DETERMINANTS OF LOAN REPAYMENT AMONG THE WOMEN ENTERPRISE FUND BORROWERS IN MURANGA COUNTY.

BY

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DECLARATION

I declare that the work in this dissertation has not been previously published or submitted elsewhere for award of a degree. I also declare that this is my own original work and contains no material written or published by other people except where due reference is made and author duly acknowledged.

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DETERMINANTS OF LOAN REPAYMENT AMONG THE WOMEN ENTERPRISE FUND BORROWERS IN MURANGA

ABSTRACT

This study sought to determine the individual level and group level factors that influence loan repayment and loan default among the Women Enterprise Fund (WEF) borrowers in Muranga County. The WEF is a Government initiative to address challenges facing women entrepreneurs through provision of credit at low interest rate without need for collateral. Sustainability of the fund is dependent on the ability of borrowers to repay loans. Most studies on loan repayment relate to Micro Finance Institutions(MFIs) and commercial banks with little attention being paid on factors that may influence loan repayment for a Government funded scheme like WEF.The purpose of the study was to empirically analyze the factors that influence loan repayment among WEF borrowers. The study employed survey research design to collect primary data from a target population of 1039 WSHGs. A multistage sampling was used to randomly select 70 Women Self Help Groups (WSHGs) from all seven constituencies of Muranga County with a total of 210 individuals of the groups included in the sample. Two models were used to analyze the survey data. The individual level factors were analyzed using the logistic regression model while the group level factors were analyzed using the multiple regression model. The results of the logistic regression model indicated that age, experience, marital status, education level, household size and gender of household head were statistically insignificant in influencing the odds of loan repayment. The results of the multiple regression model indicated, group size, meetings and workshops were statistically significant in influencing group default while WEF experience, group age, group composition and sanctions were not significant in influencing group default. The results of the study revealed that group factors are more critical than individual factors in explaining loan default. It is therefore important that WEF and financiers that use group lending model pay particular attention to the group characteristics when evaluating borrower's eligibility for a loan.

Key Words; Women Enterprise Fund, Women Self Help Group, Individual Level Factors, Group Level Factors, Sustainability.

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DEDICATION

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ACRONYMS AND ABBREVIATIONS

CEDAW	-	Convention on the Elimination of all forms of Discrimination against Women
C-WES	-	Constituency Women Enterprise Scheme
EAC	-	East African Community
EU	-	European Union
ILO	-	International Labor Organization
LRM	-	Logistic Regression Model
MDG	-	Millennium Development Goals
MFI	-	Micro Finance Intermediaries
MPNDV/2030	-	Ministry of Planning and National Development-Vision 2030
MSE	-	Micro and Small Enterprises
MSME	-	Micro, Small and Medium Enterprises
NGO	-	Non Governmental Organization
ROSCA	-	Rotating Saving and Credit Association
SHG	-	Self Help Group
SME	-	Small and Medium Enterprises
UNDP	-	United Nations Development Program
USAID	-	United States Agency for International Development
WEF	-	Women Enterprise Fund
WSHGs	-	Women Self Help Groups

TERMS AND DEFINITIONS

Loan default-Inability of borrower to pay back loans as per the contract (Kassim and Rahman, 2008).

Logistic Regression Analysis-This is the logarithm of the ratio of odds which effectively account for the ratio of odds where the dependent variable is dichotomous (Peng, Lee and Ingersoll, 2004).

Microfinance-Provision of financial services to micro entrepreneurs and small businesses who are financially excluded from formal banking (Matta, 2004).

Sustainability-Long term ability of a microfinance institution to cover all its operational and financial cost from internally generated revenues without reliance on subsidy (Okurut and Kinyongo, 2009).

Women Enterprise Fund-A government initiative to assist women entrepreneurs with low interest loans without need for collateral (WEF, 2009).

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Women entrepreneurs play a critical role in the growth of the economy especially in the developing countries besides creating jobs and contributing to their family's economic sustenance. In many developing countries majority of the small and medium SMEs are owned by women entrepreneurs. The success of women entrepreneurs is largely dependent on the availability of credit and other non-financial services where traditional commercial banks view them as a risky group. The Grameen bank in Bangladesh was the first financial institution to offer microcredit in the 1970s to poor financially excluded women entrepreneurs based on a group lending model. Since then the Grameen Bank model has been successfully replicated in five continents of the world (Armendariz and Morduch, 2005).The Grameen Bank and most of the MFIs that replicate the group lending model normally target women. Despallier, Guerin, and Mersland (2009) studied 350 MFIs in 70 countries to establish the gender effect on loan repayment and observed that 73% of the MFIs customers are women. The results of the study indicated that women have a lower portfolio at risk and lower portfolio write off.

In the African context women entrepreneurship indicate a worrying situation. According to a report by ILO (2008) while women represent 52% of the total population, contribute approximately 75% of agricultural work and produce 80% of the food, they earn only 10% of the African incomes and own 1% of the continents assets. This is a challenge to women on the road to gender equality.

1.2 Women Entrepreneurship and Microfinance in the Kenyan Context

From a historical point of view, women enterprises have lacked access to credit from formal financial institutions. Investing in Women allows households to spend more in education,health,improved nutrition, food security, protect against emergencies and therefore tackle gender inequality that hinder development in many countries around the world (Mccarter,2006).

In Kenya women population is slightly above 50% of total population (WEF, 2009). Most women entrepreneurs are engaged in informal sector doing small business and experience a lot of challenges in a bid to access financial services. Access to credit facilities is key to the growth of the entrepreneurial activities. Women entrepreneurs, who are eligible for financing through the formal financial sector, face considerable barriers such as high interest rate and the lack of collateral. Women entrepreneurs form a big and growing segment of the informal sector yet are marginalized in terms of access to credit and other financial services. Micro Finance institutions that have targeted women have reported high repayment rates. Women contribution to the economic growth of their countries cannot be ignored as was evidenced in the *East African Community Conference on the role of women in the socio economic Development held in 2011.*

1.3 Government and other Stakeholders Interventions

Women in Kenya face diverse challenges in their endeavor to access credit according to Mwobobia (2012) such challenges include lack of finance, education, discrimination and family role multiplicity. These challenges as noted by Mwobobia (2012) creates gender barriers that constrain women's contribution to economic growth. To address the challenges facing women entrepreneurs the Government, NGOs and private sector came up with various initiatives.

The Government of Kenya adopted the international convention on the elimination of all forms of Discrimination against women (CEDAW) in the year 2004 and also formed the Women Enterprise Fund (WEF) in 2006 to assist women entrepreneurs.

The government provided a regulatory frame work for Micro Finance Institutions (MFIs) in support of the efforts made by the institutions to reach the marginalized women through provision of financial services. Non Governmental Organizations (NGOs) work with intermediaries either the government or Micro Finance Institutions (MFI) to assist women entrepreneurs with funds to start or expand businesses. The Kenya Women Finance Trust (KWFT) and the Association of Micro Finance Institutions (AMFI) receive funding from United States Agency for International Development (USAID).Other NGOs assisting women entrepreneurs in the country include Ecumenical Church Fund (ECLOF) and K-REP.UNDP in collaboration with European Union (EU) have implemented a bee keeping project in Kibera slum for women (Mwobobia, 2012) and (Hospes, Musinga and Ong'ayo, 2002).

In spite of the various interventions by the private sector, NGOs and MFIs yet women species remains marginalized in their effort to access credit. The government in the year 2006 formed the Women Enterprise Fund (WEF) as a parastatal under the ministry of Gender and Social services. MSE women entrepreneurs above 18 years from all sectors of the economy are eligible for credit funding. The Women Enterprise Fund (WEF) provides loans to women without need for collateral and at 0% interest. A one off processing fee at 5% is charged on loans. Women entrepreneurs are therefore able to access affordable credit to start or expand existing businesses for wealth and employment creation. The Women Enterprise Fund (WEF) is a flagship project under social pillar of the Kenya vision 2030.The aim of the government was to reduce gender disparity by enhancing opportunity, empowerment, capabilities and reducing vulnerabilities. The WEF plays a critical role under vision 2030.

It serves as a proof of government commitment to the realization of the millennium development goals (MDGs) on poverty reduction and women empowerment. The long term viability of the fund ensure the government meets its development goals. The viability of the Women Enterprise Fund (WEF) is dependent on the performance of the loans borrowed.

Loans are disbursed to the beneficiaries through two channels, individuals, registered women self-help groups and companies owned by women can access financing through the intermediary FIs located in all 47 counties in the country and the registered WSHGs can access funding from the Constituency Women Enterprise Scheme (C-WES.). The Women Enterprise Fund (WEF) has been able to reach 24,478 Self Help Groups (SHGs) who have benefited with loans worth 1.364 billion. The Self Help Groups (SHGs) funded by the Constituency Women Enterprise Scheme (C-WES) have recorded a repayment rate of 91% while the FIs have a repayment of 99 % (WEF, 2012).

