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THE SOCIO-ECONOMIC CONTRIBUTIONS OF MICRO-CREDIT GROUPS TO THE EFFECTIVENESS OF REVOLVING GOVERNMENT FUNDS IN MURANG'A COUNTY

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Abstract: The government of Kenya overtime has formulated a series of revolving funds to counter the poverty in the rural areas and to make the citizens living in these sections to earn a decent living, through their on-going income-generating activities. The most common is the Youth Enterprise Development Fund and the Women Enterprise Fund. There have been issues on the loan repayment affecting sustainability of the revolving funds. The main focus of this study was to analyze the loan repayment and sustainability issues of government revolving funds in Murang'a County. The study was guided by the following specific objective:- to examine the implication of socio-economic functions of groups to government revolving funds sustainability. The study adopted a positivism philosophy of research, where the researcher was independent on what was being observed and studied. Descriptive survey design was used to determine the level of government revolving fund repayment and its effect on sustainability for other borrowers. The target population was 1520 social and economic groups in Murang'a County. Clustering and Simple Random Sampling techniques were applied to select a sample size of 307 groups, in addition a census of 16 constituency credit officers, who were also interviewed. This, in total accounted to 19.5% of the total population. A questionnaire and an interview schedule were used to collect data. Descriptive data were analyzed using tables and charts. Quantitative data were analyzed using Chi-square, Analysis of Variance and Logit Regression Model. The results indicated that socio-micro groups' functions' was statistically significance to loan repayment and sustainability. The study recommended review of the education curriculum to reverse the teaching business studies in primary schools.

Keywords: Collateral, Deprivation, Poverty, Revolving Fund and Sustainability

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Introduction

Micro-finance can be illustrated as financial instruments, such as loans, savings, insurance and other financial products that are custom-made to the poor. The fund is put up in an economy to lessen poverty and to particularly benefit the poor citizens. Micro-credit on the other hand, is the lending segment of micro-finance. Access to government revolving funds help the poor to be involved in income-generating activities, which induce the poor to accumulate capital needed for investment and consequently improve their standards of living (Mokhtar, Nartea & Gan, 2011)

Broad access to finances is related to the economic and social development agenda as stipulated by Boynton, Victor & Pine (1993). The study signified the importance of a well-developed financial system in a country for economic development and poverty alleviation and that access to government revolving funds services results to broader access to external funds which in turn allows talented newcomers to be empowered and set free from the disadvantages that would arise from their lack of inherited wealth and absence of connections.

Odudho (2000) on the study on the District focus for Rural Development argues that, it should be the duty of every government to come up with policies that are pro-poor, that would dismantle the poverty trap existing in the economy. This is because poverty is likely to be related with activities that have negative externalities on growth of an economy which include; unsustainable exploitation of financial and natural resources, spread of crime and diseases, a lot of social turmoil and political volatility. A report to the legislature of the state of Hawaii (2009) asserts that; coming up with a revolving fund could be established with an appropriation of start-up money from the general fund, which could be given an experiment by any government. A revolving fund though in small amounts, according to the report must exhibit the capacity to be self-sustaining. The activities financed by the fund should be programs that are initially established by the general fund seed moneys and then replenished through the repayment of loans.

1.1.1 Government Revolving Funds Programmed in Kenya

Revolving fund is the extension of small loans (micro-loans) to deprived borrowers who typically lack collateral, secure employment and a verifiable credit history. It is designed not only to support entrepreneurship and alleviate poverty, but also to give power to the neglected groups of the society in order to uplift entire communities by extension. The concern of the central government of Kenya intending to take resources down to the rural village has been there since Kenya's independence in 1963 (Chweya, 2006).

In most communities in Kenya, women do not have a highly long-standing employment history that traditional lenders tend to insist on. Most of them especially in the rural areas are un-educated and therefore, not able to fill up any paper-work required for getting conventional loans, (Sagwe, Gacheru, & Mahea, 2011). The Women Enterprise Fund (WEF) was established in Kenya in 2007 as a revolving fund and was basically intended to provide accessible and affordable credits and to support women start and/or expand business in order to generate wealth and employment (GoK, 2012). On the other hand, the Youth Enterprise Development Fund (YEDF) as a revolving fund was launched in the year 2006 by the government of Kenya, with the main aim of reducing unemployment among the youth, who account to above 61% of the total population in the country (Sagwe et al., 2011). The fund was to target 13 million youths aged between 18 to 35 years in Kenya.

Low repayment rate and the question of sustainability of revolving funds as noted in the study by Sagwe et al., (2011) has been the concern. Many funds have been forwarded for initiating small group development

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programmer and cheering group participation in sustainable revolving fund lending and borrowing. The dispensing of financial services to the poor and low-income people has changed significantly over the recent past. The long standing assumptions that the poor cannot be good customers of the financial institutions have been challenged by well-documented experiences, as indicated by the study. A number of revolving fund programmers have shown that low-income customers can use small loans productively to pay higher rates of interest for their loans. It has also been attested that the poor need saving services as much or more than credit services, (Kimondo et al., 2012).

1.2 Statement of the Problem

Government of Kenya has initiated numerous revolving funds towards reducing youth and women unemployment since independence. However, high default rate has affected the sustainability of the revolving funds, due to a number of interconnection of related factors. Studies done on the above funds in Kenya show a lot has been give out, but very little recouped (Hulme, Kashangaki and Muwanga, 1999; Wakuloba, 2006). Out of Kshs. 4.35 million disbursed to the women groups about Kshs. 2.68 million have been recovered. The recovery rate was slightly above 50% since its inception in 2007, which is far below the minimum target of 70% and above. There is a general fear that, if the issues affecting the repayment of the revolving funds are not tackled substantially, its sustainability will be hard to get hold of.

