

INFLUENCE OF SELECTED SOCIO-ECONOMIC FACTORS ON THE UPTAKE OF AGRICULTURAL LOAN BY MAIZE FARMERS IN KWANZA SUB-COUNTY, KENYA

¹Erick Ngetich Kipruto, ²Dr. Patrick Cheben Simiyu

¹MAPPM, Student, University of Nairobi

²Lecturer, Department of Open Learning, University of Nairobi, Kenya

Abstract: This study sought to investigate influence of selected socio-economic factors on uptake of agricultural loans by maize farmers in Kwanza Sub-County, Trans-Nzoia County. Specifically, the study determined how farmers', loan experience and land ownership rights influenced uptake of agricultural loans by Maize Farmers. Descriptive survey design was adopted for this study. The target population were 5 crop extension officers, 10 credit managers and 14631 maize farmers spread across all the 4 wards in Kwanza sub-county. A sample of 384 maize farmers was considered. Stratified sampling technique was used to collect various characteristics of farmers in the four wards and systematic sampling was used to refine the sampling frame. The researcher used questionnaires and interviews to collect data. Data was collected by administering questionnaires to maize farmers and holding face-face interviews with Credit managers and Crop Extension Officers. In the findings, Loan experience and awareness had a great influence on uptake of agricultural loans compared to land ownership rights. Notably, 80.2% of the respondents observed that they would never apply for financial credit in the future because of the bad experience they had. Further, 70.6% maize farmers observed that they were auctioned by financial institutions for failing to repay their loans in full, they were discouraged to secure loans in future. The majority, 98.9% indicated that interest rates charged on loans made them to shy away from securing financial credit. It was recommended that financial institutions should create awareness to maize farmers to enable them make informed decision before securing loans. the government should review the interest cap act to allow market forces of demand and supply to determine interest rates.

Keywords: Influence, Socio-Economic Factors, Uptake, Agricultural loan, maize, Farmers.

1. INTRODUCTION

Background of the Study

In Kenya, maize is treated as a staple food and is grown in nearly 75% of arable farms. The average production currently stands at 2.7 tonnes per ha. The per capita consumption is about 97.9kg per annum which translate into about 32 million bags of maize. However, in the past 4 years, maize production in Kenya has stagnated at 27 million bags making the government to import to fill the deficit (GOK Department of Agriculture, 2017). Further, over 90% of rural occupants depend on maize produce as a source of livelihood (Auma & Mensah, 2014).

In 2010, an increase in maize production was recorded in Kenya as a result of implementation of the economic stimulus program, input subsidy and distribution program, and adoption of national land policy. During the implementation of these programs, spending on agriculture by the national government rose significantly from 3.8% to 7.1% of national

budget. However, from 2013, immediately after introduction of county systems of governments, expenditure on agriculture started declining and maize yields have either gone down or stagnated in most growing areas (KNBS, 2017).

Production of maize in Kenya is highly exercised by smallholder farmers. Data from IFAD report (2016) show that smallholder farmers account for over 70% of the total annual maize production in Kenya. Despite of smallholder potential in maize farming, these farmers face a myriad of challenges that deter productivity and growth. Key challenges facing them include limited access to ready markets, inability to access formal financial services and heavy post-harvest losses due to poor storage facilities (Salami, 2011).

Inability to access formal credit services is often considered a major obstacle which globally, virtually all maize farmers face. Kenyan smallholder farmers are not able to access agricultural loans to facilitate acquisition of fertilizers, certified seeds, pesticides or use of modern technologies. Although there are many sources of agricultural credits such as commercial banks, SACCOs, micro-finances maize especially smallholders continue to find it difficult to secure loans (Salami, 2011).

Generally, financial organizations play an paramount role in agriculture by giving out loans. Improving smallholder farmers 'credit accessibility has been deemed as way of ensuring economic development and poverty alleviation. As argued by Auma and Mensah (2014), credit access plays a paramount role in lessening the farmers challenges of acquiring, seeds, fertilizers and land preparation. It is believed to advance the welfare of poor smallholder maize farmer.

