

# The Influence of Loan Rescheduling and Flexible Credit Limits on Poverty Reduction among Smallholder Farmers in Muthetheni Ward of Machakos County in Kenya

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## Abstract

The purpose of the study was to evaluate the influence of loan rescheduling and flexible credit limits on poverty reduction among smallholder farmers in Machakos County, Kenya. The study applied a descriptive cross-sectional survey design where structured questionnaires were utilized to collect quantitative data from households of Muthetheni Ward, Mwala Subcounty, Machakos County, Kenya. The study adopted random cluster sampling to select households that had taken an agricultural loan from microfinance institutions or development finance institutions in the preceding two years. Statistical package for social sciences (SPSS) was utilized to derive the regression model for the study. The study findings indicated that loan rescheduling had a significant positive influence on poverty reduction among smallholder farmers in Machakos County, Kenya ( $\beta = 0.611$ ,  $p < 0.05$ ). The findings however, indicated that flexible credit limits had no significant influence on poverty reduction among smallholder farmers in Machakos County, Kenya ( $\beta = 0.059$ ,  $p = 0.352$ ). The study recommends to microfinance and development finance institutions to offer a variety of flexible loan products to smallholder farmers that suit the farmer's needs and characteristics. Regarding loan rescheduling, microlenders should seek to balance between assisting the farmers to repay the loan and the risk inherent in any rescheduled loan.

**Keywords:** Loan rescheduling, Flexible credit limits, Poverty reduction.

## 1. INTRODUCTION

Poverty remains a significant challenge in the world today. According to the World Bank (2020), in 2019, around 734 million people or approximately 10% of the global population lived on \$1.90 or less in a day. This marks a notable progress from the 1.9 billion or 36% who lived on \$1.90 or less in a day in 1990. However, this progress is inadequate to meet the Sustainable Development Goals (SDG) number one which seeks to eradicate all forms of poverty by 2030 (United Nations Development Programme, 2020). Globally, most of the poor are, poorly educated, live in rural areas and are engaged in the agricultural sector (Aguilar & Sumner, 2019). The progress towards ending extreme poverty is slow which implies that there are challenges that hinder the progress.

Microfinance has been a critical tool for poverty reduction in the entire world by empowering people engaged in agricultural and non-agricultural occupations (Imai et al., 2010). However, as the aspirations

of millions of micro-loan recipients have evolved, the microfinance industry has not always evolved with them (Barboni, 2020). In most developing countries there has been a technological and economic transformation that has affected the needs and aspirations of microfinance clients. Weber and Musshoff (2013) observed that, as agribusiness and small entrepreneurs emerge, often lacking collateral, they require a more flexible approach to funding.

China is one of the greatest contributors towards ending poverty in the world by contributing to over 70 percent of poverty reduction globally (Weiping, 2018). The country has managed to lift over 500 million of its citizens out of extreme poverty from 1990 and thereby attaining SDG 1 by 2020 (Kakar, 2021). In India, Barboni (2020) noted that microfinance remains a key mechanism that could drive people from poverty, but borrowing microloans on a highly rigid repayment structure still remains. In South American countries of Brazil, Bolivia, Colombia and Peru, microfinance institutions have been mostly successful in poverty alleviation when they focus on tailoring microfinance programs to local social and political conditions (Jouben, 2020). For instance, in Brazil, providing prepayment holidays (grace period) enables borrowers to manage their finances during periods where there is a downturn in agricultural yields or below average revenues. In Bolivia and Colombia, borrowers used the flexible prepayments to capitalise on opportunities to earn above average revenues during periods of high demand, such as during the festival season (Sett, 2020).

