INFLUENCE OF SOCIAL ECONOMIC FACTORS ON YOUTH ENGAGEMENT IN AGRICULTURAL PROJECT ACTIVITIES IN YATTA SUB-COUNTY, MACHAKOS COUNTY KENYA

BY

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DECLARATION

This research report is my original work and has not been presented for any other award in any other university.

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This research report has been submitted for examination with my approval as the University supervisor.

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DEDICATION

This research project report is dedicated to my husband, Teddy Ganira who has been a constant source of support, encouragement and love that have sustained me during the post graduate school and throughout my life. I am truly thankful for having you in my life.

I also dedicate this work to my lecturers who have tirelessly equipped me with invaluable skills and knowledge over the post graduate study period.

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ABBREVIATIONS AND ACRONYMS

AIDS - Acquired Immune Deficiency Syndrome

ALFA - Agriculture, Livestock, Fisheries and Food Authority

ASALs - Arid and Semi-Arid Lands

ASDS - Agricultural Sector Development Strategy

CAADP - Comprehensive Africa Agriculture Development Programme.

DryDev - Drylands Development Programme

FAO - Food and Agriculture Organization

GDP - Gross domestic product

GoK - Government of Kenya

HIV - Human immunodeficiency virus

ICT - Information and communications technology

IIEA - Institute of International and European Affairs

IIED - International Institute for Environment and Development

ILO - International Labour Organization

KALRO - Kenya Agricultural & Livestock Research Organisation

KAPAP - Kenya Agriculture Productivity and Agribusiness Programme

KARI - Kenya Agricultural Research Institute

KEFRI - Kenya Forestry and Research Institute

KNBS - Kenya National Bureau of Statistics

MoA - Ministry of Agriculture

NEPAD - New Partnership for Africa's Development

NGOs - Non-Governmental Organizations

SACAU - Southern African Confederation of Agricultural Unions

SMS - Short message service

SPSS - Statistical Package for the Social Sciences

UNCDF - UN Capital Development Fund). 2012.

UNECA - United Nations Economic Commission for Africa

UN-HABITAT -United Nations Human Settlements Programme.

USD -United States Dollar

WFP -World Food Programme

ABSTRACT

Agriculture is considered a key contributor to the Kenyan economy signifying 30% of the GDP. The youth unemployment has been a key issue in Kenya with 70% of the youthful population unemployed. Agriculture would therefore offer an economic opportunity for the youth willing to engage in agricultural activities. This study seek to investigate factors influencing youth engagement in agricultural projects activities in Yatta Sub-County of Machakos County. The objectives of the study were to establish how access to land influence youth engagement in agricultural project activities, to examine how access to financial services influence youth engagement in agricultural project activities, to assess how access to markets influence youth engagement in agricultural project activities and to determine how extension services influence youth engagement in agricultural activities. The study is significant since agricultural sector is the back bone to the Kenyan economy. Agriculture is a source of livelihood to the residents of Machakos County as well as Yatta Sub-County. This sector can provide employment to the youth since they are energetic and can learn fast. The study used descriptive survey design; while the target population was youth aged 15-34 years engaged in farming within Yatta Sub-County. The study assumed that the data collection tools were valid and that the youth and local administration would be willing to cooperate and participate in the study. This study was based on reasoned action and the push and pull theory. The dependent variable for the study was youth engagement in agricultural activities, while access to land, access to financial services, access to market and extension services were the in dependent variables. The government policies and NGO initiatives were the moderating variables whereas the demographic characteristics represented the intervening variables. Purposive sampling technique guided collection of relevant data using survey questionnaires. Data collection tools were be pilot tested using the split half technique where a Pearson's co-efficient of 0.73 was considered acceptable. The validity and reliability of data collection tools was ensured by seeking expert opinion and pilot testing respectively. Ethical issues were observed by ensuring respondents are treated with respect and courtesy and ensuring confidentiality. The Data was analysed using SPSS and data presentation was in tables, frequencies and percentages. The findings of the study revealed that access to land is an inhibitive factor to youth engagement in agriculture activities since majority access land and yet have no control and hence cannot make long term investments on the land. Financial services were found to be more affordable and accessible to youth. The uptake was not good since most youth were un-aware of the application procedures. The main market for the agricultural produce was the local market. The youth have not adequately exploited the external markets due to lack of information, knowledge and skills on quantity and quality market standards and requirements. Extension service provision is limited from the government officials and thus youth majorly learn new farming technologies from one another and ICT. Majority of the youth were found to be engaged on full time basis (7 months and above) in agricultural project activities with more focusing on short term ventures and those with less labour demands. The study recommends that the National, County government, NGOs and other partners need to: sensitize youth on land laws and policies; come up with modalities of ensuring youth access and own land; train and sensitize farmers on market systems, structures and quality and quantity requirements; purposively target youth in trainings on new and modern farming technologies; Explore developing an extension model that integrates youth into the extension system. The financial service providers need to engage youth in trainings and sensitizations on loan application process, improve their loan processing time and strengthen the feedback mechanism.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Youth un-employment remains a key issue around the world. The world population stands at 7 billion (FAO, 2015). It is projected that the number will grow to 9billion by 2050 where 14% of this total is youth and with the anticipated growth in the number of the youth also are challenges of limited opportunities for employment, poor pay and limited entrepreneurial ventures (FAO, 2014).