There is a vast literature on the determinants of loan repayment. The general literature consensus is that loan repayment depend on various factors, borrower, loan and project. The characteristics of the borrower are gender, age, marital status, level of education, race, occupation, employment status, experience, number of dependants, training and membership to a business club. Project characteristics include ownership structure, type of project, distance from Micro Finance Institutions (MFI) lender, project cashflow.Loan amount of loan, length of repayment period (Roslan and Karim, 2009).

Age is an important factor influencing loan repayment positively or negatively since older borrowers with higher financial commitments tend to have loan repayment problems. The level of education attained by a borrower have a positive or negative influence on the borrower's ability to repay loan since the same will influence the business affecting income.

Marital status of a borrower have a positive or negative impact on the loan repayment ability of the borrower since borrowers who are married may be assisted by their spouses. Large family size are associated with high financial commitments and therefore can affect the repayment ability of borrowers positively or negatively. Experience in business or the number of years an individual has been with a SHG can positively or negatively affect their repayment ability. Women are regarded as better at repaying their loans and therefore households with women as head may influence the loan repayment positively or negatively (Roslan and Karim, 2009), (Reta, 2011) and (Brenner, 2012).

Group mechanism which include social cohesion which is enhanced during meetings and workshops can positively or negatively influence group default. Groups with more family members are expected to assist their relatives when they have loan repayment problem. Large group size are difficult to monitor while groups that have been in existence for long tend to be more stable and therefore negatively influencing group default. Sanctions imposed by groups negatively influence group default due to fear of penalties (Matta, 2004), (Ogbemeh et al, 2008) and (Brenner, 2012)

1.4 Statement of the Problem

The Women Enterprise Fund (WEF) is a Government initiative to facilitate women entrepreneurs' access to affordable credit. The main objective of the fund was to empower women start their own businesses or grow existing ones through provision of low interest loans without need for collateral. Through this program the government theorized that women owned micro small and medium enterprises would grow and make them more financially independent (WEF, 2009). A critical factor in the long term sustainability of the Women Enterprise Fund (WEF) is the loan repayment ability of the borrowers.

The government intention was to make the fund sustainable as a revolving fund and therefore reduce reliance on funding from the National Treasury. Can this be realized? To answer this question there is need to understand the factors influencing loan repayment among Women Enterprise Fund (WEF) borrowers. There is need for the Women Enterprise Fund (WEF) borrowers to repay their loans to ensure there is money for further lending to more women otherwise the cycle will be incomplete and grind to a halt. The credit cycle has components that must work together to ensure a smooth flow. The Government provides funds to the Women Enterprise Fund (WEF) for on lending to Micro Finance (MF) intermediaries and the registered women groups at Constituency Women Enterprise Scheme(C-WES), (WEF, 2012).

In their study on the Women Self Help Group (WSHGs) Ogbomeh et al (2008) identified four reasons determining loan repayment in Bayelsa state Nigeria. These include interest rate, household size, women as household head and commitment to self-help group. Matta (2004) while examining the determinants of group loan repayment in the Dominican Republic identified information symmetry, group size and group member relationships as influential on group loan repayment ability. The results of the study revealed that small groups, groups with more family members and group solidarity led to higher loan repayment. Most of the studies on the loan repayment relate to Micro Finance Institutions (MFIs) and commercial banks little attention being paid on factors that may influence loan repayment for a government funded scheme like the Women Enterprise Fund (WEF).

The purpose of the study was to empirically analyze the factors that influence loan repayment among the Women Enterprise Fund (WEF) borrowers.

Specifically the study analyzed the extent to which individual level factors (age, marital status, experience, education level, household size, household head) and group mechanism (group size, group composition, group age,WEF experience,meetings,workshops and sanctions) affect loan repayment and group default.

1.5 Objectives of the Study

The general objective of the study was to determine the factors that influence loan repayment among the women enterprise fund borrowers in Muranga County.

Specifically the study sought to

i. Determine the influence of individual characteristics on probability of loan default among the WEF borrowers in Muranga County.
ii. Establish the influence of group mechanism on group default among the WEF borrowers in Muranga County.

1.5.1 Research questions

i. What individual factors influence the probability of loan default among WEF borrowers in Muranga County?
ii. Which group factors influence group default among WEF borrowers in Muranga County?

1.6 Significance of the Study

The primary significance of the study was the provision of information to public and private lending stakeholders that can be used for designing or improving the monitoring, screening and repayment of borrowed funds. This may lead to the desirable end results of high loan repayment and general overall stability of the MSE financial credit market in Kenya.

The results of the study can assist other credit agents like commercial banks, Women Enterprise Fund (WEF), Micro Finance Institutions (MFIs), Non Governmental Organizations (NGOs), and multilateral credit bodies like World Bank, International Finance Corporation, African Development Bank to understand the challenges facing Women Self Help Groups (WSHGs).This information will in turn assist these credit agents in designing better products to suit Women Self Help Groups (WSHGs) thereby increasing loan repayment rate. The study aimed at contributing to the existing body of knowledge in the area of group lending and therefore inspire future researchers to carry out further research in the same field.

1.7 Scope of the study

The study focused on registered women self-help groups (WSHGs) who are clients of the Women Enterprise Fund in Muranga County. The choice of the women self-help groups (WSHGs) was due to the fact that they receive funding directly from the Women Enterprise Fund through the C-WES).

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The chapter reviewed literature on the theories of microcredit, credit risk in developing countries, causes of loan default and possible solutions, group lending. The review explored the extent to which individual and group level factors influenced loan repayment.

2.2 Theories of Microcredit

There exist several theories on microcredit; this study was guided by two theories. The first one Guttmann theory as postulated by (Guttmann 2007) through a working paper on repayment performance in microcredit programs. It states that "microcredit is characterized by joint liability, small loan repayments and dynamic incentives" (p.3). Under joint liability members of a group obtain loans individually but the whole group is held responsible for the default of any member. Future loans are pegged on the group repayment performance such that if a group has a member who has defaulted the same cannot expect any loan before they clear the existing debt. In group lending loans are advanced to members of a group sequentially such that a first batch is released to a few group members and their repayment observed for a month or so before another batch is given. Sequential loans mechanism ensures that future and bigger loans are only provided to groups with a good repayment performance. Since members of the group are held responsible for the full payment of the group loan they use social sanctions to ensure high repayment so that they are guaranteed to future loans.

The second one was a theory of loan default as put forward by Bichanga and Aseyo (2013) through a study on causes of loan default within Micro Finance Institutions (MFIs) in Kenya. It states that loan default is caused by inadequate supervision of borrowers by Micro Finance Institutions (MFIs), lack of borrower training before advancing a loan, shrinking economic conditions and loan diversion. Close monitoring of borrowers activities and loan repayment enhances borrower commitment to repay the loan and thus reduce loan default. Borrowers who have received training on business management before taking loans are able to perform well in their business and thus reduce loan default. Shrinking economic conditions force borrowers to use their income on consumption especially those with big households instead of repaying their loans. Most clients fail to use their loans for the intended purpose which leads to loan default.

In case of WSHGs, the groups underwrite the risk of individual borrowers and group members act as credit controllers who ensure borrowers do not default. Moreover the WSHGs supervise and monitor how borrowing members utilize the loans while providing training on the best use of the credit facility.

2.2.1 Credit Risk in developing countries

The credit market in the developing countries is characterized by both formal and informal financial markets. Majority of people in the developing countries depend on informal markets for their credit ROSCA, Savings and Loans, Cooperative societies, money lenders, friends and relatives due to lack of collateral and credit history required by banks. Specifically the credit market is faced with asymmetric information, incentive problems and missing markets (Ghosh, Mookherjee and Ray, 1999) and (Gebeyehu, 2002).The existence of imperfect credit markets in developing countries is attributed to their inability to monitor loan use by borrowers and weak enforcement mechanisms.