Despite the decline in global extreme poverty, it is still persistently high in Africa. The most affected regions in the world are South Asia and Sub-Saharan Africa (World Bank, 2020). Among the 43 nations with the highest poverty levels globally, most of them are those affected by conflicts, fragile or in Sub-Saharan Africa (World Bank, 2020). Sub-Saharan Africa (SSA) has the highest percentage of people living in poverty with 41%, followed by South Asia (15.1%). Microfinance has been at the centre of poverty reduction initiatives in most African countries. In Nigeria, microfinance institutions are better placed to reduce poverty than the mainstream financial institutions due to their ability to provide loans with flexible terms which suit the needs of the poor households (Taiwo et al., 2014). In south Africa, though microfinance has expanded access to financial services to the poorer sections of the population, its effect in poverty alleviation remains minimal (Dzansi & Atiase, 2014). This is because most microfinance institutions do not adapt their services to the unique needs of their customers.

Despite the major poverty alleviation initiatives, poverty remains a major prevailing feature among many communities in Kenya with ever increasing economic and social effects in the country. The Kenya National Bureau of Statistics (KNBS) 2020 Comprehensive Poverty Report records that 15.9 million out of 44.2 million of the Kenyan population are poor (Government of Kenya, 2020). Besides, poverty is more prevalent in rural areas among farming households and in informal settlements in urban areas. In Machakos County, the Comprehensive Poverty Report indicated that 59.6% of the residents live in poverty (Government of Kenya, 2020). This is supported by a survey conducted by Machakos County Government in all its eight sub counties, which demonstrated that there are more than 60% of residents who are living in poverty in spite of the national and county government programs that have been established to end the causes of poverty (Machakos County Government, 2018). Reducing poverty has been a goal for international, national and local governmental and nongovernmental organizations in areas where poverty is prevalent. The current study sought to examine the influence of loan rescheduling and flexible credit limits on poverty reduction among smallholder farmers in Machakos County, Kenya.

Flexible loans are credit facilities that are tailored to address the unique needs of borrowers. The main features of flexible loans include flexible credit limits and loan rescheduling among others (Barboni, 2017). Loan rescheduling is when the lender allows for a renegotiation of the repayment period, waiver or reduction of interest rates and penalties (Ankrah et al., 2019). A financial institution can extend the repayment period for a borrower who is facing challenges in meeting the obligations of repayment (Odhiambo & Upadhyaya, 2020). Loan rescheduling is most common when the borrower requests the lender for rescheduling when they are unable to afford the payments or when they are unable to repay the loan on time. A flexible credit limit or line of credit allows the borrower to exceed their credit limits if the new loan meets certain conditions. This is a form of flexibility that allows the borrower to access finances to meet some emergency needs or worthwhile and extraordinary investments (Odhiambo & Upadhyaya, 2020). Though a financial institution sets the maximum it can lend to a certain borrower based on their credit history, the financial institution can relax this limit when the borrower is faced with extraordinary circumstances that need extra financing or when the borrower has an emergency that requires immediate cash outlay (Czura et al., 2020). However, most financial institutions set some restrictions on such loans that exceed the borrower's credit limit.

In various jurisdictions smallholder farmers play a key role in employment, food security, driving economic progress and alleviating poverty (Mutero et al., 2016). Smallholder farmers, ironically, continue to face hunger and poverty. Food and Agriculture Organization (2019) defines smallholder farmers as those with less than 2 hectares of cropland, who are operating under structural constraints and with a low asset base. FAO (categorized as a smallholder farmer, what are some of the farming activities they do and what has been their performance globally, regionally and locally especially in the context of the study area. Globally, there are more than 600 million smallholder farmers who engage in small scale cash crop, food and livestock farming according to Food and Agriculture Organization (2019). However, their performance is poor since they are less likely to embrace new agricultural technology owing to variables such as a lack of financial resources and reduced income (Carranza & Niles, 2019). Despite smallholder farmers accounting for just 12% of the world's agriculture, they provide an estimated 80% of the food produced in Sub-Saharan Africa and Asia (Fan & Rue, 2020). Smallholder farmers in Kenya is the major style of agricultural output, and it accounts for 70% of marketed agricultural production. Between 10% to 20% of smallholder farmers participate in formal value chains, while the remainder work informally (Nasike, 2020). Despite the critical role smallholder farmers play in global food security and nutrition, they are a vulnerable population that is often overlooked by development policies, and they account for the majority of the world's hungry and poor.

