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THE INFLUENCE OF SOCIO-ECONOMIC ELEMENTS ON PARTICIPATION OF THE YOUTH IN AGRICULTURE: A CASE OF SELECT COUNTIES IN KENYA

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Abstract

This study sought to establish the socioeconomic factors influencing Youth participation in Agriculture in Kenya. The study was necessitated by the fact that, despite the consensus by the Government of Kenya and her development partners, that, the domestic, regional and global reliance on Agriculture for food security, depends on the productive force of the youth, and that participation of the youth in Agriculture is a significant source of employment to the youth- who form the highest percentage of unemployed persons in Kenya- Socioeconomic factors remains a challenge to the youth who have a positive attitude towards Agriculture. The study was guided by the following four objectives: To explore the extent to which access to financial services influence participation of the youth in Agriculture; to examine the extent to which access to land influence participation of Youths in Agriculture; and to investigate the extent to which demographic factors influence participation of the youth in Agriculture. The findings reveal that for the sample surveyed, demographic factors, did not have significant influence in

determining youth participation in agriculture. Both finance indicators and accessibility to land moderately influenced participation in agriculture The study employed a descriptive survey research design and inferential statistics as tools of analysis, and with a sample size of 194 respondents drawn from the Seven (7) Counties namely, Kitui, Tharaka Nithi, Kirinyaga, Isiolo, Nyeri, Embu and Murang'a.

Keywords: Food Security and Nutrition, Socio-economic factors, Youth Participation, Agriculture

INTRODUCTION

Agriculture is an important sector in the economy of most countries in the world, it accounts for 25% – 40% of total Gross Domestic Product in Sub Sahara Africa. The reliance on agriculture for food production and food security at domestic, regional and global level depends on youth productive force (Prosper John Kimaro, 2015). Globally, youth population is more than 1 billion and by approximation 85% live in developing countries (WPAY, 2014). It is projected that at around 2065, the world's youth population is expected to reach its peak (United Nations, 2019). Africa's youth population is expected to continue to grow throughout the remainder of the 21st century, more than double from current levels by 2055 (United Nations, 2015).

It is however important to focus on the young people as the future of addressing food insecurity even as global youth population increases. Youth integration in agricultural activities is important for the development of agricultural sector and food security. This is given by the fact that youths are potential to overcome some major constraints in agriculture development as they are more open to new ideas and practices than adult farmers (Prosper John Kimaro, 2015). Agriculture in Kenya is mainly practiced by older people of about 60 years of age. Young people constitute about 78.31 percent of the total population, which are below the age of 35 years.

There has been a growing concern in Kenya to engage youths in agriculture. Several initiatives have reflected these initiatives such as Youth Enterprise development Fund (YEDF), Uwezo Fund and affordable state loans (Goris, 2016). Pursuant to these initiatives the government has developed various strategies and has implemented various interventions to facilitate youth participation in agriculture. These include facilitating access to resources, use of technologies in agriculture and skills development. Despite these initiatives and interventions, the level of youth participation in agriculture remains low. This gives dearth evidence on what has worked well and what has not worked well. This paper undertakes a critical review of social economic elements that influence participation of youths in agriculture.

Agriculture has a crucial role in the economy of both developed and developing countries. It is the main source of food to their populations. According to FAO (2000), the share

of agricultural population to the total populace is 67% where Agriculture accounts for 39.4% of the GDP and 43% of all the exports comprise of agricultural goods. In the last few years, it has become evident that the conception of policy-makers and economist regarding the contribution of agriculture in development of economy has undergone significant evolution. One quarter of the terrestrial surface of earth is under cultivation. In many developed countries such as North, America and Europe, people have become skillful in boosting yields using inputs such as pesticides, fertilizers and pesticides. In developing countries with low rates of productivity and high population, agriculture is continuing to expand in fragile and marginal lands. In Sub-Saharan Africa, estimates compiled by the Millennium Ecosystem Assessment (MEA) indicate that almost no highly productive land is left. However, improvement in land use and agriculture are significant to achieve food security, sustainable development and overall poverty alleviation. However, despite its importance, the potential agriculture has not been fully realized since majority of the youths do not participate. In Africa, agriculture is dominated by the old who are not enthusiastic as they participate in traditional subsistence cultivation which gives poor returns (Gitau, 2011). The situation in East Africa is not different. Studies from Uganda, Kenya and Ethiopia point to a decrease in the percentage of Youth working in Agriculture and an increase in Youth migrating to urban areas. Thus, the reliance on Agriculture for food production and food security at domestic, regional, and global level depends on Youth productive force.

The youth form the highest percentage of the population. In Kenya 78.31% of the population are below 35 years and 64% of the unemployed Kenyans are youths (KNBS, 2019). This clearly shows that youth comprise of a key demographic domain of food insecurity and poverty. This show that youths are not fully engaged in economic activities especially agriculture which put a big burden to the society and families. This problem is compounded by socio economic factors that have become a challenge to the youths who have a positive attitude towards agriculture. Therefore, Kenya has made efforts to achieve international targets within MDGs framework and national policy objectives contained in the medium development plans and the vision 2030 should rally the youth's potential as a very important demographic group (GoK, 2012). The major catalyst for change and backbone of a nation are youths hence it is paramount to mobilize them participate in agriculture for national development. The youths should replace the ageing farmers otherwise food security is likely to be comprised (Valerie, 2009). Also, it is important to focus on the Youth as the future of addressing food insecurity even as global Youth population increases. Youth integration in Agricultural activities is important for the development of Agricultural sector and food security. This is because they have the ability to overcome major constraints to expanding agriculture such as genetic

improvement and pest control since they are more open to new practices and ideas. The Agricultural sector is therefore critical in creating employment and uplifting the living standards of the Kenyan people. It's against this background that Agriculture has been identified as one of the key sectors to deliver the 10 per cent annual economic growth rate envisaged in the economic pillar of the Kenya Vision 2030. Considering high rate of Youth unemployment, the Agricultural sector offers multiple livelihood and employment opportunities. It is against this backdrop that this study explored the socio economic determinants of the Youth in Agriculture in Kenya.

Statement of the Research Problem

Poor participation of Youths in Agriculture in Africa has been a problem to agriculturalist, agricultural researchers and administrators due to the current situation of food insecurity. This calls for more improvement in the Agriculture sector to ensure sustainability of food security for the high population in Sub Saharan African countries. Therefore, integration of Youths in agricultural activities is a significant factor towards agricultural development in many countries. This is because the Youths have the ability to generate new ideas, adopt new practices and have a greater physical strength.

The existing literatures do not point out clearly the issue of socioeconomic determinants of Youth participation in Agriculture. They are supposed to indicate clearly the reasons behind poor participation of Youth in Agriculture and the extent to which social Economic elements hinder engagement of Youths in development of Agriculture sector.

In Kenya, the Youth form the highest percentage of population, hence are a substantial workforce that needs to be utilized to enhance Agriculture sector. However, their labor is unutilized. Despite these worries, relatively little research have been done to capture the views of Youths on the Socio-Economic factors and their aspirations towards Agriculture. Hence there is no sufficient evidence on the extent to which Socio-Economic elements influence Youth participation in Agriculture. The concern on the level of Participation of the Youth in Agricultural activities, that is contributed by accumulation of Socio-Economic factors that discourage Youths from participating in Agriculture and leading to apathy toward Agriculture and shifting to other sectors calls for an action to understand these factors and come up with solutions in terms of policies and strategies so as to encourage and motivate the Youth in undertaking Agricultural activities. Therefore, this study was conducted to interrogate the Socio-Economic determinants factors influencing participation of Youths in Agriculture.

Research Objectives

The general objective of the study was to assess the Socio-Economic factors influencing participation of the Youth on Agriculture in Kenya; a study of Kitui, Tharaka Nithi, Kirinyaga, Isiolo, Nyeri, Embu and Murang'a Counties.

