

Socio-Economic Factors and Utilization of Formal Financial Services among smallholder Farmers in Kenya.

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Abstract

The main aim of this research was to establish the effect of socio-economic factors on utilization of formal financial services among smallholder farmers in Kenya. Farmers in low-income counties encounter a number of challenges among them limited access to finance. Financing agriculture, therefore, becomes a critical service to enable the full realization of the sector's potential. In Kenya, the advent of innovative banking models through commercial banks such as Equity bank have seen a higher proportion of the rural population who were previously unreached being reached by financial services. That said, the subscription to formal financial services by small holder farmers is still low and many of them either shy away from formal financial institutions or are simply ineligible for the services due to lack of a banking profile with the institutions. Cross-sectional survey research design was adopted. The target population for this study were smallholder farmers from Nakuru, Busia and Kirinyaga Counties in Kenya. The study sample was determined using simple random sampling. The sample size was 560 smallholder farmers. The questionnaire and secondary information were the key instruments for data collection. Quantitative data was analysed using multiple linear regression equations with the aid of SPSS software. The study established that the socio-economic factors significantly affected utilization of formal financial services by the smallholder farmers in the country. Policy Makers should therefore, encourage small holder farmers by way of incentives to disclose their annual income so as to improve their chances of accessing formal financial services that can expand their enterprises.

Key terms: Financial inclusion, Formal financial services, Smallholder farmers, Socio-economic factors

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Introduction

Agriculture is the mainstay of the majority of the people in the low-income countries with approximately 450 Million households deriving their livelihood from farming. However, the Agricultural sector face a number of challenges among them is limited access to finance. Financing agriculture, therefore, becomes a critical service to enable the full realization of the sector's potential. Agricultural finance refers to financial services including savings, insurance, transfers and loans, potentially needed to power and steer the agriculture sector, that is, financing of farming and farm related activities including input supply, processing, whole selling and marketing. Most of these activities are conducted in rural areas, in addition to large processing facilities and agribusinesses as well as largely subsistence-level smallholders located in urban and peri-urban areas (Meyer, 2011).

It should be pointed out from the beginning that while agriculture remains a key economic activity in Africa employing about 55% of the population most of whom are intrinsic small holder farmers. The sector has only received about 1% of the total credit extended by the bank to its customers. Smallholder farmers characterized by landholding of less than one hectare have been ignored from participation in rural financial system (Dianne & Zeller, 2001). Land therefore could be the overarching constraint leading to low agricultural productivity, in particular in the growing of maize or cereals preventing increased diversification into other food and cash crops as well as non-farm enterprises, which are key requirements for poverty alleviation. Moreover, Findex data shows that 5.9% of adults from developing countries who reside in rural areas own a bank with 4.7% having been advanced a loan facility by the formal financial institutions. This is a clear indication yet that majority of the population of farmers are financially excluded by the formal financial services sector.

Financial inclusion is seen as steps taken to provide a set of financial services to all members of the society without discrimination of any kind at affordable price, right place, and appropriate form and at the right time (Aduda & Kalunda, 2012). The aims of financial inclusion include benefitting the poor majority of who do not use formal financial services. It is an intervention strategy that seeks to overcome the market policies that encumber the markets from functioning for the benefit of the poor and the disadvantaged (Adesina & Ayo, 2010). Financial inclusion, therefore, refers to a process that ensures the ease of access, availability and usage of the banking financial services for all members of an economy. Financial inclusion is a purposeful effort to ensure access and availability of financial services such as loans, deposit service, insurance, pension and payments to the bankable citizens (Acharya & Subramanian, 2009).

Financial services access while not a means to an end is crucial in provision of funds for farm investment in improved post-harvest practices, productivity, smooth household cash flow, and enhance better access to markets and a better management risk promotion. Financial access can also play a key role by increasing the resilience of agricultural to climate change and climate adaptation thus providing a long-term solution in food security. Having access to comprehensive range of services financially is a major challenge for smallholders constituting majority of farmers in countries which are developing.