This study focussed on smallholder farmers in Muthetheni Ward of Machakos County because of the high poverty rate despite the various initiatives to reduce poverty in the ward (Kenya National Bureau of Statistics, 2019). Muthetheni ward has a poverty level of 62.1% with more than 87% of the population being smallholder farmers (Machakos County Government, 2018). The major food crops grown by the smallholder farmers in Muthetheni Ward include beans, maize, cassava, pigeon peas, and cow peas. The main cash crops are, mangoes, sorghum, pineapples and French beans. However, as indicated by Mwangi et al. (2015), the yields by smallholder farmers are poor as they are challenged by weather, limited use of agricultural technology and limited material and financial resources. Since provision of flexible micro credit to smallholder farmers has been indicated to be effective in enhancing yields and poverty reduction in various jurisdictions, this study assessed its efficacy in reducing poverty in the Muthetheni Ward, Mwala Subcounty, Machakos County.

## 2. LITERATURE REVIEW

### *2.1 Theoretical Review*

#### *2.1.1 Asset Scarcity Theory*

This study was anchored on the asset scarcity theory which is a contemporary theory on poverty by Barbier (1989), but which originated from the works of Harvey (1974) on the link of resources to poverty. The major proposition of the theory is that asset scarcity explains poverty and social exclusion. The general theory underlying this is that households which own an adequate level of assets are less affected by fluctuations in their incomes since asset holdings can be varied. Hence, the risk of becoming poor when they are hit by a negative income shock is lower than for asset-poor households (Singh & Chudasama, 2020). In this context, Odhiambo (2019) notes that the lack of income diversification resulting from the holding of too few liquid and long-term assets affects both the probability of becoming poor and the length of poverty episodes, especially when the principal economic activity is not secure and a family's own internal situation is prone to instability (a common trait among poor households). The asset scarcity theory was used in this study to explain how flexible credit limits could improve access to credit for the farming households and enable them to acquire farming and other assets, and thus play a vital role in poverty reduction among the smallholder farmers in Machakos County, Kenya. This implies that farmers with no access to flexible loans, may have reduced access to farm inputs and be unable to cater for basic needs such as food, clothing and education, and therefore are more expected to remain in poverty and pass that poverty to future generations.

#### *2.1.2 Structural Poverty Theory*

The structural poverty theory by Rank et al. (2003) explains that poverty is caused by structural failings in the economic, social and political aspects of a nation that causes some people to be discriminated and marginalized. This view is supported by Aloba (2015) that poverty is a structural phenomenon and people in poverty because they are in economic and social systems that deprive them of inadequate income. One of the major causes of poverty is discrimination of the poor from mainstream financial systems which deprive them of resources that could enable them to move out of poverty. The structural poverty theory was applied in the study to explain the role played by loan rescheduling as a critical factor that enhance income smoothing and reduce income fluctuations among smallholder farmers. These aspects of flexible loans can enable the smallholder farmers to smooth their income and hence reduce poverty. When financial institutions permit smallholder farmers to reschedule their loans when faced with low incomes, it enables them to use the limited income for other aspects such as health, food, and education which are essential in poverty reduction.

### *2.2 Empirical Review*

#### *2.2.1 Loan Rescheduling and Poverty Reduction*

Various studies explain the link between loan rescheduling and flexible credit limits on poverty reduction. In Colombia, Field et al. (2020) assessed the influence of flexible credit on performance of entrepreneurs. The study involved 2,482 applicants who were provided with flexible contracts with flexible offers, flexible contract with standard offers and standard loan contracts with standard offer. The study established that for those provided loans with flexible contracts, they had the option of paying only the interest on the loan and postpone principal repayment for a maximum of three times in a year. Moreover, borrowers with the flexible contracts could choose to extend repayment of the principal instalments even beyond the loan period, basically prolonging the loan period. The findings indicated that those with

flexible loan contracts were able to smoothen their cash flows and thereby enabling their business to withstand shocks compared to those with standard contracts.