There is ongoing debate among policy makers and scholars whether it's necessary to lend to the low income groups. According to Nawai and Shariff (2010), these groups are often disqualified from accessing credit facilities for some reasons; inadequate guarantee to secure loans, unpredictable income, unnecessary transaction costs and high illiteracy. Specifically, banks have had a tendency of applying stringent requirements which a common smallholder farmer cannot meet. For instance prove of extensive collateral, sound credit history and strict accounting records.

According to Auma and Mensah (2014) report poor dwellers are disadvantaged by inability to obtain conventional credit facilities.

Statement of the Problem

Lacking in capital has been considered as a contributing factor to poor utilization of lands in Kenya. Inadequate credit facilities for agribusiness activities such as maize farming have negatively affected productivity and better income generation among Kenyan households (GoG Budget, 2015). The rationale behind inadequate credit facilities has been high interest rates and complex loan application process have hindered many farmers from accessing loans. Consequently, as reported by FAO (2017), food insecurity and poverty index in Kenya have been increasing annually causing malnutrition and in some instances deaths.

Accordingly, this study sought to provide solutions to the aforementioned problem by looking at the socio-economic contributors influencing the uptake of agricultural loans by maize farmers in Kwanza Sub-County Trans-Nzoia County.

Purpose of the Study

To purpose of the study was to investigate selected socio-economic factors influencing uptake of agricultural loans by maize farmers in Kwanza Sub-County Trans-Nzoia County, Kenya

Objectives of the Study

- i. To establish how farmers' loan experience influence uptake of agricultural loans in Kwanza Sub-County Trans-Nzoia County.
- ii. To establish how land ownership rights influence uptake of agricultural loans by maize farmers in Kwanza Sub-County Trans-Nzoia County.

Research hypotheses

- i. Loan experience has no influence on uptake of agricultural loans by maize farmers in Kwanza Sub-County Trans-Nzoia County
- ii. Land ownership rights has no influence on uptake of agricultural loans by maize farmers in Kwanza Sub-County Trans-Nzoia County

Assumptions of the Study

The main assumption was that all the farmers who were sampled grow maize yearly and know socio-economic factors that influence uptake of Agricultural Loans. It was also assumed that the respondents would provide unbiased response.

Limitations of the Study

This study was delimited by poor roads, which affected the research process, the researcher took long to collect data from sampled maize farmers in the selected area. Bad weather was a delimitation that interfered with the smooth flow of the research process because the situation forced researcher to concentrate with research process in the early morning and not in the afternoon.

2. LITERATURE REVIEW

Farmers' experience with loans and uptake of Agricultural loans

According to Karumba & Wafula (2012), farmer's stances on loan uptake are fear or greed of exchange between making profits and avoiding fault-finding cost as a result of taking a risk. Wafula (2013) argues that there are three types of risk attitudes namely; risk averse, risk neutral and risk loving. Risk averse farmers are troubled in taking loans and choose an investment with a lower profit but rather has sure and reliable income. On the other hand risk neutral farmers only care about the expected returns but turn a blind eye on the risks involved in securing the loans; they neither take loans nor forfeit to avoid them. Risk neutral farmers perceive loans as an expensive venture due to past loan experience. This may be attributed to high return charges levied by the banks and other hidden charges included during payments. A study by Sileshi *et al.*, (2012) on factors influencing credit repayment program among small holder farmers in Ethiopia, they established that farmers' loan repayment program was significantly affected by various factors namely off-farm activity, agro ecological zone, technical assistance, informal credit, social festival and farm losses severely. Moreover, it was established that due to such past loan experiences in loan repayment difficulties, most farmers stopped applying for loan. Lastly, risk loving farmers actively engage in risky investment and choose higher loans amount that will enable them have higher returns than the expected income. A study by Waweru (2012) on risk attitude and risk management strategies on maize farmers showed that most farmers are risk averse. They have negative attitude and perceive loans as a threat to their assets due to fear of losing their land and other asset used as loan security. They have a perception that little can be accomplished by taking loans and the risk involved in securing loans is too high while the returns too low hence no need of taking loans (Karumba & Wafula, 2012).