However, despite stressing the importance of financial inclusion as a driver of growth and income equality by global development actors, developing countries globally continue to have significant proportions of individuals and households without access to even basic financial services, with at least 80% of adults in developing countries being unbanked compared to an average of 50% for the world in comparison with less than 8% for the developed countries (Chaia et al., 2009; Allen et al., 2014). The low rates of

financial inclusion, therefore, partly explains why despite the relatively high returns on investments in developing countries, their growth remains low while poverty and income inequalities are relatively high.

The challenges to increasing access to finance are numerous and well documented. Financial institutions interested in serving this market face myriad risks and challenges associated with agricultural production and lending, including seasonality and the associated irregular cash flows, high transaction costs, and systemic risks, such as floods, droughts, and plant diseases. While these challenges apply to agricultural lending in general, they impinge on smallholder lending in particular, given the relatively higher transaction costs of provision and smallholders' limited ability to mitigate risks (International Finance Corporation (IFC), 2014). Low or non-access to formal financial services could also arise from involuntary exclusion. Involuntary exclusion may be as a result of a range of factors such as low incomes or high risk, discrimination, contractual and informational framework to price or the kind of products provided (Claessens, 2006). Price or Product features: Price of financial services may be prohibitively high or the features of the product being offered may not be suitable for certain population groups. For example, micro-entrepreneurs might be unwilling to take out loans that require them to pledge their personal assets as collateral, as it is commonly done in most developing countries. Conversely, Kempson (2006) outlines different underlying reasons or typologies of financial exclusion. These include access barriers such as identity requirements, the terms and conditions of bank accounts, levels of bank charges, physical access problems brought about by bank branch closures and psychological and cultural barriers are all important.

Problem Statement

Financing agriculture in Kenya has been a recurrent theme among policy makers and other stakeholders like financial institutions and non-governmental organizations given that

the agricultural sector in Kenya is the mainstay of the country's economy. The sector is the largest employer, accounting for 33 percent of the total employment. About 67% of the population, especially those living in rural areas, derive their livelihoods mainly from agricultural related activities (Fin Access, 2016). Characteristically, majority of the farmers are smallholder farmers involved in various forms of farming from crop production to fish farming. In the past, financing of agriculture was mostly done through the Agricultural Finance Corporation (AFC), a bank specifically set up for enabling farmers obtain credit. However, the AFC was not serving the credit needs of farmers; the loans went to large farms averaging 19 acres compared to an average farm size of 4.3 acres in the whole sample. As a result, this gap was filled by self-finance and co-operatives (Argwings-Kodhek, 2004).

Fundamental changes in Kenyan agriculture have profoundly affected agricultural financial services. Initially, covariant risks related to rain-fed agriculture caused most financiers to shy away from servicing the agricultural sector. However, innovations in provision of formal financial services have increased access, but usage is still low among the smallholder farmers. The advent of innovative banking models through commercial banks such as Equity bank have seen a higher proportion of the rural population who were previously unreached being reached by financial services (Kibaara & Nyoro, 2007). That said, the subscription to formal financial services by small holder farmers is still low and many of them either shy away from formal financial institutions or are simply ineligible for the services due to lack of a banking profile with the institutions. While determinants of financial inclusion have been well documented in previous research, utilization of formal financial services remains under researched. This study therefore sought to establish the effect of socio-economic (land size, Occupation and household income) factors on utilization of formal financial services among smallholder farmers in Kenya.

Objective of the Study

The general Objective in this article was to establish the effect of socio-economic factors on utilization of formal financial services among smallholder farmers in Kenya.

Hypothesis

H₀: There is no significant relationship between socio-economic factors and utilization of formal financial services by the smallholder farmers

Literature Review

Household Production Theory

Household productivity theory states that families are the one producing and consuming goods. Families attempt to allocate time, income and the collection of goods, services the produce, and utilise efficiently in an effort to maximise utility (Rogerson, & Wallenius, 2007). Household production theory refers to the study of household production, household time allocation and household production. Household production, consumption and time allocation are the basic concepts that are consistent across several different definitions of household production theory. According to Keng and Lin (2005), Household production is related to all other output produced by household including production related to work.