Specific Objectives

1) To investigate the extent to which Demographic factors influence Participation of Youth in Agriculture in these Counties.
2) To explore the extent to which access To Financial Services influence Participation of the Youth in Agriculture in these Counties.
3) To examine the extent to which access to Arable Land influence Participation of the Youth in Agriculture in these Counties.

Research Hypotheses

The hypotheses supposed that there are relationships between the research study variables, after review of literature. The conceptual framework is as shown in Figure 1. Lead by the research objectives, the researchers hypothesized as follows: -

1) H_{01}: Demographic factors do not have a statistically significant influence on the Participation of the Youth in Agriculture in these Counties.
2) H_{02}**:** Access to Financial Services do not have a statistically significant influence on the participation of the Youth in Agriculture in these Counties.
3) H_{03}: Access to Arable Land does not have a statistically significant influence on the participation of the Youth in Agriculture in these Counties.

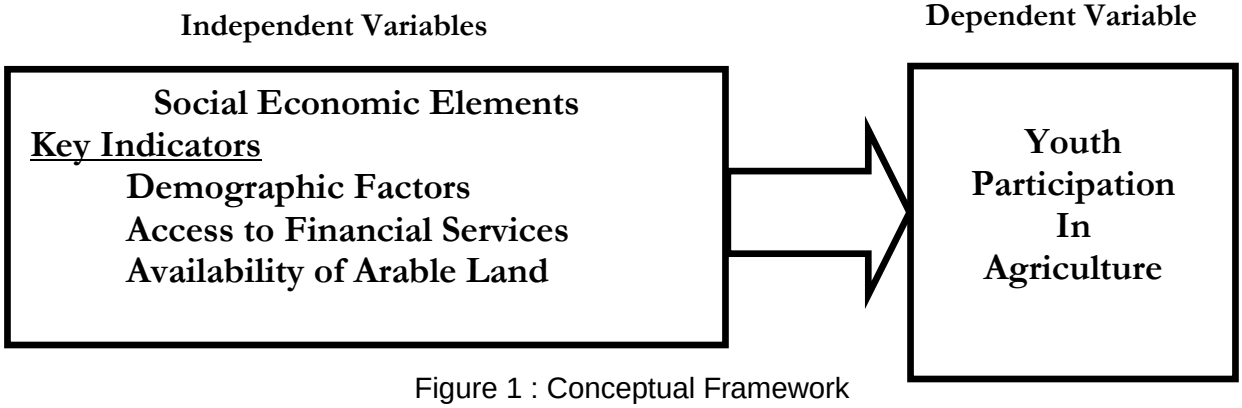

Figure 1 : Conceptual Framework

LITERATURE REVIEW

General Overview

Youth are the major catalyst for change and a backbone of a nation hence mobilizing them for national development through participation in Agriculture is paramount (Valerie, 2009). This Economic activity has not been embraced by the young generation because they face socioeconomic challenges that prevent them from participating in Agriculture (FAO, 2006). Despite these challenges, Valerie (2009) argued that young farmers ought to replace the ageing producers otherwise the production of food is likely to be compromised. They have the potential to overcome some of the major constraints to expanding Agriculture such as pest control and genetic improvement because they are often more open to new ideas and practices (Gitau, 2011). Therefore, this study seeks to determine the influence of demographic factors, access to land and access to finances on Youth participation in Agriculture and identify the interventions that can make Agriculture attractive to the Youth. This is paramount particularly in Kenya where this information is inadequate. Involving more Youth in agricultural production is likely to improve national food self-sufficiency, Economic growth and to reduce Youth unemployment.

Influence of Demographic Factors on Youth Participation in Agriculture

Kenyan Youth are all individuals in the Republic who are between 18 and 35 years (KNBS, 2010). It is estimated that 78.31% of Kenyans are below 35 years and that 64% of unemployed persons in Kenya are the Youth. Only 1.5% of the unemployed Youth have formal education beyond secondary school level and over 92% have no vocational or professional training with majorities in rural areas (KNBS, 2010).

This clearly shows that Youth constitute a key demographic domain of poverty. This implies that the Youth are not fully engaged in agricultural activities, which puts a big burden to society and to their families in particular. This problem is compounded by the demographic factors such as age, gender and level of education which play a role in their participation in Agriculture. Therefore, efforts by Kenya to achieve international targets within the framework of MDGs as well as the national policy objectives contained in the medium development plans and the Vision 2030 need to rally the potential of the Youth as a very significant demographic group (GoK, 2012).

Most studies have found that individuals with higher levels of education are better able to perceive and exploit agricultural sector. This finding has been explained by the fact that educated individuals tend to have better financial and problem-solving skills than their counterparts.

According to Abdullah and Sulaiman (2013), higher levels of academic knowledge can lead to the acquisition of greater skills by the Youth as they prepare to participate in Agriculture, thus providing an advantage of their better exploitation of agricultural activities (Abdullah and Sulaiman 2013).

Influence of Access to Finances on Youth Participation in Agriculture

Access to finance is just as important as access to land since in some regions Youth have access to land but lack the finance to invest in the land (Mcnulty and Nagarajan, 2005). Agriculture is a major contribution to gross domestic product in Kenya, and Youth could play a dominant role in this contribution, but their productivity and growth is hindered by limited access to finances (Odoemenem & Obinne, 2010). Farming is considered highly risky by the formal banking sector, thus it gives farming little attention (Tuifa'asisina, 2012). Financial institutions often have the perception that Youth form even more risky client category than the elderly. According to FAO (2010), African and Latin American rural Youth often lack knowledge on how to draft business plans and have thus difficulties in 'selling' their business ideas to financial institutions. As a consequence, Youth often obtain access to finance through informal sources such as families and friends (IFAD, 2009). Access to agricultural credit may enhance productivity and promote standards of living by reducing poverty for the Youth.

In Kenya, the lack of capital and access to affordable credit is cited by Youth as the main factor behind the low productivity in Agriculture (Kangai, 2011). Access to bank credit especially by young farmers is still a major challenge despite the fact that Kenya has a relatively well-developed banking system (IFAD, 2009).

Risks associated with agribusiness coupled with complicated land laws and tenure systems that limit the use of land as collateral make financing of Agriculture unattractive to the formal banking industry in Kenya (MoA, 2009). Thus, family support is a common finance source for Youth willing to start a farming activity which is usually very limited. Loans are the most commonly offered financial products to Youth. However, many a times, accessing credit remains difficult for young people since they often lack the required collateral such as land or savings to obtain credit from financial institutions (Herbel, 2010).

Young women face additional barriers to access credit even though it is proven that they are more reliable clients than men (IFAD, 2009). On average, they have lower literacy levels than men, often lack collateral like land and in some communities, their mobility is restricted (Mcnulty and Nagarajan, 2005). Legal policies and traditional rules often restrict women's access to and control over assets that can be accepted as collateral in agricultural credit sources.

Fletcher and Kenney (2011) observed that female Youth are much less likely to have land titled under their name and are less likely than male Youth to have control over land, even when they do formally own it. Without credit, young farmers are not able to sufficiently invest in Agriculture.

Credit accessibility challenges notwithstanding, FAO (2010) revealed that young people in rural areas are often hesitant of taking loans because they are afraid they may not be able to manage the reimbursement. FAO (2010) reported that loans are generally only provided to Youth who have an established business rather than to start-ups. In a significant number of cases, farmers divert credit given as input materials or even cash thus making reimbursement of the same not effective (Kangai ,2011). Apart from credit, Kangai (2011) confirmed that savings are extremely important for Youth; it helps them build assets, plan for life events and respond to emergencies. Regrettably, financial service providers tend to focus more on credit instead of enabling savings. FAO (2010) further, reported that it is only less than half of microfinance providers in most of the developing world that offer savings products.