Some individual farmers and financial institutions use region-based stereotypes as a mental shortcut in making decisions whether or not to issue loans. Banks may generalize a region based on stereotype in cases where they face uncertainty on the borrowers' credit worthiness or the individual's quality to qualify for a certain loan product (Iftekha, 2017). Perception from loaning experience influences credit outcomes because financial institutions use them to judge the probability of opportunistic behavior of maize farmers from a particular region. Those farmers from high social regions for example regions known for large scale growing of maize are likely to secure loans than those farmers from areas with average or little maize production even in the absence of strong legal and market institution. Due to the feeling that farmers from high social capital region are more cooperative and more credit worthy, this leads to the prediction by financial institutions that farmers from high social regions have a higher funding success and favorable debt terms than borrowers from other low social capital agricultural location.

Land ownership rights and Uptake of Agricultural Loans

Land can be owned privately, communally, publicly or owned by the government. Maize farms owning private land can use their land as collateral for loan acquisition. However, several factors limit land based collateral and credit acquisition among farmers; these factors include; lack of qualified collateral in cases where farmers do not have land title deeds and uncertainty of returns on investment (Place and Hazell, 2010). Agricultural land can either be acquired through purchase of private land or through leasing. As opposed to private land where the owner has control over land, leased land on the other hand means access to land but lack of control over it. Household that lease land cannot use the land as loan security hence they cannot access agricultural loans.

Demand for credit can be enhanced by land tenure security. This is because increased land security may result into willingness by farmers to heavily invest in land giving rise to greater demand for capital (Hazell, 2010). On the other

hand, the impact on credit supply is enhanced willingness by lenders to offer credits if debtors have the capacity to attach their own land as security for the loan. With tilted and secured land as security for the loan, lenders can legally repossess the same land in case of loan default.

3. RESEARCH METHODOLOGY

Research Design

Descriptive survey design is a design that seeks to describe characteristics of study population without influencing it in any way. The method is more efficient because data is gathered in a sample population (Mugenda & Mugenda, 2003). Considering this was a descriptive analysis study, the socio-economic factors were foreseeable to have a high or low percentage and rated as either more significant or less significant by farmers in their absorption of agricultural loans. Factors which had a high percentage and rated as more significant by the farmer were the ones deemed to influence the maize farmers' uptake of agricultural loans.

Study Population

Cooper & Schindler (2007) defined population as the total collection of elements that the researcher intends to make some inferences. This study involved two types of populations namely maize farmers and crop extension officers. The study population comprised 14631 maize farmers within the study area. These farmers gave their opinions regarding the factors influencing their uptake of agricultural loans for maize farming. The study population also included the 5 crop extension officers attached to Kwanza-Sub-county office.

Table 1: Distribution of population of maize farmers in kwanza sub-county

Ward	Maize farmers
Kwanza	2976
Keiyo	3180
Bidi	2578
Kapomboi	5897
Total	14631

Source: Department of Crops, Kwanza Sub-County (2018)

Sample Size and Sampling Procedure

Population census was used to obtain data from all 5 crop extension officers in all wards participated in the study as respondents. Population census was preferred in collecting information from crop extension officers since they are few. Census method gave a high degree of statistical confidence in the survey data due to incorporation of every element of the population (Botev & Ridder, 2017).

The following formula can be used to determine the sample size.

$$N = Z^2 pq / d^2$$

Where:

n = the desired sample size (if target population is greater than 10,000)

z = the standard normal deviate at the required confidence level.

P = the proportion in the target population estimated to have characteristics being measured.

Q = 1-p.

d = the level of statistical significance set.