Household production theory is assumed that the consumers act as rational actors. The overall theory's role is to explain the relationship and interaction between production, consumption and time allocation. Becker (1965) is popular for modelling resource allocation and household decision where household serves as a producer and consumer unit. Output produced by the household is not sold in the market but is directly consumed. Becker further claimed that household productive model was a significant breakthrough in understanding household behaviour respective to models that considers households as a purely consuming unit Varian (1992).

Margaret Reid (1934) described household production behaviour and her work as a critical antecedent to formal

modelling of the productive household by Becker. In the early 1960s, Mincer (1963) became convinced of a severe misspecification of verifiable household demand functions for transport service, domestic service and food; the opportunity cost for travellers and homemaker's and non-labour household (or full-) income were variably omitted. He also revealed that using cash income as an explanatory variable was wrong since it reflects on various household decisions, among them being the number of hours to work for pay. Over the past four decades, food economic studies have largely dominated the potential of household production theory and models in analysis demand.

Greene (2003) points out that strong level of internal consistency is found in basic theory of household production; however, the measurement and definition of utility introduces the researchers' differences. The theory of overarching is based on standard economic used for a century. The concept of supply and demand, production possibilities curve and the marginal utility are all the aspects of economic theory applied. The main household utility production usually makes use of the all the variables interaction in an effort to maximise the efficiency and provision of the greatest happiness given to a family or individual set of constraints.

The consumption, production and time inclusion gives room for economists to develop models for examining the appropriate allocation for goods and services (Andrews, & Hamlick, 2009). Knowing how people allocate their time and resources is the basic concept in consumer economics. Researchers are able to examine and identify how consumers behave by utilising household production theory. According to Greenwood et al. (2005), the household production theory can be used to identify the variables in our life and establish the correct combination of resources we require to maximise our happiness on a personal level. Additionally, we need to understand the time usage and its relevance as a conditional variable. The time constrain introduction makes the analysis more useful

because of its fixed variable and the consistent allocation across every single human. Demand and supply are important, but the opportunity cost of their time allocation should be understood.

Empirical Review

Majority of studies have investigated the effect of socio-economic determinants on financial inclusion, however, access to financial services as sub-construct of financial inclusion has received scant attention. To analyse satisfactorily the socioeconomic determinants of demand and supply factors of access, Beck and De la Torre (2006) pointed out the distinction between access, the possibility to use and the actual use of financial services. Access is not identical to use because economic agents might have access to financial services, but might decide not to use them.

For instance, Kabakova and Plaksenkov (2018) there are three configurations of factors affecting financial inclusion; this was established by ecosystem analysis on factors influencing financial inclusion in Russia. It includes high political and socio-demographic factors in the absence of political development; economic and technological factors in the absence of economic development; high social; and finally the economic and political factors with the social and technological development absence. Park and Mercado (2015) posits that per capita income, rule of law, and demographic characteristics influences financial inclusion in developing Asia significantly. Moreover, the study suggests that financial inclusion reduces poverty significantly; and evidence that it lowers income inequality is also present.

In China, Li (2018) investigated the role of relative income on financial inclusion and poverty. Using the Chinese Household Finance Survey data set, the study found that concern with relative income significantly stimulated poor households to apply for bank credit. The effect of income comparisons on credit applications can be explained by

either a “keeping up with the Joneses” effect, in which the poor seek financing for costly consumption to emulate the wealthy's consumption style and thus suffer persistent poverty, or else a “tunnel” effect, in which the poor are inspired by the wealthy's economic success and enlightened to use credit for investment. Although the study did not provide empirical evidence of a “keeping up” effect, it revealed that credit applicants invest significantly more in human capital than non-applicants do, and it demonstrates that the “tunnel” effect is the primary incentive for relatively poor households to participate in the credit market. Poor households are capable of using finance to escape from poverty.

