance Institutions in Nyeri County and the level of Non-Performing Loans is a negative correlation i.e. the higher the level of credit risk management, the lower the level of NPLs.

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## **ABBREVIATIONS**

**CBK** – Central Bank of Kenya

**CR** – Credit Risk

**CRM** – Credit Risk Management

**IFSB** – Islamic Financial Services Board

**MFIs** – Micro Finance Institutions

**NPLs** – Non-Performing Loans.

**SMEs** – Small and Medium Enterprises

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Background of the Study**

The development of MFIs in Kenya is generally agreed to be a key ingredient in poverty reduction. However, these institutions suffer from a range of problems in their establishment and development. Out of the several problems affecting their growth, difficulties on accessing finance and the level of non-performing loans are arguably the central. So far there is a consensus view from theoretical investigation supported by numerous empirical studies that MFIs as opposed to commercial banks face specific constraints in raising finance (Berger et al., 1998). In Kenya, quite large percentages of MFIs are found to face difficulties in accessing finance from financial institutions as the major constraint to their development (Satta, 2003).

According to the Central Bank of Kenya's Bank Supervision Annual Report 2011, in the MFI sector, the net loan portfolio grew by 13.3%, however, the profit before tax dropped by 19% between 2010 and 2011. The reduction in profits was partly attributed to increased provisions for nonperforming loans. This paper therefore seeks to evaluate the effectiveness of credit risk management approaches used by MFIs with a view of reviewing such approaches and their relationship with non performing loans.

##### **1.1.1 Credit Risk**

Credit risk is the current or prospective risk to earnings and capital arising from an obligor's failure to meet the terms of any contract with the bank or if an obligor otherwise fails to perform as agreed (Central Bank of Kenya Risk Management Guidelines 2005).

Credit risk is the possibility that the actual return on an investment or loan extended will deviate from that, which was expected (Conford, 2000). Coyle (2000) defines credit risk as losses from the refusal or inability of credit customers to pay what is owed in full and on time.

Credit risk is the largest source of risk for any lending financial institution. Therefore, an effective and sound credit risk management system is important to the stability of any local financial institution. Overall, the management of this risk requires the development of an appropriate credit risk culture and environment. A sound credit extension process, maintaining appropriate credit administration, measurement and monitoring process and ensuring adequate credit controls, enhances this (Central Bank of Kenya Risk Management Guidelines 2005).

### **1.1.2 Credit Risk Management Approaches**

Credit Risk Management (CRM) is essential to optimizing the performance of financial institutions. Lending has been, and still is, the mainstay of financial institutions, and this is more true to emerging economies of developing countries where capital markets are not yet well developed. This is because business firms on one hand are complaining about lack of credit and the excessively high standards set by financial institutions, while financial institutions on the other hand have suffered losses on bad loans (Richard, E. 2006). It has been found out that in order to minimize loan losses thus the credit risk, it is essential for financial institutions to have an effective credit risk management system in place (Basel, 1999).

Effective CRM involves establishing an appropriate Credit Risk (CR) environment; operating under a sound credit granting process; maintaining an appropriate credit administration that involves monitoring process as well as adequate controls over CR (Alderweireld, Garcia and Leonard 2006). It requires top management to ensure that there are proper and clear guidelines in managing Credit Risks, i.e. all guidelines are properly communicated throughout the organization; and that everybody involved in CRM understands them.

CRM is a structured approach to managing uncertainties through risk assessment, developing strategies to manage it, and mitigation of risk using managerial resources. The strategies include: transferring to another party, avoiding the risk, reducing the negative effects of the risk and accepting some or all of the consequences of a particular risk.

The process of risk management is a two step process. The first is to identify the source of the risk, which is to identify the leading variables causing the risk. The second is to devise methods to quantify the risk using mathematical models, in order to understand the risk profile of the instrument. Once a general framework of risk identification and management is developed, the techniques can be applied to different situations, products, instruments and institutions. It is crucial for banks to have comprehensive risk management framework as there is a growing realization that sustainable growth critically depends on the development of a comprehensive risk management framework (Greuning & Bratanovic, 2003).

### 1.1.3 Non-Performing Loans

A non-performing loan (NPL) is a loan that is in default or close to being in default. A loan is nonperforming when payments of interest and principal are past due according to the contractual terms ([www.wikipedia.org](http://www.wikipedia.org)).

The level of NPLs in the commercial banking sector has been declining in the last five years as depicted in the table below.

	<b>Gross loans</b>	<b>NPL</b>	<b>NPL</b>
<b>Year</b>	<b>Shs' billions</b>	<b>Shs' billions</b>	<b>%age</b>
2011	1,190.99	52.96	4.45%
2010	914.90	57.60	6.30%
2009	757.76	60.74	8.02%
2008	670.37	61.87	9.23%
2007	533.80	56.78	10.64%

**Source: The Central Bank of Kenya website ([www.centralbank.go.ke](http://www.centralbank.go.ke)).**

According to the Central Bank of Kenya's Bank Supervision Annual Report 2011, in the MFI sector, the net loan portfolio grew by 13.3% from Ksh. 14.2 billion in 2010 to Ksh. 16.1 billion in 2011.

However, the profit before tax dropped by 19% from Shs 304 million for the period ended December 2010 compared to Shs 245 million for the period ended December 2011. The reduction in profits was attributed to formation costs for newly licensed Deposit Taking MFIs and increased provisions for nonperforming loans.

#### **1.1.4 Determinants of Non-Performing Loans**

According to the World Bank Policy Research Working Paper 3769, November 2005 on nonperforming loans in Sub-Saharan Africa, the leading causes of nonperforming loans are extremely high credit risk, economic growth, real exchange rate appreciation, the real interest rate, net interest margins and interbank loans. Simulated results show that macroeconomic stability and economic growth are associated with a declining level of nonperforming loans; whereas adverse macroeconomic shocks coupled with higher cost of capital and lower interest margins are associated with a rising scope of nonperforming loans.

The important reasons for NPLs, as mentioned by the International Journal of Business and Management Tomorrow Vol. 2 No. 3 are: willful defaults, siphoning of funds, fraud, disputes, management disputes, mismanagement, misappropriation of funds etc.; lack of proper pre-appraisal and follow up; improper selection of borrowers/activities; inadequate working capital leading to operational issues - under financing/untimely financing; delay in completing the project; non-compliance of sanction terms and



conditions.; poor debt management by the borrower, leading to financial crisis; excess capacities created on non-economic costs; in-ability of the corporate to raise capital through the issue of equity or other debt instrument from capital markets; business failures; failure to identify problems in advance; diversion of funds for expansion/modernization/setting up new projects/ helping or promoting sister concerns; deficiencies on the part of the banks in credit appraisal, monitoring and follow-ups, delay in settlement of payments/ subsidiaries by government bodies etc.; and time involved in the legal process and realization of securities.

The main determinants of non-performing loans according to Kithinji 2010 are: limited institutional capacity, inappropriate credit policies, volatile interest rates, poor internal management, inappropriate laws, low capital and liquidity levels, directed lending, massive licensing of banks and deposit taking MFIs, poor loan underwriting, reckless lending, poor credit assessment, lack of non-executive directors, laxity in credit assessment, poor lending practices, government interference and inadequate supervision by the central bank. Most of these constitute poor credit risk management practices.

To minimize these risks, it is necessary for the financial system to have; well-capitalized banks, service to a wide range of customers, sharing of information about borrowers, stabilization of interest rates, reduction in non-performing loans, increased bank deposits and increased credit extended to borrowers. Loan defaults and nonperforming loans need to be reduced (Central Bank of Kenya Supervision Annual Report, 2006; Laker, 2007; Sandstorm, 2009).

### **1.1.5 Relationship between credit risk management and the level of non-performing loans**

The key principles in credit risk management are; firstly, establishment of a clear structure, allocation of responsibility and accountability, processes have to be prioritized and disciplined, responsibilities should be clearly communicated and accountability assigned thereto (Lindergren, 1987). According to the Demirguc-Khunt and Huzinga (1999), the overwhelming concern on bank credit risk management is two-fold. First, the Newtonian reaction against bank losses - a realization that after the losses have occurred that the losses are unbearable. Secondly, recent development in the field of financing commercial paper, securitization, and other non-bank competition have pushed banks to find viable loan borrowers. This has seen large and stable companies shifting to open market sources of finance like bond market. Organizing and managing the lending function in a highly professional manner and doing so pro-actively can minimize whatever the degree of risk assumed losses. Banks can tap increasingly sophisticated measuring techniques in approaching risk management issues (Gill, 1989).

CRM framework is important for banks and other money lending institutions in Kenya. In conjunction with the underlying frameworks, basic risk management process that is generally accepted is the practice of identifying, analyzing, measuring, and defining the desired risk level through risk control and risk transfer. Boston Consulting Group (2001) defines credit risk management as a sequence of four processes; the identification of events into one or more broad categories of market, credit, operational and other risks into specific sub-categories; the assessment of risks using data and risk model; the

monitoring and reporting of the risk assessments on a timely basis and the control of these risks by senior management.