In Siaya County, Kenya, Odhiambo (2019) assessed the influence of flexible loans on loan accessibility and poverty reduction among smallholder farmers in the county. The study established that loan rescheduling did not have an influence on access to credit for smallholder farmers in the county. The study had applied a cross-sectional survey design where data collection was through structured questionnaires. The study sample was 103 smallholder farmers who had been selected using simple random sampling method. The average loan flexibility among the farmers was 0.419 which was computed using the Loan Flexibility Index (LFI). Though access to credit differed education, gender, wealth status of households and types of credit, loan rescheduling did not have a significant effect on access to credit. Odhiambo (2020) further indicated that loan rescheduling among farmers involve having the option to renegotiate with the financial institution to extend the repayment period of the loan when the farmer faces shocks that affect their income, crops or animal yield.

A study in Peru by Marr (2017) investigated the role played by microfinance institutions in poverty alleviation in the farming households of the country. The study population was potato farmers in the Puno area who were provided with structured questionnaires. The study applied chi square, t tests and ordinal regression to analyse the collected data. The study findings established that both standard and flexible microfinance had successfully attained its dual objective of poverty reduction and financial sustainability. Further results from the t tests indicated that there was a significant difference in poverty reduction between those who had flexible contracts compared to those who had standard microfinance contracts. Those with flexible contracts reported higher increase in incomes compared to those with standard contracts.

In Brazil, Warby (2014) investigated the mechanisms through which microfinance influences poverty reduction. The study surveyed small and micro businesses and farming households in Brazil. A structured questionnaire was used to collect data and chi square test used to analyse the data and test hypotheses. The findings determined that microfinance institutions are able to significantly reduce poverty due to their flexibility in loan approvals and demand for loan repayment. When borrowers request for loan rescheduling, most microfinance institutions grant the request which provide the borrower with more time to recover their lost earning capacity. This in effect smoothen the income of the borrower and thereby reducing or eliminating the bouts or episodes of poverty.

### ***2.2.2 Flexible Credit Limits and Poverty Reduction***

In South Africa, Dzansi and Atiase (2014) assessed the role of flexible microfinance in poverty reduction among small scale agricultural households. The study was a case control study that included borrowers with standard loan contracts in the control group and borrowers with flexible loans contracts. The study determined that borrowers with flexible contracts reported significantly higher crop yields and revenues compared to the borrowers with standard loan contracts. The reason for the difference was given as those with flexible contracts being able to reinvest cash into profitable investments when they arose and paying back loans when there were no profitable investments opportunities.

Okibo and Makanga (2014) probed the effects of microfinance institutions on poverty reduction in Kenya. The location of the study was Kiambu County, Kenya and it focussed on loans provided to women and women groups by the Pamoja Women Development Programme (PAWDEP). The study applied

questionnaires to collect quantitative data and interviews to collect qualitative data. Findings indicated that the women who had received loans from PAWDEP were of the opinion that the loans had enabled them to invest in their microbusiness and this significantly reduced poverty levels in the county. Specifically, the study determined that provision of lines of credit with flexible limits depending on the nature of loan was crucial in poverty reduction as this enabled the women to deal with emergencies that could have caused income shocks if not addressed.

In a study in Madagascar, Weber and Musshoff (2013) evaluated the influence of loan volume rationing and have flexing credit limits influenced credit access to small scale farmers in the country. The study findings indicated that farmers in agricultural finance firms with flexible microfinance loans had a significantly higher probability of accessing credit than those financial institutions providing standard microfinance loans. This improved access to loans could assist smallholder farmers to improve their investments in farms which could increase their yields and hence reduce their levels of poverty.

Bansal and Bansal (2012) conducted a study in India that sought to investigate the influence of flexible credit terms in microloans on poverty reduction amongst small enterprises. The study was a cross sectional survey of small businesses that operated along Hema Majra Road, Mullana, Ambala, in Haryana India. The data for the study was collected using questionnaires that were addressed to the owners of the small businesses. The study determined that flexible terms of credit in microfinance can be considered an important component for an effective poverty reduction strategy. The study further established that efficient provision and access to flexible microcredit was instrumental in enabling the small businesses to take advantage of investment opportunities and hence increase their revenues and profitability.