Influence of Access to Land on Youth Participation in Agriculture

Access to land is one of the main factors that refrain the Youth from starting a farming activity. Report by FAO (2010) revealed that inheritance is still the most common system to obtain land in most developing countries. Cotula (2011) observed that life expectancy is increasing in all regions. As a consequence, rural Youth often have to wait many years before inheriting their share of the family land.

In Kenya many Youth cultivate the family land and many times they get no or little income from this work. World Bank (2009) confirmed that the world population is projected to grow from 6.9 billion in mid-2011 to 9.3 billion in 2050 and that the size of rural population is expected to continue to grow until 2020. This population growth has resulted in the ongoing subdivision of land and in highly fragmented parcels (FAO, 2010). Therefore, Youth especially those with many siblings end up inheriting just a very small piece. In areas where land is owned by the community, decisions on how to use this land are generally taken by the elderly, often ignoring Youth interests. In many countries in North Africa and the Middle East, the tradition is against the division of inherited land, leading to farmers cultivating under a joint-ownership situation with their co-heirs (Cotula, 2011).

In some regions of Pakistan, the elderly refuse to distribute their land to the Youth as they are afraid it will not suffice for everyone (Herbel, 2010).

For young women it is even more difficult to acquire land. FAO's gender and land rights database shows state gender disparities in land holdings in all regions of the world.

For example in Mali only 3% of the country's land owners are women and that less than 2% of the available land worldwide is owned by women (FAO, 2010). FAO (2010) further confirmed that land rights in many communities are governed by both statutory and customary laws. Many of these traditional customary laws especially in Kenya deny women right to land. By tradition, men inherit land and women gain user rights through their relationship with a male relative (Cotula, 2011). This is very consistent with many parts of Kenya where the traditions are really bestowed denying female Youth right to land as a production resource.

Interventions that make Agriculture more attractive to the Youth

The government should ensure that arable government land is only used for agricultural purpose, fairly distributed among young male and female farmers and those mechanisms to be put in place to help Youth have sustainable Agriculture (Cotula, 2011). Promotion of land reforms and creation of laws that ensure young people's access to production resources that ensure equal opportunities for young men and women should be adopted. FAO (2011) observed that the government can adopt laws and public policies relevant to young rural people and small producers. Such laws and policies should facilitate access to credit by the Youth and reduce inequalities in rural areas to ensure young people's access to land. They should also provide young men and women with future prospects in farming and strengthen their identity.

FAO (2011) reported that Youth often inherit small plots of land and lack access to finance to buy more land. In India, cooperative farming has proved to be successful in overcoming this constraint a phenomenon that Kenyan Youths can borrow in order to improve their level of participation in Agriculture (FAO, 2011). In order to mitigate the consequences of increased life expectancy on Youth access to land, family land transfer can be considered as a good option, where the elderly can transfer part of their land to younger family members while they are still alive (IFAD, 2010). This is seen to benefit both parties since elderly often do not have the necessary capacity to manage their lands in the most efficient way; and Youth are keen to have their own land and have better access to new technologies. IFAD (2010) revealed that transfer of land from elderly to Youth has been proven highly successful in Mexico.

Theoretical Framework

All study elements are shaped and united by theoretical framework (Mugenda, 2008). This study was guided by the Push and Pull theory.

There are factors that push or pull an individual towards the end state. This theory can be used in framing Agriculture and young people. The theory is applicable to this study since youths face several Socio-Economic factors that either push them towards participation in

agricultural activities or pull them away from them. Some of the pulling factors for Youth participation in agricultural activities could be demographic factors, land inaccessibility and lack of access to financial services for carrying out agricultural activities.

RESEARCH METHODOLOGY

The purpose of this study was to explore the extent to which Socio-Economic elements namely demographic factors, access to financial services and access to arable land influence the Participation of the Youth in Agriculture in seven (7) Counties in Kenya. To realize this, the study undertook a descriptive survey design. According to (Kothari & Guarav, 2014), descriptive research studies are designed to obtain relevant and precise information concerning the current status of a problem or phenomenon and whenever possible to draw valid general conclusions from the facts discovered.

The study population which was the Youth, was derived from the Seven(7) Counties, namely Kitui, Tharaka Nithi, Kirinyaga, Isiolo, Nyeri, Embu and Murang'a. They were comprised 385 Youth who were engaged in Agriculture in their respective Counties.

The study used a self-designed questionnaires to collect data. Good questionnaire design is crucial (Kabir, 2016) in order to generate data conducive to the goals of the research. Questionnaire format, sequence and wording, the inclusion of classification, behavioral, knowledge and perception questions, and questionnaire length and output, need to be considered to ensure reliability, validity and sustained engagement of the participant. The questionnaire had closed-ended and open-ended questions.

The closed-ended questions made use of a five-point likert scale where respondents were required to fill according to their level of agreement with the statements. The study took an approach where data was collected using a qualitative approach in the questionnaires. Closed-ended questions are easy to analyze statistically, but they seriously limit the responses that participants can give.

According to (Hale, 2012) and (Jackson, 2009), descriptive research methods fundamentally describe situations. Descriptive and inferential statistics were used to analyze the data using SPSS. The descriptive analysis comprised the mean and percentages. This assisted in presenting the face value of the data collected for further analysis. The study used descriptive statistics of the study variables using percentages and concluded with the inferential statistics of the study variables using the One Way ANOVA (UNIVARIATE Analysis). This enabled the analysis of the influence of the dependent variable and the independent variables.

Table 1: Operationalization of the Study Variables

Variables	Key Indicators
Dependent Variable Participation in Agriculture (Y)	▪ The proportion of Youth who Participate in Agriculture ▪ Respondents Yearly Expense on Agriculture
Independent Variables Demographic factors (X_1)	▪ Respondents Gender ▪ Respondents Age ▪ Respondents Level of Education ▪ Respondents Yearly Income from Agriculture
Access to Financial Services (X_2)	▪ The Agricultural Financing Corporation in my County provides capital for the Youth to start Agricultural Activity ▪ The County Government provides Loans for Youth who cannot afford to undertake trainings on Agriculture ▪ I am able to Access credit from my County to carry out Agricultural activities
Access to Land (X_3)	▪ The availability of Arable Land affects Youth participation in Agriculture in my County

Interpretation of the Hypotheses With Respect to the Study Variables

$\mathbf{H_{0i} : \mu_i = \mu_j}$

$\mathbf{H_{ai} : \mu_i \neq \mu_j}$

If the null hypothesis is rejected then the independent variable $\mathbf{X_i}$ has statistically significant influence on **Y**, otherwise if we fail to reject the null hypothesis then the independent variable $\mathbf{X_i}$ has a statistically insignificant influence on **Y.**

RESEARCH FINDINGS

Response Rate

The study had targeted three hundred and eighty-five (385) respondents from the study population that were eligible. Two hundred and fifty (250) were collected. On cleaning the data one hundred and ninety-four (194) remained as shown in Table 2.

Table 2: Response rate

	Administered Questionnaires	Returned Questionnaires	On cleaning Questionnaires	Percentage Remaining
Respondents	385	250	194	50%

Respondents' County

From Table 3, six percent (6%) were from Kitui County, twenty two percent (22%) from Tharaka Nithi County, thirteen percent (13%) from Kirinyaga County, twelve percent (12%) from Isiolo County, twenty one percent (21%) from Nyeri County, sixteen percent (16%) from Embu County and ten percent (10%) from Murang'a County.

Table 3 : Respondents' County

County	*N*	%
Kitui	11	6.0
Tharaka Nithi	43	22.0
Kirinyaga	25	13.0
Isiolo	23	12.0
Nyeri	42	21.0
Embu	31	16.0
Murang'a	19	10.0
N/%	194	100.0

Respondents' Gender

From Figure 2, sixty two percent (62%) of the respondents were male while thirty-eight (38%) percent were female. This is an indication that sample population consisted of more males than females.