Boston Consulting Group (2001) holds that risk management processes require supervisors to be satisfied that the financial institutions have in place a comprehensive risk management process. This would include the Board and senior management to identify, evaluate, monitor and control or mitigate all material risks and to assess their overall capital adequacy in relation to their risk profile.

Today's financial market is unpredictable and fraught with risk, but opportunities to benefit financially can still be found in the NPLs market. NPLs are loans that have defaulted or are in danger of defaulting when payments are no longer able to be made. Typically, loans that have not received payments for three months are considered to be non performing loans, though specific contract terms may differ occasionally (Kromschroder and Luck, 1998). Due to the nation's current economic crisis, buyers and sellers of NPLs have seen a steady increase in real estate foreclosures and other debts that have defaulted, serving to intensify the NPLs market. Financial corporations with experience in sales and acquisitions of nonperforming loans can help one purchase a loan that best fits the needs of one's financial portfolio, and can suitably liquidate the assets to provide you with the best value possible (Satta, 2003).

According to Wagner *et al.*, (2002), aside from extensive experience and a strong commitment to ethical standards, the company chosen by a client to act as the NPLs specialist should provide them with a full range of services. These include a comprehensive review and recommendations of the NPLs market, detailed analysis of the

data offered by sellers of NPLs, indicative bid and contract agreements, and ample due diligence of all pertinent data and asset valuation. The financial markets may be volatile, but there still are tremendous opportunities out there both for sellers and buyers of NPLs. Given the state of the global economy along with the steep rise in foreclosures, the NPLs market has intensified. Therefore, credit risk management has a direct correlation to the level of nonperforming loans. The better the credit risk management approaches, the lower the level of NPLs.

### **1.1.6 Micro Finance Institutions**

According to the Central Bank of Kenya 2009 Annual Report, by December 2008 there was a total of 5,350 MFIs in the country. Such high number of MFIs is due to the criteria adopted by the Central Bank. In Kenya, the microfinance sector is composed of commercial banks, development finance institutions, and deposit-taking and non deposit-taking microfinance institutions.

According to the CBK Bank Supervision Annual Report 2011, there are six deposit-taking MFIs licensed by the Central Bank of Kenya (CBK) and regulated under the Microfinance Act 2006. These are Kenya Women Finance Trust Limited, Faulu Kenya Limited, SMEP Limited, Rafiki Limited, Remu Limited, and Uwezo Limited.

There are three MFIs in Nyeri County ([www.softkenya.com/nyeri-county](http://www.softkenya.com/nyeri-county)). These are Faulu Kenya Limited, Kenya Women Holding Limited (formerly Kenya Women Finance Trust) and SISDO (formerly Smallholder Irrigation Schemes Development Organization).

## **1.2 Statement of the Problem**

Risk taking is an important aspect of any lending institution and indeed profits are rewards of successful risk taking. According to CBK report of 2009 credit risk still remains the largest type of risk in lending institutions. Weaknesses in the Kenya banking system became apparent in the late 1980s and were manifest in the relatively controlled and fragmented financial system. Differences in regulations governing banking and non-bank financial intermediaries, lack of autonomy and weak supervisory capacities to carry out the Central Bank's surveillance role and enforce banking regulations, inappropriate government policies which contributed to an accumulation of NPLs, and non-compliance by financial institutions to regulatory requirements of the 1989 Banking Act among others posed a challenge to the Kenya banking system. Many banks that collapsed in the late 1990's were as a result of the poor management of credit risks which was portrayed in the high levels of NPLs (Central Bank of Kenya Supervision Annual Report, 2005).

The liberalization of the Kenya banking industry in 1992 marked the beginning of intense competition among the commercial banks, which saw banks extend huge amounts of credit with the main objective of increasing profitability. Some of the loans were "political loans" granted with little or no credit assessment; other loans were made to insiders, all of which subsequently became non-performing. The low quality loans led to high levels of NPLs and subsequently eroded profits of banks through loan provisioning some of which appeared out rightly political (Kithinji 2010).

The Microfinance industry is an informal sector which makes up 70-80% of most African economies presenting a huge opportunity for microfinance providers and investors in the sector .Microfinance targets a market that traditional financial institutions are unable or

unwilling to serve, namely providing uncollateralized loans and other small scale financial services to the low income community. The informal market presents a direct opportunity for MFIs capable of capturing the sector's growth, due to the traditional banking system's aversion to this "unofficial" market.

Banks may be forced to adjust their credit policy in line with other banks in the market where a herding behavior is practiced by banks. Looking at the emphasis that is laid on credit risk management by commercial banks the level of contribution of this factor to profits has not been analyzed. Rajan (1994) notes that expanding lending in the short-term boosts earnings, thus the banks have an incentive to ease their credit standards in times of rapid credit growth, and likewise to tighten standards when credit growth is slowing. Does CRM in practice really matter to commercial banks. If it does then, it should significantly contribute to profits as high profits are expected to enhance shareholder value (Kithinji 2010).

The largest source of credit risks is loans. The CBK report of 2009 further asserts that profit among Kenyan MFIs has fallen since 2006. In 2009 the bank further reported Shs 289 million pre-tax loss. In 2009 the bank registered NPLs of Shs 338 million and in 2010 the figures grew further to Kshs1.275 billion registering an increasing trend in the level of non-performing loans. In order to fulfill the research aim, this research proposal will seek to; to investigate the effectiveness of credit risk identification approach in MFIs, to evaluate the effectiveness of credit risk analysis in MFIs and to find out the effectiveness of credit risk monitoring in MFIs.

Locally Oriaro (2001) carried an assessment the suitability of a regulatory framework for operations of MFIs in Kenya. Magiri (2002) investigated relationship between credit models used by Mfis in Kenya and the attainment of outreach. Ratemo (2004) carried a study on USAID strategy for development of MFIs in Kenya and the expectations of funded institutions. Ogindo (2006) carried on an assessment of performance of MFIs in Kenya. Wanjohi (2008) investigated competitive strategies and positioning within a changing business environment adopted by MFIs in Kenya. Mwindi (2002) studied the relationship between interest rates charged by Mfis and performance of micro and small enterprises in Nairobi.

Hence the study sought to answer the question of evaluating the effectiveness of credit risk management approaches employed by microfinance institutions in Kenya versus the level of NPLs being a survey of selected microfinance institutions in Nyeri County. Thus answering the question; what is the relationship between credit risk management and the level of non-performing loans of microfinance institutions in Nyeri County?

### **1.3 Research Objective**

To establish the relationship between credit risk management approaches employed by MFIs in Nyeri County and the level of NPLs.

#### **1.4 Value of the Study**

The study is of importance to:

##### **Microfinance Institutions Portfolio Managers**

The study will help the portfolio managers of emerging MFIs to develop sound credit risk policies that will help them come up with efficient tools of measuring, controlling and evaluating credit risk in their loan portfolio so as to effectively contribute to the development of more efficient financial systems.

##### **Government and other Regulatory Authorities**

The Government, Ministry of Finance, Central Bank of Kenya as the regulator of MFIs of both deposit taking MFIs and credit only MFIs will derive information on the overall usage and application of operating efficiency and portfolio quality indicators in the microfinance sector. The study will inform on the critical prudential regulations that the Government needs to issue to the microfinance sector to prevent moral hazards and information asymmetry. Regulations for Non Deposit Taking MFIs are yet to be put in place. This study will inform the Ministry of Finance of the best way forward for regulating the non deposit taking microfinance businesses.

##### **Association of Microfinance Institutions (AMFI)**

AMFI is the umbrella body of microfinance's in Kenya. The study will provide critical information for the development of a code of ethic and best practices in management of various risks facing the sector.



## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter summarizes the information from other researchers who have carried out their research in the same field of study. The specific areas covered here are MFIs, regulation and supervision of MFIs, operating efficiency and loan portfolio, portfolio quality, efficiency and productivity, portfolio quality and profitability, loan portfolio and financial structure, performance evaluation, poverty reduction, competition, interest rate policy and conceptual framework.

#### **2.2 Theoretical Review**

##### **2.2.1 Pricing Theory**

This theory subscribes to the fact that an estimate of the benefits of diversification would require that practitioners calculate the covariance of returns between every pair of assets. In their Capital Asset Pricing Model (CAPM), William Sharpe (1961, 1964) and John Lintner (1965) solved this practical difficulty by demonstrating that one could achieve the same result merely by calculating the covariance of every asset with respect to a general market index. With the necessary calculating power reduced to computing these far fewer terms (betas), optimal portfolio selection became computationally feasible.

A more interesting alternative was the Arbitrage Pricing Theory (APT) of Stephen A. Ross (1976). Stephen Ross's APT approach moved away from the risk vs. return logic of the CAPM, and exploited the notion of pricing by arbitrage to its fullest possible extent. As Ross himself has noted, arbitrage-theoretic reasoning is not unique to his particular

theory but is in fact the underlying logic and methodology of virtually all of finance theory.