De Klerk, Fraser and Fullerton (2013) carried out a study on the status of agricultural and rural finance in South Africa. The findings revealed that state's land transfer – and fixed improvement and machinery/equipment – grants have been a major enabling factor in terms of public financial service delivery. However, in terms of their impact on the demand for financial services, it has often been more to increase the size of potential demand than of effective demand, given the restrictions placed on using assets transferred as collateral for loans. Masiyandimay et al. (2017) study on the Financial Inclusion and Quality of Livelihood in Zimbabwe established that income, financial literacy and the geographical presence of financial institutions are the major determinants of financial inclusion.

With the regard to the link between livelihood indicators and financial inclusion, the study found out that access to basic income, health, food and education for country's households, with the different impact of inclusion widening when banking instead of total inclusion, this is promoted by a greater financial inclusion.

A study in Cameroon by Chenaar, Maria and Teno (2018) sought to investigate the impact of the determinants of access to credit on the performance of smallholder farmers

in the Kumba municipality. The study concluded that the determinants (cost of credit facilities, collateral security, knowledge/awareness of financial procedures by farmers and demographic factors such as age gender, level of education and farm sizes) influence access to credit by smallholder farmers. Cost of credit facilities and collateral securities influenced access to credit largely whereas, knowledge/awareness of financial procedures influenced access to a lower extent. This affects the performance of the farmers and has implications for development. Therefore, it was found that despite the fact that smallholder farmers are the major producers in the agricultural sector, a sector that acts as an effective instrument in offering employment, alleviating poverty and enhancing food security, they have very limited access to credit from banks, which are also the major suppliers of finance in the economy.

In Ghana, Awunyo-Vitor et al. (2014) examined the effect of participation on formal financial market expenditure and farm size on the variable farm inputs, which focuses on maize farmers. Findings from the logit model employed for the study reveals that farmers socioeconomic factors for instance previous years maize income, education, farm size and taking part in off-farm activities generating income significantly affects their participation in formal financial market positively. Therefore, improvement in the level of farmers' income through off-farm activities generating income and stable producers price for maize would be seen to encourage formal financial participation by farmers or utilise the formal financial service.

The policy of farm income improvement in terms of sufficient remuneration for farmer (stable producer prices) is also a vital policy option increasing participation for formal financial market participation. Similarly, farm size expansion and a maize commercialization policy improves farmers participation service financially. Additionally, the use of friendly operational modalities and availability of formal financial institution improves the formal financial

market participation by farmers. Hence, formal financial institutions to the needs of their farmers (i.e making it less cumbersome) should adapt the savings and lending modalities. The findings of PSM analysis indicated that farmers who participated on the formal financial market were seen to spend more on variable inputs than non-participants. They also possessed higher farm sizes in comparison with nonparticipants (albeit not statistically significant). Thus, participation on formal financial market should be encouraged through promotional and educational programs by financial institutions.

In Kenya, Nyaga and Nzulwa (2017) sought to evaluate the strategic factors that affect access to credit facilities by Smallholder Dairy Farmers (SDFs) in Githunguri Sub-County, Kiambu County in Kenya. The study established that awareness of availability of finances and various credit products open for consumers, interest and other finance charges related to credit facilities and the loan processing procedures affect access to credit facilities by SDFs. The study noted that the farmer's years of experience, level of education as well as the nature of farmer's management practices all affect access to credit facilities. Finally, the study established that credit requirements spelt out by lending institutions affect access to credit facilities by the SDFs in the area. Further, the period of operation from the inception of the farm business, previous credit experiences and availability of financial statements, reports and other relevant farm records are all aspects of credit requirements that affect access to credit facilities by the SDFs.

Similarly, Kiplimo et al. (2015) conducted a study on determinants of credit financial services access by smallholder farmers in Kenya. The results obtained by using a logistic regression model revealed that the occupation, marginal effects of education level and access to extension service were seen to be significant statistically with effects positive on credit financial service access. In addition, it is necessary to sensitize smallholder farmers to employ modern techniques for instance, M-Banking to

address the distance to the market challenges. Finally, credit/loan offices close to farmers should be developed and operated by official of these banks who would be familiar with the farmers therefore reducing risks, lending procedure and teaching on the loan repayment procedure.