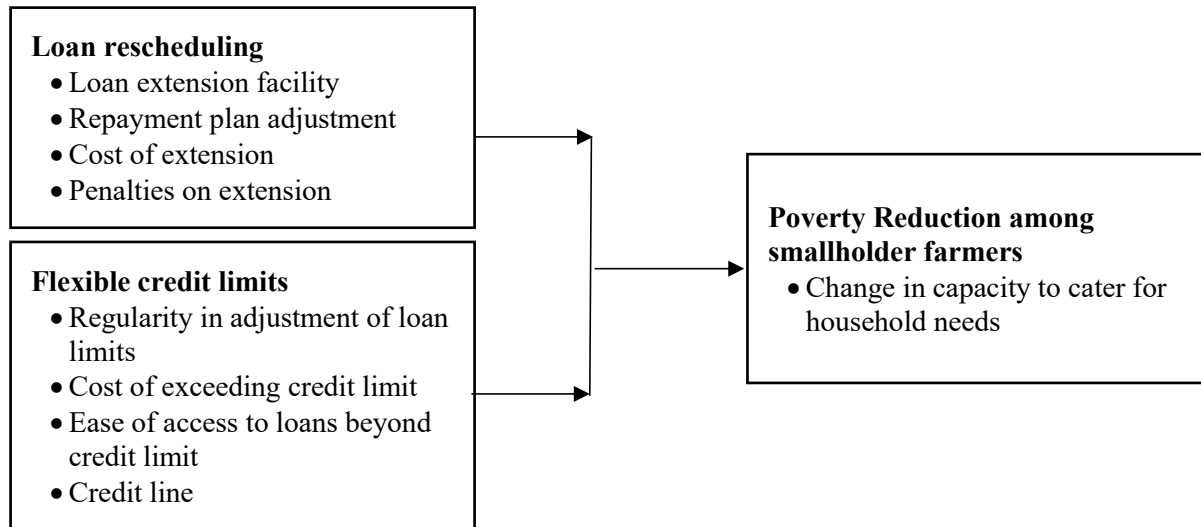
Ochieng (2012) explored the influence of flexible microfinance loans on poverty reduction amongst the urban poor areas of Kenya. Specifically, the study examined how loan rescheduling by microfinance institutions enabled people to cope with poverty. The study applied a case study research design and collected both qualitative and quantitative data from K-Rep bank clients within the Kibera and Kawangware informal settlements of Nairobi. The study applied descriptive statistics, cross tabulations and chi square tests to analyse the collected data. The study findings indicated that microfinance loan rescheduling was strongly and positively associated with poverty reduction. When K-Rep clients were challenged in meeting their loan repayments, the loans were rescheduled which enabled them to use the released cash flows to cater for their household needs.

### **2.3 Conceptual Framework**

The study's conceptual framework is provided in Figure 1. This provides the hypothesized association between the study's predictor and response variables. The predictor variables in the study are loan rescheduling, flexible credit limits, loan refinancing and flexible repayment terms. These are major aspects of flexible loans. The response variable in the study is poverty reduction. The study hypothesizes that loan rescheduling, flexible credit limits, loan refinancing and flexible repayments will have a joint effect on poverty reduction among smallholder farmers in Machakos County, Kenya.

#### **Independent Variables**

#### **Dependent Variable**



**Figure 1: Conceptual Framework**

### 3. RESEARCH METHODOLOGY

The study used a descriptive research design. This research method was ideal for this study as it assisted in understanding the extent of flexibility of loans and thereby related this to poverty reduction among smallholder farmers in Machakos County. The population for this study was the 3,234 households of Muthetheni ward, Mwala Subcounty, Machakos County, Kenya (Kenya National Bureau of Statistics, 2019). This included those smallholder households that had been able to access microfinance loans in the preceding two years of the study. The study selected a sample of 97 households who had accessed loans from microfinance and other development finance institutions in the study location. The sample for the study was calculated using the sampling formula provided by Yamane (1967). The formula is;

$$n = \frac{N}{1 + Ne^2}$$

In the formula, ‘n’ is the size of the selected sample, ‘N’ is the size of the population and e is the significance level applied (10%). A questionnaire was used to collect primary data from the household heads. The questionnaire, which was used to collect data was pre-tested to establish the validity and reliability of the instrument for the study purpose.