### **2.2.2 Theory of Finance**

The theory of finance is concerned with how individuals and firms allocate resources through time. In particular, it seeks to explain how solutions to the problems faced in allocating resources through time are facilitated by the existence of capital markets (which provide a means for individual economic agents to exchange resources to be available at different points in time) and of firms (which, by their production-investment decisions, provide a means for individuals to transform current resources physically into resources to be available in the future). Numerous economists have explained the role of finance in the market with the help of different finance theories. The concept of finance theory involves studying the various ways by which businesses and individuals raise money, as well as how money is allocated to projects while considering the risk factors associated with them.

The concept of finance also includes the study of money and other assets, managing and profiling project risks, control and management of assets, and the science of managing money.

### **2.2.3 Portfolio Theory to Credit Risk Management**

Since the 1980s, banks have successfully applied modern portfolio theory (MPT) to market risk. Many banks are now using value at risk (VAR) models to manage their interest rate and market risk exposures. Unfortunately, however, even though credit risk

remains the largest risk facing most banks, the practical of MPT to credit risk has lagged (William Margrabe, 2007).

Banks recognize how credit concentrations can adversely impact financial performance. As a result, a number of sophisticated institutions are actively pursuing quantitative approaches to credit risk measurement, while data problems remain an obstacle. This industry is also making significant progress toward developing tools that measure credit risk in a portfolio context. They are also using credit derivatives to transfer risk efficiently while preserving customer relationships. The combination of these two developments has precipitated vastly accelerated progress in managing credit risk in a portfolio context over the past several years.

Traditionally, banks have taken an asset-by-asset approach to credit risk management. While each bank's method varies, in general this approach involves periodically evaluating the credit quality of loans and other credit exposures, applying a credit risk rating, and aggregating the results of this analysis to identify a portfolio's expected losses. The foundation of the asset-by-asset approach is a sound loan review and internal credit risk rating system. A loan review and credit risk rating system enable management to identify changes in individual credits, or portfolio trends in a timely manner. Based on the results of its problem loan identification, loan review, and credit risk rating system management can make necessary modifications to portfolio strategies or increase the supervision of credits in a timely manner.

While the asset-by-asset approach is a critical component to managing credit risk, it does not provide a complete view of portfolio credit risk, where the term risk refers to the

possibility that actual losses exceed expected losses. Therefore to gain greater insight into credit risk, banks increasingly look to complement the asset-by-asset approach with a quantitative portfolio review using a credit model.

Banks increasingly attempt to address the inability of the asset-by-asset approach to measure unexpected losses sufficiently by pursuing a portfolio approach. One weakness with the asset-by-asset approach is that it has difficulty identifying and measuring concentration. Concentration risk refers to additional portfolio risk resulting from increased exposure to a borrower, or to a group of correlated borrowers. Table 2.1 summarizes strategies for reducing and coping with portfolio credit risk.

### **2.3 Credit risk management approaches in MFIs in Kenya**

Recent years have witnessed an increased global push for evaluation of credit risk management approaches in MFIs (Von Stauffenberg, 2002). In Kenya it is notable that the number of MFIs has been growing since the implementation of financial sector reforms in 1991 (Satta, 2004) and the introduction of Microfinance Regulation and Supervision Resource Centre. While the number of MFIs in Kenya increases, these institutions are faced by the challenge of supporting the large number of poor people (Rhyne, 2001). MFIs have prompted innovative financing approaches to achieving and maintaining financial sustainability of their services. While the country has witnessed the growth of these institutions, most MFIs continue to experience difficulties in effectively managing their credit risks.

## **2.4 Empirical Literature**

### **2.4.1 Credit Risk**

Credit risk is considered the oldest form of risk in the financial markets. Caouette, Altman & Narayanan (2002) state that “credit risk is as old as lending itself”, dating back as far as 1800 B.C. The first MFIs, which started in Florence seven hundred years ago, faced very similar challenges that MFIs face today. Although managing credit risk is their core competency, many MFIs failed due to over-extension of credit (Caouette et al, 2002). Credit risk can be defined as the potential for a borrower or counter party to fail to meet their obligations in accordance with the terms of an obligation’s loan agreement, contract or indenture (Sobehart, Keenan & Steyn, 2003).

According to Valsamakis et al (2005), credit risk is the risk that a financial contract will not be concluded according to the agreement. It is the risk that the counterparty to an asset will default. In other words it is the risk to earnings or capital due to borrowers’ late and nonpayment of loan obligations. Credit risk encompasses both the loss of income resulting from the sector inability to collect anticipated interest earnings as well as the loss of principal resulting from loan defaults. Credit risk arises because the possibility that the expected cash flows from advances and securities held, might not be paid in full. Credit risk is considered the most lethal of the risks MFIs face (Cade, 2004).

According to Koch and MacDonald (2003), loan is a major asset, income source for MFIs, and risky area of the industry. Moreover, its contribution to the growth of any country is very clear. MFI and bank credit is the primary source of debt financing available for most customers in the personal, business or corporate market. The underlying need for credit varies across these markets. MFIs generally also want to

increase the base of their income and use credit extension as an opportunity to cross sell other fee generating services when a customer applies for credit facilities (Koch & MacDonald, 2003).

#### **2.4.2 Credit Risk Management**

Barrickman (2000), in his study on successful commercial lending from the ground up found that any successful business must meet its customer needs and make a profit. Likewise, successful financial institutions must meet the desperate needs of depositors and borrowers. Depositors look for high rates, short terms and no risk, while borrowers seek low rates and long terms. He also found that financial institutions are therefore, in the risk intermediation business. To be successful, financial institutions, MFIs in particular, must properly underwrite risk, manage and monitor the risk assumed (Barrickman, 2000).

Koch & MacDonald (2003) find that the most prominent risk assumed by MFIs is credit risk. This is due to the various factors that influence a borrower's ability to repay the credit facility. They found that the borrower's ability to repay is closely linked to the general economic conditions of a country. In favorable economic conditions the ability to repay increases, which could be due to a favorable interest rate environment, low inflation, increased income levels or a combination of these factors. The opposite is however true in poor economic conditions. The borrower's ability to repay is adversely effected under these conditions due to a reduction in disposable income (Koch & MacDonald, 2003).

Credit risk arises from uncertainty in a given counterparty's ability to meet its obligations. In 2001, the Basel committee carried a study on sound practices for the management and supervision of operational risk and found that the increasing variety in the types of counterparties (from individuals to sovereign governments) and the ever-expanding variety in the forms of obligations (from auto loans to complex derivatives transactions) has meant that credit risk management has jumped to the forefront of risk management activities carried out by firms in the financial services industry (Basel committee, 2001). Rose (2002) found that the risk profile of MFIs is fundamentally different from that of other financial institutions, like stockbrokers and insurance industry. An integral part of financial institutions is the management of credit risk and it is done through well-diversified portfolios of exposure. Most MFIs fail because of poorly managed credit risk (Rose, 2002).

Belmont (2004) found that credit risk management primarily focuses on loss avoidance and the optimization of return on risk. Financial institutions in the world are facing two major challenges. Firstly, they need to deliver increasing returns and value to shareholders and secondly, they need to determine how to capitalize on the New Capital Accord's (Basel II) minimal capital requirements. The need to put a strong credit risk management in place cannot overemphasized as failure which lead loan default and thereby crisis on MFIs (Belmont, 2004).

A study conducted by Sorge in 2004 found that it is widely accepted that the quantity or percentage of non-performing loans (NPLs) is often associated with bank failures and financial crises in both developing and developed countries. The study also found that

there is abundant evidence that the financial/banking crises in East Asia and Sub-Saharan African countries were preceded by high non-performing loans. The current global financial crisis, which originated in the US, was also attributed to the rapid default of sub-prime loans/mortgages. In view of this reality it is therefore understandable why much emphasis is placed on non-performing loans when examining financial vulnerabilities (Sorge, 2004).

Mohammad (2008) carried a study on Non-Performing Loans in Bangladesh Banking Sector and found that their banking sector was characterized by low profitability and inadequate capital base. The crux of the problem lies in the accumulation of high percentage of non-performing loans over a long period of time. As per him unless NPL ratio of the county can be lowered substantially they will lose competitive edge in the wave of globalization of the banking service that is taking place throughout the world. So they have had a two-decade long experience in dealing with the NPLs problem and much is known about the causes and remedies of the problem. So, it is very important for the lenders, borrowers and policy makers to learn from the past experience and act accordingly (Mohammad, 2008).