On the same context, Meeme (2013) carried out a study on factors influencing access to formal credit by small-scale women tea farmers in Thika District, Kiambu County Kenya. The study established that vast number of tea farmers who are women had acquired good education since they reached college level. They had enough knowledge on issues relating to tea farmers. Besides response obtained indicated that the institution of their choice was given priority on grounds that; they got less interest loans, time extension on repayment, customer care service was better, they received training on the formal credit usage, bonuses on early repayments were offered whereas others said that the institution handled their budget freely. Majority of the respondents affirms that the women were never equal to men; this was the main description of women's social situation in the village. On collateral requirements majority of the respondents' access. The study also found out that house and house goods was the most popular, vehicles, agricultural equipment household goods, animal lands as well as the animal in the farm forms the highest part of formal credit access. Majority of the respondents also said that; car log books, household goods, guarantors, good credit history, KRA pin, land title and a copy of a business license are the requirement by financial institution to a great extent on matters concerning access to formal credit respectively.

Methodology

The study adopted a cross-sectional survey research design since it allowed the collection of data from several cases in different contexts at the same time while ensuring that a variety of views over the same issue are captured in a short time increasing the external validity of the study. The study covered smallholder farmers from Nakuru, Kirinyaga and

Busia Counties in Kenya. These locations are within the same Livelihood Zones although with different poverty indices. Livelihood zones are areas within which people share broadly the same pattern of livelihood, that is, the same production system - agriculture or pastoralist as well as the same patterns of trade and exchange (Lawrence, King & Holt, 2011).

In this study, the population included smallholder farmers from three counties in Kenya. The Target population of 3,666,294 comprised smallholder farmers from Nakuru, Kirinyaga and Busia Counties. In sampling smallholder farmers, a simple random sampling approach was used. This study adopted a survey approach with multistage sampling, which entailed two stages of random sampling based on the hierarchical structure of clusters within the population (Sedgwick, 2015). A survey has been preferred to a census mainly for cost, time and quality benefits (Levine, et al., 2008). The study population was stratified at the national level across counties and at county levels across sub-counties. The counties were grouped across three broad spectrums of poverty indices namely "High", "Medium" and "Low" This is based on the report on wellbeing in Kenya showing Overall poverty estimates per individual counties (KIHBS, 2017).

Simple random sampling was then done on each county spectrum within the County strata using the lottery method. This resulted into selection of Nakuru, Kirinyaga and Busia counties across the spectrum. At the second stage, two sub-counties were randomly selected within each of the drawn samples. A total of 560 smallholder farmers were then selected using convenience sampling procedure with the guidance of agricultural officers from each of the wards. Convenience sampling is a type of sampling where the first available primary data source was used for the research without additional requirements (Christensen, & Johnson, 2012; Palinkas, et al., 2013). The farmers were then identified through the agricultural

officers from each of the wards. The guiding principle was the smallholder farmers with less than 5 acres of land.

Data was collected using copies of a researcher developed structured and semi-structured questionnaire, which were administered to randomly selected small holder farmers. Descriptive, correlation and multiple linear regression analyses were then conducted using SPSS software in order to address the study objective.

Results and Discussions of Findings

Socio economic information: Household Land Tenure

The study sought to establish the socioeconomic information of the smallholder farmers in the three counties. The results of household land tenure are summarized in Table 1.

Table 1: Household Land Tenure

County	Household land tenure	Frequency	Percent
Busia	Communal	5	4.4
	Self-owned	107	94.7
	Leased	1	0.9
	Total	113	100
Nakuru	Communal	9	3.1
	Self-owned	192	65.8
	Leased	91	31.2
	Total	292	100
Kirinyaga	Communal	32	35.2
	Self-owned	50	54.9
	Leased	9	9.9
	Total	91	100

The results in Table 1 show that majority of respondents (94%) in Busia County owned the land as opposed to, 65.8%, 54.9% in Nakuru and Kirinyaga Counties. Busia County had the least number of respondents who leased land whilst Nakuru County had the highest number of respondents. Communal land ownership exhibits itself more in Kirinyaga County. These findings suggest that most respondents in Kirinyaga are not able to use ownership documents as

security for loan. Studies show that land is used as collateral for formal credit (Migheli, 2016).