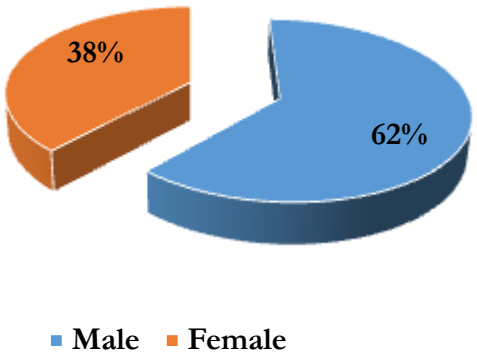

Figure 2: Respondents' Gender

Respondents' Age

From Figure 3, thirty percent (30%) of the respondents were aged between 18 and 24 years, forty percent (40%) were aged between 25 and 29 years and thirty percent (30%)

between 30 and 35 years. This is an indication that majority of the youths aged 25 to 29 years participate in agriculture since they have finished school and have decided to venture in agriculture. The youths in age bracket 18 to 24 years are still in school thus a few are engaged in farming.

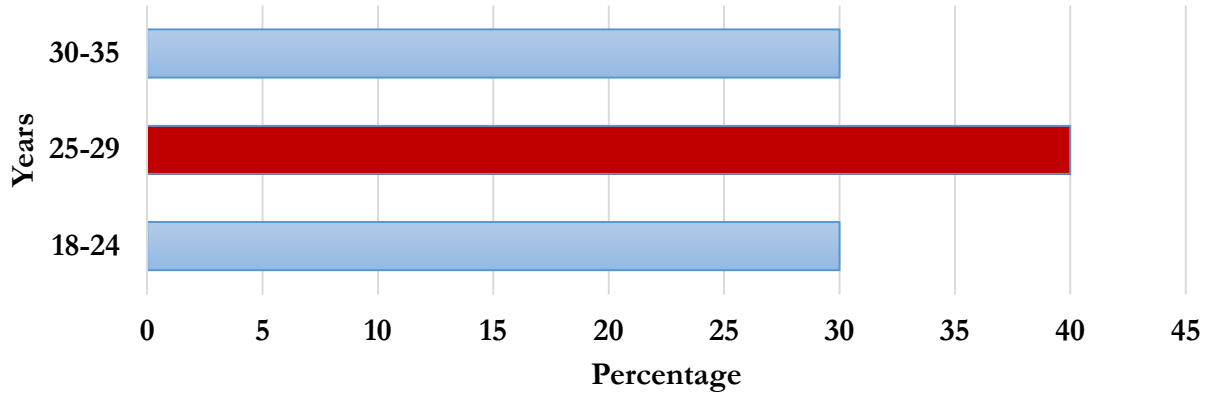

Figure 3 : Respondents' Age

Respondents' Level of Education

From Table 4, six percent (6%) had a Post Graduate, twenty eight percent (28%) had a Degree, twenty five percent (25%) had a Diploma, twenty six percent (26%) had a Certificate and fifteen percent (15%) did not have any level of education. This shows that education is a significant factor in encouraging youth to participate in agriculture.

Table 4: Respondents' Level of Education

Level of Education	%
Post-Graduate	6.0
Degree	28.0
Diploma	25.0
Certificate	26.0
None	15.0
%	100.0

Respondents' Yearly Income

From Table 5, sixty five percent (65%) of the respondents earned below Ksh. 40,000 yearly in Agriculture, twenty one percent (21%) earned between Ksh. 40,001-80,000, eight percent (8%) between Ksh. 80001-120000, and one percent (1%) earned between Ksh.

120,000-160,000 and five percent (5%) over Ksh. 160,001. This means that higher income encourages youths to participate in agriculture.

Table 5: Respondents' Yearly Income

Yearly Income Bracket	%
Below Ksh.40,000	65.0
Ksh. 40,001-80,000	21.0
Ksh. 80,001-120,000	8.0
Ksh 120,001-160,000	1.0
Ksh.160,001 and Above	5.0
%	100.0

Respondents' Main Occupation

From Figure 4, eighteen percent (18%) of the respondents were farmers in own farm, sixty four percent (64%) were farmers in parents farm, and eighteen percent (18%) were farmers in hired lands. This clearly shows that majority of the youths do not own land since they work on their parents farm or hire lands.

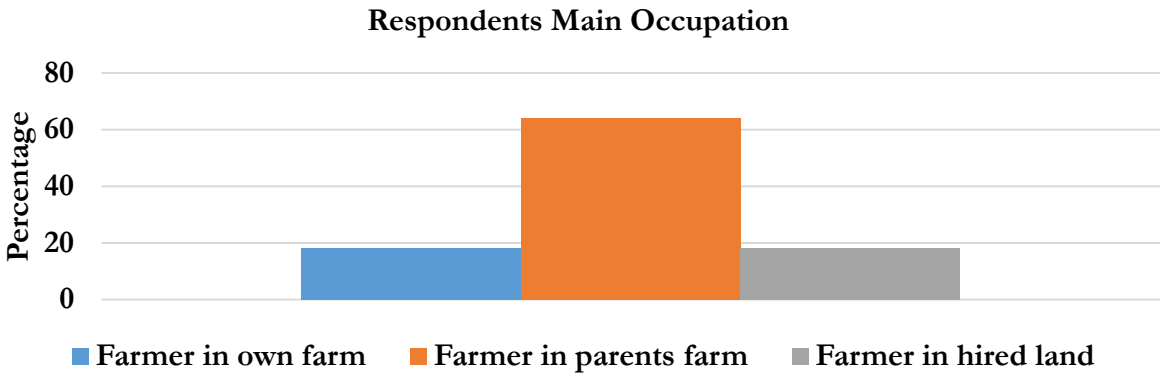

Figure 4: Respondents' Main Occupation

Respondents' Gender and Participation in Agriculture

From the sample that was comprised of males only, seventy four percent (74%) participated in Small Scale farming, twenty six percent in Medium Scale farming. From the sample that comprised of females only, Seventy three percent (73%) were Small Scale farmers, twenty six percent (26%) were Medium Scale farmers and one percent (1%) was Large Scale farmers. This shows that gender differences does not influence youth participation in agriculture. Both males and females participate in almost similar proportions.

Table 6: Respondents Gender and Respondents Participation in Agriculture Cross-tabulation

			Respondents' Type of Farming			%
			Small Scale	Medium Scale	Large Scale	
Respondents' Gender	Male	% within Respondents' Gender	74.0%	26.0%	-	100.0%
	Female	% within Respondents' Gender	73.0%	26.0%	1.0%	100.0%

Respondents' Age and Participation in Agriculture

18 to 24 Years: From Table 7 seventy five percent (75%) of the Youth that were in this age bracket thirty percent (30%) were Small Scale farmers and twenty five percent (25%) of the Youth that in this age bracket, thirty percent (30%) were Medium Scale farmers. It clearly shows that majority of the youths aged 18 to 24 years were small scale and medium scale farmers.

25 to 29 Years: Seventy seven percent (77%) of the Youth that were in this age bracket, forty two percent (42%) were Small Scale farmers, and twenty three percent (23%) that were in this age bracket, thirty eight percent (38%) were Medium Scale farmers. This is an indication that most of the respondents aged 25 to 29 years were small scale farmers.

30 to 35 years: Seventy one percent (71%) of the Youth that were in this age bracket, twenty seven percent (27%) were Small Scale farmers, and twenty seven percent (27%) that were in this age bracket, thirty two percent (32%) were Medium Scale farmers and two percent (2%) of the Youth that were in this age bracket, one hundred percent (100%) were Large Scale farmers. This shows that majority of the respondents aged between 30 to 35 years in large scale farming.