If there is no estimate available of the proportion in the target population assumed to have the characteristic of interest, 50% should be used as recommended by Fisher et al. If the proportion in the target is 0.50, the z – statistic is 1.96 and desired accuracy at 0.05 probability level, then the sample size is adequate (Mugenda and Mugenda, 2003).

$$N = (1.96)^2 (0.5) (0.5) / (0.05)^2$$

$$= 384$$

The study population of maize farmers is above 10,000 and therefore, so a sample size of 384 is sufficient.

Research Instruments

Questionnaires

A questionnaire is an instrument that helps in collection of data from a very large sample and usually comprises a number of questions to be administered to the respondent. The questions were relevant and adequate to collect enough information to satisfy each study objective. Questionnaires were used in this study due to large sample size of maize farmers in Kwanza Sub-County (Mugenda & Mugenda, 2003). A survey questionnaire prepared by the researcher were distributed to the selected maize farmers for filling and collected immediately.

Interviews

Interview is a type of data collection instrument that requires the researcher to have a direct contact with the respondent and verbally engaging each other. The researcher prepared open ended questions for the interviews with all crop extension officers in Kwanza Sub-County and credit managers in selected banks in Kitale town (Equity, Co-operative, Family and Kenya Commercial Banks). Interviews were preferred because the respondents were few and due to the need to obtain in-depth information which questionnaires might miss to capture (Mugenda & Mugenda, 2003).

Validity of Research Instruments

Validity is the factual accuracy of the data and report. Validity tries to erase doubts on what is reported (Pallant, 2013). Validity enhances defensibility and credibility of a research. Hence, in this study, the researcher considered validity and gave accurate report. Validity for the research instruments was established using the supervisor and fellow researchers' feedback from the results presented to them by the researcher.

Reliability of Study Questionnaires

The aspect of reliability is said to happen when similar scores are obtained with repeated testing using the same group of respondents. Reliability of the study questionnaire was tested through a pilot study; data collected in using questionnaires was entered in SPSS software and Cronbach's Alpha was established. A correlation that was above 0.7 according to Pallant (2013) indicated a strong reliability of the study questionnaire.

Data Collection Procedure

Primary data was collected using a pretested closed ended questionnaire. The questionnaire was administered to farmers by the researcher himself and three research assistants. Farmers were asked to rate various attributes of study objectives based on their influence on the uptake of agricultural loans. The researcher conducted interviews with the five crop extension officers and 4 credit managers drawn from four selected banks to obtain valuable information relating to uptake of agricultural loans by maize farmers in the sub county.

Data Analysis Techniques

Data collected was analyzed both qualitatively and quantitatively. Qualitative data collected through interviews was analyzed using content analysis method. These types of data was categorized, analyzed and interpreted under their respective themes and quotes. Quantitative data was analyzed by descriptive analysis techniques in form of tables to show frequencies and percentages. Statistical Package for Social Sciences (SPSS) was used in data analysis. Multivariate linear regression analysis was conducted to establish the influence of independent variables on dependent variables. Notably, the strength of association between independent variables and dependent variables was determined. This statistical tool was also used to test hypothesis.

The following model used:

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \mu_i$$

Where;

(a) Dependent variable is Uptake of Agricultural Loans and is denoted by Y

(b) Independent variables are:

X_1 Loan experience

X_2 Loaning policy

X_3 Farmers' Income

X_4 Land ownership rights

β_0 constant term

β_j Beta coefficients for $j=1, 2, 3, 4, \dots, n$ which indicate per unit change in the dependent variable as the independent variable changes by one unit

μ_i error term for $i=1,2,3,4, \dots, n$

However, the presence of a moderating variable was measured through adding Z as a Moderating variable on the model that will regress on each of the five variables.

$$Y_i = \beta_0 + \beta_1 X_1 Z + \beta_2 X_2 Z + \beta_3 X_3 Z + \beta_4 X_4 Z + \mu_i$$

4. FINDINGS AND DISCUSSIONS

The purpose of this study was to determine the influence of socio-economic factors on maize farmers uptake of loans in Kwanza Sub-County. Specifically, the study focused on the influence of loaning experience and land ownership systems on loan uptake. The following are findings relate to the description of variables.

