DETERMINANTS OF PERFORMANCE OF LOANS OF AGRO-BASED FINANCIAL INSTITUTIONS: THE CASE OF AGRICULTURAL FINANCE CORPORATION

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DECLARATION

This Research Proposal is my Original Work and has not been submitted for a Degree in

any other University or Institution.

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ACKNOWLEDGEMENT

DEDICATION

I dedicate this project to my dear wife Alice, my children Mandela, Alex and Martin

ABSTRACT

Agro based industry has been cited as major contributor in economic development in Kenya. As is the case in other developing countries, securing financing and attaining high loan performance remains a challenge. The Agricultural Finance Corporation (AFC) is mandated to provide financial support through loans in Agro-based businesses in the country. This research sought to determine the factors that determine loan performance in agro based financial institutions and used AFC as a case study.

Factors such as age of borrower, bank balance, business relationship (personal, business and new customer), interest rate, loan size, loan type and gender of borrower, borrower education were analyzed to determine their relationship and impact on default. The study used binary Logit model for analysis due to the dichotomous nature of the dependent variable (Non-repayment). The study used a sample of 110 borrowers accounts randomly selected within the period of study.

The results showed that 63.36 per cent of loan repayments were not made on time, while 33.36 per cent actually defaulted. The results show CUSTN i.e. if borrower is a new client had statistically significant negative influence on the probability of default. All the other factors in the study were not significant. The study recommends that there is need for AFC not to shy away lending to first time loan applicants while conducting due diligence when lending to existing business relationships.

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ABBREVIATIONS

AFC	-	Agricultural Finance Corporation
CB	-	Central Bank of Kenya
ICDC	-	Industrial and Commercial Development Corporation
IMF	-	International Monetary Fund
KUSCCO	-	Kenya Union of Savings and Credit Cooperative
NPLs	-	Non Performance of Loans
PROBDEF2	-	Probability of default 2
AGEO	-	Age
BKBALNEG	-	Bank balance negative
CUSTTYPE	-	Customer type
IRABOVEPR	-	Interest rates above prime
LOANSIZEL	-	Large size Loan
LOANSIZEM	-	Medium size Loan
LOANSIZES	-	Small size Loan
LOANTERML	-	Term loan
LTABF	-	Loan term been Asset based finance
LTTERM	-	Long term loan
CUSTF	-	Customer Type been female
CUSTED	-	Education level of customer
BUSRELATN	-	Business relationship of customer with AFC
CUSTN	-	Type of customer
LPM	-	Linear Probability Model
SPSS	-	Statistical Package for the Social Sciences

CHAPTER ONE
INTRODUCTION

1.1 Background to the Study

Agro based industry is regarded as the sunrise sector of the world economy in view of its large potential for growth and likely socio economic impact specifically on employment and income generation. Some estimates suggest that in developed countries, approximately 14 per cent of the total work force is engaged in agro-processing sector directly or indirectly. However, in developing countries, only about 5 per cent of the work force finds employment in this sector revealing its underdeveloped state and vast untapped potential for employment. There is no denying that the developing world has to live with the problem of unemployment for many years to come. Therefore need arises to make all over development among all sections of the society especially in agro based industrial units (Dhiman & Rani, 2011).

Agro-based institutions are currently undergoing a turbulent period trying to adjust to the liberalization of the economy. The reforms in the financial sector have led to stabilization of interest rates charged by banks and other institutions, hence encouraging more borrowing for developmental purposes. The agro-based institution has been faced with weak marketing structures, poor management and leadership capacity and weak capital base (Jeremiah & Joseph, 2007). In Kenya Agro-based financial institutions offers savings and credit services to stimulate growth in the sector are facing realities of market competition due to the liberalization of the economy (David & Murungi, 2004).

The financial institutions exist as viable and credible alternatives to formal banking institutions which to a large extent are beyond the reach of ordinary Kenyans (KUSCCO, 2007).

1.1.1 Performance of Loans

Effective performance of loans is a product of performing loans. A performing loan is loan which is not in default, or is not about to be, with a reasonable expectation that the loan will not enter default even though it has not technically defaulted yet is a performing loan. As a general rule, banks and other financial institutions like to avoid non-performing loans, because there is a risk that they will not be able to recover the principal left on the loan, let alone the interest which has accrued. Loan policies define the type of loans offered, loan terms, interest rate policies, loan ceiling and concentration limits. The lending policies provide guidelines for eligibility, information requirements, security and collateral requirements and terms of review (Rose, 2002).

Adhering to credit policies ensure that regulatory standards are met and profitability is promoted in the organization. Therefore it helps the organization to move towards a profitable loan portfolio, controlling its risk exposure and satisfying regulatory requirements (Rose, 2002).Any exceptions to the policy should be fully documented and reasons for it listed. The borrower's credit worthiness is the ability of a customer to pay out the credit as and when due with a comfortable margin of error. Thus the borrower must not be a minor and supportive document must be provided such as a copy of

resolution of borrowing company or pay-slip of an employee (Rose, 2002; Garman & Forgue, 1997).

Lenders view credit backed by collateral as more secure. If the assets are technologically obsolete, they will have limited value as collateral due to difficulty of finding a buyer in case of loan default (Garman & Forgue, 1997). Credit risk management should include strict delinquency monitoring, loan-loss provision and collection procedures. IMF edition, (2000) describes non-performing loan as that loan that is in default or close to default. Many loans become non-performing after being in default for three months, but depend on the contract terms. A loan is non-performing when payments of interest are past due by 90 days or more or at least 90 days of interest payments have been refinanced or delayed by agreement or payments are less than 90 days overdue but there are other good reasons to doubt that payments will not be made in full.

1.1.2 Factors that Determine Loan Performance

There are various factors affecting loan performance. The financial management skills of loanees have a direct impact on performance of loans. The loanees existing financial management skills, level of education and nature of business is likely to influence the performance of loans. The loanees who fail to use the borrowed funds strictly for the intended purpose are likely to become loan defaulters. An injection of loans into wrong investment projects from the intended ones especially by semi-literate loanees leads to depletion of the funds .At the same time failure of the borrowers to put into consideration

the advice given by the lenders or mutual firms leads to mismanagement of funds and thus resulting in eventual defaulting of the loans repayment (Jimenez & Saurina, 2003).

Equally, initial loan appraisals would determine the level of NPLs. This involves the use of false information or means to acquire loans from lending institutions. These might also include giving or accepting collaterals whose values have been overstated and impaired. Some borrowers who might falsify their business past performance of records in order to acquire loans would not be able to repay comfortably later. The initial loan appraisal therefore, included the core five ingredients of loan appraisal. These comprise of tests on accuracy, honesty, collaterals, capacity and cash flow to determine loanee's credit worthiness and there likelihood chances of loans default (Saurina et al, 2000).