Institutional lenders like the commercial banks rely on collateral before advancing loans which locks out poor people. The informal financial institutions have better information regarding the residents and also engage stringent enforcement mechanism thus allowing them to easily provide credit, (Ghosh. Mookherjee and Ray, 1999) and (Gebeyehu, 2002).An ideal credit market is one where loans are traded competitively and interest rates determined by the forces of demand and supply. Credit markets require a good framework to enforce repayment, too high a cost may force lenders to cease providing credit which is a common scenario for poor farmers in developing countries. Credit markets are faced with imperfect information (information asymmetry) which leads to adverse selection and moral hazard notes (Besley, 1994) sentiments echoed by (Reta, 2011)

According to Armendariz and Morduch (2005) adverse selection is as a result of banks inability to differentiate the risky from the non-risky. Raising interest rates due to the probability of default by the risky customers only drives away safer customers out of the credit market. Moral hazard on the other hand occurs due to banks failure to ensure that customers invest in successful projects. Due to this weakness borrowers tend to default. In countries with weak judicial systems the problem of adverse selection and moral hazard remains unresolved. Mehrteab (2005) stated that problems associated with imperfect information in the credit market can be overcome through the adoption of group lending model. Under group lending model members screen each other before forming groups thus mitigating adverse selection problem since the risky and irresponsible members are eliminated. Through social sanctions and peer pressure group members are able to enforce repayment against any defaulting members. In group lending the joint liability principle is used where individuals in a group receive loans but the group is held responsible for the loan repayment and subsequent future loans are pegged on group loan repayment performance.

2.2.2 Causes of loan default and possible solutions

Borrowers can decide to pay or fail to pay borrowed funds yet this cannot be identified by the lender during credit disbursement. Kassim and Rahman (2008) identified two main factors contributing to default. These factors are associated with the lender (supply side) and others associated with the borrower (demand side). From the lenders perspective, the weakness in loan administration paves way for loan diversion while lack of monitoring by the lender result in borrowers taking advantage of the loophole to use their income for other purposes other than the loan repayment. Specifically, from the lenders side some of the factors include lack of effective monitoring system, weekly repayments are a burden to borrowers, lack of experience by the credit officers and most beneficiaries lack skills to do business. The factors affecting borrowers include multiple borrowing which leads to overstretched financial commitment, lack of motivation by borrowers, family member illness and influence by husband or relatives to undertake risky businesses.

Paxton (1996) identified the Domino effect and matching problem, economic activity of borrower and history of group activity as significant factors affecting loan repayment. Poor loan appraisal by the MFIs can contribute to loan default. Credit officers can visit borrowers before the loan due date to prevent loan repayment problems while strengthening relationship since borrowers with loan repayment problems can influence others if lender is lenient on loan repayments. Since follow up of non payment increases administrative cost to lenders, passing the same to borrowers can act as a motivation to pay in good time. Loan graduation is a good motivator since borrowers are willing to pay current small loans with hope of bigger loans in future.

Training borrowers before taking loans equip them with skills to run their businesses well and this may lead to high loan repayment.Kritikos and Vigenina (2005) also noted that domino effect and matching problem are statistically significant factors that influence loan repayment. The economic activity of the borrower was a significant factor as far as loan repayment is concerned noted (Reta, 2011.)

Norell (2001) as cited by Reta (2011) identified four categories of Micro Finance Institutions (MFI) clients which are: willing and able to repay, willing but unable to repay, unwilling and able to pay, unwilling and unable to pay. Norell (2001) further noted that borrowers who have loan repayment problems can be visited by the credit officer in order to group them as per the four categories for immediate action.

2.2.3 Group Lending

The importance of group lending was recognized in the last few decades in the 1970s with the emergence of the Grameen Bank of Bangladesh, India. The bank provides microloans to poor women to start businesses and therefore contribute to the welfare of their households. The use of homogeneous small groups and joint liability principle has seen the bank record high loan repayments thus attracting replications from numerous countries of the world (Paxton, 1996) sentiments echoed by (Armendariz and Morduch, 2005). Paxton (1996) identified three main justifications for group lending which are reduction in transaction cost, poor people are more comfortable in groups for financial and social reasons, high repayment rates are witnessed in group lending. The use of groups as a strategy by lenders to enhance repayment originated from available knowledge regarding success of informal financial arrangements using groups. Rotating Savings and Credit Associations (ROSCA) is an example of informal finance used all over the world to provide savings, insurance and loans to poor people.

Kumar (2012) concurs with Paxton (1996) with regard to group lending and added that group lending is the most celebrated innovation in the world.

The stability of Rotating Saving and Credit Associations (ROSCA) is based on the fact that the founders are respected people in the society; funds are pooled from members and therefore maintained under group scrutiny. Groups co select each other in order to ensure harmony among members (Von, Pischke, 1992) as cited by (Paxton, 1996). Kritikos and Vigenina (2005) confirmed that groups should be allowed to co select each other in order to reduce default risk thus enhance repayment. Armendariz and Morduch (2005), noted that group lending has its own advantages, mitigation of adverse selection through peer screening which eliminate irresponsible and credit risky individuals from joining group. Moral hazard problem through monitoring each other's activities to ensure safe investment of the loans. Since group members live close to each other it reduces state verification. Peer pressure mechanism is used by group members to ensure prompt repayments such that incase of default members can use sanctions and peer pressure.

In Kenya there are limited studies on the determinants of loan repayment and especially on Government funded programs. Loan repayment is critical to the sustenance of the credit market. It is therefore important for lenders to identify the factors that influence loan repayment for the purpose of putting up strategies that will ensure high repayments. This study focused on determining factors that influence loan repayment among the WEF borrowers. Borrower individual characteristics, group mechanisms and loan characteristics were hypothesized as main factors influencing loan repayment among WEF borrowers.

2.3 Empirical Studies on Loan Repayment

Loan repayment performance is affected by a number of socio economic, institutional and group mechanism.

Some of these factors positively influence loan repayment while others have a negative influence on the repayment rate. Various studies have been done with regard to loan repayment performance and some are hereby summarized.

2.3.1 Loan amount borrowed

In a survey of 2630 respondents from Agro Bank Malaysia by Roslan and Karim (2009) the results of a probit and logit model indicated that amount of loan borrowed is a significant factor influencing loan repayment default. The larger the loan size the lower the probability of default by the borrower (Roslan and Karim,2009).

Mode of repayment and repayment amount were identified as main factors contributing to micro credit loan repayment problem among the YUM and TEKUM Micro Finance Institutions (MFIs) in Malaysia (Morkhtar, Nartea and Gan, 2009). Ongeagoche et al (2012) used the ordinary least square (OLS) regression method to analyze the factors influencing loan repayment for MFIs in the Southeast states of Nigeria. The results of the study revealed that the loan size was a significant factor influencing loan repayment. The higher the loan amount borrowed the higher the repayment. Amount of loan borrowed and mode of repayment were identified as significant factors influencing loan repayment as per the above studies. In case the borrowed funds are not repaid as per the contract then the same will affect the sustainability of the lending institution.

2.3. 2 Individual level factors of the borrowers

Roslan and Karim (2009) investigated the determinants of loan repayment among microcredit borrowers in Malaysia. Using a probit and logit models the borrower characteristics were investigated and the results of the study revealed that gender of the borrower and the type of business carried out were significant and thus contribute to a positive influence on loan repayment.

Borrowers who engage in the service or support services have higher chances of repaying their loans compared to those in production. The study further revealed that women are better at repaying their loans. Race, education level, age, number of dependants, experience had no effect on loan repayment performance. Ugbomeh et al (2008) in a study of the determinants of the loan repayment performance among WSHs in Bayelsa state Nigeria identified the following socio economic factors. Women as household head and household size had a significant negative effect while price stability of farm proceeds positively and significantly affected loan repayment performance of the WSHGs. Majority of the respondent's women farmers were married, uneducated, belonged to low income group and had large family households yet recorded high repayment rate.

Morkhtar, Nartea and Gan (2009) investigated the determinants of loan repayment problem among the MF borrowers of TEKUM and YUM institutions in Malaysia. A logistic regression model's results revealed that borrowers in TEKUM who were involved in agricultural activities had loan repayment problems and older borrowers between 46-55 years proved to have problems in repaying loans which may be attributed to higher financial commitment.YUM attracted many young people and those between 18-25 years had loan repayment problems may be due to lack of experience in the business leading to low income and laxity due to availability of more opportunities in other lending institutions.

The results of a Tobit model by Reta (2011) on the estimation of the determinants of loan repayment status among the small scale enterprise borrowers in the Development Bank of Ethiopia showed that source of income, work experience in related economic activity other than agriculture were significant and positively influence loan repayment while male borrowers negatively influence loan repayment.

According to Reta (2011) the age of the borrower was significant and positively influence loan repayment with older borrowers repaying well. Female borrowers under group lending model performed worse than male borrowers under the same model. Kiosk and retail shop, service provision, weaving and tailoring and urban agriculture business had a significant and positive influence on loan repayment while construction, woods and metal businesses affected loan repayment negatively.