1.3 Objective of the Study

To examine the implication of socio-economic functions of groups to government revolving funds sustainability in Murang'a County, Kenya. **1.4. Research Hypothesis**

H_{02}: There is no relationship between the socio-economic functions of groups to government revolving funds sustainability in Murang'a County, Kenya

II. Theoretical Literature

The study was guided by the following theories

2.1. Vita Theory

The vita theory of the personal income distribution was also observed; it states as postulated by Canterbury (1997) that, individual specific functions on income is attributed to the theory of income distribution, which stipulates that personal income differentials are attributed to education, experience, training, dual labour, race, gender and religion. In this research, the implication of income from personal initiatives as a result of education and training was sought which found no statistical significance on education to revolving fund borrowing and loan repayment

2.2. Four Capital Model Theory of Sustainability

University of Melbourne report (2011) on capital model of sustainability theory argues that, there are generally four different types of capital in each society. They are namely, Human, Financial, Environmental and Manufactured capital. To create and maintain the sustainability in the society, the four capitals mentioned above must be balanced in the society. As an example, too much attention to human or manufactured capital may affect the environmental sustainability. This model put all the capitals next to each other and sustainability cannot be achieved without maintaining a balance among them. In this study, variables were put next to the other to ensure loan is repaid and is sustainable for others to borrow.

2.3. Empirical Literature

The study considered the following empirical literature

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2.3.1. Sustainability of the Revolving Funds

Sustainability relates to the ability of a programmer to continuously maintain its activities and services to meet its objectives. For revolving fund operation to be effective and successful there should be sustainability (Jamal, 2003). Study by Desta (2009) postulates that, the issue of revolving fund sustainability has been receiving high attention recently as revolving fund lenders try to reduce poverty in developing economies. The challenge noted by the Desta (2009) was lack of evaluation and mapping out the progress made by beneficiaries of revolving fund towards sustainability, so that, decision-makers could be able to monitor and evaluate effectiveness of the program, and adjust accordingly.

2.3.2. Socio-Economic Function of Groups and Revolving fund Loan Sustainability

Efforts by the Government of Kenya to address socio-economic problems over the years have not been a success. The available data according to Ghada et al., (2010), revealed that over 46 per cent of the Kenyan population are absolutely poor. Poverty in the urban areas is growing fast, and still remains overwhelmingly a rural phenomenon (Development Planning, Republic of Kenya, 2007). Three quarters of the Kenyan poor are found in the rural areas while the majority of the urban poor live in slums and peri-urban settlements (Republic of Kenya, 2004).

Mutua and Oyugi (2007) indicated that, about 73 per cent of the population of developing countries live in the rural areas, compared with only 33 per cent in developed economies. The poor attribute their poverty to a number of factors including: unemployment, lack of assets, lack of credit, inaccessible markets, corruption, poor health, illiteracy, insecurity and economic shocks. Poverty, according to the study above, is a multidimensional phenomenon that goes beyond the lack of incomes. This multi-dimensionality makes the poor vulnerable to multiple factors arising from the interactions of economic, political and social processes.

2.3.3. Livestock Income and Loan Repayment

Walker, Tschirley and Pequenino (2002) note that, the more level of education, the higher the income in Mozambique. The positive effects on income sources are most outstanding in small-business, self-employment and in non-agricultural wage employment. More educated household heads are remarkably less likely to engage in and earn reward from extractive self-employment activities and from agricultural wage employment. Walker et al., (2002) found that the more the education one possessed, the higher they dash away from blue-collar activities for generation of income. The study did not find the significance of crop and livestock income to the level of education, thus suggesting a technological stagnancy of agriculture, where increased capacity to process information from education is not a demonstrable advantage. Nevertheless, simulation of an improvement in the educational level of household heads has a major influence on poverty reduction.

2.3.3. Land Size and Income and Loan Repayment

Kibaara (2006) postulate that, even though high and sustainable economic growth in Kenya rural financial services is central to poverty reduction, studies done earlier, reveal that promotion of efficient, sustainable and widely accessible rural financial services (rural micro-lending) is key to achieving pro-poor growth and poverty reduction goals. This is because access to financial services plays a critical role in helping the poor widen their economic opportunities, increase their asset base and diminish their vulnerability to external shocks. However, most formal financial institutions do not serve the poor because of several challenges, notably: low effective demand/dispersed demand, high transaction and information costs, high levels of unmitigated risks and lack of

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power to command resources. The poor are disadvantaged in accessing productive resources such as land, credit and services and are vulnerable towards external economic shocks and natural disasters.

Kimani and Musungu (2010) observe that, rural plan policies for development in Kenya should be properly implemented. The study came-up with the following government policies that were voiced at the time, in the eve of independence in Kenya; land registration and consolidation to enable farmers to use their land as collateral for credits, training of farmers on modern farming techniques, provision of quality seeds and fertilizers, agricultural extension services, marketing arrangements and better communication and infrastructure establishment to enhance farmers to sell their surplus produce. The government was to provide incentives for modernizing the traditional farming societies, and ensure all farmers take their children to school and family treated in health centers and hospitals. The government also was to ensure that farmers were given reasonable terms for credit. The study noted that, if revolving funds to agriculture are subsidized and interest rates lowered without lowering interest rates for non-agricultural funds, two effects would occur. First, 'an agricultural illusion' will be observed as other borrowers take advantage of the cheap funds and apply for agricultural loans, thereby increasing the demand (demand illusion) for agricultural loans. The availability of money allows credit to be ostensibly acquired for agricultural purposes but diverted to either consumption or non-agricultural activities or to more profitable investment. Second, a concessionary income transfer would occur and add to the skewed transfer of resources.

2.3.4. Crop Income and Loan Repayment

World Bank (2004) notes that, the rural areas lack legal environments enabling a sound development of the financial system. In more concrete terms, land tenure and property rights are frequently unclear in some areas and their administration is slow and inefficient. Law enforcement is costly and slow, and the court system lacks transparency and efficiency in Kenya. Any measures aimed to improve the above aspects will help promote rural financial systems. A land case in Kenya and issuance of title deeds takes ages before being addressed and is a great concern at the moment, affecting access to finances. Every country regulates its formal financial sector through state laws and regulations and hence in order to accommodate a well-functioning financial sector, a country's legal and regulatory framework should be clear, transparent, promote competition among institutions. Given the particular difficulties of financial institutions operating in rural areas, laws and regulations should be designed to foster the development of rural financial institutions and services and to ensure rural dwellers are not excluded from the formal banking sector.