At the same time the nature of credit policies including loaning terms and conditions as well as loaning procedures have the long term effect on NPLs. The basic requirements a member is required to meet to qualify for a loan in the institution will determine whether or not that member would honour the loan repayment in future. Liberal, stringent and lenient credit policies have long-term consequences on the performance of loans.

When inflation is high it would cause the value of the currency to go down. This would not always go well with the borrowers because it means that compound interests have to be raised by financial institutions to counter check the upsurge. This might happen without putting into consideration the plight of those who had already borrowed the loans. This change would cause the borrowers to pay more than were supposed to pay

during the time of borrowing or negotiations thus have an impact on performance of loans. The intervening variables such as prices of farm produce, government policies and infrastructure influenced the performance of loans indirectly (Fofack, 2005).

Loanees' attitude towards government loans lead to laxity in loans repayment. More often than not loanees particularly in the rural areas and with lesser financial wisdom perceive that government loans are a form of free financial subsidy to their incomes. They therefore lack the moral obligation and commitment to repay the loans as and when they fall due.

Variables such as prices of farm produce, government policies and infrastructure influence the performance of loans indirectly. The internal management practice of the firm does not have direct intervention strategies of these variables because they are external to the firm. Increase in prices occasioned especially by rising inflation lead to high costs of production in agriculture rendering loans repayment an uphill task. At the same time government legislation for example increasing taxation on farm inputs and exports had the final consequence of reduced profitability which led to NPLs. The lack of a reliable and sustainable physical infrastructures in addition to unpredictable weather patterns normally create an imbalance in the way of doing business especially in loans repayment planning by loanees (Taschereau,1997).

1.1.3 Agricultural Finance Companies Globally

Sustainable access to financial services contributes to economic growth and poverty reduction the world over. The agricultural sector worldwide serves all other sectors in the global economy. The problem facing the world's agricultural economy is inadequate capital and credit for start-up, investment and expansion. Monetary policy through its influence on the financial sector of the world economy plays a major role in making credit available to the agricultural sector. This is the reason why agro-based financial institutions exist in almost 70% of the countries globally which practice agriculture. For example, in Nigeria there is Nigerian Agricultural, Cooperative and Rural Development Bank Ltd -the Leading Agricultural Development Finance Institution in Nigeria whose key mandate is to finance agriculture. In Pakistan, where the farmers condition is also very poor there is limited use of   modern technology. However, credit which is playing important role for the development of rural areas is provided by Commercial Banks such as the State Bank of Pakistan (Iyoha, 2002). In South Africa the cooperative viniculture of South Africa provides financing of agro based sector. Across Bangladesh the Bangladesh Bank finances the agriculture ministry through the Bangladesh refinancing scheme *(*www.iidfc.com).

There is also limited understanding of the Agricultural sector financial requirement and management by the lending institutions especially in the developing world. This factor is being addressed by the Agriculture Finance Support Facility . The World Bank, with the support of a US$20 million grant from the Bill and Melinda Gates Foundation, has established the Agriculture Finance Support Facility. The vision of the Facility is

significantly increased access to financial services for smallholder farmers and other enterprises in rural areas, and its goal is to demonstrate that providing financial services to smallholder farmers and other enterprises in rural areas can be a profitable business for financial institutions (World Bank, 2010).

1.1.4 Agricultural Finance Corporation

Agricultural Finance Corporation is one of the financial corporation's operating in Kenya. Agricultural Finance Corporation was established back in 1963 through an Act of parliament to assist in development of agriculture and agro- based industries by providing loans to farmers and agricultural related enterprises. At inception, the corporation was incorporated to take over credit of pre-independence Europeans and Africans Agricultural boards. The main function of the corporation those days was to assist in the effective and peaceful transfer of land from Europeans colonial settlers to indigenous African farmers. It also injected new capital into farms to spur farming developments (www.afc.go.ke).

Agricultural Finance Corporation is the leading non-bank government financial institutions lending agricultural credit facilities to farmers in the country. It has wide range of products that it finances depending upon the agri- logical sustainability of the environment. The products are basically the loan facilities that are given to farmers in order to produce the desired products; they are tailored to suit the individual farmer's unique requirement (www.afc.go.ke).

Furthermore, the company has done tremendous efforts in the training its workforce especially the branch managers. This is expected to bear fruits that include the harness of everyone's commitment through full utilization of each individual resource and talent to spur corporations' mission. Also, the government announcement of allocating funds to this financial institution for the next five years would in result lead to self-sustainability by the corporation. The major activity of the corporation is offering loans subject to the provision of Agricultural Finance Corporation Act (Cap.323), which is to assist in development of agriculture and agricultural industry by making loans to co-operative societies, private Companies, local authorities and agricultural industries amongst others (www.afc.go.ke).

1.2 Statement of the Problem

There are various determinants of performance at Agro Based financial institutions such as at AFC. It is therefore important to establish them so that organizations can use the same to improve on their performance. Agro-based financial institutions do not have elaborate loaning policies which they should comply with when granting loans to farmers. Thus many of them have experienced problems arising from favoritism in loan approval and fraud practiced by management. Financial institutions review all loans until they reach maturity. These institutions should have quality assets thus there is need to ensure that loans captured as assets should be made good as and when they fall due .When they are not being serviced then the quality of assets become poorer .According to the Central Bank non -performing loans stood at 114.4 billion as at March 2009, which was 50% of aggregate advances loaned out. This was attributable to certain economic

variables such as inflation and general economic performance that led to non-performance of loans. In the context of the Agricultural Finance Corporation (AFC), this firm has written off Ksh.6 billion of non-performing debt portfolio owed by farmers as at December 2011. AFC puts the amount of non-performing portfolio debt comprising of 1,632 clients at a close to Ksh.7 billion as at April, 2010.

Various researches have been undertaken on management of credit and related financial matters, little if any research has been done in the area of the determinants of performance of loans at AFC. Kimango, (2002) for example carried out a Study of Banks Credit Policies in Nairobi. This study highlighted the credit policies that are applicable to Nairobi banks without pointing out their significance on the performance of bank loans. On the other hand, a study undertaken by Central Bank of Kenya, (2009) on the Growth in the Banking Industry, identified factors hindering the growth of banks in Kenya. Factors such as mismanagement and diversion of funds for purposes not intended for plays a major role in the increased level of impaired loans. Furthermore, lack of information has also been a factor behind high default rate and natural calamities such as death of the borrower, theft and property destruction by fire which affect the growth of firms. This research did not shed light on factors contributing to performance of loans especially in parastatals where AFC falls and more relevantly the case of AFC.

Opande (2003) examined how lending organizations predicted loans default rates among its clients .The findings showed that organizations used a "sit back" approach when dealing with the aspect of risk. His focus was on ICDC, a non-banking body. These

studies have not sufficiently if at all, covered the issues of the determinants of performance of loans at AFC. Clearly, this leaves a knowledge gap on the determinants of performance of loans at AFC- the basis of this research. Accordingly, the seemingly never ending huge portfolio of non-performance of loans at AFC coupled with lack of adequate research on the same require to be addressed as a matter of urgency. Unless this is done and a lasting solution sought, AFC may in the long run be put under receivership. It is on this basis then that research needs to be undertaken on the determinants of performance at AFC thus the basis for this study. This study will therefore answer the question: what are the determinants of performance of loans at AFC?