The study used multiple linear regression to assess the influence of loan rescheduling and flexible credit limits on poverty reduction. The multiple regression model was of the form;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_4 X_4 + \varepsilon$$

In the formula; Y = Poverty reduction,  $\beta_0$  = Constant,  $X_1$  = Loan rescheduling,  $X_2$  = Flexible credit limits,  $\beta_i$  = Regression coefficients, and  $\varepsilon$  = Error term. Before conducting the multiple linear regression, several model specification tests were conducted to determine the suitability and fitness of the model. The diagnostic tests conducted included multicollinearity test, linearity test, heteroscedasticity test and test of normality of regression residuals.

#### 4. RESULTS AND DISCUSSION

The extent of flexibility of loans provided by microfinance and development finance institutions in Muthetheni Ward in regard to enabling loan rescheduling was assessed using a five-point Likert scale - strongly disagree (1) – strongly disagree (5). Means and standard deviations were used to analyze the results which are summarized in Table 1.

**TABLE 1: Descriptive Statistics on Loan Rescheduling**

<b>Loan rescheduling statements</b>	<b>Mean</b>	<b>Std. Deviation</b>
My financial institution provides the option of loan extension at the time the loan is provided	4.23	.967
Adjusting the repayment plan of a disbursed loan is easy with my financial institution	3.92	1.100
There is no penalty when a borrower seeks to reschedule a loan with my financial institution	3.96	1.168
My financial institution is always ready to extend the repayment period for a loan when a borrower faces repayment challenges	3.83	.860
Extending payment period for loans helps borrowers to meet the regular payments	3.88	.770
Loan rescheduling enables borrowers to use the retained cash to invest in farming	3.81	1.036

The findings summarized in Table 1 show that the respondents agreed that their financial institution provides the option of loan extension at the time the loan is provided (mean = 4.23, std deviation = 0.967) and also agreed that there is no penalty when a borrower seeks to reschedule a loan with the respondents' financial institution (mean = 3.96, std deviation = 1.168). Further, respondents agreed that adjusting the repayment plan of a disbursed loan is easy with the financial institution (mean = 3.92, std deviation = 1.100) and likewise agreed that extending payment period for loans helps borrowers to meet the regular payments (mean = 3.88, std deviation = 0.770). Moreover, respondents agreed that the financial institutions are always ready to extend the repayment period for a loan when a borrower faces repayment challenges (mean = 3.83, std deviation = 0.860) and also agreed that loan rescheduling enables borrowers to use the retained cash to invest in farming (mean = 3.81, std deviation = 1.036). These findings indicate that the microfinance institutions and development finance institutions that provided microloans to small holder farmers in Muthetheni Ward were able to provide adequate flexibility relating to loan rescheduling. Means and standard deviations for flexible credit limits are summarized in Table 2.

**TABLE 2: Descriptive Statistics on Flexible Credit Limits**

<b>Statements on flexible credit limits</b>	<b>Mean</b>	<b>Std. Deviation</b>
My financial institution allows borrowers to get loans beyond their credit limit when the new loan meets some conditions	1.73	.794
In my financial institutions, the credit limit is regularly updated based on the borrower's payment history	4.04	.687
When a borrower pays their installments on time, my financial institution increases their credit limit	3.95	1.012



Loans provided beyond the credit limit assists borrowers to meet pressing and emergency needs	4.27	.905
Allowing borrowers to borrow beyond their credit limit enables borrowers to take advantage of profitable investment opportunities	4.05	.985
Loans provided beyond the credit limit by my financial institution does not attract higher interest rates	3.57	1.068