Bichanga and Aseyo (2013) analyzed causes of loan default for Micro Finance Institutions (MFI) borrowers in Trans Nzoia County consisting of 100 Micro Finance Institutions (MFI) borrowers and 50 Micro Finance Institutions (MFI) staff in the study area. The main focus of the study was the socio economic characteristics of the borrower with specific focus on impact of non supervision of borrowers, shrinking economic conditions experienced by borrowers and diversion of loan funds on loan repayment. The results of the study revealed that non supervision of borrowers by Microfinance Institutions (MFI), inadequate training of borrowers on effective use of loan funds positively influenced loan default. Most of the borrowers did not use loans for intended or agreed projects, shrinking economic conditions also affected loan default positively. Small scale business loan repayment performance in Kenya was investigated by Ochillo (2009) with a focus on the East lands region of Nairobi. A probit regression model was used to analyze the factors affecting loan repayment among the small scale entrepreneurs in East Lands region of Nairobi. The study revealed that age of entrepreneurs, loan administration, attitude of entrepreneur towards loan repayment and business performance were statistically significant. Factors that negatively influence loan repayment realized from the study included, inadequate loan supervision, technical advice on good business practice and delay in loan disbursement.

Individual level factors age, experience, marital status, household head, household size, education level hade been determined through the above studies with evidence showing that they have positive and negative influence on loan repayment. This study aimed at determining the specific influence of these individual level factors on loan repayment among the Women Enterprise Fund (WEF) borrowers.

2.3.3 Group Mechanism

Brenner (2012) analyzed a global dataset covering 1102 Microfinance Institutions (MFIs) in 110 countries to test gender effect on MF repayment. The results of the study revealed that female clients had a lower portfolio at risk and write off ratios. The findings further revealed that group dynamics and social homogeneity positively influenced loan repayment. The bigger the group the better the repayment as more and more people borrow.

Matta (2004), used a Tobit model to analyze the effect of group dynamics on group loan repayment and group mechanism in the ADOPEM group lending program in the Dominican Republic. Two assumptions were put forward combination of group solidarity and peer pressure was necessary among group members for successful lending. Groups with more family members respond with solidarity when a group member defaults while heterogeneous groups respond with expost peer pressure. The author admitted that neither of the assumptions had been thoroughly examined through empirical studies. The results revealed that smaller group size; groups composed of family members and group solidarity positively affected loan repayment. Smaller groups were better than larger ones due to ease of monitoring and information asymmetry enhancing repayment. Homogeneous groups were likely to respond with solidarity incase a member of the group was faced with loan repayment problems. Information exchange was enhanced in a homogeneous group set up thus allowing members to solve their problems internally while maintaining good repayments.

Okurut and Kinyongo (2009) in a study of the determinants of loan repayment performance among microcredit institutions in Tanzania, used a logit regression model to analyze the hypothesized factors. The results of the study indicated that sanctions have a positive and significant influence on loan repayment while group size had a negative and significant influence on loan repayment among the 150 respondents from PRIDE and FINCA institutions in Kariokoo Dares salaam Tanzania.Ogbomeh et al (2008) noted that socio cohesion within the WSHGs in Bayelsa state of Nigeria was identified as an important factor influencing the loan repayment positively. Women farmers in the region recorded a high repayment rate which was attributed to socio cohesion among the WSHGs. Reta (2011) investigated the determinants of loan repayment performance in Addis Ababa Ethiopia and the results of the study revealed that more defaults were experienced under group lending model than in individual lending model.

From the above studies it was evident that group size, group composition, sanctions and information asymmetry were among the significant factors influencing loan repayment positively or negatively. The study aims at analyzing these specific factors to determine their influence on loan repayment among the WEF borrowers.

2.4 Summary of the Empirical Evidence

The findings by Roslan and Karim (2009) that the larger the loans size the higher the loan repayment concurred with that of (Ongeagoche et al, 2008). This may be attributed to the fact that a large investment in a productive business is likely to yield higher incomes thus contributing to higher repayment. Age was a significant factor influencing loan repayment positively as identified by Reta(2011) and Ochillo (2009) which contradict with findings by

Morkhtar,Nartea and Gan (2009) that older borrowers between the age of 46-55 years have loan repayment problems. Older borrowers were expected to perform better since they have been in business longer than the younger ones who are just starting. Business performance can negatively or positively affect loan repayment performance. The findings by Ochillo (2009) indicated that business performance affects loan repayment positively sentiments echoed by Ugbomeh et al (2008) that price stability of the agricultural proceeds positively affect loan repayment. According to Reta (2011) the type of business that the borrower engages in can affect the loan repayment positively or negatively. Businesses linked to traditional roles like tailoring, retail shops and service provision have a positive influence while construction, woods and metal businesses have negative influence loan repayment maybe due to the fact that some of these businesses require huge capital which may not be available to the small scale enterprises. Group mechanism positively affects loan repayment.

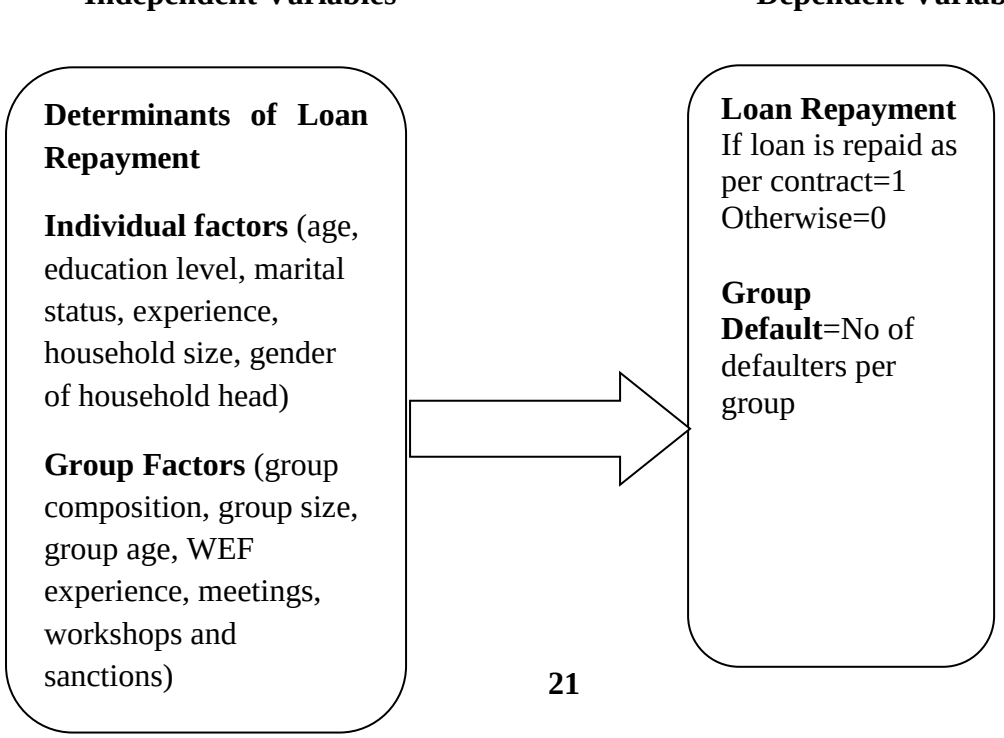
According to Matta (2004) small groups are easy to monitor yielding to high loan repayment which contradicted with findings by Brenner (2012) that the bigger the group the higher the repayment. Matta (2004), Ogbemeh et al (2008) and Brenner (2012) all agree that socio cohesion was important and plays a significant role in influencing loan repayment positively.

2.5 Conceptual Framework

The loan repayment both at the individual and group levels is influenced by numerous factors. It is crucial for leaders to understand how such factors influence performance of loans at both levels. In this study, loan performance was analyzed at two levels;

Individual level, which took into account personal characteristics and at the group level to account for group factors that may have significant influence on members' willingness to continue servicing loans. At the individual level this study conceptualized loan performance – measured as a dichotomous variable – to be influenced by age, education level, business experience, house hold size and the gender of head of household. The hypothesized relationship between variables was shown in Figure 1 below. The individual characteristics of the borrowers (age, experience, education level, household head, household size and marital status) were hypothesized as having a positive influence on loan repayment. At the group level, the group default – measures number of defaulters in the group – the study theorized, was influenced by group size, composition, information asymmetry, group age,WEF experience and sanctions imposed on defaulters. The group characteristics (sanctions, group size, group composition, group age, WEF experience, (meetings and workshops) information asymmetry) were hypothesized as having a positive influence on group default as Figure 1 indicates.

FIGURE 1
Relationship between the Independent and Dependent Variables



CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides the methodology used for the study. Specifically it describes the research design, the targeted population, sampling design, methods of data collection, measurement of the independent and dependent variables and how the data was analyzed.

3.2 Research Design

The study employed a descriptive research design. The survey was carried out in all the seven constituencies of Muranga County. The determinants of loan repayment performance among the WEF borrowers belonging to various WSHGs were examined.