1.3 Objective of the Study

To establish factors that determines loan repayment at AFC.

1.4 Value of the Study

Credit has been cited as one of the major constraints to the operation and growth in the republic of Kenya. It is therefore important that data on factors contributing to non-performance of loans in agro based financial institution will be generated by this study. Such data is important to policy makers as well as other stakeholders in formal and informal sector development policy framework in the country. The study will benefit the Agricultural Finance Corporation in particular in identifying and assessing credit worthy clients hence reduce if not eliminate non-performance of loans and realize its profit motive. This is because the study will help to address the key drivers contributing to non-performance of loans. It is the process of analyzing the attributes to good fund seekers.

The approval of loans must be put under serious scrutiny in order that only deserving and prioritized cases are processed for disbursements. The efficiency with which these cases are handled need to be paramount as time, uncertainty and cost aspects must be taken into account.

The study findings will help the prospective loan seekers to make an optimal decision whereby they are able to choose a source of finance with minimum cost and optimum benefits both in the short run and long run period. Thus their choice of either institution loan or commercial bank loan will be a knowledgeable decision unlike the scenario whereby many people are ignorant about the cost element of loan capital specifically. The study will assist the government in achieving the national millennium goal if the measures to be recommended by the study are adopted for the sustainability and future survival of institutions such as AFC which is crucial for employment creation and poverty alleviation. The study will further provide background information to other researchers or scholars who would like to investigate more on factors leading to performance of loans and determine other factors affecting institution loaning systems apart from loaning policies that impact into loans default.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter deals with the literature review of the study. It gives an overview of Agro-based financial institutions in Kenya, loan default, models used to evaluate loan applications, factors affecting loan repayments and research gaps among others

2.2 Theoretical Literature

Over the last few years the literature that examines non-performance of loans has expanded in line with the interest afforded to understanding the factors responsible for financial vulnerability. According to Fofack (2005), financial vulnerability has a strong relationship with the percentage of impaired assets accounted by any financial institution.

According to Fofack (2005), in a study of nonperforming loans in Sub-Saharan African countries with flexible exchange rate regimes, he found that inflationary pressures contribute to the high level of impaired loans in majority of these countries. Accordingly, inflation is responsible for the rapid erosion of commercial banks' equity and consequently higher credit risk in the banking sectors of these African countries.

Jimenez and Saurina (2005) used the logit model for analyzing the determinants of the probability of default of bank loans in terms of variables such as collateral, type of lender and bank-borrower relationship while controlling for the other explanatory variables such

as size of loan, size of borrower, maturity structure of loans and currency composition of loans. The empirical results suggested that collateralized loans had a higher probability of default. Loans granted by savings banks were riskier and a close bank-borrower relationship had a positive effect on the willingness to take more risk. At the same time, size of bank loan had a negative effect on default while maturity term of loans i.e. short-term loans of less than one year maturity had a significant positive effect on default.

Bloem and Gorter (2001) suggested that a more or less predictable level of non-performing loans though it may vary slightly from year to year is caused by an inevitable number of wrong economic decisions by individuals and plain bad luck (inclement weather, unexpected price changes for certain products, etc.). Under such circumstances, the holders of loans can make an allowance for a normal share of non-performance in the form of bad loan provisions, or they may spread the risk by taking out insurance. Enterprises may well be able to pass a large portion of these costs to customers in the form of higher prices. For instance, the interest margin applied by financial institutions will include a premium for the risk of non-performance on granted loans.

The magazine (KUSCCO, 2007) documented that an Economic Recovery Strategy of Wealth and Employment creation was developed by the government in 2003 to address the challenges of alleviating poverty which had risen from 38%` in 1990 to 56% of the population in 2001.The agro-based institutions were identified as important vehicles through which these goals could be achieved leading to creation. According to new Government survey 46% of the population lived below the poverty line in 2006 which

means a reduction of 10% in poverty levels six years ago. The government attached great importance to the agro-based institutions sector so that it can play a leading role in the economic recovery of the country by creating a conducive environment for growth of the agro-based institutions.

Most sectors of the economy have undergone comprehensive policy and legal reforms to revitalize their performance through liberalization and privatization. Agro-based institutions are currently undergoing a turbulent period trying to adjust to the liberalization of the economy. The reforms in the financial sector have led to stabilization of interest rates charged by banks and other institutions, hence encouraging more borrowing for developmental purposes. The clients have now gained a lot of confidence in bank loans and thus are lured to their offer of unsecured loans as the interest rate charged was almost the same as that of AFC institution of 12% p.a. (Jeremiah & Joseph, 2007). The agro-based institution has been faced with weak marketing structures, poor management and leadership capacity and weak capital base. As a result agro-based financial performance has been declining and a majority of them have not been able to compete effectively (National Development Plan 2002-2008 pages 38, Government of Kenya).

Most financing institutions are member-owned financial institutions that offer saving and credit services to farmers. AFC provides farmers with financial services to improve their economic and social well being through asset accumulation and income generation. They mainly served the interests of farmers as a result of pooling their resources together. They

offered a range of financial services, most significantly they focus against farmers share capital (David & Murungi, 2004). Agro-based financial institutions served farmers, industry and informal- sectors which helped in narrowing the gap between the rich and poor. They served farmers at all socio-economic levels and contributed to employment opportunities in both urban and rural areas. Urban Agro-based draws their clients from farmers, industries, parastatals and informal sector. Banks on the other hand being the main competitor was governed by the Companies Act and the Banking Act. Thus ultimate benefits of agro-based financial institutions were to the farmers as owners and customer who were also the sole decision makers. In the case of banks, customers served are neither involved in decision making nor shared in the profits earned (David & Murungi, 2004).

Agro-based financial institutions are the most common type of institutions in developing countries. Their main function was mobilization of savings and channeling the mobilized and other external funds to farmers as loans at affordable interest rates. Origin of this type of institutions was recorded at Germany in the mid 19th century. In Kenya there was a need to develop the German aspect of outsourcing funds at favorable terms and channeling to farmers as development loans although this was discouraged. The Agro-based financial institutions were dominantly urban based and did not have secondary institutions but were affiliated at national level through KUSCCO Limited (David & Murungi, 2004)

According to the study by Jeremiah and Joseph (2007), the lending procedure used by Agro-based financial institutions have been bound by banks as an entry point through developing a very simple and unsecured procedures that include the submission of loanees identification card, letter of introduction from employer. Kenya Revenue Authority P.I.N. number, a loan form duly filled and current pay slips for at last three months. Terms and conditions of Agro-based financial institutions are many and rigid unlike banks because a member is required to provide guarantors, boost his share savings and cannot be advanced a loan which will attract a deduction of more than two thirds of his or her basic pay despite the amount of shares held, which allows him to get a loan of about three times his/her shares. This eventually leaves the amount of loan disposable to farmer less than that advanced by banks thus becomes preferred by many members (KUSCCO Report, 2007).