Findings displayed in Table 2 show that respondents agreed that loans provided beyond the credit limit assists borrowers to meet pressing and emergency needs (mean = 4.27, std deviation = 0.905) and further agreed that allowing borrowers to borrow beyond their credit limit enables borrowers to take advantage of profitable investment opportunities (mean = 4.05, std deviation = 0.985). Additionally, the respondents agreed that in their financial institutions, the credit limit is regularly updated based on the borrower’s payment history (mean = 4.04, std deviation = 0.687) and also agreed that when a borrower pays their installments on time, the financial institution increases their credit limit (mean = 3.95, std deviation = 1.012). Further, respondents agreed that loans provided beyond the credit limit by the financial institutions do not attract higher interest rates (mean = 3.57, std deviation = 1.068). However, respondents disagreed to the statement that the financial institutions allow borrowers to get loans beyond their credit limit when the new loan meets some conditions (mean = 1.73, std deviation = 0.794). These findings indicate that credit limits were adjusted based on the loan repayment history of the borrowers, but rarely did microfinance and development finance institutions flex their credit limits for borrowers with repayment challenges.

This study assessed the level of poverty reduction that could be associated with flexibility of loans provided by microfinance and development finance institutions in Muthetheni Ward. The study measured poverty reduction by providing respondents with statements which they were supposed to rate using a five-point Likert scale - strongly disagree (1) to strongly agree (5). Means and standard deviations were used to analyze the results which are summarized in Table 3.

**TABLE 3: Descriptive Statistics on Poverty Reduction**

<b>Statements on Poverty Reduction</b>	<b>Mean</b>	<b>Std. Deviation</b>
The last loan received from the financial institution improved the capacity of the household to cater for household needs	4.25	.871
The loan provided to the household by the financial institutions was invested in projects that improved the family’s income	3.89	.994
Loan received enabled the household to increase its expenditure on basic needs	4.29	.818
Loan received was used to cater for health and education needs for household members	3.93	.949
Loan received from the financial institution enabled the household to improve its farm yields	4.03	1.052

The findings on poverty reduction (Table 3) show that respondents agreed that loan received enabled the household to increase its expenditure on basic needs (mean = 4.29, std deviation = 0.818) and also agreed that the last loan received from the financial institution improved the capacity of the household to cater for household needs (mean = 4.25, std deviation = 0.871). Moreover, respondents agreed that loan received from the financial institution enabled the household to improve its farm yields (mean = 4.03, std deviation = 1.052) and further agreed that loan received was used to cater for health and education needs for household members (mean = 3.93, std deviation = 0.949). Furthermore, respondents agreed that the loans provided to the household by the financial institutions were invested in projects that improved the family's income (mean = 3.89, std deviation = 0.994). These findings indicate that the surveyed households in Muthetheni Ward had the perception that loans provided by the development and microfinance institutions enhanced their capacity to meets health, basic and educational needs.

#### 4.1 Empirical Model

The study conducted a regression analysis with loan rescheduling and flexible credit limits as the independent variables and poverty reduction as the dependent variable. The findings are provided in Table 4.

**TABLE 4: Significance Test of the Regression Coefficients**

	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.138	.358		.385	.702
Loan Rescheduling	.611	.087	.640	7.019	.000
Flexible Credit Limit	.059	.063	.056	.938	.352

a. Dependent Variable: Poverty Reduction

The regression findings led to the following fitted regression model;

$$Y = 0.138 + 0.611X_1$$

In the formula, Y= Poverty reduction,  $X_1$  = Loan rescheduling. The findings indicate that a change of 1 unit in flexibility regarding loan rescheduling option will result to a direct change of 0.611 units in poverty reduction. However, flexible credit limits did not have a significant effect on poverty reduction and hence was excluded from the equation.

#### 4.2 Hypotheses Tests

The findings indicated that loan rescheduling had a statistically significant coefficient ( $\beta = 0.611$ ,  $p < 0.05$ ). The null hypothesis that loan rescheduling has no significant influence on poverty reduction among smallholder farmers in Machakos County, Kenya, was rejected. These findings imply that loan rescheduling had a significant positive influence on poverty reduction among smallholder farmers in Machakos County, Kenya. Besides, the findings indicate that a change of 1 unit in flexibility regarding loan rescheduling option will result to a direct change of 0.611 units in poverty reduction. The findings indicate that loan rescheduling had a statistically significant coefficient ( $\beta = 0.611$ ,  $p < 0.05$ ). These findings imply that loan rescheduling had a significant positive influence on poverty reduction among smallholder farmers in Machakos County, Kenya. These findings support the structural poverty theory by Rank et al. (2003) which explains that poverty is caused by structural failings in the economic, social and political aspects of a nation that causes some people to be discriminated and marginalized. The study