2.3.5. Other Source of Income and Loan Repayment

Mahajan and Ramola (1996) observe that, analysis of household perceptions of changes in their wellbeing over the past years provides regular results with the analysis of income determinants and severity of poverty. The study notes that, women-headed households are significantly disadvantaged in income compared to households headed by men. This finding applies particularly to widow-headed households who have less income than male-headed households, representing the combined effect of significantly lower income from crop production, livestock sales, resource extraction and non-agricultural wage earnings. Older household heads have lower income from off-farm sources, but higher levels of remittance income. The study found that, household asset base plays a crucial role in household income. Both land area owned and number of fields are positively associated with sources of income. According to the study above, geographical location, infrastructure potentially affects household income-earning opportunities and there is a positive correlation between infrastructure and off-farm income opportunities. Those

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villages that were settled after independence had higher household incomes than older villages. The older villages were associated with more poverty than the up-coming villages.

The presence of very young children according to Mahajan and Ramola (1996) was related with a small but statistically significant decline in household income. Older children were characterized by a small, but statistically significant improvement in income prospects. Adding a man to the household was correlated with a significantly greater gain in income than adding a woman to the household. Simulation of adding a young child to the family has a big effect on the severity of poverty and influencing loan repayment.

Table 2.1: Summary of Literature Review and Gaps

Study by	Title	Findings	Knowledge gap	Focus on proposed study
Njiru, (2010)	Loan defaulter crisis in Kenya	Client will be motivated to continue paying the loan if the interest rate is low	Higher penalties in case of default	Prosecution of loan defaulters
Mishikin & Eakins (2007)	Financial institutions and market in United States of America	The higher the interest rate, the greater is the amount for future consumption	Change in consumer behaviour resulting to thrift	Increase in personal savings resulting from a shift in attitude concerning thrift
Muhamma d (2011)	Cost structure and sustainability in micro-finance institutions in Bangladesh	Borrowers are very canning and a lot of lying taking place	How to deal with borrowers that are liars	Finding ways to reduce cheating by group members
Walker, Tschirley &	Determinants of rural income, poverty, in	Neither crop nor livestock income sources are significantly	Technologically stagnant agriculture	Ensure knowledge acquired in school is reflected in group dynamics and activities
Pequenino (2004)	Mozambique	associated with the level of schooling	where increased capacity to process information from schooling is not a Demonstrable advantage.	
Mahajan & Ramola (1996)	Empowerment of women through micro-finance in India	-Women-headed households are significantly Disadvantaged in income compared to households headed by men.	Agricultural extension had no measurable impact on either net crop income or livestock	Analysis of farm and of the farm income in determining loan repayment and sustainability

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		-Older household heads have lower income from off- farm sources	sales	
Mahajan & Ramola, (2006)	Financial services for the rural poor woman in India	-Governments in most developing countries have been hostile to moneylenders	-Government initiatives perceived as usurious and exploitative	Survival of money lenders in the surroundings
Kibaara (2006)	Rural finance services in Kenya	-Poor road network increases transaction costs -Lack of proper policy framework to spur the growth of rural financial services	Lack of proper policy framework to spur the growth of rural financial services	Need to ensure necessary management skills in community associations

Source; Researcher (2013)

2.6. Conceptual Framework

Based on the preceding literature review and discussion, the systematic Diagram figure 2.2 was developed to show the relationship between the independent, moderating and dependent variables. A discussion on how each of the variables was operationalized is given below:

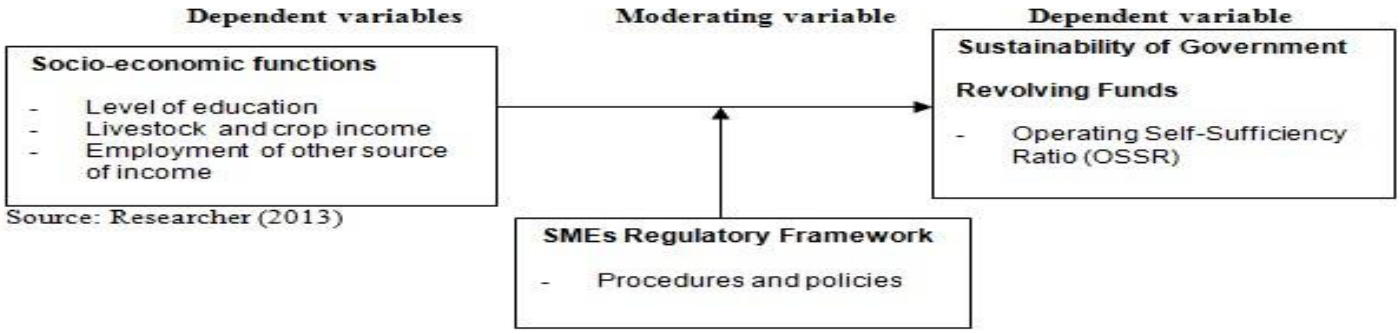

Figure 2.2 Schematic diagram

The dependent variable was measured by finding the amount received by revolving fund institutions, and compared with the total costs to the institutions to determine the operating self-sufficiency ratio (OSSR).

The socio-economic functions were measured by checking the presence of group income- generating activity, level of education, presence of livestock income, land size if any, crop income available and off- the firm income if any. In this case, the income variation was measured by finding out the daily and monthly income exposed to individuals in different group members.

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Research Methodology

3.1. Research Philosophy

The study adopted a positivism research philosophy which is an epistemological position that advocates an observable social reality that allows replication and end product that can be generalized elsewhere (Saunders, Lewis & Thornhill, 2009).

3.2. Research Design

The study adopted a cross-sectional descriptive survey research design. The design was chosen because it ensured complete description of the situation, making sure that there is minimum bias in the collection of data and allowed data collection from sizeable population in an economical way (Cooper & Schindler, 2008).