2.3 Agro financing

Even though the role AFC is clear in the Agro business arena, lending to Agro remains a laborious and daunting activity as many factors influence the sustainability of these ventures and their loan repayment behaviour. The main challenge is getting information about the business (López, 2007:2). Furthermore, owners of Agro business may lack accounting skills, leading to improper accounting procedures. Small business owners often mix their personal Finances with business finances which complicates the assessment of affordability and is confusing to the assessor (Tsaih, Liu, Liu & Lien, 2004).

In the banking industry, information remains a crucial input in the process of lending. Banks are confronted with information asymmetry problems because of borrowers' informational opacity. In agro financing, collateral is a particular challenge in developing countries. According to Coco (2000), collateral can limit asymmetries in project evaluations, riskiness of the borrower and the cost associated with continuous monitoring and evaluation of projects. Moral hazard problems are also reduced if the business owner puts his/her heart into the business in the form of collateral. This necessarily implies a cost to borrowers if they do not make their best effort to make the business a success. The borrower may be willing to divert funds towards private use or extract the whole surplus from the project but when collateral requirements are in place this perverse incentive is diminished. Barbosa and Moraes (2004:7) argued that firms pledging high collateral tend to attract lower interest rates from lenders, resulting in more advantageous financial leverage. This suggests that the availability of collateral will impact on access to debt finance for new agro businesses. Collateral pledging and proper management of information asymmetry, adverse selection and moral hazard can play a critical role in reducing probability of default in Agro business.

Formal lending institutions in Krenya require audit reports and annual financial statements and the information obtained from the financial statements acts as an indicator of the borrower's future prospects and ability to service a loan facility. Meanwhile financial statements, plus discussions with prospective borrowers, are the main sources of information for lenders. For this reason banks and other creditors prefer, demand and use this financial information in their credit decision-making process.

Loan default

Liu and Zhu (2006) argued that credit is granted on faith and defined credit as "the ability of a business or individual to obtain economic value on faith, in return for an expected future payment". Since trust is built on faith to commit and meet agreed financial obligations, trust, faith, respect and sometimes relationships are compromised if those obligations are not met.

Not meeting the obligations is considered as default. Prior to 2004, when the Basel II accord was endorsed, financial institutions could adopt their own strategic definitions of default. Client classifications such as good payers, poor payers and bad payers were commonly used and a payment in arrears for more than three months was considered to be a default in the retail context. The fact that every organization could use any definition meant different scoring systems, risk measures and risk management practices could be used (Gestel & Baesens, 2009:38).

Different authors and researchers have different definitions of default. Moody's, a global rating agency, defined default as any missed or delayed payment of interest and/or principal. Standard and Poor, another global rating agency, defined corporate default as "…a default is recorded upon the first occurrence of a payment default on any financial obligation, rated or unrated". According to Chorafas (2007:149), Basel II defines default as "four different events or a combination of them; ninety days past due, write down, placement on internal non-accrual list and/or outright bankruptcy".

According to the Basel Committee 2006 (Saita, 2007:94), "a default is considered to have occurred with regard to a particular obligor when either or both of the two following events take place. The bank considers that the obligor is unlikely to pay its credit obligations to the banking group in full, without recourse by the bank to actions such as realising security (if held). The obligor is past due more than 90 days on any material obligation to the banking group.

Simply put, a loan is considered to be in default as soon as payment is missed; a loan default occurs when a borrower fails to meet a principal or interest payment of a loan, unless arrangements are made to pay at a later date than previously agreed upon.

The undesirable trend of increasing rates of default proves costly to all parties concerned in the process of borrowing and lending. Non-payment equally impacts the lender and the borrower negatively. On the one hand, the lender loses the part of the principal loan disbursed and earnings in the form of interest. On the other hand, the borrower faces a bleak future in obtaining credit due to lower credit rating and an unhealthy lifestyle primarily caused by high financial stress levels.

2.4 Models used to Evaluate Loan Applications

The primary stages of granting a loan generally take place at the level of branches and may be motivated by their sales personnel; ultimate decision-making is undertaken in regional centers and credit divisions (the latter normally sited at the head offices of the respective banks). Nevertheless, local branches and the sales staff therein effectively

complement certain of the centralized functions. In regard to handling loan applications, it is admitted by most banks that their branches serve as more than mere "delivery agents" or channels through which client services are delivered: instead, certain "back office" functions are effectively devolved to branch level. Still, such functions such as loan approval, risk analysis, the on-going monitoring of credit exposure, and the process of loan recovery remain centralized (Levin, 2005).

Banks, AFC included make use of various models. The following discussion is about models that are mainly used to access loan applications.

2.4.1 Credit Scoring Model

The most widely used credit measure to predict future loan performance is credit scoring models. Feldman (1997) explained credit scoring as "the process of assigning a single quantitative measure, or score, to potential borrower representing an estimate of the borrower's future loan performance". The models are statistical in nature such as logistical regression analysis or discriminant analysis and more recently neural networks and Support Vector Machine (SVM). Credit scoring methods are used to estimate the likelihood of default based on historical data on loan performance and characteristics of the borrower. In the small business environment, if the customer statistics produce a score above the cut-off score, the application is considered for further assessments by specialized small business units and then later progresses to the small business credit department for approval or otherwise. The basic assumption is that there exists a metric

which can distinguish between good and bad credits and segregate them into two separate distributions.

Credit scoring has its limitations. Feldman (1997) considered the credit scoring models used in Agro lending to be more intricate than those used in consumer lending and have a propensity of placing substantial weight on factors related to the financial history of the business owner. Some studies (Frame, Srinivasan & Woosley, 2001; Berger & Frame, 2005) have found that credit scoring is associated with an increase in overall lending because of the inclusion of more marginal classes of borrowers.

2.4.2 Accounting-based Model

Accounting ratios are also widely used by banks in a bid to limit adverse selection and moral hazard problems in loan advancements. The methodology of the accounting-based approach is based on Multiple Discriminant Analysis (MDA) and logistic models that are the most useful in accounting based variables for classifying company default.

Khorasgani (2009) argued that although there are numerous drawbacks to using accounting ratio based models in predicting defaults, Agro' financial ratios derived from balance sheets and profit and- loss accounts are regarded as good predictors of default. In addition, liquidity and activity are the most crucial factors in predicting an SME's default, as well as the positive effect of age and size variables on an Agro s default prediction.