Table 7. Respondents' Age and Participation in Agriculture

			Respondents Type of Farming			%
			Small Scale	Medium Scale	Large Scale	
Respondents' Age	18-24	% within Respondents' Age	75.0%	25.0%	-	100.0%
		% within Respondents' Type of Farming	30.0%	30.0%	-	30.0%
	25-29	% within Respondents' Age	77.0%	23.0%	-	100.0%
		% within Respondents' Type of Farming	42.0%	38.0%	-	40.0%
	30-35	% within Respondents' Age	71.0%	27.0%	2.0%	100.0%
		% within Respondents' Type of Farming	28.0%	32.0%	100.0%	30.0%

Respondents' Level of Education and Participation in Agriculture

Post-Graduate: From Table 8, eighty two percent (82%) who had a postgraduate, six percent (6%) were small scale farmers and Eighteen percent (18%) who had a postgraduate, four percent (4%) were medium scale farmers.

Degree: Seventy four percent (74%) who had a Degree; twenty eight percent (28%) were small scale farmers. Twenty six percent (26%) who had a Degree; thirty percent (30%) were medium scale farmers.

Diploma: Seventy five percent (75%) who had a Diploma; twenty five percent (25%) were small scale farmers. Twenty four percent (24%) who a Diploma, twenty three percent (23%) were small scale farmers. One percent (1%) who had a Diploma, hundred percent were (100%) large scale farmers.

Certificate: Eighty percent (80%) who had a Certificate; twenty seven percent (27%) were small scale farmers. Twenty percent (20%) who had a Certificate; twenty two percent (22%) were small scale farmers. Sixty seven percent (67%) who did not have any level of education, fourteen percent (14%) were small scale farmers and thirty three percent (33%) who did not have any level of education, twenty one percent (21%) were medium scale farmers.

This is an indication that majority of the respondents at all levels of education are small scale farmers.

Table 8: Respondents' Level of Education and Participation in Agriculture

		Respondents' Type of Farming			%
		Small Scale	Medium Scale	Large Scale	
Post-Graduate	% within Level of Education	82.0%	18.0%	-	100.0%
	% within Type of Farming	6.0%	4.0%	-	6.0%
Degree	% within Level of Education	74.0%	26.0%	-	100.0%
	% within Type of Farming	28.0%	30.0%	-	28.0%
Diploma	% within Level of Education	75.0%	24.0%	1.0%	100.0%
	% within Type of Farming	25.0%	23.0%	100.0%	25.0%
Certificate	% within Level of Education	80.0%	20.0%	-	100.0%
	% within Type of Farming	27.0%	22.0%	-	26.0%
None	% within Level of Education	67.0%	33.0%	-	100.0%
	% within Type of Farming	14.0%	21.0%	-	15.0%
	% within Level of Education	74.0.0%	25.0%	1.0%	100.0%
	% within Type of Farming	100.0%	100.0%	100.0%	100.0%

Respondents' Yearly Income and Participation in Agriculture

Table 9 below presents respondents' yearly income and participation in agriculture.

Table 9: Respondents' Yearly Income and Participation in Agriculture

			Respondents Type of Farming			%
			Small Scale	Medium Scale	Large Scale	
Respondents' yearly income	Below Ksh.40,000	% within Respondents yearly income	85.0%	15.0%	-	100.0%
		% within Respondents Type of Farming	74.0%	40.0%	-	65.0%
	Ksh. 40,001-80,000	% within Respondents yearly income	65.0%	35.0%	-	100.0%
		% within Respondents Type of Farming	18.0%	30.0%	-	21.0%
	Ksh. 80,001-120,000	% within Respondents yearly income	53.0%	40.0%	7.0%	100.0%
		% within Respondents Type of Farming	6.0%	13.0%	100.0%	8.0%
	Ksh 120,001-160,000	% within Respondents yearly income	50.0%	50.0%	-	100.0%
		% within Respondents Type of Farming	1.0%	2.0%	-	1.0%
	ksh.160,001 and Above	% within Respondents yearly income	22.0%	78.0%	-	100.0%
		% within Respondents Type of Farming	1.0%	15.0%	-	5.0%
N		% within Respondents yearly income	75.0%	24.0%	1.0%	100.0%
		% within Respondents Type of Farming	100.0%	100.0%	100.0%	100.0%

Specific Objective 1: To investigate the extent to which demographic factors influence Participation of the Youth in Agriculture.

From Table 10 and Figure 5, seventy four percent (74%) of the respondents were small scale farmers, twenty five percent (25%) were medium scale farmers and one percent (1%) large scale farmers. This shows that majority of the respondents were small scale farmers.

Table 9: Dependent Variable: Participation in Agriculture

Type of Farming	%
Small Scale	74.0
Medium Scale	25.0
Large Scale	1.0
N	99.0

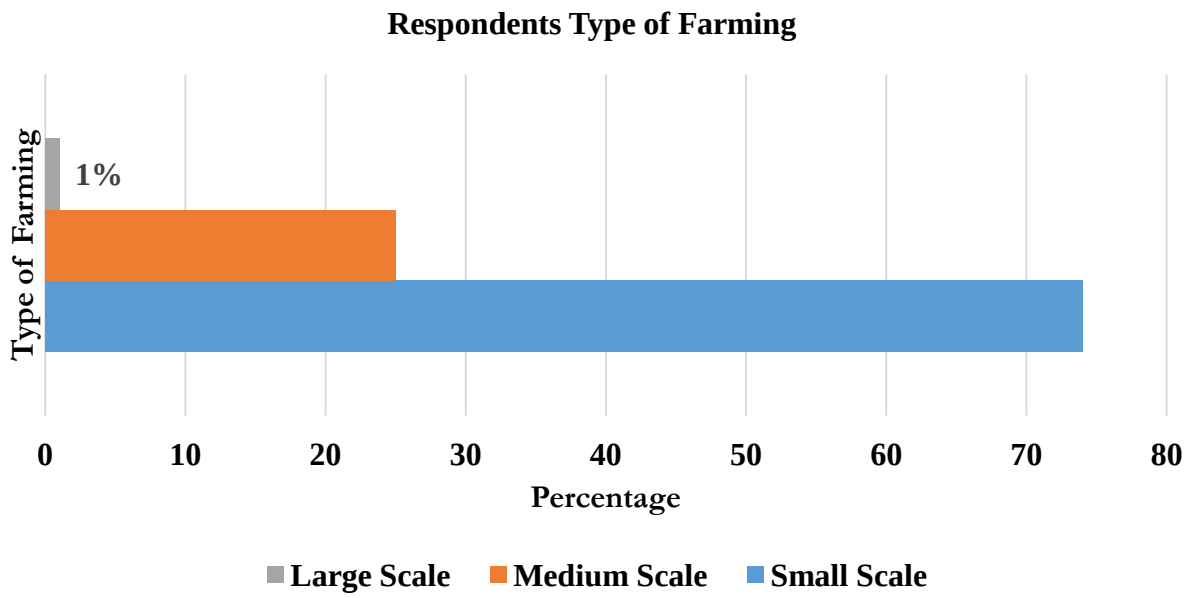

Figure 5: Respondents Type of Farming

Specific Objective 2: To explore the extent to which access to financial services influence the Participation of the Youth in Agriculture.

From Table 11, Sixty nine percent (69%) with *M*=2.19 disagreed that they are able to access credit from their County to carry out their Agricultural activities.

Fifty one percent (51%) with M=2.39 disagreed that the Agricultural Financing Corporation in their County provides capital for the Youth to start Agricultural activity.

Fifty eight percent (58%) with M=2.28 disagreed that the County Government provides loans for Youth who cannot afford to undertake trainings on Agriculture.