Nelson et.al (2009) in their study on Commercial banking crises in Kenya investigated the causes of nonperforming loans, the actions that bank managers have taken to mitigate that problem and the level of success of such actions. Many financial institutions that collapsed in Kenya since 1986 failed due to non-performing loans. Using a sample of 30 managers selected from the ten largest banks the study found that national economic



downturn was perceived as the most important external factor. Customer failure to disclose vital information during the loan application process was considered to be the main customer specific factor. The study further found that Lack of an aggressive debt collection policy was perceived as the main bank specific factor, contributing to the non performing debt problem in Kenya (Nelson et.al 2009).

Ara et al., (2009) conducted a study on Credit Risk Management and Profitability in financial institutions in Sweden. They found that credit risk management in financial institutions has become more important not only because of the financial crisis that the world is experiencing nowadays but also the introduction of Basel II. Since granting credit is one of the main sources of income in financial institutions, the management of the risk related to that credit affects the profitability of the financial institutions (Ara et al., 2009).

## **2.5 Summary**

Generally, from almost all surveys reviewed in the literature, it is evident that credit risk management is essential in optimizing the performance of micro financial institutions. In addition, an effective credit risk management involves establishing an appropriate credit risk environment, operating under a sound credit granting process, maintaining appropriate credit administration that involves the identification, analysis and monitoring process as well as adequate controls over credit risk. The prevailing margin between deposit-lending rates, the interest rate spreads (IRS) in an economy has important implications for the growth and development of such economy, as numerous authors suggest, a critical link between the efficiency of bank intermediation and economic

growth. Quaden (2004), for example, argues that a more efficient banking system benefits the real economy by allowing 'higher expected returns for savers with a financial surplus, and lower borrowing costs for investing in new projects that need external finance.

## **CHAPTER THREE**

### **RESEARCH DESIGN AND METHODOLOGY**

#### **3.1 Introduction**

This chapter presents the research design and methodology that was used to carry out the research. It presents the research design, the population, sample size and sampling procedure, data collection and data analysis.

#### **3.2 Research Design**

Research design refers to the way the study is designed, that is the method used to carry out the research (Mugenda, 2008). Descriptive Research is the investigation in which quantity data was collected and analyzed in order to describe the specific phenomenon in its current trends, current events and linkages between different factors at the current time. Descriptive research design is chosen because it enables the researcher to generalize the findings to a larger population.

The study focused on the MFIs that have been in operational for the last five years (i.e. 2006 – 2010) in Nyeri town. These MFIs are Faulu Kenya Limited, Kenya Women Holding Limited (formerly Kenya Women Finance Trust) and SISDO (formerly Smallholder Irrigation Schemes Development Organization).

#### **3.3 Target Population**

Target population can be defined as a compute set of individuals, cases/objects with some common observable characteristics of a particular nature distinct from other population. The target population for this study was 500 respondents. According to Mugenda and Mugenda (1999), a population is a well defined as a set of people, services, elements and events, group of things or households that are being investigated. The population of this

study was all the MFIs in Nyeri town. There are only three active MFIs in Nyeri ([www.softkenya.com/nyeri-county/](http://www.softkenya.com/nyeri-county/)). This is the group from which the sample shall be drawn. The respondent was drawn from their various levels of employment, that is, the top, middle and low level management.

### **3.4 Sampling and Sampling Procedure**

Simple sampling method was used to select all the three MFIs in Nyeri where a sample size of 50 respondents from the target population was chosen. This is approximately 10% of the total population. Most researchers including Mugenda and Mugenda (2003) a sample of 10% is considered representative of the total population. The method spreads the sample more evenly over the population and is easier to conduct (Mugenda and Mugenda 1999). The researcher used simple random sampling because it gives equal chance of selection of the sample units since from the target population, a starting point is chosen, and thereafter at regular intervals.

### **3.5 Data Collection Procedures and Instruments**

#### **3.5.1 Data Collection Procedure**

The research was carried out using primary and secondary data. Primary data is the information the researcher obtained from the field. Primary data was collected using semi-structured questionnaires. The questionnaires was administered using drop and pick method. The questionnaires was used because they allow the respondents to give their responses in a free environment and help the researcher gather information that would not have been given out had interviews been used. The questionnaire was self-administered to some respondents while for others the researcher administer. Secondary data refers to

the information obtained from articles, books, newspapers, internet and magazines. Thus secondary data was collected from past published scholarly articles.

### **3.5.2 Data Instruments**

The Researcher developed the instruments with which to collect the necessary information. Questionnaires were used to obtain important information about the population. According to Michael S (1998), a self administered questionnaire is the only way to elicit self report on people's opinion, attitudes, beliefs and values. The questionnaire contained both closed-ended and also a few open ended questions. These types of questions were accompanied by a list of possible alternatives from which respondents are required to select the answer that best describes their situation. The main advantage of close ended questions is that they are easier to analyze since they are in an immediate usable form, they are easy to administer because each item is followed by an alternative answers and also they are economical to use in terms of time saving.

### **3.5.3 Pilot Study**

Piloting was carried out to test the validity and reliability of the instruments. Validity indicates the degree to which the instrument measures the constructs under investigation (Mugenda and Mugenda, (1999). There are three types of validity test which include content, criterion and related construct validity. This study used content validity because it will measure the degree to which the sample of the items represents the content that the test is designed to measure.

A pilot study was conducted by the researcher taking some questionnaires to the MFIs which was filled by respondents at random. From this pilot study the researcher was able

to detect questions that need editing and those that are ambiguous. The final questionnaire was then printed and used to collect data to be used for analysis.

### **3.6 Data Analysis and Presentation**

The researcher used qualitative and quantitative techniques in analyzing the data. After receiving questionnaires from the respondents, the responses were edited, classified, coded and tabulated to analyze quantitative data using Statistical Package for Social Science (SPSS) version 17.0. Tables and charts were used for presentation for easy understanding. This was coupled with the content analysis on qualitative issues to generalize the results.

The factors influencing credit risk management approaches are X (independent variables) and dependent variable is Y.

The regression equation to be used:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \alpha$$

Where Y is the dependent variable (Non Performing Loans),  $\beta_0$  is the regression coefficient,  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ ,  $\beta_4$  and  $\beta_5$  are the slopes of the regression equation,  $X_1$  is the credit risk identification independent variable,  $X_2$  is credit risk analysis independent variable,  $X_3$  is credit risk monitoring independent variable, while  $\alpha$  is an error term normally distributed about a mean of 0 and for purposes of computation, the  $\alpha$  is assumed to be 0.

## CHAPTER FOUR

### 4.0 DATA PRESENTATION AND ANALYSIS

#### 4.1 Introduction

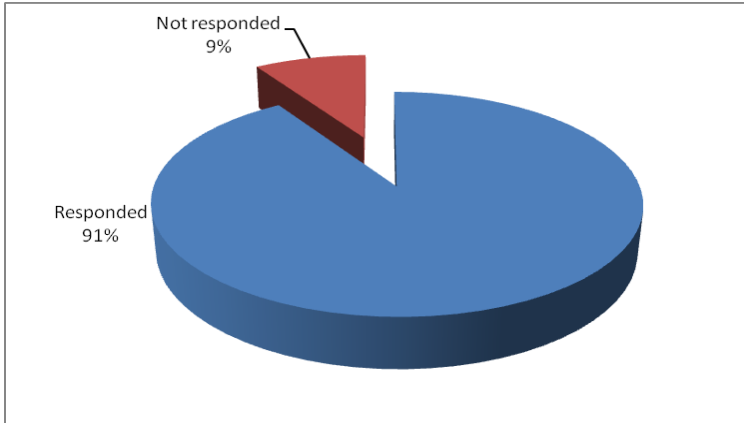
This chapter presents analysis and findings of the study as set out in the research methodology. The results are presented on the factors contributing to non-performance of loans among MFIs in Nyeri. The data was gathered exclusively from questionnaire as the research instrument. The questionnaire was designed in line with the objectives of the study. To enhance quality of data obtained, Likert type questions were included whereby respondents indicated the extent to which the variables were practiced in a five point Likerts scale.

##### 4.1.1 Response Rate

**Table 4. 1: Response Rate**

	<b>Frequency</b>	<b>Percentage</b>
Responded	40	90.9
Not responded	4	9.1
<b>Total</b>	44	100.0

The study targeted 44 respondents in collecting data with regard to the factors contributing to non-performance of loans among MFIs in Nyeri. 40 out of 44 target respondents filled in and returned the questionnaire contributing to 90.9%. This commendable response rate was made a reality after the researcher made personal calls and visits to remind the respondent to fill-in and return the questionnaires.