2.4.3 Survival-based Credit Scoring Model

Some banks take the process to another level by making use of the survival analysis method to measure response or time of an occurrence of an event. Luoma and Laitinen (1991) pointed out that the aim of the survival analysis method is to measure the link between illustrative variables and survival. Investigating the timing when customers are likely to go "bad" is important for effective credit management policies. The bank can manage and monitor profitability of clients to the bank over a customer's lifetime. It has been shown previously by Narain (1992:109) and Banasik et al. (1999) that survival analysis can be useful to estimate default and repayment.

2.5 Factors Affecting Loan Repayments

Various studies have identified numerous factors impacting on the management of credit. Interest in factors affecting loan repayments led some researchers more than three decades ago to develop the theoretical contributions that remain undisputed in this modern era. The stance of Stiglitz and Weiss (1981 cited by Godquin, 2004), that problems of adverse selection, information asymmetry and moral hazard impose the greatest limitations on productive credit granting, is still valid.

 Numerous factors have been identified in various studies as having an impact on credit management and loan repayment. Several factors such as interest rates, age, marital status, location and numbers of dependents are said to impact on the likelihood of default (Lodha, 2011). Some of these factors are discussed below.

2.5.1 Interest Rate in Credit Management

The pioneering work of Stiglitz and Weiss (1981 cited by Godquin, 2004) marked the beginning of attempts at explanations of credit rationing in credit markets. They asserted that "... interest rates charged by a credit institution are seen as having a dual role of sorting potential borrowers (leading to adverse selection), and affecting the actions of borrowers (leading to the incentive effect)".Weinberg (2006) advocated that interest charged and the amount of debt are the two main factors affecting repayment obligations. Some banks use the interest rates that an individual is willing topay as a screening device to identify borrowers with a high probability of repayment. This may be dangerous since high risk-takers are the worst rate payers, in the process affecting default by borrowers on loans.

2.5.2 Gender in Credit Management

Studies endorse gender as a variable that could influence credit management practices. Halkias (2008) pointed out that there is still a significant and systematic gap between genders in relation to business ownership and entrepreneurial involvement. Evans and Winston (2008) concurred with Halkias (ibid) that single, college-educated women managed their credit more prudently than both men in general and married women, in a study conducted in Ghana.

A number of important gender issues are recognized in terms of investigating successful SME development in Africa.

2.5.3 Indebtedness of Owner/Business in Loan Repayment

Akhavein (2001) indicated that the personal credit history or indebtedness of small business owners is highly predictive of the loan repayment prospects of their businesses. López (2007:6) asserted that both "hard" and "soft" information has an impact on the repayment patterns of the borrowers. Hard information such as borrowers' capacity, indebtedness and monthly installments need to be taken into consideration. In the small business environment, bankers actually deal with two customers: the members of such a business and the business itself. In actual fact, the indebtedness of the owner plays a pivotal role in loan repayment to such an extent that when a close corporation applies for finance and has to rely on the personal assets of the members to secure the finance, the two characteristics are seen as one.

2.5.4 Loan size in Credit Management

Godquin (2004) reported that both age and size of loans have an inverse relationship to repayment performance. This concept is related to a study done by Pang (1991 cited by Chong, 2010) who pointed out that the main determinants of repayment obligations are the interest charged and the amount of debt. Furthermore, loans that are too big also lead to repayment problems, dissatisfaction and high dropouts (Hietalahti & Linden, 2006).

2.5.5 Loan Period in Credit Management

The loan period or term of a loan is usually classified as either short-term or long-term. A shortterm loan in bank parlance is one that is repayable within a period of one year. A long-term loan on the other hand, is any loan with payment terms extending beyond one

year. Although the relationship between loan maturity and borrower risk has been addressed in some theoretical models (Ortiz-Molina & Penas, 2004), there is very little observed research that tests these theoretical models in the context of bank lending to small firms (Berger & Frame, 2005).

Bragg (2010:597) asserted that "the short time frame reduces the risk of non-repayment to the bank, which can be reasonably certain that the business's fortunes will not decline so far within such a short time period that it cannot repay the loan, while the bank will also be protected from long-term variations in the interest rate".

2.5.6 Location in Loan Repayment

Some studies consider various factors such as location as a determinant of business success and the performance of loan repayment (Kang, Heshmati & Choi, 2005). McPherson (1995 cited by Rogerson, 2000:689) attested to this in a study conducted about key determinants of the survival rate of SMEs. The results indicated that businesses in commercial districts exhibit high success in comparison with the high failure rate experienced by home-based enterprises. In addition, soft information like distance between the borrower and the lender is important. A larger borrower lender distance is associated with higher default risks because distance interferes with information collection.

2.5.7 Age and Family Circumstances of an Entrepreneur in Credit Management

Cromie (1991), in a study of male and female owners of young firms, found that businesses managed by young people experience general management problems such as lack of people management and accounting skills. Age and the family circumstances of owners can negatively or positively affect the performance of the business. Small business owners with a supportive, experienced family structure tend to be able to cope with the pressure of running the business. Godquin (2004) reported that both age and size of loan have an inverse relationship to repayment performance. Athmer and De Vletter (2006) added that 70 per cent of defaulters in their study samples experienced a family problem such as death or health circumstances.

2.5.8 Education and Training in Credit Management

The World Bank (1993) endorsed this concept by showing a direct correlation between sales and education. The World Bank's investigation concluded that entrepreneurs "who have achieved a Standard 10 level of education have average turnover nearly twice that of those who have completed Standard 8"in south Africa. In an exploration of the determinants of success in a sample of emerging black-owned manufacturing SMEs in the Western Cape, Sawaya (1995:692 cited by Rogerson, 2000) concluded that "the rate of success was highly correlated with the level of education attained by the owner".

2.5.9 Sector of Business in Credit Management

Mead and Liedholm (1998) pointed out that survival rates of small businesses vary by sector. The study concluded that enterprises in the service sector and manufacturing are less likely to close down than those in the wholesale and retail sector (ibid).

2.5.10 Cash Flow Management in Credit Management

Chong (2010) identified capacity (sufficient cash flow to service the obligations), collateral (assets to secure the debt), character (integrity), condition of the economy as well as capital (net worth) as needing to be included in the credit scoring model. The credit scoring model is a classification procedure in which data collected from application forms for new or extended credit line is used to assign credit applicants to "good" or "bad" credit risk classes, compared with enterprise start-ups (Constantinescu, Badea, Cucui & Ceausu, 2010).

2.6 Empirical Literature

There is significant empirical evidence of a negative relationship between the growth in real GDP and NPLs (Salas and Suarina, 2002; Rajan & Dhal, 2003; Fofack, 2005; and Jimenez and Saurina, 2005). The explanation provided by the literature for this relationship is that strong positive growth in real GDP usually translates into more income which improves the debt servicing capacity of borrower which in turn contributes to lower non-performance of loans. Conversely, when there is a slowdown in the economy (low or negative GDP growth) the level of NPLs should increase.