3.3. The Empirical Model

Discrete regression models like the probity, discriminant and logit models as indicated by Gemma (2014) are ideal to use when the dependent variable is of a binary choice. Generally, any of the three models can be used as they tend to generate more or less similar results. The choice of any of the model is a matter of convenience. This study employed the logit model to examine the sustainability or (non-sustainability) of government revolving funds as a matter of personal preference. The following logit model was adopted as suggested by Gemma (2014)

$$Pr(Yi = 1|Xi) = f(\beta 0 + \beta i\ Xi + \varepsilon i) \text{ ---------- (3.1)}$$

This outcome has more than one independent variable. The outcome of the logistic regression will be 0 or 1, where 1 indicates that the outcome of interest is present, and 0 indicates the outcome is absent. Logistic regression generates the coefficients and standard errors and significant levels of a formula to predict a logit transformation of the probability of presence of the characteristic of interest. The logit model estimates the probability of dependent variable to be 1(Y=1). This is the probability that some events have happened. Both logit and probit models are preferred because they help in overcoming weaknesses inherent in linear probability models such as heteroskedasticity and linearity problems (Muathe, 2010).

To measure the studies main objective; to examine the implication of socio-economic functions to revolving fund loan sustainability (X1); the multiple logistic regression model was applied as modelled by Gemma (2014):

$Pr(Y) = \beta_0 + \beta_1 X1 + \varepsilon i$ ---------- (3.2)

Where Pr is the probability of presence of the characteristics of interest,

Y is the level sustainability of government revolving fund,

β_j is a multiple (partial) regression coefficient ie the expected change in Xi assuming other X's are entirely held constant,

X1 = Socio-economic functions,

εi = Error term.

3.4. Measurement and Operationalization of Variables

The explanatory variables included in the model are described and categorized into loan operation procedures, socio-economic functions, borrower characteristics and extent of use of technology. They are operationalized and hypothesized to influence government revolving fund repayment and sustainability in a certain direction greater than or less than 1 as shown in Table 3.1

Table 3.1: Operationalization and Measurement of Variables

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Category	Variable	Operationalization	Measurement	Hypothesized direction of predictor
Dependent variable	Micro- credit sustainability (Y)	Amount recovered or un-recovered over the Financial costs or expenses	Dummy variable based on actual data. If 1= government micro- credit initiative is otherwise 0 (two and below)	Positive
Predictor				
Socioeconomic functions	Livestock and crop income (X5)	Number of and livestock acres number of land and registration	Sum of management judgment on 1-5 scale	Positive
	Employment and other source of income (X6)	Income from other sources	Sum of management judgment on 1-5 scale	Positive

Source: Researcher (2013)

3.5 Target population

The target population was 1,520 respondents which include 1504 groups and 16 constituency credit officers or fund managers from the socio-economic women and youth groups, dealing with government funded revolving fund found in the county as per the youth enterprise board (2013) and the Women Enterprise Board (2013).

Table 3.2: Distribution of the Population

STRATA Sub-counties in Murang'a County	**WEF groups Year 2013**	**YEDF groups Year 2013**	**Total (N)**	**Percentage the of total**
Gatanga	253	100	353	23%
Kandara	151	100	251	16.5%
Murang'a South	62	77	139	9.14%
Kigumo	42	67	109	7.17%
Mathioya	137	91	228	15%
Kiharu	79	40	119	7.8%
Kahuro	78	40	118	7.76%
Kangema	116	71	187	12.3%
Constituency credit officers	8	8	16	1.05
Total	**926**	**594**	**1520**	**100**

Source: Researcher (2013)

Table 3.2 shows the WEF and YEDF groups that are registered with the ministry of culture and youth services in Murang'a County. The county has been sub-divided into 8 sub-counties out of which 7 constituencies have been

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curved. Kiharu Constituency serves both Kiharu and Kahuro sub-counties. Results from the table 3.2 indicate that most groups for both WEF and YEDF were found in Gatanga Sub-county with 23% of the groups respectively. Kigumo and Kahuro Sub-counties had the lowest number of groups with 7.17% and 7.76% respectively.

3.6. Sampling Design and Procedure

Clustering of the entire county into eight sub-counties and then applying a Simple Random Sampling technique to select a sample size of 307 respondents, which included 291 groups and 16 constituency loan officers was done. From every group sampled, one executive official was sampled using simple random sampling. In addition, a census of 16 constituency loan officers which entitled 8 constituency loan officers or the YEDF and 8 constituency loan officers for WEF were interviewed. This, in total accounted for 19.5% of the total population.

Mugenda and Mugenda (2003) formula to determine the sample size is given below:

$n = Z2 * P(1-P)$ ---------- (i) $d2$

Where n was the desired sample size

Z = z values e.g (1.96 for 95% confidence interval)

P = percentage picking a choice expressed as decimal (0.5 used for sample size needed)

d = level of statistical significance set (0.05)

n= sample size

Sample size (n) = (1.96)2 * 0.5*(1-0.5) = 384 (0.05)2

$nf = \frac{n}{1 + (n)/N}$ ---------- (ii)

Where nf = the desired sample size (when the population size is less than 10,000)

n= the desired sample size (n = 384) (when the population is more than 10,000)

N = the estimate of the population size (N = 1502)

Sample size (nf) = 384 = 307 1 + (384)/ 1520

Saunders, Lewis & Thornhill (2009) note that, a sample size of 10% and above are counted to be ideal to represent the entire population. A sample size of 19.5% for this study would be even be better and help to check any type I or type II error that may arise. Table 3.3 below shows the sampling strategy that was undertaken to arrive at the required respondents.