Descriptive design was considered appropriate since it is ideal for collecting data from a large population, too large to observe directly as noted by (Oyunda, 1999).Findings from survey research can easily be generalized to the population and it is also cost effective in terms of time and finance (Glaslow,2005).

3.3 Population of Study

The study focused on registered WSHGs who are beneficiaries of the WEF.There were 1039 WSHGs in Muranga county who had benefited with loans from (WEF) and this formed the target population (WEF, 2013).The reason for choosing WEF was because it is unique as a Government initiative and funds to WSHGs are distributed through the constituencies which are easily accessible. The WEF was formed by the government in the year 2006 as a parastatal under the ministry of gender and social services. The purpose of the fund was to provide women entrepreneurs access to affordable credit without need for collateral.

TABLE 1

A List of the Women Self Help Groups per Constituency

Constituency	No of groups	Percentage Distribution
Kangema	130	12.5
Kiharu	173	16.7
Gatanga	319	30.7
Kandara	170	16.4
Maragwa	61	5.9
Mathioya	143	13.7
Kigumo	43	4.1
Total	1039	100

Source: WEF, 2013

The study stratified the 1039 WSHGs which was the target population according to the domicile constituencies and then used cluster sampling to select women groups and members to be included in the study. Samples of women groups were randomly drawn from each cluster in order to give each beneficiary WSHGs an equal opportunity of being selected. A total sample of 210 individuals was randomly selected from the seven clusters with ten WSHGs randomly selected from the clusters and finally three individuals per group randomly selected to form required respondents. The clusters were informed by the various constituencies that make up Muranga County since the WEF has a volunteer officer in every constituency. A proportionate random sampling was carried out in this study in order to give each constituency an equal representation of 10WSHGs each. Three individuals were per WSHG were randomly selected to form the sample size of 210 respondents Table 2 below.

TABLE 2
Sample Selection

Clusters	WSHGs	Individuals	Total Sample
7	10	3	210

3.4 Research Instruments and Data Collection

The study used both primary and secondary data collection methods. Structured questionnaires with close ended questions were used to capture quantitative primary data. The questionnaire was self-administered to the respondents. Secondary data was obtained from the (WEF) report especially data related to the number of groups in each constituency who had benefited with loans. The list of the beneficiaries, information on loan repayment, loan term was obtained through a request to the (WEF) volunteers at the C-WES offices. Personal loan details are sensitive and confidential and therefore approval was sought from the respondents by ensuring that they sign an informed consent form. This information was treated with the confidentiality it deserves and therefore access was limited to the researcher and the university research board. Details that can identify the respondent or the (WSHG) were not collected.

3.4.1 Measurement of variables

The study focused on the individual and group level factors that influence loan repayment and default among the WEF borrowers. Under the individual level the study concentrated on age of the borrower, the number of years the respondent has been in business, marriage status of the individual, the education level attained by the respondent, the number of people living in the same house with the respondent and the gender of the head of the house. Age, experience were continuous variables measured in years. Household size was measured in terms of number of people in a household including only husband, wife and children while household head was a dichotomous variable measured male head or female head. Marital status was operationalized in four categories; married, single, divorced and widowed. Education level was measured in two levels primary school and secondary school and above.

This categorization of the level of education was informed by the low literacy of the local women folk who were members of the women self help groups.

The group level factors considered included group size which was the number of members in each group, group composition was measured in terms of the number of relatives within a group, the number of meetings and workshops held per year by a group and sanctions imposed for defaulting. Details on loan repayment was obtained from the C-WES offices who also provided a list of the WSHGs, their members contact details and business location. Loan repayment was operationalized as a dichotomous variable based on a borrower's inability to repay as per the contract or otherwise.

Personal details on loan are sensitive and therefore approval to obtain the same was sought from respondents where they were required to sign an informed consent form and details obtained were treated with the confidentiality it deserves. Details on default were obtained from the individual respondents who provided information regarding the number of people within the group who were not repaying the loan.

3.5 Instruments Validity and Reliability

To gauge the reliability of the questionnaire a pilot test of the instrument was conducted with 10 respondents who did not participate in the final survey. The pretest was important in order to remove any ambiguity. Necessary adjustments were made in consultation with the supervisor. The researcher also depended on expert advice from the supervisor to ensure that the instrument was good and therefore valid for use.

Cronbach's alpha was used for this study to test the reliability of the survey questionnaire.

According to Kline (1999) as cited by Field (2005) a cronbach alpha of 0.8 is considered ideal for reliability but due to the diversity of the constructs being measured values below 0.7 may be expected. For this study the cronbach alpha from the pilot data was 0.584 which is approximately 0.6 suggesting the instrument was reliable.

3.6 Data Analysis

Survey data was analyzed using STATA.The results of the analysis were presented in form of tables, mean and standard deviation. Data was analyzed through two models binary logistic regression and multiple regression. The binary logistic regression was considered appropriate to determine the influence of individual level factors on the respondent's loan status which was a dichotomous variable. Through this it was possible to determine the odds of a person defaulting given the individual characteristics. Multiple regression analysis was used to determine the influence of group level factors on group loan default. The model was found fit since the group default which was the dependent variable at the group level was influenced by seven explanatory variables.

The logistic regression model establishes a relationship between a dichotomous dependent variable and one or more independent variables by predicting the logarithm of ratio of odds (logit).The model effectively accounts for the odds ratio where the dependent variable is dichotomous. The odds are a ratio of probability (p) of an event happening in this case the individual pays loan as per contract to probability (1-p) of an event not happening in this case individual does not pay as per contract. The individual level factors constituted the independent variables while loan repayment which was a dichotomous variable was the dependent variable.

The general formula for logistic regression

$$\text{logit}(Y)=P/1-P=\beta_0+\beta_1x_1+\beta_2x_2+\beta_3x_3+\beta_4x_4+\beta_5x_5+\beta_6x_6+\beta_7x_7 \quad \text{(i)}$$

Where logit(Y) =log of odds that an individual pays loan as per contract.

$X_{1=}$ Number of years the individual has been in business

X_2=Number of years the group member has been with the self-help group

X_3=Age of group member

X_4=Education level of the borrower

X_5=Marital status of the individual borrower

X_6=Gender of household head

X_7=No of people living with borrower in the same house

β_O is a constant or the logit(Y) intercept

β_s represent the regression co efficient which is the logit. The regression co efficient represent the change in the logit of the probability associated with a unit change in the explanatory variables holding all other variables constant. For this study it is the change in logit for a unit change in age of the individual borrower holding all other variables constant.

For the group level effect a multiple regression model was fitted and the group level factors formed the independent variables while the number of defaulters per group was the dependent variable.

The general formula for this model

$Y=\beta+\beta_0x_0+\beta_1x_1+\beta_2x_2+\beta_3x_3+\beta_4x_4+\beta_5x_5+\beta_6x_6+\beta_7x_7+\mu$ (ii)

Where Y=Number of defaulters per group

X_1=number of years the group has been with the WEF

X_2=Group age, number of years the group has been in existence

X_3=Group size, number of people within a group

X_4=Group composition, number of relatives within a group

X_5=Meetings, number of meetings the group held per year

X_6=Workshops, number of workshops the group held per year

X_7=Sanctions, measures the group initiated against defaulters

β_0=intercept for this study it was the occurrence of default regardless of the group level characteristic

βs=slope or regression co efficient for this study it was the regression co efficient associated with the group level factors;β_1 measures the change in the mean value of number of defaulters per group) per unit change in X_1(number of years group has been with the WEF) while holding all other group variables constant.

μ=regression residue in this case it was the error term associated with the group level factors.

CHAPTER FOUR

FINDINGS AND DISCUSSION

4.1 Introduction

This chapter deals with the analysis, examination and interpretation of the data obtained from the survey questionnaires. The explanatory variables were analyzed using the binary logistic and multiple regression models. The research findings were presented using tables which was followed by a discussion of the same. The response rate for the survey was 100 % since the questionnaires were self-administered.

4.2 Descriptive Statistics for the Individual Level Factors

A total of 210 individual respondents participated in the survey, Table 3 below provides a summary. B_Exp represented the number of years the individual had been in business. The statistics below Table 3 indicated that the highest B_Exp was 59 years and the lowest 2 years with a mean of 17.3 years. This is an indication that the respondents were in business as per the requirement of WEF that borrowers should use the funds to expand existing businesses or start new ones.SHG_Exp represented the number of years the individual had been a member of a SHG with statistics showing that some people had been in groups for 30 years with a minimum period of 3 years. The mean SHG_Exp was 8.68 which is quite in order since some individuals were members of some groups before joining WEF which has been in existence for about 8 years now. The age of the borrower was categorized as 1= 18-25,2=26-35,3=36-45,4=46-55 and 5=above 56.Statistics revealed that some individuals had attained the highest level of age group considered above 56 years and the youngest were between 26-35 years which means that the 18-25 category missed out .