Rose, (2002) argues that credit analysis is important in ensuring that institutions maintain good loaning policy. The credit department must answer three questions regarding each loan application that is: the borrower credit worthy?; can the loan agreement be properly structured and documented for adequate protection of stakeholders and ensure that customer's probability of loan repayment is high without excessive strain? And can the institution perfect its claim against the assets or earnings of the customer so that, in the event of default the funds can be recovered rapidly at low cost and with low risk?

According to Mwaura (2003), there was need to formulate a prudent credit policy for individual manufacturing firms. Therefore formulation of a prudent credit policy for institution of this nature is important to avoid loss of its market to its rivals and improve performance in terms of development. David & Murungi (2004), point out that the types of loan offered by agro-based institutions are both short-term and long-term loans. The short-term loans are those repayable within a year and are usually meant for immediate, short - term or emergency expenses. The amounts are generally small and did not help farmers to increase their overall earning capacity. Long-term loans on the other hand are for larger amounts and had a longer term effects. They helped farmers to increase their earning capacity through success of projects financed by these loans. Repayment period was usually for more than one year. There was evidence that repayment of institutions loans was not being taken seriously by members due to lack of suitable security and poor management systems for loan collection. As a result most of them were caught up in serious cash flow problems.

Ouma (1987) observed that the main loan security for agro-based financial institutions was farmer's salary and his/her good character while banks required collaterals such as title deed which was more demanding to acquire. This was the case until 2001 when unsecured loans were introduced by commercial banks targeting the Agro-based financial institutions farmers among other potential clients.

Ndungu (2008) observed that, unless the loan applied for is equal to or less than farmer's shares, it must be secured by guarantors who must be farmers of the society while in banks there is no such condition. At present, most financial institutions are facing competition especially from commercial banks due unattractive credit terms which adversely affects its clients and in turn the general performance. The credit terms are measured using ease of meeting them by considering the total number of loan applications received and those not eligible due to not observing certain terms of the policy as well as farmers perception and attitude.

Also, Kimango, (2002) carried out a Study of Banks Credit Policies in Nairobi. This study highlighted the credit policies that are applicable to Nairobi banks without pointing out their significance on the performance of bank loans. On the other hand, a study undertaken by Central Bank of Kenya, (2009) on the Growth in the Banking Industry, identified factors hindering the growth of banks in Kenya. Factors such as mismanagement and diversion of funds for purposes not intended for plays a major role in the increased level of impaired loans. Opande (2003) examined how lending organizations predicted loans default rates among its clients.

The findings showed that organizations used a "sit back" approach when dealing with the aspect of risk. His focus was on ICDC. Ogola (2002) studied the structure and servicing of Kenya's public debt. She found out that the Government was not happy with the level of stock of domestic debt and the need to put in place measures to reduce it. As part of the measures of addressing the problem, she recommended that the Government should support the private sector to make it more productive and in the process raise Gross domestic product.

2.7 Summary and Conclusion

It is evident from the literature review that there are many problems hindering the growth Agro businesses. Agro businesses financing is a multifaceted process that includes many criteria because of the risky nature of Agro businesses. Different models are used in the assessment of loan applications. The literature review highlighted that those who managed to get loans also faced another dilemma, namely that of not managing or servicing their debt effectively. Many factors affecting loan repayments were discussed in this chapter. Although Agro a business feels that access to finance is limited, this access is controlled partly by external forces such as legislation over which the banks have no control. The issues of liquidity, credit risk and information asymmetry limit a bank's involvement in this sector.

From the above discussions, it is evident a research gap exists in the area of non-performance of loans in agro-financial institutions. Hence ,little research have been done

in this area of study and thus there is a need to carry out more research in the future in order to address non-performance of loans .It is also notable that fewer studies have been done on the non-banking financial institutions. This research will assist in acknowledging and filling the gap that exists in both financial and non-financial sectors in terms of information sharing and implementation of management policies.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter will contain details about the research design, target population, sampling techniques, sample size, instrumental validity and reliability. It will also include the method that will be used in collection of data and methods for analysis of the data in order to come up with answers to the research problem.

3.2 Research Design

This research project adopted a case study on Agricultural Finance Corporation. Case studies place more emphasis on a full contextual analysis of fewer elements or conditions and their interrelations which rely on qualitative data (Cooper & Schindler, 2008). The study involved an in-depth investigation of the factors contributing to non-performance of loans in AFC.

3.3 Target Population

The AFC's loan portfolio for 2010 was the target population. Accurate data on the exact number and worth of loans advanced by AFC in the year of study were unavailable though.

3.4 Data Collection Instruments

Methods of data collection used both primary and secondary data for the period 2010. Primary data was collected by way of self administered questionnaires for data supplied by the head of the department of finance relating to loans advanced and loan recovery.

3.4.1 Data Validity and Reliability

For the study to achieve validity and reliability data was checked for coding errors and omissions while coding into excel sheets. The database was also verified for accuracy and completeness of all the entries to ensure reliability of data is was achieved.

3.5 Data Analysis and Presentation

Data was presented using descriptive statistics and by use of models and tables under empirical analysis. Descriptive statistics such as frequency distribution and percentages were used to analyze the demographic characteristics of the sampled respondents. Statistical Package for Social Scientists (SPSS) was used to analyse data starting with preparation, data capturing, cleaning and coding.

The model used in this study is Logit model, in Logit model a regressor "Default" is a qualitative variable and the main objective was to find the relationship and impact of factors on default identified in underlying theory and assumptions. The dependent variable default is attributed either "yes" or "no", hence categorised as dichotomous. There are three approaches to estimating a dichotomous response model, namely the Linear Probability Model (LPM), the Logit model and the Probit model (Gujarati and

Porter, 2005:542). As the data was both quantitative and qualitative in nature, one way of quantifying the attributes to be able to use the Logit model was to construct artificial variables taking on the value of "1" to indicate the presence of a variable, with 0 indicating otherwise. To prevent the dummy variable trap, the rule (M-1) was applied. According to Gujarati (2005), "For each qualitative regressor, the number of dummy variables introduced must be one less than the categories of that variable."

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Definition of Probability of Default (non-repayment) 1

According to global rating agencies Moody's and Standard and Poor, a default is defined as any missed or delayed payment of interest and/or principal. In the study, any unpaid item due to insufficient funds and which was not rectified within a week will be regarded as Default 1. However, the researcher perceives this definition as unrealistic and unfair since the obligor could rectify payment within the following day, week or month. Therefore the Basel II committee (2006) default criteria will be used.

Definition of Probability of Default (non-repayment) 2

According to Basel II Committee (2006), an account which is past due more than 90 days on any material obligation to the banking group is considered as defaulted. Therefore in this study, all the accounts that were identified to have passed 90 days were classified as Default 2 or PROBDEF2.