Table 3.3: Sample Determination

STRATA Sub-counties in the County	**Total WEF and YEDF groups in Murang'a county (N)**	**Weighting from the total number of groups**	**Sampling rate**	**Sampled WEF and YEDF per sub-county**
Gatanga	353	23%	**19.5%**	69
Kandara	251	16.5%	**19.5%**	50
Murang'a South	139	9.14%	**19.5%**	27
Kigumo	109	7.17%	**19.5%**	21
Mathioya	228	15%	**19.5%**	44
Kiharu	119	7.8%	**19.5%**	23
Kahuro	118	7.76%	**19.5%**	23

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Kangema	187	12.3%	**19.5%**	36
Constituency loan officers	16	1.05	**100%**	16
Total	**1520**	**100**		**307**

Source; Researcher (2013)

Table 3.3 shows the sampling procedure to arrive at the number of respondents. Probability sampling technique where the chance or probability is known and is usually equal to all cases was applied, Sauders et al., (2007). After adding the WEF and YEDF together, a common rate of 19.5% per constituency was applied. To arrive at 307 respondents, 100% of the constituency loan officers were also included in the sample.

3.7. Data Collection Instruments

Data was collected using structured questionnaires that were administered with the help of research assistants (Appendix 3). Questionnaires had open and closed ended questions which were administered on drop and pick mode. Likert scale questions describing opinions on issues were used. Questionnaires as advocated by Mugenda & Mugenda (2003), are appropriate for research studies since they collect information that was not directly observable. The questionnaires were filled by individual chairman/treasurer/secretary in the youth groups and the women groups who rely on government revolving funding. An interview schedule (appendix 4) was administered to the constituency loan officers to investigate the procedures and policies in place among other issues. The items included in the initial objective was the socio-economic functions; the items included were level of education, level of livestock and crop income and information of other sources of income.

3.8. Validity and Reliability of Instruments

3.8.1. Validity

Validity is the degree to which results obtained from the analysis of the data actually represent the phenomena under study (Mugenda & Mugenda, 2003). It measures the meaningfulness and technical soundness of the research. To ensure validity, the content of the questions constructed were made to be related in line to the revolving fund industry. The respondents were needed to be familiar with the terms to be used in the questionnaire.

3.8.2. Reliability The Cronbach's alpha was used to estimate internal consistency reliability by determining how the instruments relate to each other in terms of question content, wording sequence form and layout during the pilot study and the actual study (Muathe, 2010). The questionnaires were tested on a sample of 4 respondents each from the different cluster using the simple random sampling approach. The pilot study sample however did not participate in the main study. It has been suggested by Zaiontaz (2013) that reliability of 0.7 is enough to predict tests or hypothesize measures of a construct. According to the study, it is recommended that a minimum of 0.7 for explanatory will work and a standard reliability of 0.90 for advanced practice should be applied. At times, if the Cronbach's alpha value is above 0.50, as indicated by the Zaiontaz (2013), it's regarded as an indication of reliability. In this study, 0.5 was used to indicate reliability of instruments and the results for all items are summarized in Table 3.4 which was satisfactory.

Table 3. 4. Reliability Statistics

Factor	Variable	Number of items	Reliability
Socio- economic factors	Livestock and crop income	14	0.6
	Employment other source of income	7	0.803

Source: Pilot Study data (2014)

3.9 Data Collection Procedure

Primary data collection processes involved obtaining a clearance certificate from the Ministry of Education, Science and Technology to conduct the research (Appendix 2) and a research permit (Appendix 2). It was also necessary to obtain consent from the Constituency loan officers before conducting the survey. Primary data was collected by the researcher and the research assistants who went around all the sub-counties in Murang'a County. Questionnaires used were closed and open-ended questions that enabled the researcher to collect quantitative data, while open-ended questions enabled the researcher to collect qualitative data. The quantitative data were necessary to guarantee a generalization of results and to statistically test the research model. The qualitative data was necessary to provide realistic explanations for quantitative data (Mugenda & Mugenda, 2003). Interview schedules with the constituency loan officers were done from April 15th to May 20th 2014.

Questions were selected and phrased in ways that resulted in people providing accurate information. The questions were read to the respondents and answers recorded by the interviewer especially the illiterate respondents who comprised a sizeable number. Those who were able to fill the questionnaires without assistance requested for more time to fill the questionnaires in full. The respondents were given three weeks to complete the questionnaires at their convenient time, but not all were able to fill all the questions in full. Some questionnaires accounting to 14.4% were not filled at all. The respondents were expected to provide data voluntarily and confidentiality of the information was assured by the researcher. Four days before the deadline date, the respondents were reminded to complete filling the questionnaires via mobile phones by the research assistants. The interviews were conducted to 10 constituency loan officers out of 16, through face-to-face partly by the research assistants and by the researcher. This approach allowed the researcher to clarify doubts to ensure that questions were clearly understood by the respondents. Secondary data were collected using documented guideline where financial information related to the loans was collected.

3.10. Data Analysis

Several methods were adopted in this study in order to describe, illustrate and analyze data statistically. Descriptive survey data were summarized in tables and figures. Descriptive statistics allowed the researcher to digest and understand large quantities of data and effectively communicate to users the research study purpose (Cooper & Schindler, 2006). Content analysis by finding themes, patterns and relationships derived from structured interviews and observations was applied to analyze qualitative data. All the independent variables had an accompaniment of a number of factors which were combined and averaged to find the composite index (Appendix 7).

For empirical analysis of the study and for drawing inferences from population sample, bivariate analysis, that is the test of differences or measure of association between two variables at a time was applied. It employs the Pearson Correlation Coefficient which is a measure of the magnitude and direction of the linear relationship between two variables. The value of the correlation ranges from -1 to 1, where the sign of correlation coefficient indicates the direction of the relationship, (Mugenda and Mugenda, 2003). The absolute values of the correlation coefficient indicated the strength, with larger absolute values indicating stronger relationships. Significance of the variables was tested at (sig level of 0.05). The significance of each correlation is also displayed in the correlation tables. If the significance level is very small (less than 0.05) then, the correlation is significant and the

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two variables are linearly related. If the correlation is (more than 0.05) then, the correlation is not significant and the two variables are not linearly related. Logit regression model was also applied to test the extent to which the independent variables predicted the sustainability of government revolving funds.