Income sources

Since the focus of the study is on financial utilization by smallholder farmers, the respondents were asked to indicate their income sources. The results are presented in Table 2.

Table 2: Average Annual Income

Sources of Income	<20000	20000-30000	30001-40000	40001-50000	50001-60000	> 60000	χ^2	$p > \chi^2$
Food Crops	36.4	19.2	10.3	6.9	4.4	22.8	154.93	0.000
Cash Crops	26	12	8.7	6	2	45.3	119.12	0.000

Commercial Livestock	33.3	22.2	14.8	18.5	7.4	3.7	9.22	0.101
Food Livestock	50.3	24.2	7.4	3.4	4.7	10.1	146.61	0.000
Fish	42.9	0	28.6	14.3	0	14.3	1.57	0.666
Employment	9.1	0	0	4.5	0	86.4	27.91	0.000
Business	26.1	15.9	4.5	9.1	2.3	42	60.50	0.000

The results in Table 2 show that majority of the respondents earn less than Ksh. 20,000 from food crops, cash crops, livestock, fish and business. Economic activities for Nakuru and Kirinyaga counties are mainly food and cash crops whilst Busia County's economic activity is fish farming. Cash crop farming brings in more revenue compared to both food crop and livestock farming. In fact, 45.3% of the respondents earn more than Ksh. 60,000 from cash crop farming. The respondents who earn income from employment receive over Ksh. 60,000. Income from Business is also over Ksh. 60,000 and this is mainly in Nakuru and Kirinyaga counties. The implication of this is that smallholder farmers that earn more income can access

formal finance. This is in line with the study by Park and Mercado (2015) who found out that per capita income affects financial inclusion.

Socioeconomic factors on utilization of formal financial services

A model summary of socio-economic factors that were tested in the study are the income of the small holder farmers, alternative occupation of the small holder farmers and size of land owned by the small holder farmers in relation to the utilisation of the formal financial services. The results are presented in Table 3.

Table3: Results of Multiple Linear Regression

	Busia	Nakuru	Kirinyaga	Overall
Constant	127.028 (4.140)*	58.571 (4.968)*	26.284 (1.135)	58.384 (5.896)*
Income	-43.691 (-1.733)* 0.132	4.025 (0.791) 0.306**	13.680 (1.789)* 0.237*	5.615 (1.312) 0.317**
Occupation	-21.781 (-2.231)* -0.220*	-18.560 (-3.418)* -0.194**	10.372 (1.067) 0.055	-14.304 (-3.265)* -0.146**
Land size	1.470 (0.582) 0.051	3.591 (1.789)* 0.100	3.446 (1.275) 0.133	2.891 (2.052)* 0.085
F-values	3.014*	5.040*	1.680	5.502*
R ²	0.277	0.223	0.234	0.180
Adjusted R ²	0.077	0.050	0.055	0.032
Observations	113	292	91	496

A) the dependent variable is the utilisation of formal financial services

B) t-values are in parenthesis

C) *, **, *** - asterisk, double asterisks, three asterisks indicate significant Pearson's moment correlation coefficient at 95% and 99% and 90% level respectively.

The results in Table 3 show that the overall coefficient of determination (R^2) for socio-economic factors on utilisation of formal financial services is 18.0%. The adjusted R^2 change is 0.032 thus the model is stable. This implies that the independent variables, income, occupation and land size account for 18 percent variability. However, the variability was not wide across the three counties of Busia, Nakuru and Kirinyaga as shown by their coefficients of determination 27.7 percent, 22.3 percent and 23.4 percent respectively.

The relationship between income, occupation and land size is statistically significant in the overall model ($F_{3, 492} = 5.502$; $p = 0.001 < 0.05$). This implies that socio-economic factors influence the utilisation of formal financial services.