(LPM),

The following Logit models were used analyze the factors affecting default as specified:

$$PROBDEF2 = \beta 0 + \beta 1\ AGEO + \beta 2\ BKBALNEG + \beta 3\ CUSTTYPE + \beta 4$$
$$IRABOVEPR + \beta 5\ LOANSIZEL + \beta 6 LOANSIZEM + \beta_7\ LOANSIZES + \beta 8$$
$$LOANTERML + \beta 9\ LTABF + \beta_{10} LTTERM + \beta 11\ CUSTF + \beta_{12}\ BUSRELATN + \beta 13$$
$$CUSTN + \beta 14\ CUSTED + \mu$$

Where

β_0 is a constant

β_i are coefficients to be estimated

μ is an error term, while the dependent variables and independent variables used in the models are defined in Table 3.1.

Table 3.1 presents definitions and the *a priori* or expected signs based in underlying theory and assumptions on the dependent variables used in the equation 3.1

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Table 3.1: Variables, definition and *a priori* expectation

Variable	Definition	Expected Sign
AGEO	A dummy that takes the value of one if the age of the borrower is over 35 and zero otherwise	-
BKBALNEG	A dummy that takes the value of one if the bank balance is negative and zero otherwise.	+
CUSTTYPE	A dummy that takes the value of one if the borrower is a individual and zero otherwise	+
IRABOVEPR	A dummy that takes the value of one if interest rate above prime at the time of taking up the loan and zero otherwise	+
LOANSIZES	A dummy that takes the value of one if a loan size is small (below Kshs 100 000	+/-
LOANSIZEM	A dummy that takes the value of one if a loan size is medium (Kshs 101 000 to kshs 500 000).	+/-
LOANSIZEL	A dummy that takes the value of one if a loan size is medium (Kshs 500 001 and above	+
LOANTERML	A dummy that takes the value of one if a loan period is long term (more that 12months) and zero otherwise.	+/-
LTABF	A dummy that takes the value of one if a loan type is Asset Based Finance and zero otherwise	-
LTTERM	A dummy that takes the value of one if a loan type is term loan and zero otherwise.	+
CUSTF	A dummy that takes the value of one if the borrower is female and zero otherwise.	-
CUSTN	A dummy that takes the value of one if the borrower is a new client and zero otherwise	+
CUSTED	A dummy that takes the value of one if the borrower has achieved post secondary school level of education and zero otherwise	+
BUSRELATN	A dummy that takes the value of one if the borrower has no business relationship with the bank and zero otherwise	+

Source: Author (2012)

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Summary of Statistics

This section discusses loan borrower's probability of re-payment and non re-payment of loans and factors affecting them at AFC. The analysis of the descriptive statistics of the loan borrower's by number and percentages is presented in Table 4.1. This analysis is characterized in terms of types of borrower's, gender, age, loan type, client type, business relationship at the time of application. The table consists of two columns of variables and its attributes, numbers and percentages.

After all the accounts in arrears had been identified and counted, the researcher used the Basel II definition explained in Section 3.5 as Default 2. In this category the default (non-repayment) is 36.36 percent while repayment is 63.64 percent

Table 4.1: Descriptive Analysis of Borrowers

Type of borrower	Number	Percentage (%)
Individual	**88**	80
Business	**22**	20
Total	110	100
Business relationship	**Number**	**Percentage** (%)
Related	54	49.09
Not related	56	50.91
Total	110	100
Probability of default	**Number**	**Percentage (%)**
Default	70	64.64
Non default	40	36.36
Total	110	100
Gender	**Number**	**Percentage (%)**
Male	47	53.4
Female	41	46.6

Total	88	100
Age	**Number**	**Percentage (%)**
35 and below	52	59.10
Over 35	*36*	40.9
Total	169	100
Account balance	**Number**	**Percentage (%)**
Negative	54	49.09
Positive	56	50.91
Total	110	100
Loan type	**Number**	**Percentage (%)**
Asset. based finance	47	42.73
Non-Asset based	63	57.27
Total	110	100
Customer type	**Number**	**Percentage (%)**
New	58	572.
Old	52	4727
Total	169	100
Marital status	**Number**	**Percentage (%)**
Married	63	71.59
Others	25	28.41
Total	88	100
Business size	**Number**	**Percentage (%)**
Small	73	66.36
Medium	26	23.63
Large	11	10.01
Total	110	100
Loan duration	**Number**	**Percentage (%)**
Short term	35	31.82
Long term	75	68.18
Total	110	110
Loan size	**Number**	**Percentage (%)**
100,000 & below	16	14.57
100,001-500,000	75	68.18
500,001 &above	29	26.36
Total	110	100

4.2 Empirical Results

In the model presented in Table 4.2 the "Odds Multipliers" as given in the **Exp(B)** column, indicates the relationship between the independent variables and the dependent variable. A value greater than 1 indicates that the variable in question increases the odds

of the dependent "event" (the probability of default) occurring and values less than 1 (i.e.

between 0 and 1) indicate a decrease in the odds (Pedhazur, E. 1997).

Table 4.2: Summary of the model

	B	S.E.	Wald	Df	Sig.	Exp(B)
AGEO(1)	.799	.641	1.556	1	.212	2.223
BKBALNEG(1)	-1.246	.695	3.210	1	.073	.288
IRABOVER(1)	.000	.596	.000	1	1.000	1.000
LOANSIZES(1)	2.049	1.332	2.368	1	.124	7.761
CUSTTYPE(1)	-1.261	.772	2.670	1	.102	.283
LOANSIZEM(1)	.866	1.115	.603	1	.437	2.378
LOANSIZEL(1)	-.899	1.071	.705	1	.401	.407
LOANTERML(1)	1.051	.655	2.572	1	.109	2.861
LTABF(1)	-.274	.744	.135	1	.713	.761
CUSTF(1)	.043	.600	.005	1	.943	1.044
CUSTN(1)	-1.936	.697	7.725	1	.005	.144
CUSTED(1)	-.615	.619	.987	1	.321	.541
BUSRELATN (1)	-.492	.626	.617	1	.432	.611
Constant	.814	2.476	.108	1	.742	2.257

Variable(s) entered on step 1: AGEO, BKBALNEG, IRABOVER, LOANSIZES,

CUSTTYPE, LOANSIZEM, LOANSIZEL, LOANTERML, LTABF, CUSTF, CUSTN,

CUSTED, BUSRELATN.

The results indicate that only CUSTN (i.e. if borrower is a new client at the time of loan

application) is statically significant. The other factors in the study have a significance

level above 0.05 (**from Sig. column**) which is the acceptance level in this study.

Table 4.3: Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	94.192(a)	.403	.538

From the model summary, Nagelkerke R Square 0.538 and the Cox & Snell R Square at 0.403 indicate that all the explanatory variables are helpful to explain the probability of default hence showing an acceptable model's goodness of fit.

4.2.1 Age and loan repayment

The AGEO coefficient is 0.799 and odds multiplier value of 2.232. The results show a positive but insignificant relationship. Older borrowers are more likely to default than younger borrowers. Findings in this study contradict earlier study by Cromie (1991) which found out that young people experience a higher likelihood of default.