It is a clear indication that majority of the respondents lack access to credit, capital and loans to enable them participate in agriculture.

Table 11: Access to Financial Services

Key Indicators Access to Financial Services	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree	Mean
	%					
Access to Financial Services						
1. The Agricultural Financing Corporation in my County provides capital for the Youth to start Agricultural activity	30.0	21.0	33.0	11.0	5.0	2.39
2. The County Government provides loans for Youth who cannot afford to undertake trainings on Agriculture	32.0	26.0	28.0	10.0	4.0	2.28
3. I am able to access credit from my County to carry out my Agricultural activities	32.0	37.0	16.0	11.0	4.0	2.19

Specific Objective 3: To examine the extent to which access to land influence the Participation of the Youth in Agriculture.

From Table 12, Fifty two percent (52%) with *M*=3.28 agreed that the availability of arable land affects Youth participation in Agriculture in their County. This shows that land is a factor that influences youth participation in agriculture.

Table 10: Access to Land

Key Indicator on Social Access to Land	Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree	Mean
	%					
Access to Land						
1. The availability of arable land affects Youth participation in Agriculture in my County	10.0	21.0	17.0	33.0	19.0	3.28

Suggest any other Social Economic Strategies that may promote Youth Participation in Agriculture in your County

From Table 13, nine percent (9%) suggested that they should be provided with irrigation facilities. Ten percent (10%) suggested that the transport network be improved. Forty nine percent (49%) suggested that they be provided with grants, loans and incentives and land. Twenty two percent (22%) suggested that they be provided with training through capacity building, shows and Agricultural extension services. Seven percent (7%) suggested the formation of SACCOS and Cooperatives. Three percent (3%) suggested that Youth projects be facilitated.

Table 11: Suggestions on how social Economic strategies may promote Youth Participation in Agriculture in your County

Suggestions	%
1. Facilitate/provide Agricultural activities like irrigation water	9.0
2. Improve transport network	10.0
3. Provide capital; funds e.g. Grants, loans and incentives and land	49.0
4. Capacity building through Training, Shows and Agricultural Extension services	22.0
5. Formation of SACCOS and Cooperatives	7.0
6. Facilitate Youth projects	3.0

Inferential Statistics of Specific Objective 1

Respondents' Gender on Participation in Agriculture

From Table 14, there was no statistically significant difference between the Male and Female Youth who Participation in Agriculture in these Counties. Hence the respondents gender do not have influence on the participation of youths in agriculture since (p>.05).

Table 12: Test between Subjects (Respondents Gender and Participation in Agriculture)

Variable: Participation in Agriculture

Source	Type III Sum of Squares	Df	Mean Square	F	Sig. (*p*-Value)
Corrected Model	.056[a]	1	.056	.082	.775
Intercept	1188.670	1	1188.670	1728.645	.000
Respondents Gender	.056	1	.056	.082	.775
Error	132.025	192	.688		
Total	1393.963	194			
Corrected Total	132.081	193			

a. R Squared = .000 (Adjusted R Squared = -.005)

Respondents' Age on Participation in Agriculture

Table 13: Respondents Age on Participation in Agriculture

Multiple Comparisons

Variable: Participation in Agriculture

LSD

(I) Respondents Age	(J) Respondents Age	Mean Difference (I-J)	Standard Error	Sig. (*p*-Value)	95% Confidence Interval	
					Lower Bound	Upper Bound
18-24	25-29	.07071	.14365	**.623**	-.2127	.3541
	30-35	.27680	.15400	**.074**	-.0270	.5806
25-29	18-24	-.07071	.14365	**.623**	-.3541	.2127
	30-35	.20610	.14365	**.153**	-.0773	.4895

Respondents' Level of Education on Participation in Agriculture

From Table 16, there was no statistically significant difference with respect to the level of education and the Participation in Agriculture in these Counties. The p value is greater than 0.05 (*p*>.05).Thus level of education do not influence youth participation in agriculture.

Table 14: Test between Subjects (Respondents Level of Education on Participation in Agriculture)

Source	Type III Sum of Squares	Df	Mean Square	F	Sig. (*p*-Value)
Corrected Model	2.915[a]	4	.729	1.670	.159
Intercept	1602.818	1	1602.818	3672.930	.000
Respondents Level of Education	2.915	4	.729	1.670	**.159**
Error	82.041	188	.436		
Total	2310.901	193			
Corrected Total	84.956	192			

Respondents' Income on Participation in Agriculture

From Table 17, there was a statistically significant difference in the respondents yearly income across the income brackets (F (4,191) = 1.581). Hence the respondent income do not have statistically significant influence on youth participation since the p value is greater than 0.05 (p>0.05).

Table 15 : Test between Subjects viz. Respondent Yearly Income and Participation in Agriculture

Source	Type III Sum of Squares	Df	Mean Square	F	Sig. (*p*-Value)
Corrected Model	2.752[a]	4	.688	1.581	.181
Intercept	410.001	1	410.001	942.368	.000
Respondents Yearly Income	2.752	4	.688	1.581	.181
Error	80.924	186	.435		
Total	2279.111	191			
Corrected Total	83.676	190			

From the findings, we fail to reject the Null Hypothesis;

H_{01}: Demographic factors do not have a statistically significant influence on the Participation of the Youth in Agriculture in these Counties, as there was a statistically significant difference with respect to Respondents Yearly Income and Participation in Agriculture.

Inferential Statistics of Specific Objective 2

Specific Objective 2: To explore the extent to which access to financial services influence the Participation of the Youth in Agriculture.

Variable One: The Agricultural Financing Corporation in my County provides capital for the youth to start Agricultural activity.

From Table 18, Table 19 and Figure 6, the AFC in Kitui, Tharaka Nithi, Kirinyaga, and Isiolo Counties seemed not to provide capital that influenced the Youth to Participate in Agriculture. A Tukey post hoc test revealed that the provision of capital in for youth to start an Agricultural Activity statistically significantly for Embu (M=2.58 ± 1.311, p<.05) and Muranga (M=2.79 ± 1.182, p<.05) and Nyeri (M=2.9 ± 1.078, p<.05).

Table 16: The Agricultural Financing Corporation in my County provides capital for the youth to start Agricultural activity

	Respondents County	*N*	Subset	
			1	2
Tukey B[a,b,c]	Kirinyaga	25	1.48	
	Kitui	11	2.18	
	Isiolo	23	2.22	
	Tharaka Nithi	43	2.26	

	Embu	31	2.58
	Murang'a	19	2.79
	Nyeri	42	2.90

Table 19…

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square (Error) = 1.178.

a. Uses Harmonic Mean Sample Size = 22.850.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

Table 19: Descriptive: The Agricultural Financing Corporation in my County provides capital for the youth to start Agricultural activity

Respondents County	Mean	Standard Deviation
Kitui	2.18	.874
Tharaka Nithi	2.26	1.026
Kirinyaga	1.48	.872
Isiolo	2.22	1.085
Nyeri	2.90	1.078
Embu	2.58	1.311
Murang'a	2.79	1.182
N	2.39	1.157