The null hypothesis, which states that;

H₀: Socio-economic factors have no significant effect on formal utilisation of financial services by the smallholder farmers

It was therefore, rejected since the t-values were significant ($p < 0.05$). Consequently, we adopt the view that socio-economic factors, alternative occupation and land size, were important considerations that needed to be made when assessing the utilisation of formal financial services by the small holder farmers.

Discussion of Findings

Land in Kenya remains an important factor of production as it can be used for developing of an enterprise and as collateral. As collateral, it is especially important as financial institutions easily consider it as valuable immovable collateral that can be used to secure finance (Nyaga, & Nzulwa, 2017). In more urbanised counties like Nakuru, the value of land is high and most of them have title deeds, hence, can be used to secure significant amount of finance.

Thus, farmers in the county with title deeds can easily attach their title deeds to secure finance from formal financial institutions. In addition, as evidenced by the findings, income aggregated from other non-farming activities significantly influenced utilisation of formal financial services in Busia and Kirinyaga Counties possibly due to fact that it was an important ability-to pay determinant, which was usually considered when applying for formal financial services. In the case of farmers having alternative occupations, it was expected that the alternative occupations were their main source of income and, hence, financing for the farming projects was largely sourced from their other occupations (Meeme, 2013).

These findings imply that socio-economic factors were positively related to formal utilisation of financial services by the smallholder farmers. The findings are in support of the assertion by Wachira and Kihiu (2012), Grohmann, and Menkhoff (2017) that households' access to financial services in Kenya was based on among other things income levels. However, they disagree with FinMark Trust (2016) study, which found that employed people have better access to bank accounts, credit and savings irrespective of their income. Theoretically, the findings concur with Mincer (1963) view of the household production theory where he argued that using cash income, as an explanatory variable was inappropriate because it reflected a variety of household decisions, including a decision on how many hours to work for pay. The present findings suggest that having alternative household income was significantly related to uptake of opportunities in the financial sector, which could increase, the household income when well utilised.

This study has established important insights into the effect of land size in financial theory where land has traditionally been seen as a factor of production and as collateral. The present study broke new grounds with additional insights suggesting that land size can also be a predictor of financial behaviour where it influences the

client's decisions to uptake formal financial services as opposed to land being demanded as collateral by the lenders. Previous studies have also linked access to finance with income levels, the present study, however, shows that not only is the income levels influence access influenced by income levels, utilisation too of financial services. In other words, higher incomes could lead to higher utilisation of formal financial services. The study, nevertheless, was not able to provide evidence whether this translated to better utilisation of formal financial services as well especially in the informal sector like small holder farming

Conclusions

Smallholder farmers are an important economic group in Africa. However, financial inclusion in Africa vis-a-vis its principal role in African financial system as well as economic development has not been given much research attention especially at a time when several countries are trying to reposition themselves economically. In Kenya, for example, the utilization of formal financial services by the smallholder farmers in Kenya is about 17 percent, which is low compared Access of formal financial services, which stand at 80 percent. It is on this basis that the present study sought to establish the effect of socioeconomic factors on utilization of formal financial services of smallholder farmers in Kenya. The socio-economic variables were found to be significant in influencing their utilization

of formal financial services. These could be explained by the observation that smallholder farmers that earn more income are likely to subscribe to formal financial services that safeguards their income and in the process become eligible to access other formal financial services. In addition, most smallholder farmers joined farmers group with a view of accessing services such as knowledge in farming, Table banking and training on financial literacy and in the process raised their prospects of financial inclusion. Therefore, the study concludes that average annual income of the farmers cannot be ignored when considering utilization of formal financial services among smallholder farmers.

Recommendations

Socio-economic factors (average annual income) was found to be an important determinant of utilization of formal financial services among smallholder farmers. The study, therefore, recommends that financial services firms should come up with microfinance products that encourage utilization of formal financial services by the farmers. The national policy makers should also encourage smallholder farmers by way incentives to disclose their annual income to improve their chances of accessing formal financial services that can expand their enterprises.

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