The overall fit of the model was tested using the log-likelihood and associated chi-square statistics. The contribution of each predictor variable was tested using Wald statistics. Similarly, the open-ended questions were analyzed through content analysis (ANOVA) where the researcher grouped common themes and drew inferences from the findings. Cooper and Schinder (2003) note that content analysis helps to bring issues into the forefront that would not have otherwise been captured through the use of structured questions in the questionnaire.

Table 3.5: Summary of Data Analysis Techniques

Research objectives	**Relevant question from the questionnaire**	**Level of data**	**Proposed analysis technique**	
			Analysis	**Hypothesis**
Socioeconomic functions	Livestock and crop income	Ratio	Mean and standard deviation	logit analysis,
	Employment and other sources of income	Ratio	Mean, Kurtosis	

Source: Survey data (2013)

IV. Research Finding and Discussions

4. 1. Highest Level of Education of Respondents

This study sought to investigate the highest level of education attained by majority of the group members.

Table 4.1: Respondent's Level of Education

Classification factor		**Frequency**	**Percent**
Highest level of education	Diploma	65	24.9
	Degree	42	16.1
	post graduate	10	3.8
	Others	144	55.2
	Total	**261**	**100.0**

Source: Survey data (2014)

From the Table 4.1, the level of education of most respondents amounting to (55.2%) indicated that their members had attained other forms of education (majority being form four and standard eight graduates). About (24.9%) of the group members had attained diploma level of education. The study found that (16.1%) and (3.8%) of the group members had attained degree and post-graduate levels of education respectively. This implied that majority groups are made up of persons who have not attained beyond O-level certificate. The results support Walker, Tschirley & Pequenino (2002) on determinants of rural income. The results note the need to ensure knowledge acquired in school is reflected in group dynamics and activities, which is currently lacking. Low involvement of graduate with above O-level of education, indicate little use of education to group dynamics and activities.

4. 2. Respondent's Period of Membership, Age Bracket of Members

This study sought to investigate the respondent's period of membership and age bracket of the group members.

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Table 4.2: Group Period of membership and Age Bracket

Classification factor		Frequency	Percent
Period of years as a member	< 1 year	60	23
	1-3 years	110	42.1
	3-7 years	76	29.1
	8- 10 years	12	46
	Above 10 years	3	1.1
	Total	**261**	**100**
Age bracket of group members	Age 15-25	34	13.0
	Age 26-35	99	37.9
	Age 36-45	100	38.3
	Above 45	23	8.8
	Total	**261**	**100**

Source: Survey data (2014)

Results from Table 4.2 show that (42.1%) of the respondents period of membership was for a period between (1-3) years, (29.1%) of the respondents indicated that they had been members of the groups between (3-7). This implied that the majority of the respondents had been members of YEDF and WEF respectively for relatively a long period and were in a position of offering credible information on sustainability of government revolving funds initiatives. The age of the group members was crucial, it was found that (38.3%) of the group members indicated that they were aged between (36-45) years, (37.9%) of the group members were aged between (26-35) years of age, (13.0%) of the of the group members were aged between (15-25) years, (8.8%) of the group members were aged above 45 years. The result suggests that age holds positive relationship to group formation and involvement in group affairs, while the minority and the old aged participating less.

4. 3. Relationship of Age and Children Number on Loan Repayment

This study sought to investigate the influence on age, marital status and number of children in determining the credit repayment.

Table 4.3: Influence on Age and Number of Children on Loan Repayment

Classification factor		Frequency	Percent
Members that are single are able to repay their loans promptly	not at all	95	**36.4**
	low extent	6	2.3
	moderate extent	63	24.1
	great extent	17	6.5
	very great extent	79	30.3
	Total	**261**	**100.0**
Members with young children and few in number are more committed to repay their loans	not at all	146	55.9
	low extent	14	5.4
	moderate extent	57	21.8
	great extent	26	10.0

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	very great extent	17	6.5
	Total	**261**	**100.0**
Members medium aged children and medium number are more committed to their loan repayment	strongly disagree	140	53.6
	disagree	19	7.3
	neutral	47	18.0
	agree	30	11.5
	strongly agree	24	9.2
	Total	261	100.0
Members with aged children and high number are committed to their loan repayment	strongly disagree	121	45.1
	disagree	5	1.9
	neutral	31	11.6
	agree	41	15.3
	strongly agree	63	23.5
	Total	**261**	**100.0**

Source: Survey data (2014)

Results from Table 4.3 show that (36.4%) of the respondents believed that there was no relationship between marital status and revolving fund repayment. Likewise, (55.9%) of the respondents indicated that the youthfulness of parents has no relationship to revolving fund repayment. Other (53.6%) of the respondents indicated there is no relation being a medium aged parent and loan repayment. Some (45.1%) of the respondents indicated there is no relationship between the aged members' children effect on loan repayment, such that the children assist their parents in repaying loans. This finding does not support Mahajan & Ronola (1996) in their study on empowerment of women through micro-finance in India. It was observed that a positive relationship between the age of children and income existed. Older children were observed to help to contribute to family income which in turn improved loan repayment. Adding an extra young child was associated with extension of severity of poverty that influenced repayments.

4.4. Earnings and Repayment

The respondents were requested to indicate who among the members repay their loans promptly based on their monthly earnings.

Table 4.4: Earnings and Loan Repayment

Classification factor		Frequency	Percent
Group members earnings and loan repayment	(Ksh0-3000)	69	26.4
	(Ksh 3001-5000)	71	**27.2**
	(Ksh 5001-10000)	66	25.3
	(Ksh 10001-20000)	28	10.7
	(Above Ksh 20,000)	27	10.3
	Total	**261**	**100**

Source: Survey data (2014)

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Results from Table 4.4, shows that a good number of the respondents (27.2%) indicated that those group members that earn between (Kshs 3001-5000) are the best in repaying their revolving fund loans as they try to get higher amount in the next round. This finding does not support Mahajan & Ronola (1996) on empowerment of women through micro-finance in India. The study found higher income earning farmers to be more likely to repay their loans promptly.