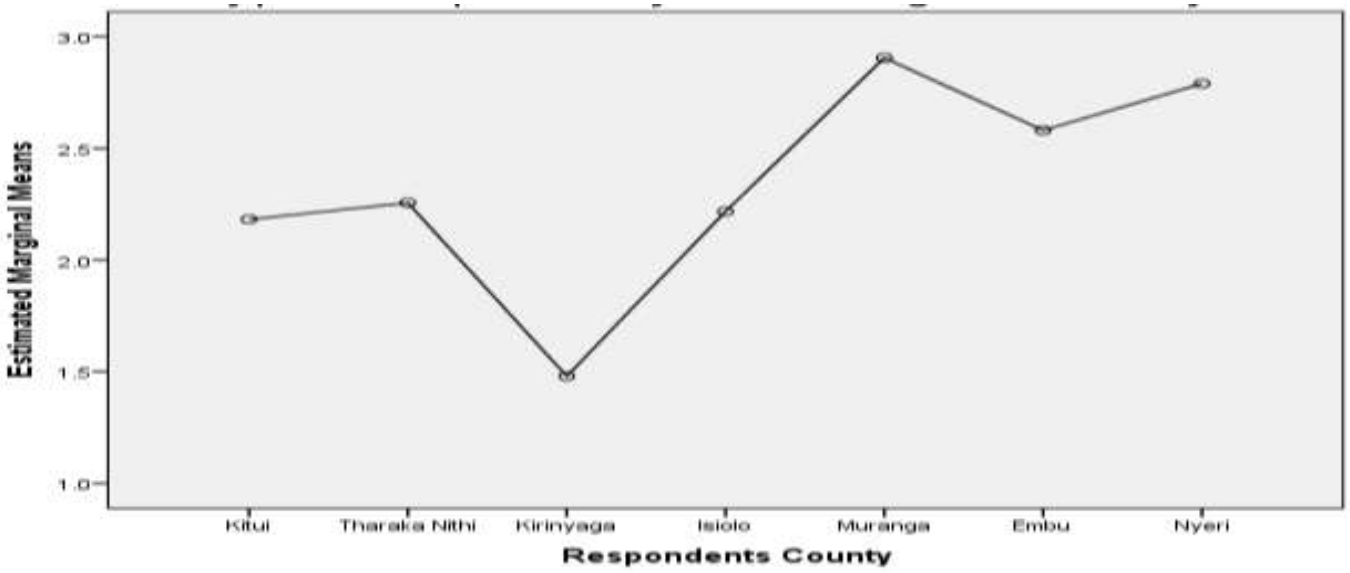

Figure 6: Estimated Marginal Means of the AFC in my County provides capital for the Youth to start Agricultural Activity

Variable Two: the County Government provides loans for Youth who cannot afford to undertake trainings on Agriculture

From Table 20, Table 21 and Figure 7, the Counties of Isiolo, Muranga and Nyeri seemed to provide loans for Youth who cannot afford to undertake trainings on Agriculture. A Tukey post hoc test revealed that the provision of loans for Youth who cannot afford to undertake trainings on Agriculture statistically significantly for Isiolo (M=2.48 ± 1.201, p<.05) and Muranga (M=2.69 ± .950, p<.05) and Nyeri (M=2.84±1.259, p<.05).

Table 17: The County Government provides loans for youth who cannot afford to undertake trainings on Agriculture

	Respondents County	*N*	Subset	
			1	2
Tukey HSD[a,b,c]	Kirinyaga	25	1.52	
	Kitui	11	2.09	
	Tharaka Nithi	43	2.09	
	Embu	31	2.19	
	Isiolo	23		2.48
	Muranga	42		2.69
	Nyeri	19		2.84

Means for groups in homogeneous subsets are displayed. Based on observed means.

The error term is Mean Square (Error) = 1.138.

a. Uses Harmonic Mean Sample Size = 22.850.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed. c. Alpha = .05.

Table 18: Descriptive: The County Government provides loans for youth who cannot afford to undertake trainings on Agriculture

Respondents County	Mean	Standard Deviation
Kitui	2.09	.831
Tharaka Nithi	2.09	.971
Kirinyaga	1.52	.823
Isiolo	2.48	1.201
Muranga	2.69	.950
Embu	2.19	1.327
Nyeri	2.84	1.259
N	2.28	1.123

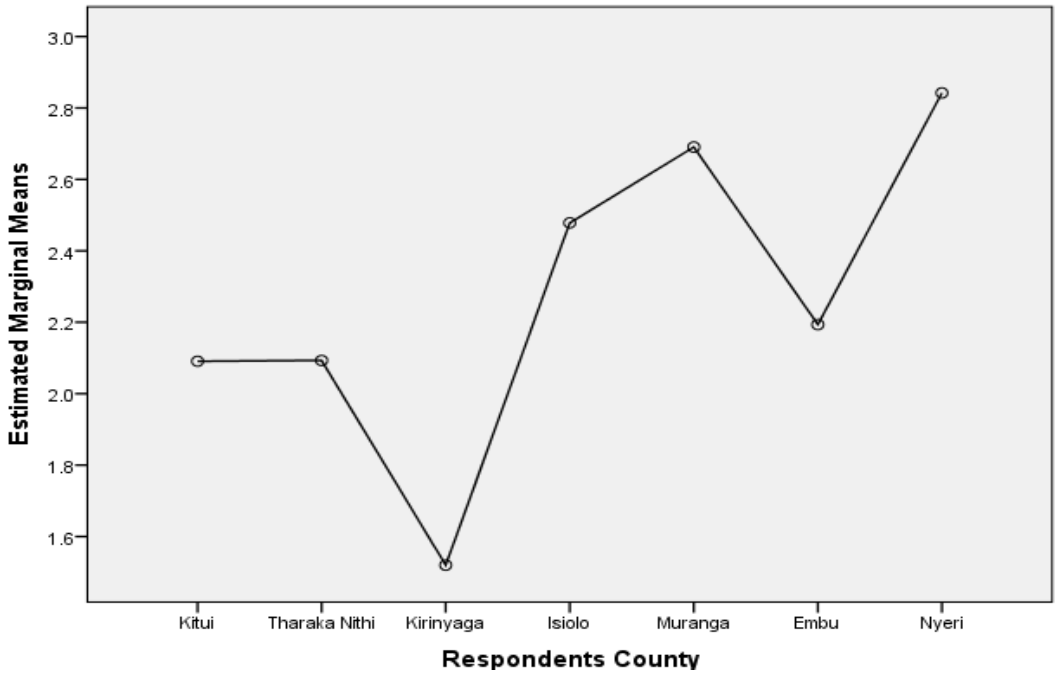

Figure 7: Estimated marginal Means of the County Government provides loans for Youth who cannot afford to undertake trainings in Agriculture

From the findings, we fail to reject the Null Hypothesis;

H_{02}: Access to Financial Services do not have a statistically significant influence on the participation of the Youth in Agriculture in these Counties.

As a majority of Counties (Kirinyaga, Kitui, Tharaka Nithi and Embu had means that were not statistically significant.

Variable Three: I am able to access credit from my County to carry out my Agricultural activities

From Table 22, Table 23 and Figure 8, in all the Seven (7) Counties of Kirinyaga, Tharaka Nithi, Kitui, Nyeri, Isiolo, Muranga and Embu the Youth were unable to access credit to carry out Agricultural activities (p>.05).