**Figure 4. 1: Response Rate**

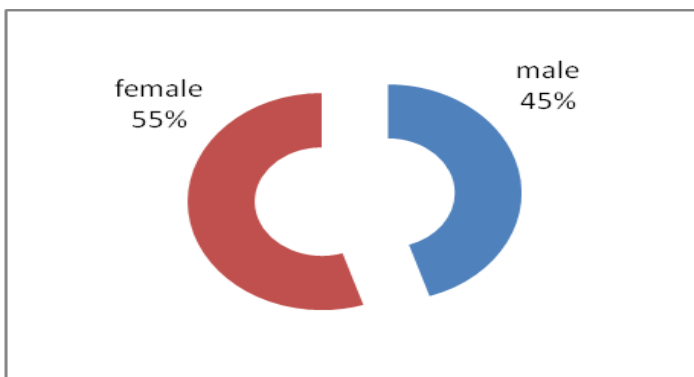
## 4.2 General Findings

### 4.2.1 Gender Composition

**Table 4. 2: Gender Composition**

	<b>Frequency</b>	<b>Percent</b>
Male	18	45.0
Female	22	55.0
<b>Total</b>	<b>40</b>	<b>100.0</b>

The study sought to know the respondents' gender. From the findings, majority of the respondents were females as shown by 55.0%, while 45.0% of the respondents were male. This shows that the MFIs in Nyeri employ both male and female members.





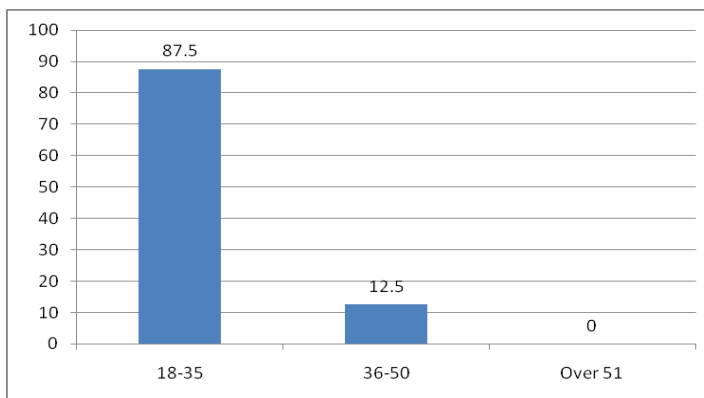
## Figure 4. 2: Gender Composition

### 4.2.2 Ages of the Respondents

**Table 4. 3:** Age of the Respondents

	<b>Frequency</b>	<b>Percent</b>
18-35	35	87.5
36-50	5	12.5
Over 51	0	0
<b>Total</b>	<b>40</b>	<b>100.0</b>

On the age of the respondents, majority of the respondents were aged between 18-35 years as shown by 87.5%, whereas 12.5% of the respondents were aged between 36-50 years. This shows that the MFIs members were young members in their active ages of 18 to 35 years.



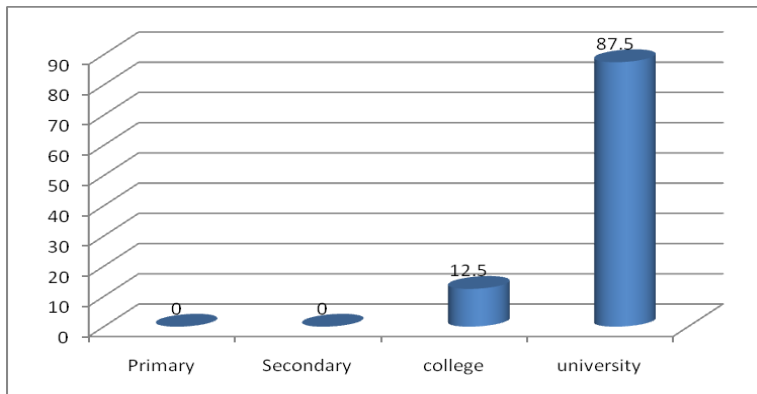
**Figure 4. 3:** Age of the Respondents

### 4.2.3 Highest Level of Education

**Table 4. 4:** Education Level

<b>Level of education</b>	<b>Frequency</b>	<b>Percent</b>
Primary	0	0
Secondary	0	0
college	5	12.5
university	35	87.5
<b>Total</b>	<b>40</b>	<b>100.0</b>

The study sought to investigate the respondents' level of education with an aim of establishing their ability to respond to the questions in this study. According to the findings, majority of the respondents had a university degree as shown by 87.5%, while 12.5% of the respondents were college diploma holders.



**Figure 4. 4: Education Level**

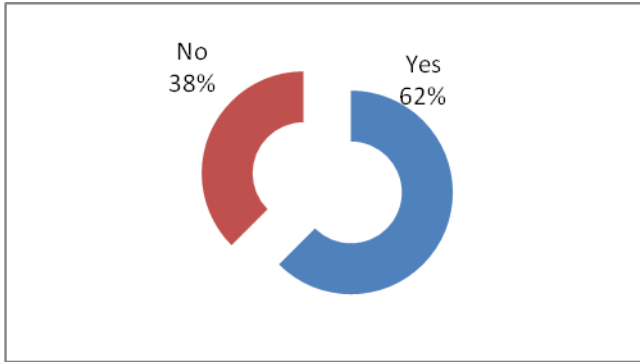
#### **4.3 Insider Lending Effect on Non-Performance of Loans**

The study sought to investigate whether the MFIs offer insider lending. The respondents unanimously indicated that their MFIs offer insider lending.

**Table 4. 5: Whether the Level of Insider Lending is High in the MFI**

	<b>Frequency</b>	<b>Percent</b>
Yes	25	62.5
No	15	37.5
<b>Total</b>	<b>40</b>	<b>100.0</b>

The respondents of this study were also required to indicate whether they thought the level of insider lending of loans was high in the MFIs. 62.5% of the respondents indicated that the level of insider lending is high in the MFIs in Nyeri, while 37.5% of the respondents indicated that the insider lending was not high in the MFIs.

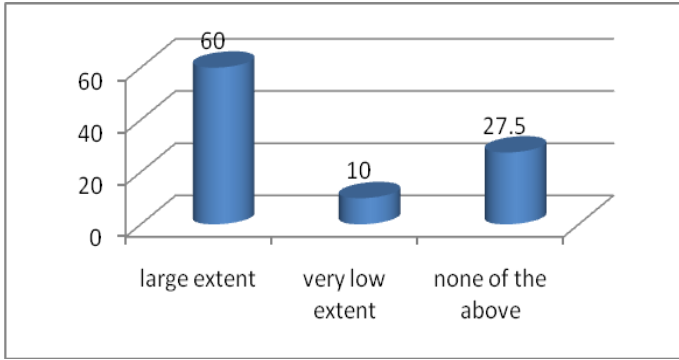


**Figure 4. 5: Whether the Level of Insider Lending is High in the MFIs**

**Table 4. 6: Extent to Which the Insider Lending is High in the MFIs**

<b>Extent</b>	<b>Frequency</b>	<b>Percent</b>
Large extent	24	60.0
Very low extent	4	10.0
None of the above	12	27.5
<b>Total</b>	<b>40</b>	<b>100.0</b>

On indicating that the insider level is high in the MFIs, the respondents were requested to indicate the extent to which the insider lending is high in the MFIs in Nyeri. 60% of the respondents indicated that the insider lending in the MFIs in Nyeri is high to a large extent, 27.5% of the respondents did not indicated the extent that the insider lending in the MFIs in Nyeri is high, while 10% of the respondents indicated that the insider lending in the MFIs in Nyeri is high to a very low extent.



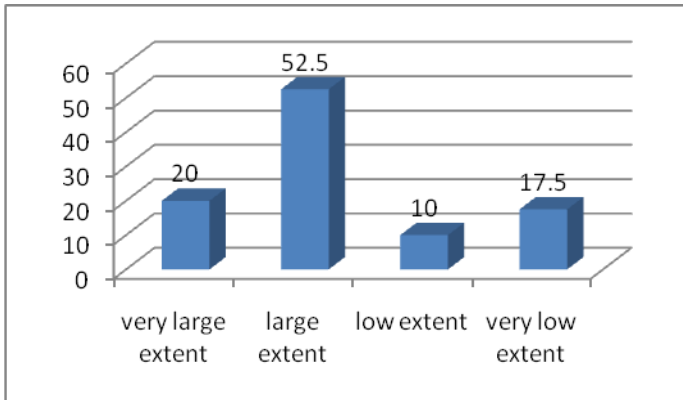
**Figure 4. 6: Extent to Which the Insider Lending is High in the MFIs**

The study sought to investigate whether the company follows procedures when lending insider loans. From the findings all the respondents as shown by a 100% response indicated that the MFIs in Nyeri follow procedures when lending loans.

**Table 4. 7: Extent to Which Insider Lending Affect Non Performance of Loans**

	Frequency	Percent
Very large extent	8	20.0
Large extent	21	52.5
Low extent	4	10.0
Very low extent	7	17.5
<b>TOTAL</b>	<b>40</b>	<b>100.0</b>

In general the respondents of this study were required to indicate the extent to which they would say insider lending affect non-performance of loans among MFIs in Nyeri. 52.5% of the respondents indicated that insider lending affects non-performance loans in the MFIs in Nyeri to a large extent, 20.0% of the respondents indicated that insider lending affects non-performance loans in the MFIs in Nyeri to a very large extent, 17.5% of the respondents indicated that insider lending affects non-performance loans in the MFIS in Nyeri to a very low extent, while 10.0% of the respondents indicated that insider lending affects non-performance loans in the MFIs in Nyeri to a low extent.