4.2.2 Default and cash flow management

The BKBALNEG coefficient is -1.246 and odds multiplier value of 0.288. This indicates a negative but insignificant relationship between default and cash flow management. In the contrary, theory stipulates positive relationship with businesses with negative bank balances.

4.2.3 Default and Business Relationship

The BUSRELATN coefficient is -0.492 and odds multiplier value of 0.611. This indicates that if at the time of loan application, there was a business relationship between AFC and the loan applicant it would reduce the likelihood of default. However the results are not significant.

4.2.4 Interest Rate and Loan Repayment

The IRABOVEPR coefficient is 0.000 and odds multiplier value of 1.000. This means interest rate above prime has no effect in determining default rate. There is no factor effect.

4.2.5 Size of Loan and Default

The coefficients for LOANSIZEL = -0.899, LOANSIZEM = 0.866 and LOANSIZES= 2.049 and odds multiplier value for LOANSIZES, 7.761 and LOANSIZEM, 2.378 and LOANSIZEL, 0.407. The results indicate that decreasing the size of the loan, (i.e. small size loans) will increase the probability of default whereas the larger the loan the lower the probability of default. However the results are not significant.

4.2.6 Period of Loan and Loan Repayment

The LOANTERML coefficient is 1.051 and an odds multiplier value of 2.861. This indicates that increasing the term of the loan increases the probability of default. However the results are not significant. This indicates a positive relationship which means the longer the repayment period the higher the defaulting rate, but theory suggests that this depends on the business economic environment. If the economic environment negatively affects the business, the chances of default increase, Agarwal el al. (2008) suggest that weak microeconomic conditions result in more defaults and fewer repayments of loans. Chong's (2010) study in Malaysia reflected contraction of the economy by 6.2 per cent in the first quarter of 2009 due to the global financial crisis and made business confidence seem uncertain and gloomy. In a nutshell, it is evident that long-term loans may be both good and bad, depending on the volatility of the economy.

4.2.7 Default and Genders Relationship

The CUSTF coefficient is 0.043 and an odds multiplier value of 1.044. This indicates that if borrower is a female, this would increase the probability of default. However the results are not significant.   These results are inconsistent with findings by Evans and Winston (2008) and Chong (2010) in a study of credit management in Malaysian SMEs found that there was a significant gap between genders in terms of credit management.

4.2.8 Default and Education Level Relationship

The CUSTED coefficient is -0.615 and odds multiplier value of 0.541.This indicates that if the borrower has achieved post secondary school level of education this would decrease the probability of default. This results are however insignificant.

4.2.9 Default and Customer/Borrower Relationship

The CUSTN coefficient is -1.936 and an odds multiplier value of 0.144. This indicates that if the borrower is a new client this would decrease the probability of default significantly.

4.2.10 Default and Loan Type Relationship

The LTABF coefficient is -0.274 and an odds multiplier value of 0.761. This indicates that if the loan is asset based finance it would decrease the probability of default. The findings suggest that asset based finance loans have a low default rate than other non asset based finance. This results are however insignificant.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Main Findings

The study found the default rate to be 36.36 per cent. This percentage is consistent with the AFC's report on nonperforming loans which indicated nearly 7 billion worth of nonperforming loans written off in 2010 (www.agrifinance.org).

5.1.1 Factors those are statistically significant

The results showed that CUSTN is statistically significant whereas AGEO, IRABOVEPR, LOANSIZES, LOANTERML, LTABF, CUSTED, BUSRELATN are statically insignificant.

5.2 Conclusion and Recommendations

According to the findings, new clients are less likely to default. If loans are advanced to new clients it reduces the probability of default by 85.6%. This is significant. The age of the borrower showed a positive influence on the probability of default though not significant. Older borrowers would experience higher default rate due to high dependency burden on the borrower leading to inadequate funds to clear the loans.

Reducing the size of the loan further increases the probability of default although this is not significant from the study. On the other hand large size loans issued are found to decrease the probability of default though this is not significant in the study.

The interest rate of borrowing on the other hand showed no influence on probability of default. This may be so since the AFC borrowing rates are in most cases below the prime interest rates.

5.2.1 Recommendations for Entrepreneurs

It is important to establish both personal and business relationship with the bank and manage the accounts well before applying for a loan. The culture of banking indicates that good business relationship tends to reduce information asymmetry between the borrower and the bank thus reducing the banks exposure to default risk. The client's risk profile is important to the bank since the lower the client's risk profile, the more willing the banks are to reduce interest rates.

People over 35 years are encouraged to take large loans spread over the medium or short term since it reduces chances of default. The entrepreneurs would be better payers for asset based finance therefore the need for the entrepreneur to increase their asset base to help secure loan with appropriate security.

5.2.2 Recommendations for AFC

Before awarding loans, it is very important for the AFC to encourage first time borrowers to obtain loans while being more diligent in awarding loan to existing clients. The study found that new clients are better payers hence the AFC should not shy away form lending to this group. In addition, AFC should discourage providing small loans since it increases the odds of default. Further, longer term loans increase the odds of default hence there is

need to discourage issuance of long term loans. Education level improves the borrower's financial management skills thereby decreasing the odds of default. There is need for AFC to embark on a programme to equip borrowers with financial management skills.

5.3 Limitations of the Study

A limitation of the study lay in the fact that the sample of study consisted mainly of loan accounts issued in the Nairobi office in 2010. A clustered sample from the AFC field/branch offices and spreading to several years would probably provide more robust findings in terms of depth and highlight factors that are region specific. Another limitation relates to the constraints of time and finances that would have been required to undertake a rigorous study.

5. 4 Suggestions for Further Research

The researcher suggests that a new study involving a large sample drawn from all branch offices of AFC to be done. In addition new study can be done on the determinations of loan performance by micro finance institutions can be helpful if done.

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QUESTIONNAIRE

The below requested information should relate to the period between the year 2006-2011.

PART A: PERSONAL DETAILS

Please fill in appropriately on the spaces provided

1. Sex of the borrower

Male		female	

2. The marital status

Married		single	
others			

3. What is the age of the borrower ………………………………………….

4. Is the borrowers an individual or a business

Individual		Business	

5. What is the size of the business

Small		Medium		Big	

6. What was the loan size is small, medium or large?

Small (belowKshs100000)	
Medium,(Kshs 101,000 to Kshs 500 000).	
Large (Kshs 500 001 and above	

7. What was the loan period, short or long term?

Shortterm(12monthsand below)		Longterm(more than 12months)	

8. How Was the loan interest at time of taking up the loan prime

Prime		Below prime	

9. What was the loan type an Asset Based Finance?

Asset based		Not asset based	

10. Was the borrower a new or old client?

New		Old	

11. What was the Borrowers bank balance at the time of borrowing?

Negative		positive	

12. Has the borrower achieved post secondary school level?

Achieved		Not achieved	

13. Does the borrower has a business relationship with the bank?

Has		Does not have	

14. Is the loan current or not?

current		Loan not current	