The reason could be that majority of those within 18-25 years bracket could be unwilling to join groups since their businesses are young and their financial commitments are not very high like the other categories. The mean age of the respondents was 3.68 representing ages 36-55. The Edn which measured the education level of the individuals was categorized at two levels with 1 for upto primary and 2 for secondary and above.

All the respondents had attained some level of education either primary or secondary school and the mean for this category was 1.56. M_STATUS measured the marriage status of the respondents and the same was set on a scale of 1-4 for single, married divorced and widowed. The mean for this category was 2.29, respondents were from all the categories listed.HD_Size represented the number of people living with the individual and the statistics indicated that the household with the highest number of members had 12 and the one with the lowest had just 1 and the mean for this variable was 4.86.

TABLE 3
Summary of Individual Characteristics

Variable	Obs	Mean	Std. Dev.	Min	Max
B_Exp	210	17.367	10.012	2	59
SHG_Exp	210	8.686	4.818	3	30
Age	210	3.681	.896	2	5
Edn	210	1.562	.497	1	2
M_STATUS	210	2.290	.822	1	4
HD_Size	210	4.867	2.207	1	12
HD_head	210	1.724	.4791	1	2
LOAN	210	.557	.498	0	1

4.2.1 Descriptive statistics for the group factors

70 WSHGs participated in the survey and the descriptive statistics are hereby analyzed Table 4:4 below.

WEF_Exp represented the number of years the a group has been a member of the WEF and the results indicate that the mean period was 2.84 with a maximum of 6 years and a minimum of 1 year. This could be attributed to the fact that the WEF has been in existence for about 8 years .GRP_Age was a measure of the number of years the group has been in existence and the statistics show that the same had a mean of 9.01, a high of 30 years and a low 3 years. This is an indication that some groups had been inexistence long before the WEF. GRPsize was a measure of the members of a group and the statistics show that the mean was 21with 70 as the highest number within a group and 10 as the lowest.GRPcomp which was a measure of the number of family members per group ranged between 0 and 5 with a mean of 0.45.Majoprity of the groups did not have family members as this is greatly discouraged by WEF.

MTGs represented the number of meetings held by the group each year, the table below indicate that the same ranged between 0 and 48 with a mean of 9.428.WKPs was an indication of the number of workshops the groups held each year and statistics show that it ranged between 0-6 with a mean of 1.4.Some groups did not hold meetings or workshops which was indicated by the minimum value of 0.SCT was a measure of the steps taken by the group on defaulting members and the statistics show that the range was between 1-4.

TABLE 4
Summary of Group Factors

Variable	Obs	Mean	Std,Dev.	Min	Max
WEF_Exp	70	2.843	1.270	1	6
GRP_Age	70	9.014	5.378	3	30
GRPsize	70	21.757	11.452	10	70
GRPcomp	70	.457	.958	0	5
MTGs	70	9.428	9.559	0	48
WKPs	70	1.4	1.468	0	6
SCT	70	2.114	.941	1	4

4.3 Econometric Model

Survey data was analyzed at two levels at the individual and group for the purpose of achieving objective 1 and 2.Objective 1was to determine the individual level factors that influence loan repayment; Independent valuables under consideration at this level included age, business experience, marital status, education level, household size and household head while the loan repayment which was a dichotomous variable was the dependent variable. The analysis of the individual level factors was done through a logistic regression model.

Objective 2 was to determine the group level factors that influence group loan default; Independent variables at this level included WEF experience, group age, group size, group composition, meetings, workshops and sanctions. The number of defaulters per group was the dependent variable. The analysis of the group level factors was done through a multiple regression model.

4.3.1 Influence of individual level factors

A logistic regression model was used to analyze the individual level factors for the purpose of determining the specific factors that influence the probability of loan default among the women enterprise fund borrowers. The logistic regression model is a logarithm of the ratio of an odd. The model effectively account for the ratio of odds where the dependent variable is dichotomous. Logistic regression has gained popularity in social sciences and educational research handling dichotomous outcomes Peng, Lee and Ingersoll (2004) and therefore considered fit for this study. The results of the model were presented on table 4:2 below. Seven explanatory variables were analyzed and interestingly none of the variables were found significant in influencing the probability of a borrower defaulting. The Pvalue of all the variables analyzed was greater than 0.05 and therefore statistically insignificant in influencing loan repayment.

A statistically significant value must be less than the level of significance for this case 0.05.The results of this study were rather interesting since previous studies on some of these variables had yielded some influence either positive or negative.

A one year increase in business experience, SHG experience or age of borrower had no influence on the odd of a borrower defaulting as informed by their odds ratio but the good news is that all the signs of the co efficients were as expected. The education level of a borrower or their marital status had no influence on the odd of a borrower defaulting as shown by their odds ratio yet expected signs for the co efficients were realized. Regardless of the number of people living with the borrower or the gender of the household head the same had no influence on the odd of a borrower defaulting as per their odd ratio yet the co efficients had the right signs. The general rule of thumb is that if the odds ratio=1 indicates zero effect, odds ratio >1 indicate increase in odds while odds ratio < 1 indicate decrease in odds.

TABLE 5
Results of Logistic Regression Model

Loan	Odds Ratio	Coef.	Std. Err.	P>z
B_Exp	1.008	.008	.017	0.637
SHG1_Exp	1.034	.033	.031	0.286
Age	0.972	-.028	.190	0.882
Edn	0.996	-.004	.292	0.989
M_STATUS	1.027	.027	.222	0.904
HD_head	1.020	.020	.067	0.766
HDsize	0.770	-.261	.366	0.476
Constant	1.225	.203	1.274	0.873
	N=210			
	Log likelihood ratio=-143.017			
	LR chi^2(7)=2.34			
	Pseudo R^2=0.0081			

The log likelihood ratio indicates the measure of goodness of the whole model that is how well it fits.

Perfect model have a likelihood ratio of 0 and therefore a model with a small likelihood value is a good fit. The chi square is used to test the statistical goodness of fit of the model for this study the chi squared at 7 degrees of freedom was 2.34 which was insignificant at 5%.

Pseudo R^2 represent a measure of goodness of fit of the whole model and its similar to R^2 in the multiple regression but ranges between 0.1-0.5.The model was a good fit since the log likelihood ratio was quite small.

From the above logistic regression analysis we have below model

Logit (Loan) =0.2029 + 0.008*B_Exp +0.033*SHG_Exp -0.028*Age -0.004* Edn + 0.269 *M_STATUS + 0.198 HD_head -0.261* HDsize (iii)

Whereby
Loan = Ability of the borrow to pay as per the contract
B_Exp= number of year the individual has been in business
SHG_Exp=number of years the individual has been a member of a SHG
Age= Age of the individual
Edn=level of education attained by the borrower either primary or secondary and above.
M_STATUS= whether the individual is single, married, divorced or widowed
HD_head=gender of household head
HDsize=number of family members living with the individual borrower

Holding all other variables constant the odd of an individual repaying loan was 20.29 % due to other factors not considered in this study. The odds of an individual repaying loan increase by 0.8% for every year of B.exp. The odds of an individual repaying loan increase by 3.3 % for every year of SHG_Exp. The odds of an individual repaying loan decrease by 2.8 % for every increase in Age. The odds of a respondent repaying loan decrease by 0.4% for an increase in the level of Edn. The odds of a respondent repaying loan will increase for every increase in gender of HD_head by 19.8 % while the odds of an individual repaying loan will decrease for every increase in HDsize.

A Probit model was used to analyze the individual factors for robustness checks and as expected the results were similar to those of the logit model as per below Table 6

TABLE 6
Results of the Probit Model on Individual Factors

LOAN	Coef.	Std. Err.	z	P>z
B_Exp	.005	.011	0.48	0.633
SHG_Exp	.020	.0187	1.07	0.283
Age	-.018	.119	-0.15	0.880
Edn	-.003	.182	-0.02	0.986
M_STATUS	.0170	.138	0.12	0.903
HD_Size	.0127	.042	0.31	0.757
HD_head	-.163	.227	-0.72	0.472
_cons	.1319	.793	0.17	0.868
N=210	Log Likelihood ratio=-143.022	LR chi^2(7)=2.33	Pseudo R^2=0.0081	

4.3.2 Influence of group level factors

In determining the group level factors that influence loan default among the women enterprise fund borrowers a multiple regression model was used. The results of the model are hereby analyzed in Table 7 and 8 where seven explanatory variables were analyzed and three (group size, number of meetings and number of workshops) of them were found statistically significant while four (group age, WEF experience, group composition, sanctions) were not.

TABLE 7
Multiple Regression Model Summary

Model	F(7,62)	Pvalue	Tabulated $F(7,62)_{0.05}$
1	24.7	0.00	2.17

Model goodness of fit and statistical significance of the model were tested by the F and P values.