findings indicate that providing flexible loans that can be rescheduled lead to finance inclusion of the smallholder farmers and thus enabling them to reduce their poverty levels. The study results of the positive effect of loan rescheduling on poverty reduction concurs with findings by Field et al. (2020) that borrowers with flexible loan contracts are able to smoothen their cash flows and thereby enabling their business to withstand shocks compared to those with standard contracts. Other studies with similar findings to this study include Warby (2014), Dzansi and Atiase (2014) Kaseva (2014), Ebimobowei et al. (2012) and Ochieng (2012). These studies determined that loan rescheduling had a significant effect on poverty reduction.

The findings further indicated that flexible credit limits had a statistically insignificant coefficient ( $\beta = 0.059$ ,  $p = 0.352$ ). The null hypothesis that flexible credit limits have no significant effect on poverty reduction among smallholder farmers in Machakos County, Kenya, was accepted. These findings imply that flexible credit limits had no significant influence on poverty reduction among smallholder farmers in Machakos County, Kenya. Besides, the findings indicate that a change of in flexibility of loans in regard to offering borrowers flexible credit limits will result to no significant change in poverty reduction. The study findings indicated that flexible credit limits had a statistically insignificant coefficient ( $\beta = 0.059$ ,  $p = 0.352$ ). These findings imply that flexible credit limits had no significant influence on poverty reduction among smallholder farmers in Machakos County, Kenya. These results, however, contradict the asset scarcity theory by Barbier (1989), but which originated from the works of Harvey (1974) which indicates that enhancing credit to the poor can enhance their access to poverty reducing assets. The study results that flexible credit limits had no significant influence on poverty reduction among smallholder farmers in Machakos County, Kenya disagrees with the findings by Sett (2020) that having flexible credit limit loan contract enhanced access to microloans which enhanced the incomes and of the borrowers thus improving their standard of living. The study also contradicts the findings by Marr (2017) that those with flexible credit contracts reported higher increase in incomes compared to those with standard contracts. Other studies with contradicting findings to this study include Weber and Musshoff (2013), Okibo and Makanga (2014) and Mecha (2017). However, this study's findings agree with the findings by Taiwo et al. (2014) that loan flexibility in terms of credit limits did not have any significant effect on poverty reduction (measured through increased incomes).

## 5. CONCLUSIONS AND RECOMMENDATIONS

The study concludes that loan rescheduling is vital for poverty reduction among smallholder farmers in Machakos County, Kenya. This is actualized by microlenders through providing the option of loan extension at the time the loan is provided, having no penalty when a borrower seeks to reschedule a loan with the microlender and having easy and convenient procedures for adjusting the repayment plan of a disbursed loan. The study also concludes that having flexible credit limits was not instrumental towards poverty reduction among smallholder farmers in Machakos County, Kenya. This was despite the fact that lending beyond the credit limit of borrowers enabled borrowers to take advantage of profitable investment opportunities. This could be due to the inherent risk and burden of allowing borrowers to borrow beyond their capacity of repayment, and thus burdening them in the long run.

Based on the study conclusions, the study recommends that microfinance and development finance institutions should provide smallholder farmers with opportunities to reschedule their loans when they face payment challenges as this could positively impact on their poverty levels. The financial institutions operating in rural underserved areas should be innovative and discover ways to circumventing the risk of lending to smallholder farmers and innovate to provide them with flexible loans. Relating to flexible

credit limits, micro lenders should consider assessing the creditworthiness of smallholders, by considering the cash flow of the household production unit and then provide a higher credit limit if it supported by cashflows. However, microlenders should be vigilant not to burden smallholders with loans that are beyond their capacity to repay which will defeat the sole purpose of loan provision.

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