Farmers' loan experience and uptake of agricultural loans

This section gives respondents views as they relate to influence of farmers' loan experience on uptake of agricultural loans.

Table 2: First experience with loans and if that determines the future

Statements	Yes		No	
	F	%	F	%
Ever applied for a loan?	303	78.9	81	21.1
Past experience with loans, would you apply for another loan?	76	19.8	308	80.2

From the findings in table 2, out of 384 respondents, 303 (78.9%) respondents accepted that they had ever applied for agricultural loans while 81 (21.1%) respondents denied ever applying for agricultural loans. Upon inquiry whether they would apply for another loan in the future, 308 (80.2%) denied applying for agricultural loans in the future while 76 (19.8%) respondents indicated that they would apply for agricultural loans in the future. Such findings indicated that most respondents failed to secure agricultural loans because of bad loan experience, which discouraged them.

Table 3: Statements related to respondents' loan experience and their responses

Statements	Strongly agree		Agree		Undecided		Disagree		Strongly disagree	
	F	%	F	%	F	%	F	%	F	%
Loan experience, and attitudes influence demand/access	297	77.3%	84	21.9	3	0.8	0	0.0	0	0.0
Loan default history by farmers makes them shy away from future loan uptake	271	70.6	113	29.4	0	0.0	0	0.0	0	0.0
Experience with auction of personal properties because of loan defaulting discourage uptake	142	37.0	230	59.9	11	2.9	1	0.3	0	0.0
Few famers have enhanced farming practices through uptake of agricultural loans	94	24.5	167	43.5	19	4.9	95	24.7	9	2.3

In the findings presents in table 3, 297(77.3%) respondents strongly agreed while 84 (21.9%) agreed that loan experience and attitudes influenced demand/access of agricultural loans to maize farmers. Out of 384 respondents who took part in this study, 3 respondents representing 0.8% were undecided as to whether loan experience and attitudes influenced uptake of agricultural loans.

Land ownership rights and uptake of agricultural loans

This section presents results that relate to the influence of land ownership rights on agricultural loans.

Table 4: land ownership systems among maize farmers in Kwanza Sub-County

	Frequency	Percent
self-owned	107	27.9
family owned	235	61.2
community owned	1	.3
farmers association	20	5.2
Rented	21	5.5
Total	384	100.0

In the findings presented in table 4, 235 (61.2%) of farmers indicated that they owned lands that belonged to their families. In such cases, it is difficult for such farmers to secure agricultural credit because most of such lands have one title, which could not help an individual with a portion to secure a loan. Out of 384 respondents, 107 (27.9%) stated that they owned the land individually (mostly purchased); such lands give the holder a privilege to control and manage the resources in it hence increasing chances to secure loans using it. Farmers with community and rented lands (0.3% and 5.2% respectively) could not facilitate a farmer to secure agricultural loans because in such cases, farmers do not have control and the right to use the title as a security to secure loans.

Table 5: Statements related to influence of land ownership systems on uptake of loans by maize farmers

Statements	Very great extent		Great extent		Moderate extent		Low extent		Very low extent	
	F	%	F	%	F	%	F	%	F	%
Self-owned land facilitates access to credits	43	11.2	311	81.0	27	7.0	3	0.8	0	0.0
Family land facilitates access to credits	0	0.0	25	6.5	339	88.3	18	4.7	2	0.5
Community land facilitates access to credits	0	0.0	0	0.0	7	1.8	276	71.9	101	26.3
Farmers' association-owned land facilitates access to credits	0	0.0	37	9.6	330	85.9	17	4.4	0	0.0
Rented land facilitates access to credits	0	0.0	0	0.0	0	0.0	36	9.4	348	90.6
It is easier to obtain loan with titled land that unsecured ones	42	10.9	342	89.1	0	0.0	0	0.0	0	0.0

In the findings presented in table 5, 311 (81.0%) respondents indicated that self-owned land facilitated access to agricultural loans to a great extent while 43 (11.2%) respondents stated that self-owned land facilitated access to agricultural loans to a very great extent. This meant that maize farmers who owned land as individuals had a high ability to access financial credit to enhance maize farming. Out of 384 maize farmers who took part in the study, 27 (7%) and 3 (0.8%) of the respondents indicated that there was a moderate and low extent respectively to which self-owned land facilitated access to agricultural loans.