The model Pvalue was 0.00 which is less than 0.05 significance level and therefore the model was statistically significant. The calculated F (7, 62) value was 24.7 against a tabulated F (7, 62)$_{0.05}$ value of 2.17 which shows that the whole model was statistically significant. In case the calculated F value is greater than the table F value then the whole model is considered good and statistically significant. Again when the model P value is less than the significance level of 0.05 the model is considered fit and statistically significant.

The model is hereby presented

D= 11.441 +0.868*WEF_Exp +0.012* GRP_Age +0.193* GRPsize -0.974* GRPcomp -0.445 MTGs -2.868 *WKPs -1.081 *SCT (iv)

Whereby

D= Group default measured by the number of people within the group who are not repaying their loans

WEF_Exp - The number of years the group has been with the WEF

GRP_Age-The number of years the group has been in existence

GRPsize-The number of people within a group

GRPcomp-The number of relatives within a group

MTGs-The number of meetings the group held per year

WKPs-The number of workshops the group held per year

SCT-Measures the group initiated against defaulters

From the above results it is evident that holding all other variables constant, the number of defaulters per group will still increase by 11.44 units mainly due to factors that were not captured in this study. A one unit increase in the WEF_Exp will lead to an increase in number of defaulters per group by 0.868 units. This may due to the fact that groups that have been with WEF longer may become reluctant in paying of loans since they are familiar with the monitoring systems that are place. A unit increase in GRP_Age will lead to an increase in number of defaulters per group by 0.012 units maybe due to a tendency by the old members to relax in their commitment since they have become used to the group. A unit increase in GRPsize will lead to an increase in number of defaulters probably due to the fact that large groups are difficult to monitor.

A unit increase in GRPcomp will lead to a decrease in number of defaulters by 0.974 units due to family members standing in solidarity with their relatives who have loan repayment problems. A unit increase in number of MTGs will reduce the number of defaulters by 0.445 units this may be attributed to the information flow which is enhanced during meetings. A unit increase in number of WKPs will reduce the number of defaulters by 2.868 units which may be attributed to skills learnt during the workshops which assist the borrowers in managing their businesses well. A unit increase in SCT will lead to a reduction in number of defaulters per group by 1.081 units which may be due to fear of facing the harsh penalties imposed on defaulters.

TABLE 8
Results of Multiple Regression Analysis.

DEFAULT	Coef.	Std Err.	t	P>t
WEF_Exp	.868	.473	1.83	0.071
GRP_Age	.012	.114	0.10	0.918
GRPsize	.193	.063	3.07	0.003**
GRPcomp	-.974	.667	-1.46	0.149
MTGs	-.445	.088	-5.03	0.000**
WKPs	-2.868	.530	-5.41	0.000**
SCT	-1.081	.711	-1.52	0.134
cons	11.441	2.558	4.47	0.000

*Statistically significant at 0.05 or 5%
** Statistically significant at 0.01 or 1%
***Statistically significant at 0.1or 10%

Seven group variables, WEF experience, group age, group size, group composition, meetings, workshops and sanctions were analyzed and three (Group size, meeting and workshops) were found significant in influencing number of defaulters per group while four (WEF experience,group age,group composition and sanctions) were not. Group size had a positive influence and statistically significant at 1%, number of meetings and workshops held had a negative influence and statistically significant at 1%.A one unit increase in group size would lead to a an increase in number of defaulters by 0.193 units while a one unit increase in number of meetings would result in a decrease in number of defaulters by 0.445 units. A one unit increase in number of workshops would lead to a decrease in number of defaulters by 2.868 units.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter provides a summary of major findings, the discussion, conclusion, recommendations and suggestions for further study on the influence of individual and group level factors on the loan repayment and group default.

5.2 Summary of Major Findings

The results of the logistic regression model on the individual factors revealed that age, experience, marital status, education level, household size and gender of household head were insignificant in influencing the probability of loan default among the WEF borrowers in Muranga County. All the co efficients of the logistic regression model had the correct signs an indication that these variables should not be ignored.

The results of the multiple regression model revealed that group size, meetings, workshops had a significant influence on group default while group age, group composition, WEF experience and sanctions were insignificant in influencing group default among the WEF borrowers in Muranga County.

5.3 Discussion

The results of the Probit and Logit model by Roslan and Karim (2009) revealed that race, education level, number of dependants and experience did not affect loan repayment performance which concurs with the results of this study whereby age,experience,education level and number of dependants had no significant influence on loan repayment. The age of the borrower was expected to have a positive influence on the probability of the loan default such that older borrowers repay their loans well than the younger ones.

Morkhartea, Nartea and Gan (2009) analyzed the determinants of loan repayment among the TEKUM and YUM borrowers through a logistic regression model and realized that age as a factor affected loan repayment on two fronts.

Older borrowers between the age of 46-55 had loan repayment problems may be due to higher financial commitments within the household, young borrowers between the age of 18-25 years interestingly had loan repayment problems which could be due to lack of experience in business and availability of more opportunities in other lending institutions. Age of the borrower was a significant factor that influenced loan repayment among the small scale enterprise borrowers of Ethiopia with older borrowers repaying well Reta (2011). Ochillo (2009) analyzed the individual factors affecting small scale borrowers of Ethiopia and the results of the Tobit model indicated that age of borrower was significant and positively influence loan repayment .Though this study did not find age of borrower a significant factor influencing the probability of loan default most studies support the view that age is significant since older people have higher financial commitments than younger ones.

Experience of the borrower in an economic activity was expected to positively influence loan repayment since such experience lead to higher income but the results of this study indicated that none of the factors analyzed were statistically relevant in influencing probability of loan default. Reta (2011) analyzed borrower characteristics that affect loan repayment and concluded that work experience in an economic activity was significant and positively influence loan repayment. Business experience may lead to higher profits but does not guarantee effective loan repayment and therefore the factor may positively or negatively influence the probability of loan default and therefore the results of this study are rather interestingly.

Household head and household size were expected to positively influence loan repayment but the results of this study did not concur. Ugbomoh et al (2008) analyzed the socio economic characteristics of the WSHGs in Bayelsa state Nigeria and identified women as household head and household size as significant factors that negatively influenced loan repayment. The findings disagree with those of this study but it is expected that large family size may negatively affect loan repayment due to higher financial needs and since women are better at repaying loans household with women as head may be better at repaying their loans. Married women may be better at repaying their loans due to assistance from their spouse though some husbands mislead their spouses by diverting loan funds to unintended projects and therefore grossly influencing the probability of default either positively or negatively.

Marital status was expected to have an influence on loan repayment. Married women may be assisted by their spouses to repay their loans, single, divorced and widowed may also repay their loans well with anticipation of good relationship with lenders for the purpose of future borrowings. This expectation concurred with findings by Ugbomoh et al (2008) that majority of the respondents were married and recorded a high loan repayment. Education level was expected to be significant and positively influence loan repayment since more educated women may do well in business leading to high income and thus high repayment. Majority of respondents among WSHGs in Bayelsa state Nigeria were uneducated yet recorded high repayment, (Ugbomeh et al, 2008). The findings of this study indicated that education level did not have a significant influence on the probability of a borrower defaulting which implies that ability to pay loan may not be guaranteed by the level of education attained by borrower.

The results of an analysis for a global dataset covering 1102 MFIs in 110 countries by Brenner (2012) revealed that the bigger the group the better the repayment, (Brenner, 2012).

The analysis of group mechanism by Matta (2004) revealed that smaller groups were better at repaying loans than bigger ones. Okurut and Kinyongo (2009) analyzed the determinants of loan repayment in microcredit institutions in Tanzania and the results indicated that group size had a negative and significant influence on loan repayment which concurred with those of this study. The results of this study indicate that group size has a positive and significant influence on the number of defaulters which concur with those of (Matta,2004) and (Okurut and Kinyongo,2009).The general feeling is that smaller groups are easy to manage in terms of monitoring thus enhancing repayment and reducing default.

Group composition for this study had no significant influence on the number of defaulters per group which fail to concur with that of Matta (2004) where groups with more family members had a positive influence on loan repayment. Groups with more family members may stand in solidarity with their family members and therefore enhance repayment reducing default. Findings by Matta (2004) revealed that information exchange is enhanced in homogeneous groups that are small thus enhancing repayment. Brenner (2012) on the other hand revealed that socio homogeneity positively influenced loan repayment, the bigger groups the higher the repayment as more and more people borrow. As expected a lot of information is shared during the meetings and workshops and therefore the group is able to monitor progress thus enhancing loan repayment reducing default. Ugbomeh et al (2008) noted that socio cohesion within the WSHGs in Bayelsa state Nigeria was a significant factor in influencing loan repayment positively. Socio cohesion is enhanced through meetings and workshops where information asymmetry is reduced thus enhancing repayment sentiments confirmed by the results of this study where meetings and workshops held by the WSHGs were important and significant factors influencing group default.