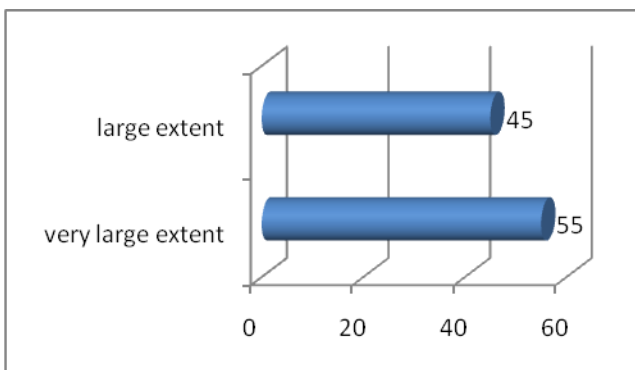
**Figure 4. 7: Extent to Which Insider Lending Affects Non Performance of Loans**

#### 4.4 Economic Factors and Non-Performance of Loans

**Table 4. 8: Extent to Which Inflation Rate Affect the Level of Non-Performance of Loans**

Extent	Frequency	Percent
Very large extent	22	55.0
Large extent	18	45.0
Total	40	100.0

The study sought to investigate the extent to which inflation rate affect the level of non-performance of loans among MFIs in Nyeri. 55% of the respondents indicated that inflation rate affect the level of non-performance of loans among MFIs in Nyeri to a very large extent, while 45% of the respondents indicated that inflation rate affect the level of non-performance of loans among MFIs in Nyeri to a large extent.

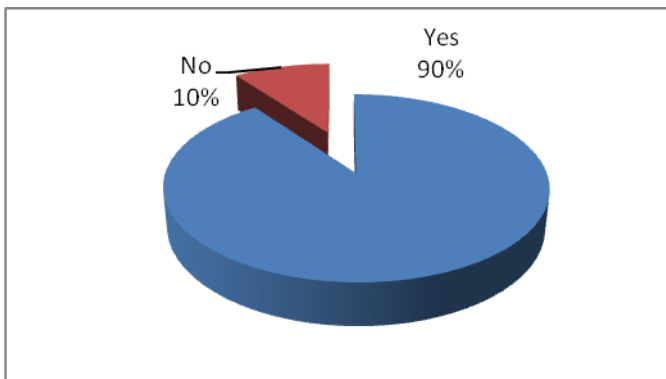


**Figure 4. 8: Extent to Which Inflation Rate Affect the Level of Non-Performance of Loans**

**Table 4. 9: Whether the Interest Rates of MFIs were High**

Response	Frequency	Percent
Yes	36	90.0
No	4	10.0
Total	40	100.0

The study further sought to establish whether the respondents thought interest rates of MFIs were high. From the findings, 90% of the respondents indicated that interest rates of MFIs are high, while 10% of the respondents indicated that interest rates of MFIs were not high.



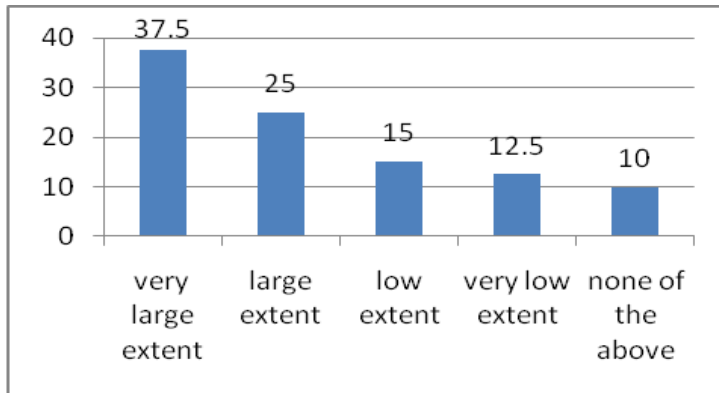
**Figure 4. 9: Whether the Interest Rates of MFIs were High**

**Table 4. 10: Extent to Which Interest Rates of MFIs Were High**

	Frequency	Percent
Very large extent	15	37.5
Large extent	10	25.0
Low extent	6	15.0
Very low extent	5	12.5
None of the above	4	10.0
<b>Total</b>	<b>40</b>	<b>100.0</b>

Further, the respondents were required to indicate the extent to which interest rates of MFIs were high. 37.5% of the respondents indicated that interest rates of MFIs were high to a very great extent, 25% of the respondents indicated that interest rates of MFIs were

high to a great extent, 15% of the respondents indicated that interest rates of MFIs were high to a low extent, 12.5% of the respondents indicated that interest rates of MFIs were high to a very low extent, while 10% of the respondents indicated no extent about the interest rates of MFIs being high.

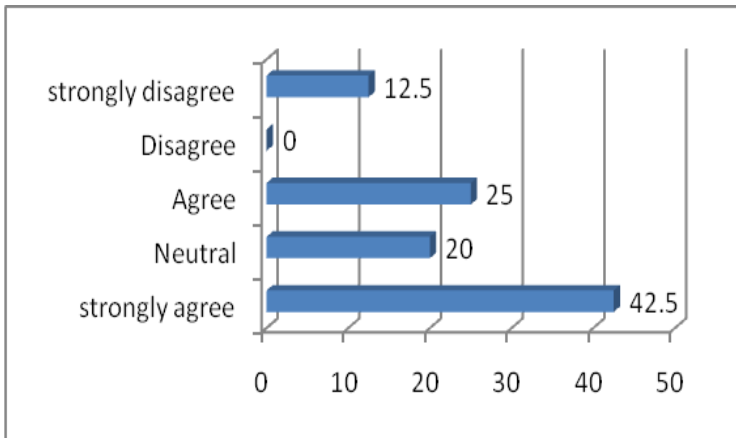


**Figure 4.1: Extent to Which Interest Rates of MFIs Were High**

**Table 4. 11: Agreement on the Effects of Non-Performance of Loans**

	<b>Frequency</b>	<b>Percent</b>
Strongly agree	17	42.5
Neutral	8	20.0
Agree	10	25.0
Disagree	0	0
Strongly disagree	5	12.5
<b>Total</b>	<b>40</b>	<b>100.0</b>

The study sought to investigate the respondents' agreement on the effect of non-performance of loans. 42.5% of the respondents were in strong agreement that high interest loans affect non-performance of loans, 25% of the respondents agreed that high interest loans affect non-performance of loans, 20% of the respondents were neutral that high interest loans affect non-performance of loans, while 12.5% of the respondents were in strong disagreement that high interest loans affect non-performance of loans.

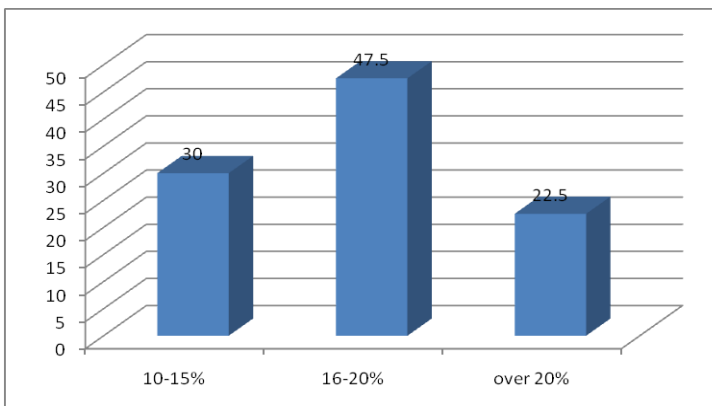


**Figure 4. 10: Agreement on the Effects of Non-Performance of Loans**

**Table 4. 12: Average Interest Rates in the MFI**

	Frequency	Percent
10-15%	12	30.0
16-20%	19	47.5
over 20%	9	22.5
<b>Total</b>	<b>40</b>	<b>100.0</b>

The respondents of this study were requested to indicate the average interest rates in the MFIs. 47.4% of the respondents indicated that the average interest rates in the MFIs ranged between 16-20%, 30.0% of the respondents indicated that the average interest rates in the MFI ranged between 10-15%, while 22.5% of the respondents indicated that the average interest rates in the MFI ranged between.