4.5. Socio-Economic Functions of Groups Effects to Revolving fund Loan Repayment

The study sought to examine the implication of socio-economic functions to revolving fund loan sustainability in Murang'a County, Kenya. First, the respondents were asked to indicate the sources of income for most of the group members and on average the amount they received from the source monthly. The respondents were also required to rank the source in oder of importance. The results are indicated on Table 4.5 below:

Table 4.5: Socio-Economic Functions Effect to Loan Repayment and Sustainability

Sources of income			**Average income received per month**			**Ranking**	
	Frequency	%	Income	Frequency	%	Frequency	%
Crop income	35	13.4	Between (1000 – 4000)	50	19.2	41	15.7
Self-employment	35	13.4	Between (5000- 8000)	68	26.1	34	13
Livestock income	33	12.6*	between (9000- 14000)	80	30.7	31	11.9
Wage- income	61	23.4	Between (15000-19000)	23	8.8	58	22.2
Business income	97*	37.2	Above 20,000	6	2.3	83	31.8*
Total	261	100	Non respondents	33	12.6	14	5.4

Source: Survey data (2014)

Results on Table 4.5 show that a good number of respondents (37.2%), had business as the source of their income. Livestock income was the least source, according to the (12.6%) of the respondents and crop income had (13.4%) of the respondents. The average income received by most members in the groups reported to be (between 9,000 and 14,000) accounting to 30.7% of the respondents. On ranking of the most important source of business income was ranked the most significant source of income accounting to 31.8%. The results was in agreement with a study by Walker, Tschirley & Pequenino (2004) on determinants of rural income, poverty, in Mozambique who indicated that positive effects on income sources are most pronounced in small businesses, self-employment and in agricultural activities.

4.5.1. Influence Land Tenure, Acreage and Registration to Monthly Land Income

The study intended to determine the extent to which land tenure system and registration influence the average income from land per month. The results are as indicated in Table 4.15 below:

Table 4.6 Relationship of Land Tenure, Acreage and Registration to Monthly Land Income and Loan Repayment

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Size of Land			Land tenure			Average income from land per month			Registration title		
Category	F	%	Category	F	%	Category	F	%	Category	F	%
Less than 1 acre	167	64.00	Self owned	192	73.08	Between 2,000 - 5,000	198	75.90	Land registered	120	46.0
Between 1- 2 acre	38	14.60	Rented	4	1.50	Between 6,000 - 8,000	5	1.90	Land not registered	12	4.6
Between 3 and 4 acres and above	1	0.4	Rented out	2	0.8	Between 9,000 - 12,000	5	1.90	N/A	126	48.3
Non -respondents	50	19.20	Communal	6	2.30	Not applicable	53	20.30	4	3	1.1
			Not applicable	51	19.60	Total	261	100.00	Total	261	100.0
Total	261	100.0		261	100.00						

Source: Survey data (2014)

Results on Table 4.6 show that most of the respondents (64%) had land that was less than one acre and was self-owned accounting to (73%). Group members use their own farms for farming. Only (0.8%) of the respondents have rented land for farming. Most (75.9%) of the respondents indicated that they are able to earn between (Kshs 2,000 – Kshs 5,000) from farming per month indicating that most of them are subsistence farmers. A large amount of land in the county according to the respondents (46.0%) are registered and have title deeds. The results support Mahajan & Romola (1996) who argue that both land area owned and number of fields are positively associated with source of income.

4.5.2. Extent of Socio-economic Functions to Determine Revolving Fund Loan Repayment

The respondents were requested to indicate the extent to which size of the farm, land registration, and other influence revolving fund loan repayment. Table 4.7 shows results from the responses.

Table 4.7: Extent of Social-Economic functions to Loan Repayment

Category	N	Mean	Std. Deviation	Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error
Size of the farm determine micro credit repayment	261	3.95	1.142	.305	.300
Land registration is vital for security and has been used as collateral by most group members	261	3.89	1.218	-.595	.300
Distance of the revolving fund institutions has effect on borrowing and repayment	261	3.85	1.400	-.655	.300
The more the frequency the visit by group members, the better for information on loan repayment	261	4.36	.863	2.601	.300
It's important to know other group members. It helps to build cohesiveness that has effect to loan repayment	261	4.38	.830	2.575	.300
The continuity in a group determines the level of loan repayment	261	4.39*	.855*	2.989*	.300

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Time of maturity of investment determines the repayment and sustainability	261	4.23	1.050	2.904	.300
Valid N (list wise)	261				

Source: Survey data (2014)

Results on Table 4.7, show that most of the respondents (Mean = 4.39) with (Stdv = 0.855) and (Kurtosis = 2.989) indicate continuity in a group determines the level of repayment and loan sustainability. The findings also found a positive significance between the size of the farm to revolving fund repayment (Mean = 3.95). The results support Kimani and Musungu (2010) who argue that rural plan policies for development should be properly implemented. The study raised need of land registration and consolidation to enable farmers to use their land as collateral for credits and training of farmers on modern farming techniques.

4.6. Hypothesis Testing

The previous results had presented descriptive statistics on government revolving fund repayment and sustainability however, to draw inferences about the population on the basis of the sample, there was need to empirically analyse data using the Pearson correlation coefficient. The correlation of the five variables was as provided in table 4.8

Table 4.8: Correlation Analysis of the Variables under Study

Correlations			
		Level of sustainability	Loaning operation procedure
Level of loan sustainability	Pearson Correlation	1	.622
	Sig. (2-tailed)		.024
	N	261	261
Loaning operation procedure	Pearson Correlation	.622	1
	Sig. (2-tailed)	.024	
	N	261	261

From the table 4.8, the Pearson correlation coefficient for socio-economic functions and level of sustainability was (0.511) and for borrower characteristics to level of sustainability was (0.649) and both had a significance level (<0.05). This implied that there is a strong relationship between socio-economic functions and borrower characteristics to level of loan sustainability.

4.7. Measuring of the Multiple Logit Regression Models

The hypothesis that the study sought to test is addressed in this section. To examine the implication socio-economic functions (H1) to sustainability of government revolving funds. Before the variables were analysed, various factors accompanying each variable were combined and averaged. Binary logit regression model was considered appropriate due to the nature of the study because the situation would have to occur or otherwise. The outcome was to be either 0 or 1, where 1 indicates that the outcome of interest is present, and 0 indicates the outcome is absent.