The results of an analysis by Okurut and Kinyongo (2009) revealed that sanctions had a positive influence on loan repayment which does not concur with the findings of this study since sanctions were not statistically significant in influencing number of defaulters per group. The expectation was that groups that have put in place stringent measures to reduce default are able to maintain a good repayment rather than those that have no such measures.

According to Matta (2004) and Armendariz and Morduch (2005) homogeneous small groups have lower default rate since members are likely to respond with solidarity incase one of them is faced with loan repayment problems. The results of this study indicate that group size, number of meetings held by groups and workshops had significant influence on group default. The significance of the variables is an indication that if the group sizes are controlled, if number of meetings and workshops are increased then the group default would be greatly reduced.

5.4 Conclusion

The general objective of the study was to determine the factors that influence loan repayment among the WEF borrowers. The specific objectives were to determine the influence of individual level factors on probability of loan default among WEF borrowers in Muranga County, to establish the influence of group level factors on group default among the WEF borrowers in Muranga County, make recommendations on the policy measures that the WEF should put in place to ensure sustainability of the fund. Loan repayment is critical in the sustainability of (WEF) which is a Government initiative and can greatly reduce over reliance on the National Treasury for funding.

5.4.1 Summary of influence of individual level factors

The results of the analysis on the determinants of loan repayment among the women enterprise fund borrowers revealed the following.

Individual level factors (age, business experience, education level, marital status, gender of household head, household size analyzed in this study showed that none of these factors were statistically significant in influencing the probability of the loan default. This may be a pointer to the (WEF) to concentrate more on the group characteristics since most of their loans are advanced to women self-help groups and therefore the need to pay particular attention to group level factors. The individual level factors should also be considered alongside the group factors since all of them had the correct signs and therefore no need to ignore them.

5.4.2 Summary of influence of group level factors

Among the group level factors that were analyzed group size, number of meetings and workshops had a significant influence on group loan default while WEF experience, group age, group composition and sanctions did not have a statistical significant influence on group default. The number of years the group has been with the WEF was expected to provide a greater commitment and therefore reduce default but the result of this study indicate otherwise. The WEF should therefore pay particular attention to repeat borrowers and ensure that monitoring of all loans is enhanced to ensure repayment and thus reduce default.

Group size is a significant factor at influencing default but it is important that the WEF pay particular attention to this and provide needed advice to those groups that are too large since they will experience monitoring problems that may lead to poor repayment increasing default. Group composition had no significant influence on group default but it's important for the WEF to keep a close monitoring of groups with more family members in case they do not perform as expected they may be advised to reduce such members.

Meetings and workshops provide the groups with an opportunity to learn new things and iron out any arising issues. The WEF should come up with a way of ensuring that groups stick to their set meetings and have at least one workshop per year to facilitate information flow and thus reduce default. The age of the group does not significantly affect loan default as per this study this will assist the WEF to ensure that they do not give much weight to such a factor .Sanctions have no significant influence on group default but WEF should ensure that groups set up recovery measures in case of default before they take up a loan. The more stringent the measures will be the greater the effect on loan repayment thus reducing default.

Sustainability of the WEF which depends on repayment ability of borrowers can be achieved through the group lending model that is already in place with a proper appraisal of the groups being advanced money.

5.5 Recommendations

From the results of this study the following recommendations are provided: The Women Enterprise Fund should take particular note of the group characteristics that affect loan and strategize on the best way to address the repayment issue in order to reduce default. The Women Enterprise Fund should focus more on close monitoring of loans to avoid losses through non repayment and will help reduce default. Close monitoring ensures that any arising issue within the group is dealt with before it is too late. The Women Enterprise Fund should maintain the group lending model which has resulted in high repayments for other lending centre's in anticipation of such high repayments in the future.

The women enterprise fund should provide the WSHGs with training before accessing loans so that they can manage their businesses effectively and therefore boost repayment rate. The volunteers at the constituency should visit the beneficiary WSHGs inorder to build a good relationship that will eventually boost repayment and reduce default.

Sustainability of the fund is dependent on the loan repayment ability of borrowers and therefore the WEF and other credit providers should ensure thorough screening of WSHGs before advancing loans. The CWES are managed by volunteers and there is need for a proper policy to staff the centers with more officers for the purpose of training to potential and existing borrowers, lending and monitoring of the borrowed funds.

5.6 Research Limitation

The research was purely for academic purpose but some respondents were unwilling to participate for fear of being monitored by WEF for failure to honour their commitments. The study covered Muranga County and therefore the results may not apply to all other regions.

5.7 Suggestion for Further Study

The study looked at the individual and group level factors that determine loan repayment performance among the WEF borrowers in Muranga County and the same can be extended to other credit providers like banks and microfinance institutions to see if these group factors have any impact on loan repayment. Similar studies can be conducted covering other regions across Kenya to verify the significance of the variables studied in influencing loan repayment by women borrowers.

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APPENDICES

APPENDIX 1

Questionnaire

Instructions: Please answer all the questions to the best of your ability

PART 1 INDIVIDUAL CHARACTERISTIC

1. How many years have you been in business?.....

2. How many years have you been with the WEF?.....

3. How many years have you been with the Women Self Help Group?.....

4. What is your age bracket?

◯18-25 ◯ 26-35 ◯ 36-45 ◯ 45-55 ◯ 56 and above

5. Education Level

◯ Upto primary school ◯ Secondary School and above

6. Marital Status

◯ Single ◯ Married ◯ Divorced ◯ Widowed

7. How many people including yourself live in your house?.....

8. Who is the head of your home?

◯ Woman ◯ Otherwise

PART 11

GROUP CHARACTERISTICS

1. How many are you in your group?……..

2. How many members of the group are relatives?.....

3. How many members of your group do you know who are not repaying their loan?.....

4. How many meetings do you hold within one year?.....

5. How many workshops do you hold within one year?.....

6. What happens to a group member who does not repay her loan?
◯ Removed from the group ◯ Loss of personal asset ◯ cannot access future loans ◯ Given warning letter
◯No action is taken

APPENDIX 11

Informed Consent Document

Determinants of Loan Repayment among the Women Enterprise Borrowers

You are being requested to participate in a research study on Determinants of Loan Repayment among the Women Enterprise Borrowers. You were selected as a possible participant because you are a beneficiary of the Women Enterprise Fund through a Women Self Help Group. Please read this form and ask any questions that you may have before taking part in the research.

Background Information

The purpose of this study is to determine the individual and group level factors that influence loan repayment among the Women Enterprise Fund Borrowers.

Procedures

If you agree to participate in this research, the researcher will ask some questions and a request will be made to access some personal information about your loan. This information will be treated with outmost confidentiality and will not be disclosed to anyone else except the researcher.

Risks and Benefits of being in the study

This research poses no risks. There will be no direct benefits for participation to either the individual or his organization.

Compensation.

Participants will not be compensated

Confidentiality

The records of this research will be kept private. In any sort of report the researcher might publish, the researcher will not include any information to make it possible to identify you. After the research all private and sensitive information will be erased and copies of records obtained by the researcher destroyed. Access will be limited to the researcher, the University Research board responsible for protecting human participants and the regulatory agency. No other person will have access to the file. Further no identifying information will be included in the research finding.

Voluntary Nature of the study

Your participation is voluntary. If you choose not to participate it will not affect your current or future relations with your group, bank or the University. There is no penalty or loss of benefits for not participating or discontinuing your participation.

If you decide to discontinue participating in the project your data will be removed destroyed immediately and any reference in the research removed.

Contact and Questions

The researcher conducting this study is Nancy Gicheru under the Supervision of Dr.Renson Muchiri, KCA University. If you have any questions you may contact Nancy Gicheru at gicheru_nancy@yahoo.com and 0723751750 or Dr.Renson Muchiri at muchiri@kca.ac.ke.

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You may keep a copy of this form for your records.

Statement of Consent

I have read the above information and I consent to participate in this research. I also confirm that am at least 18 years of age.

Name of Participant……..

Signature of Participant……Date……

Signature of person obtaining consent……Date……..

Nancy Gicheru

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0723751750

APPENDIX 111
Project Budget

ITEMS	**QUANTITY**	**UNIT COST**	**TOTAL COST(Ksh)**
Printing Papers	3 reams	350	1050
Flash Disk	1	1200	1200
Questionnaires	220	10	2200
Writing materials	5	20	100
Travelling	25 trips		12,500
Spiral Binding	6	50	300
Total			**Ksh.17,350**