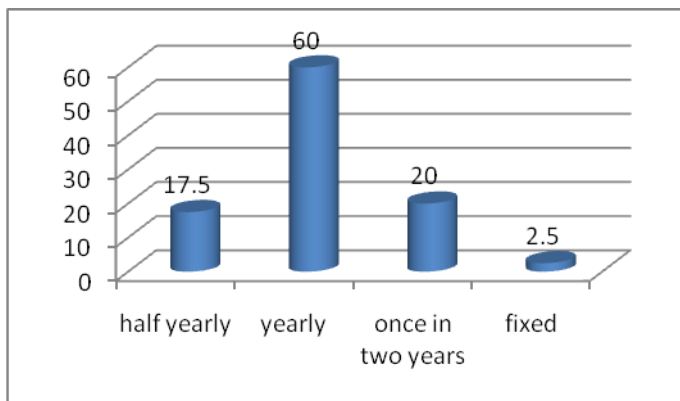


**Figure 4. 11: Average Interest Rates in the MFIs**

**Table 4. 13: Frequency of Interest Rates Changes in the MFIs**

	<b>Frequency</b>	<b>Percent</b>
Half yearly	7	17.5
Yearly	24	60.0
Once in two years	8	20.0
Fixed	1	2.5
<b>Total</b>	<b>40</b>	<b>100.0</b>

The study sought to investigate the duration over which the interest rates in MFI changes. Majority of the respondents indicated that the interest rates in their MFIs changes yearly as indicated by 60%, 20% of the respondents indicated that the interest rates in their MFIs changes once in two years, 17.5% of the respondents indicated that the interest rates in their MFIs changes half yearly, while 2.5% of the respondents indicated that the interest rates in their MFIs is fixed. None of the respondents indicated that the interest rates in their MFIs changes quarterly.

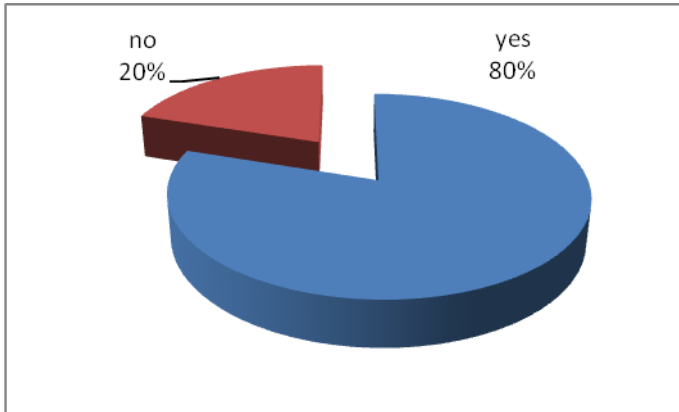


**Figure 4. 12: Frequency of Interest Rates Changes in the MFI**

**Table 4. 14: Whether there is a Predetermined Way of Determining Interest Rates**

	<b>Frequency</b>	<b>Percent</b>
Yes	32	80.0
No	8	20.0
<b>Total</b>	<b>40</b>	<b>100.0</b>

Further the study sought to establish whether there is a predetermined way of determining interest rates in the MFIs. 80% of the respondents indicated that there is a predetermined way of determining interest rates in their MFIs, while 20% of the respondents indicated that there is usually no a predetermined way of determining interest rates in their MFIs.



**Figure 4. 13: Whether there is a Predetermined Way of Determining Interest Rates**

#### 4.5 Credit Management and Non-Performance of Loans

**Table 4. 15: Whether the Organization has a Specified Credit Collection Period**

Agreement	Frequency	Percent
Strongly agree	27	67.5
Neutral	4	10.0
Agree	5	12.5
Strongly disagree	4	10.0
<b>Total</b>	<b>40</b>	<b>100.0</b>

The study sought to investigate whether the organization has a specified credit collection period. 67.5% of the respondents indicated strong agreement that the organizations have specified credit collection period, 12.5% of the respondents agreed that the organization has a specified credit collection period, 10.0% of the respondents indicated neutrality that the organization has a specified credit collection period, while another 10% of the

respondents indicated strong disagreement that the organization has a specified credit collection period.

**Table 4. 16: Presence of Highly Skilled Personnel among MFIs in Nyeri**

	<b>Frequency</b>	<b>Percent</b>
Strongly agree	26	65.0
Disagree	4	10.0
Neutral	5	12.5
Agree	5	12.5
<b>Total</b>	<b>40</b>	<b>100.0</b>

On whether there are highly skilled personnel amongst MFIs in Nyeri, 65% of the respondents indicated strong agreement that there are highly skilled personnel in their MFIs, 12.5% of the respondents agreed that there are highly skilled personnel in their MFIs, another 12.5% of the respondents indicated neutrality that there are highly skilled personnel in their MFIs, while 10% of the respondents indicated disagreement that there are highly skilled personnel in their MFIs.

**Table 4. 17: MFIs have Appropriate Training Procedures**

	<b>Frequency</b>	<b>Percent</b>
Strongly agree	26	65.0
Disagree	5	12.5
Neutral	4	10.0
Agree	5	12.5
<b>Total</b>	<b>40</b>	<b>100.0</b>

The study further sought to investigate the respondents' level of agreement that MFIs have appropriate training procedures. 65% of the respondents indicated strong agreement that their MFIs have appropriate training procedures, 12.5% of the respondents agreed that their MFIs have appropriate training procedures, another 12.5% of the respondents

indicated neutrality that there their MFIs have appropriate training procedures, while 10% of the respondents indicated disagreement that there their MFIs have appropriate training procedures.

**Table 4. 18: Recommendation for Risk Management Procedures to be put in Place**

	<b>Frequency</b>	<b>Percent</b>
Very large extent	40	100.0
Large extent	0	0
Low extent	0	0
Very low extent	0	0
<b>Total</b>	<b>40</b>	<b>100.0</b>

The study sought to investigate the extent to which the respondents would recommend availability of risk management procedures to be put in place among MFIs in Nyeri. All the respondents unanimously indicated that they would recommend availability of risk management procedures to be put in place among MFIs in Nyeri to a very large extent.

#### **4.6 Regression Analysis**

The study also conducted a linear multiple regression analysis so as to test the relationship among variables (independent) on the dependent variable. The study applied the statistical package for social sciences (SPSS) to code, enter and compute the measurements of the multiple regressions for the study.

**Table 4. 19: Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.863	.7448	0.726	0.148

a Predictors: (Constant), Credit Risk, Credit Risk Management)

The two independent variables that were studied, explain only 0.7448 of the relationship between credit risk management approaches employed by MFIs in Nyeri County and the level of NPLs as represented by the  $R^2$  which forms a 74%. This therefore means that other factors not studied in this research contribute 0.2552 which is  $(1-R^2)$  of the relationship between credit risk management approaches employed by MFIs in Nyeri County and the level of NPLs. Therefore, further research should be conducted to investigate the other factors (26%) that affect the relationship between credit risk management approaches employed by MFIs in Nyeri County and the level of NPLs.

**Table 4. 20: ANOVA (b)**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.982	6	.495	18.1	.00014
	Residual	35.931	18	1.996		
	Total	37.913	24			

a Predictors: (Constant), Credit Risk, Credit Risk Management)

The significance value is 0.0014 which is less than 0.05 thus the model is statistically significant in predicting Credit Risk, Credit Risk Management and the level of Non-Performing Loans. The F critical at 5% level of significance was 3.23. Since F calculated is greater than the F critical (value = 18.1), this shows that the overall model was significant.

**Table 4. 21: Coefficients (a)**

Model		Unstandardized Coefficients	Sig.
		B	
1	(Constant)	5.495	.001
	Credit Risk	4.058	.009
	Credit risk Management	3.275	.010

a Predictors: (Constant), Credit Risk, Credit Risk Management and the level of Non Performing loans)

**Source: Study, 2012**

The study conducted a multiple regression analysis so as to determine the relationship between credit risk management approaches employed by MFIs in Nyeri County and the level of NPLs and the two variables. As per the SPSS generated table above, the equation ( $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \epsilon$ ) becomes:

$$Y = 5.495 + 4.058X_1 + \epsilon$$

Where Y is the dependent variable (the relationship between credit risk management approaches and the level of NPLs),  $X_1$  is the credit risk variable,  $X_2$  is the credit risk management variable. The regression equation ( $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + e$ )

According to the regression equation established, taking all factors into account (Credit Risk, Credit Risk Management and the level of Non Performing loans.) constant at zero, the relationship between credit risk management approaches and the level of NPLs was be 5.495. The data findings analyzed also show that taking all other independent variables at zero, a unit increase in credit risk will lead to a 4.396 increase in the relationship between credit risk management approaches and the level of NPLs while a unit increase in credit risk management will lead to a 3.275 increase in the relationship between credit risk management approaches and the level of NPLs. This infers that credit risk management contributes more to the relationship between credit risk management approaches and the level of NPLs followed by credit risk.

At 5% level of significance and 95% level of confidence, credit risk showed a 0.009 level of significance; credit risk management had a 0 .010 level of significant hence the most significant factor is credit Risk management. The lower the value the more significant it is.

## **CHAPTER FIVE**

### **5.0 SUMMARY OF FINDINGS CONCLUSIONS AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter provides the summary of the findings from chapter four, and also it gives the conclusions and recommendations of the study based on the objectives of the study. The objectives of this study were to establish the effect of insider lending on non-performance of loans among MFIs in Nyeri, to examine the effect of economic factors on non-performance of loans among MFIs in Nyeri and to establish if credit management affect non-performance of loans among MFIs in Nyeri.