The following was the logit model that was tested (Equation 4.1);

Pr (Yi) = □ 0 + □1 X1 + εi ---------- (4.1) Where yi □0 or 1 and E (□i) □0.

yi □1 if y*□1 (Sustainable index is "high enough" that is, able to Cover operating costs, loan losses and interest and other adjustment expenses).

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$y^i = 0$ if $y^* \leq 1$ (Sustainable index is not "high enough" to cover operating cost loan losses and interest and other adjustment expenses)

The Table 4.31 below indicates the logit regression results after the variables were run on an SPSS statistical package.

Table 4.9: Parameter Estimate of Logit Model

Loan sustainability		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I.for EXP(B)	
								Lower	Upper
Step 1a	Loan operation procedure	-.018	.292	.004	1	**.048**	.982	.554	1.741
	Socio-economic functions	**-.838**	**.264**	**10.064**	**1**	**.002**	**.432**	**.258**	**.726**
	Borrower characteristic	-.965	.341	8.005	1	**.005**	.381	.195	.743
	Use of technology	-.519	.285	3.317	1	**.069**	.595	.340	1.040
	Constant	1.618	.230	49.475	1	**.000**	5.04		
	Chi-square	22.761				**0.000**			
	Predicted overall performance	73.4*							
	-2log likelihood	344.29							
	Negelkerke R^2	0.402							

Source: Survey data (2014)

The regression results of the logit model in Table 4.9 are reflected by the regression coefficient standard errors t- values, Wald statistics and p-value. The logit model generates a chi-square value of 22.761 and p-value of 0.000 which was statistically significant because the p= value was less than∞ = (0.05). The results indicated that socio-economic functions had a significant level of 0.02 < 0.05, This called for the rejection of the null hypothesis and the alternative (HA1) was adopted for the hypothesis that; there is a relationship between groups' socio-economic functions to government revolving fund sustainability in Murang'a County.

Results on socio-economic functions (Mahajan & Romola, 1996; Kibaara, 2006; World bank, 2004; Walker et al., 2002) indicates land area owned and number of fields, geographical location and infrastructure potential, land registration and consolidation, improved land tenure and property rights have a statistically significance relationship between loan repayment and sustainability respectively. The study did not find a statistical significant relationship between the level of education and the loan repayment and sustainability. In fact, most of the group members were below "O" level certificate of education.

Table 4.10: Summary of Hypothesis Testing

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Hypothesis	Construct	Result	Explanation
H2	There is no statistical significance between groups' social-economic functions to sustainability of revolving fund	Reject null hypothesis	Significant level 0.02 < 0.05

Source: Survey data (2014)

The summary of the hypothesis in Table 4.10 indicates the significance of the coefficients tested. The results showed that the socio-economic variable was significant and hence the null hypotheses were rejected and the alternative hypothesis took effect.

V. Summary, Conclusions and Recommendations

5.1. Summary

The key objective of the study intended to examine the implication of socio-economic functions of groups to government revolving funds sustainability in Murang'a County. The study derived descriptive statistics on livestock, crop income and income from other sources as factors influencing loan repayment and sustainability. The composite index was also established to come up with one variable to be input in both the Pearson correlation and the logit regression analysis. After the analysis, the results indicated significance of the variable in question. The null hypothesis was rejected and the alternative taken, which implied that there is a relationship between socio-economic functions of groups to government revolving funds sustainability in Murang'a County.

5.2. Conclusion

For implication of socio-economic functions namely; the level of education, age brackets of the group members, marital status of the group members, level of earnings of the members, size of the land, the main economic activity had either a positive or negative influence to revolving fund repayment and sustainability. Members with high education (post-graduates) were very few in most of the groups, majority being standard eight dropouts. Knowledge learnt in school was found not exhibited in groups' dynamics. Majority of the group members were in the age bracket of (36- 45) years, most of whom were women, the youths members (15-35); were few which is a great concern. The marital status in most groups did not have a positive relationship to loan repayment and those who earned fewer incomes were found to be better in repaying for their obligations. Business was found to be the main source of income to most of the group members most of which had parcels of land of less than 1 acre, and 46% of that land was not registered, affecting loan repayment. Informal lenders were found to be thriving due to their promising practice of providing quick loans and lacking of gender bias, which is prevalent with the government revolving funds institutions. The study concluded that, socio-economic functions have a significant relationship to government revolving funds sustainability.

5.3. Recommendations

It was found that most of the group members were standard 8 drop outs and few had attained form four-level of education showing a negative relationship between group membership and level of education. The highly educated individuals that have studied business in high school were lowly engaged in groups' affairs. Due to this unique circumstance, it is important to train the young individuals on how to run and own businesses at their early stage of life before they graduate from lower primary. A good number of the graduates at this level do not proceed to secondary school where business study as a subject is conducted. This subject, which was taught in the primary curriculum and used to provide basic knowledge on how to own and run a business was good but was stopped in

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the Kenyan Curriculum. Developers of the Curriculum should revise the earlier decision and revert the teaching of business subject to both primary schools and primary colleges.

The need of empowerment to both women and youths was voiced out. The respondents were not satisfied with the current situation. Graduates at different levels should be helped to secure jobs without so many restrictions. The tough requirements by many employers for recruitment should be adjusted. Different Counties in Kenya should find ways of making business environment conducive to all citizens. Removal/reduction of exploitive tariffs and by-laws that were introduced by most of the county governments immediately after inception for the business sector and stakeholders' involvement should be advocated.

Land ownership which is an issue should be addressed to ensure most members of the society own title deeds and land jurisdiction is effective in all regions. All lands acquired/demarcated in the past before the inception county administration in Kenya should be registered and owners provided with avenues to acquire title deeds before the new regulations proposed in the Kenya current constitution takes effect. Land resources that are already acquired should be protected from wastage and loss in value.

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