Table 6: Regression analysis between uptake of loans, farmers' loan experience, loaning policy, farmers' income and land ownership

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
	.743 ^a	.862	.704	1.271

a. Predictors: (Constant), farmers' income, land ownership rights, loaning policy, loan experience

In table 6, the value of R indicates the measure of quality of prediction that can be done on the dependent variable using the independent variable; the same value also measures the strength of association between uptake of agricultural loans farmers' income, loaning policy, loan awareness and land ownership rights from the table, having a positive value of R shows that the quality of prediction is high and reliable such that independent variable could be used to predict the status of dependent variable with time.

Table 7: Multiple Linear Regression between uptake of loans, farmers' loan experience, loaning policy, farmers' income and land ownership

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.686	.199		8.618	.000
	Farmers' income	.519	.062	.709	2.642	.001
	Loaning policy	.647	.059	.761	2.957	.000
	Loan experience	.668	.053	.784	3.631	.000
	Land ownership rights	.492	.076	.586	1.958	.003

a. Dependent Variable: Uptake of Agricultural Loans

From the findings presented in table 7, it is shown that loan experience and awareness had a great influence on uptake of agricultural loans compared to farmers' income, loaning policy and land ownership rights. Loaning policy, farmers' income and land ownership rights influenced uptake of agricultural loans in that order and this was determined by the beta coefficients (strength of correlation) between the independent and independent variable.

In the regression model in chapter three, the association between dependent and independent variable was shown by the following equation - $Y = \beta_0 + \beta_1 X_1 Z + \beta_2 X_2 Z + \beta_3 X_3 Z + \beta_4 X_4 Z + \mu_i$

Table 8: Thematic analysis: Interview responses from agricultural extension officers

Themes	Sub-themes	Responses
Farmers' loan experience and uptake of loans	What is your take towards farmers' loan experiences/awareness and agricultural loan uptake?	Many farmers who had experiences with auctions of personal assets for loan repayment defaulting, or lack of information about loan products will shy away from securing financial credit in the future.
Land ownership systems and uptake of loans	How does land ownership rights influence demand and access of agricultural loans by maize farmers?	Farmers who own farms individually have a high chance of securing loans, community/family land has a low chance of facilitating credit for users. Rental land has no chance to be used to secure loans for farming

5. CONCLUSIONS

Most farmers lacked information about loan products and that is why they made uninformed decision regarding securing loans. Further, few farmers had direct connections with banks either by having bank accounts or benefiting from training offered by financial institutions. Most farmers were influenced by attitudes from others who had unsuccessful loan uptake and repayment processes with banks.

Banks are business entities, which are out to make profit and not to make a socio-economic impact especially on maize farmers. After capping interest rates by government of Kenya, all banks instituted restrictions on loans especially on maize farmers and other risky operators who did not have a stable income in the market.

Self-owned land allowed users secured financial credit compared to those who rented, utilized family land, community, and association land. Land ownership rights influenced socio-economic status of farmers

6. RECOMMENDATIONS***Recommendations for Policy and Practice***

Financial institutions should consider educating and create awareness especially loan products to allow farmers and other consumers to make informed decisions about loan products that fit their occupation and status. The government should fast track the process of giving title deeds to all maize farmers to allow them secure financial credit easily.

Suggestions for Further Research

Socio-economic factors are not the only factors influencing uptake of agricultural loans, in the future, scholars should consider exploring other factors such as institutional and cultural factors influencing uptake of loans for maize farmers.

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