#### **5.2 Summary of the Findings**

The study found that the level of insider lending of loans was high in the MFI to a large extent. All the MFIs in Nyeri follow procedures when lending loans and that insider lending affects non-performance loans in the MFIs in Nyeri to a large extent.

On economic factors, the study found that inflation rate affects the level of non-performance of loans among MFIs in Nyeri to a very large extent. The interest rates by these MFIs are high to a great extent. It was also clear that high interest loans affect non-performance of loans and that the average interest rates in the MFI ranged between 16-20%. Majority of the respondents indicated that the interest rates in their MFIs changes yearly and there is a predetermined way of determining interest rates in the MFIs.

On credit management, the study found that the organizations have specified credit collection period, there are highly skilled personnel in their MFIs and the MFIs have



appropriate training procedures. All the respondents unanimously indicated that they would recommend availability of risk management procedures to be put in place among MFIs in Nyeri to a very large extent.

Based on the analysis and discussions of the results, the study identified credit risk assessment and management, ineffective inability to enforce covenant, liquidity and probability and asymmetric information in loan market as the major factors accounting for bad loans in MFIs in Nyeri County. The findings showed that the MFIs recorded huge amount of bad loans during the period under consideration. It was established that these provisions negatively impacted on the effective management of nonperforming loans in the MFIs through reduction in loan interest income, profits and lending funds.

The study found that the level of credit risk assessment and management was high in the MFIs to a large extent. All the MFIs in Nyeri County follow procedures when assessing and managing credit risk and that credit risk assessment and management affects NPLs in the MFIs to a large extent. The study found that the organizations have specified credit collection period.

The study also found that the inability to enforce covenant of banks was high. Respondents unanimously indicated that effective management of their banks was affected by liquidity and probability, and that asymmetric information in loan market affects the effective management of Non-Performing loans in listed commercial banks to a very large extent.

The study found that inability to enforce covenant causes NPLs among commercial banks in Kenya to a very large extent. 90% of the respondents indicated that the inability to enforce covenant of banks was high.

On liquidity and probability, 67.5% of the respondents indicated strong agreement that the liquidity and probability affects the effective management of NPLs in listed commercial banks.

On the fourth variable, the study found that 55% of the respondents indicated that asymmetric information in loan market affects the effective management of Non-Performing loans in listed commercial banks to a very large extent.

### **5.3 Conclusions**

The study concludes that the level of insider lending of loans was high in the MFI to a large extent. All the MFIs in Nyeri follow procedures when lending loans and that insider lending affects non-performance loans in the MFIs in Nyeri to a large extent.

On economic factors, the study deduces that inflation rate affects the level of non-performance of loans among MFIs in Nyeri to a very large extent. The interest rates by these MFIs are high to a great extent. It was also clear that high interest loans affect non-performance of loans and that the average interest rates in the MFI ranged between 16-20%. The interest rates in their MFIs changes yearly and there is a predetermined way of determining interest rates in the MFIs.

On credit management, the study concludes that the organizations have specified credit collection period, there are highly skilled personnel in their MFIs and the MFIs have appropriate training procedures.

#### **5.4 Recommendations**

The study recommends that MFIs in Nyeri need to address the level of insider lending of loans. All the MFIs in Nyeri should enhance on following procedures when lending loans and that insider lending affects non-performance loans in the MFIs in Nyeri.

The study recommends that the MFIs should address the issue of inflation rate as they affect the level of non-performance of loans among MFIs in Nyeri to a very large extent.

The interest rates by these MFIs should also be set to a considerable rate to encourage borrowing and at the same time should be bearable to the borrowers are high to a great extent. It was also clear that high interest loans affect non-performance of loans and that the average interest rates in the MFIs ranged between 16-20%. The interest rates in the MFIs change yearly and there is a predetermined way of coming up with interest rates in the MFIs. The study recommends availability of risk management procedures to be put in place among MFIs in Nyeri to a very large extent.

#### **5.5 Limitations of the Study**

The study was carried out in MFIs in Nyeri County and cannot be extended to all MFIs in Kenya and for a longer period. All the MFIs did not provide all the information required. If more MFIs were available could have resulted in better results being obtained.

#### **5.6 Recommendations for Further Studies**

To improve on this study, it is suggested that a similar study should be carried out over a long period of time so as to obtain more reliable findings. If possible more MFIs should be included in the sample so as to increase reliability on the results. A study should also

be carried out to test the relationship between credit risk management approaches employed by the main MFIs in Kenya and the level of NPLs.

A similar study could be carried out on other financial sectors to see whether the same results also hold by testing the variables in this study on financial institutions. A similar study should also be done whereby the data collection relies on primary data i.e. in-depth questionnaires and interview guide so as to complement this study. Due to the shortcomings of regression models, other models can be used to explain the various relationships between the level of NPLs and credit risk management approaches among financial institutions in the country.

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**APPENDICES**

**Appendix I: Questionnaire**

**RELATIONSHIP BETWEEN CREDIT RISK MANAGEMENT AND THE  
LEVEL OF NON-PERFORMING LOANS ON PERFORMANCE**

(Please tick, circle or fill in the blanks as appropriate)

**Section A: General Information**

1. Name of your institution

.....

2. Your designation.(Tick as appropriate)

Operations Manager ( )                      Credit Manager ( )

Credit Officer ( )                      Branch Manager ( )

Other (specify).....

3. What is the average level of non-performing loans of the MFI in Nyeri shillings?

Less than 50 million [ ]

51 to 100 million [ ]

101 to 150 Million [ ]

More than 150 Million [ ]

4. What constitutes the majority of clients on whom your credit facilities targets?

Corporate bodies [ ]

SMEs [ ]

Individuals [ ]

Directors and employees [ ]

InterMFI lending [ ]

a. What are your reasons to the above answer?

.....  
.....  
.....  
.....

b. Does the choice contribute more to the NPL?

Not sure [ ] No [ ] Yes [ ]

**Section B: CREDIT RISK MANAGEMENT AND THE LEVEL OF NON-PERFORMING LOANS ON PERFORMANCE.**

5. To what extent are the following three evaluation factors applied to measure the performance of your institution?

Indicator	No extent	Little extent	Moderate extent	Great extent	Very great extent
Credit risk Identification					
Credit risk analysis					
Credit risk monitoring					
Other (specify).....					

6. In your own views, what are the importance of regulating and supervising of Microfinance Institutions in Nyeri?

- a).....
- b).....
- c).....

**Section C: Operating efficiency and credit risk approaches**

7. Does your MFI use any of the following credit risk management approaches?

- a) Credit risk identification [ ] Yes [ ] No
- b) Credit risk analysis [ ] Yes [ ] No
- c) Credit risk monitoring [ ] Yes [ ] No

8. If your answer is **yes**, how long do your credit risk management approaches take?

- a) Credit risk identification
  - 1 – 3 Months [ ]
  - 4 – 6 Months [ ]

7- 9 Months	<input type="checkbox"/>	8- 12 Months	<input type="checkbox"/>
1- 3 Years	<input type="checkbox"/>	Over 3 Years	<input type="checkbox"/>

b) Credit risk analysis

1 – 3 Months	<input type="checkbox"/>	4 – 6 Months	<input type="checkbox"/>
7- 9 Months	<input type="checkbox"/>	8- 12 Months	<input type="checkbox"/>
1- 3 Years	<input type="checkbox"/>	Over 3 Years	<input type="checkbox"/>

c) Credit risk monitoring

1 – 3 Months	<input type="checkbox"/>	4 – 6 Months	<input type="checkbox"/>
7- 9 Months	<input type="checkbox"/>	8- 12 Months	<input type="checkbox"/>
1- 3 Years	<input type="checkbox"/>	Over 3 Years	<input type="checkbox"/>

9. Are you involved in the evaluation of the credit risk management approaches used in your firm?

Yes  No

10. Is there a committee responsible for evaluating the credit risk management approaches employed in your MFI?

Yes  No

11. All senior staff in your institution participates in credit risk management approaches evaluation. Do you agree to this statement? Please tick appropriately.

Strongly agree	<input type="checkbox"/>	Disagree	<input type="checkbox"/>
Agree	<input type="checkbox"/>	Strongly disagree	<input type="checkbox"/>
Neutral	<input type="checkbox"/>		

**Section C: Non Performing Loans**

12. How has the level of NPLs in your MFI been performing loans in the last five years?

Declining  Increasing

13. To what extent do you owe the presence of NPLs on the following factors

Please indicate the extent to which the following factors in your institution contribute to the presence of NPLs.

Please record your answer by ticking at the space provided, by the scale indicator.

(1= not at all, 2 = small extent, 3 = moderate extent, 4 = large extent, 5 = very large extent).

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
Willful defaults					
Siphoning of funds					
Fraud					
Management disputes					
Mismanagement					
Misappropriation of funds					

**Thank you!!**