Table 19: I am able to access credit from my County to carry out my Agricultural activities

	Respondents County	N	Subset
			1
Tukey HSD[a,b,c]	Kirinyaga	25	1.60
	Tharaka Nithi	43	1.93
	Kitui	11	2.09
	Nyeri	19	2.32

	Isiolo	23	2.39
	Muranga	42	2.43
	Embu	31	2.55

Table 23…

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square (Error) = 1.205.

a. Uses Harmonic Mean Sample Size = 22.850.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed. c. Alpha = .05

Table 20: Descriptive: I am able to access credit from my County to carry out my Agricultural activities

Respondents County	Mean	Standard Deviation
Kitui	2.09	.831
Tharaka Nithi	1.93	.856
Kirinyaga	1.60	.957
Isiolo	2.39	1.158
Muranga	2.43	1.172
Embu	2.55	1.387
Nyeri	2.32	1.108
N	2.20	1.126

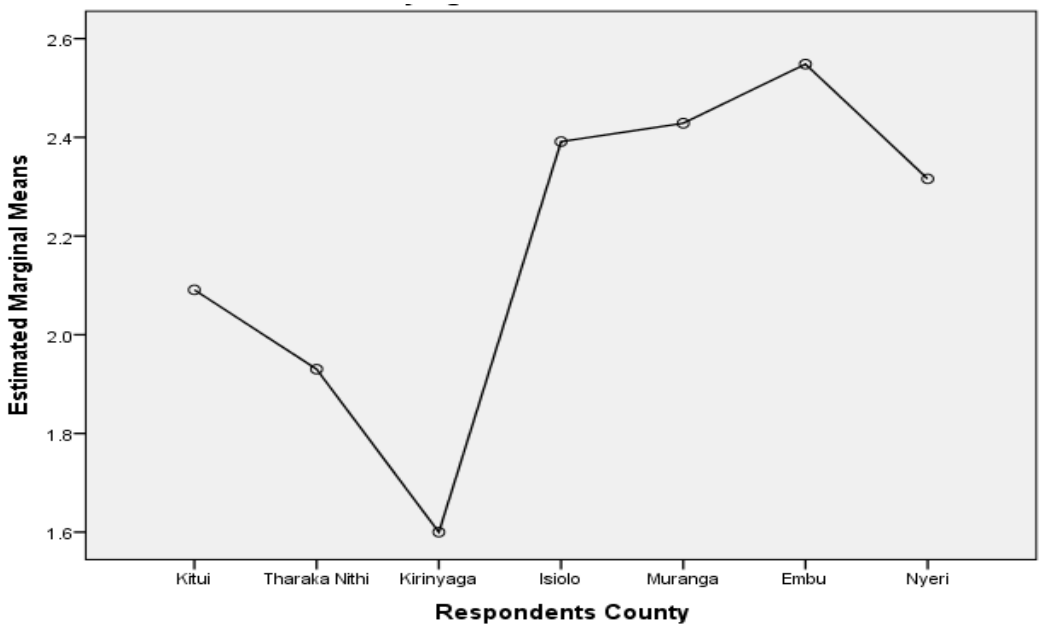

Figure 8: Estimated Marginal Means of I am able to access credit from my County to carry out my Agricultural Activities

From the findings, we fail to reject the Null Hypothesis;

H_{02}: Access to Financial Services does not have a statistically significant influence on the participation of the Youth in Agriculture in these Counties.

As all of the Seven (7) Counties had means that were not statistically significant.

Inferential Statistics of Specific Objective 3

Specific Objective Three: To examine the extent to which access to Arable Land influence Youth Participation in Agriculture.

From Table 24, Table 25 and Figure 9, the Counties of Nyeri, Embu, Murang'a, Tharaka Nithi, Isiolo and Kitui, the availability of arable land seemed to affect the Participation of Youth in agriculture, whilst in Kirinyaga County (*M*=2.68± 1.259) this was not the case.

Table 21: The availability of arable land affects youth participation in Agriculture in my County

	Respondents County	N	Subset	
			1	2
Tukey HSD[a,b,c]	Kirinyaga	25	2.68	
	Nyeri	19		3.11
	Embu	31		3.26
	Muranga	42		3.33
	Tharaka Nithi	43		3.40
	Isiolo	23		3.52
	Kitui	11		3.91

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square (Error) = 1.591.

a. Uses Harmonic Mean Sample Size = 22.850.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

Table 22: Descriptive: The availability of arable land affects youth participation in Agriculture in my County

Respondents County	Mean	Standard Deviation
Kitui	3.91	1.136
Tharaka Nithi	3.40	1.275
Kirinyaga	2.68	1.282

Isiolo	3.52	1.275
Muranga	3.33	1.141
Embu	3.26	1.390
Nyeri	3.11	1.286
N	3.28	1.274

Table 25…

From the findings, we fail to reject the Null Hypothesis;

H_{03}: Access to Arable Land does not have a statistically significant influence on the participation of the Youth in Agriculture in these Counties, as a majority of the Counties had a mean that was not statistically significant, except that of Kirinyaga County.

CONCLUSIONS

The study made the following conclusions that were based on each objective of the study, as follows:

Specific Objective One: To investigate the extent to which demographic factors influence Youth Participation in Agriculture.

The study findings showed that demographic factors have insignificant influence on the Participation of the Youth in Agriculture. Hence the specific indicators of demographic factors namely age, gender, level of education and yearly income from agriculture is an indication that the demographic factors in the seven counties were not apparent. There was no statistically significant difference with respect to all these indicators. The findings show that approximately the same percentage of male and female participate in small medium and large scale farming. Also youths of all levels of education and ages participate in agriculture with no significant margin. The delimitation of this variable was that it solicited responses from the Youth who participated in Agriculture. This is an indication that the sample did not provide enough evidence that demographic factors influence participation of youths in agriculture but at the same time it does not prove that demographic factors have no effect. The demographic factors impact on youth exists but the study missed it. However, these findings contradict with the findings of a study by (Njeru, 2016) carried out on youths in Kajiado where demographic factors influence participation of youths in agriculture.

Specific Objective Two: To explore the extent to which access to financial services influence Youth Participation in Agriculture.

The study observed that access to financial services have insignificant influence on participation of youths in agriculture. The key indicators such as the Agricultural Financing

Corporation provision of capital to the Youth to start Agricultural Activity, County Government provision of loans to the Youth for agricultural purposes and youth access to credit from County governments for Agriculture ventures do not have a statistical significant influence on their participation in agriculture.

Most of the counties such as Embu, Kirinyaga Kitui and Tharaka Nithi have means of providing finances which have no impact on youths. Majority of the participants disagreed that they have access to credit, loans and capital in their counties. Hence the means were not significant. This is because the study was carried on youths who participated in agriculture hence lack of access to these financial services could not deter them from farming. This shows that the sample did not provide enough evidence that lack of access to financial services influence participation of youths in agriculture but at the same time it does not prove that lack of access to financial services has no effect. The effect of lack of financial services exists but the study missed it. However, a study carried out by (Kisingu, 2016) showed that lack of access to financial services have a negative influence on youth participation in agriculture.

Specific Objective Three: To examine the extent to which access to land influence Youth Participation in Agriculture.

Access to land was found to have insignificant influence on youth participation in agriculture. Most of the counties had means that were not significant except Kirinyaga County. However majority of the respondent agreed that availability of land have a negative influence on youth participation in agriculture. The delimitation of the variable was that some of the selected participants were farmers in their own farm, majority was farmers in parent farm and a few were farmers in hired lands. Thus access to land had no significant influence on their participation in agriculture. It clearly shows that the sample did not provide enough evidence that access to land influence participation of youths in agriculture but at the same time it does not prove lack of access to land has no effect. The impact of access to land on youth exists but the study missed it. However, according to FAO (2014) the access to arable land affects Participation of the Youth in Agriculture. Especially the females face a lot of challenges in acquiring land for farming.

Considering that the study was conducted during the heidht of the covid-19 pandemic, the findings may have been influenced by a less robust sample owing to the prevailing protocols that limited personal interactions. In view of this limitation, the results therefore should be cautiously generalized.

RECOMMENDATIONS

The study recommends the seven counties and other counties across the country to allocate adequate budget to provide loans, credits and capital to youths to encourage them to participate in agriculture.

Policy formulation should be continued and enhanced by the Government of Kenya through Central Bank of Kenya to enable the youth to access credit facilities from Microfinance banks, to specifically finance farming activities by the youth.

The study recommends the government of Kenya to reclaim land in arid and semi-arid areas and encourage youths to use the land to enhance food security.

The ministry of land is also recommended to encourage more ownership of land by youths by processing title deeds and transferring ownership in easier and affordable method.

The National Government and County Governments should prioritize the Youth in Agriculture agenda in their CIDPs.

More studies should be done in other areas to determine whether the situation is different. This would help to come up with a more comprehensive program for enhancing youth participation in agriculture in Kenya.

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