Agriculture is a fundamental sector in the economy of most countries. Globally, agriculture accounts for 32% employment (ILO, 2014). Majority of the world population live in low and middle income countries and consequently most farmers are found here and thus agriculture contributes greatly to the national employment and income. In Africa youth below 30years constitute 60 to 70% of the total population (Africa Economic outlook, 2012) and therefore agriculture can be vital in addressing the challenge of youth unemployment in these areas (David, 2015). However, youth are essentially not fully involved in agriculture despite the many opportunities the sector offers. (Muthee, 2010).

In Africa, agriculture is largely a preserve for the aged as the youth who can easily lean and practice new farming and food processing methods and technologies migrate to urban areas to seek for employment opportunities (SACAU, 2013). Most of the youths in Tanzania have strong apathy towards Agriculture which has resulted to mass un-employment and lack of sustainable livelihood (Prosper et al, 2015). In Nigeria, despite the youth being considered as a major resource base, they are not interested in farming (Aphunu, 2010)

Agriculture is ranked the number two employment sector in the country and contributes 30% GDP (KNBS, 2016). Over 80% of the Kenyan population depend on agriculture (MoA, 2015) and only 60% of the cropland is used for agricultural production (ASDS, 2010-2020). The average age of farmers in Kenya is 60 years (UNDP, 2016) whereas 75% of the total population are youth out of which 70% are unemployed (KNBS, 2013). Despite the fact that youth can significantly contribute labour in agriculture for economic growth they are unutilized (Mibey, 2015). The laborious nature of agriculture presently due to use of outdated agricultural practices continue to erode human resource base in this sector (ASDSP 2010-2020). A great percentage of Kenyan youth do not aspire for a career in agriculture (Mibey, 2015) and this reduced number of youth willing to engage in agriculture poses a potential challenge in the

future (Chikezie, 2012 as quoted by Prosper et.al 2015). Some of the factors that influence youth in to farming include attitude, acceptance and knowledge (Abdul & Norhlilmatun, 2013). Additionally demographic characteristics, access to rural credit facilities, access to land, and un-availability of alternative employment opportunities as well as youth perceptions are influencing factors (Prosper et al 2015). Affordable loans from the government and other supporters, subsidized farming inputs, market for agricultural produce and availability of agricultural information and resource centres also influence the youth into agriculture (Peter, Fridah & Romanus, 2013). On the other hand, lack of information on available career options in agriculture, lack of mechanisation and low wages (Muthee 2010), and inadequate access to credit, agricultural infrastructure and extension services hinder youth participation in agriculture. (Mibey, 2015).

Majority of the population in Machakos County are farmers, engaged in subsistence farming and depend on agriculture and livestock for their livelihood. More than half of the population, 52% of the population live in the urban centres, which is way above the national average of 29.9%. (Machakos County Strategic plan, 2013-2017). The ASDSP 2010 and Kenya Agriculture Productivity and Agribusiness Programme (KAPAP) identified various marketable crops in this area which include sorghum, local poultry, green grams, mangoes, pigeon peas and cow peas (AD Associates, 2015). With the majority of the youth in this area living in urban areas, the big question remains, how can the love for farming be reignited among the youth against the preference to live in cities and towns where unemployment rates are also swelling by day with the ever growing population whose implications are clear: more people will need more food and supply will have to increase substantially.

1.2 Statement of the Problem

The world development is faced by a concern of poor youth participation in agriculture due to lack of interested in the sector. Studies conducted by (Mukunzi, 2010 and Njuguna, 2011) established that most Kenyan youth were not engaged in farming. With most youths opting for other employment opportunities, only 11% of Kenyan Youths would wish to pursue farming as an occupation (Awiti, 2016). This scenario leaves the older generation to feed the growing population. Machakos County has good fertile soils that yield good harvest with adequate rainfall amounts and yet young people have not embraced farming as a source of employment. Most youth 51% in the county are unemployed and therefore are economically inactive and 52% of the population live in towns. (Machakos County Strategic Plan, 2013-2017) Many youths in Yatta sub-county have migrated from rural areas to the nearby urban centres Thika,

Machakos and Nairobi in search of jobs. This study therefore sought to establish the socio economic factors that would influence the youths in Yatta Sub-county of Machakos County to embrace farming as a career and hence contribute to resolving the youth unemployment crisis coupled with an impeding risk of food production crisis after the current generation of farmers is gone.

1.3 Purpose of Study

The purpose of this study was to investigate the influence of socio-economic factors on youth engagement in agricultural projects activities in Yatta Sub-county of Machakos County

1.4 Objectives of the Study

The study was directed by the following objectives;

i) To establish how access to land influence youth engagement in agricultural projects activities in Yatta Sub-County Machakos County.
ii) To examine how access to financial services influence the engagement of youth in agricultural projects activities in Yatta Sub-County, Machakos County.
iii) To assess how access to markets influence youth engagement in agricultural projects activities in Yatta Sub-county, Machakos County.
iv) To determine how extension services influence youth engagement in agricultural projects activities in Yatta Sub-county, Machakos County

1.5 Research questions

The study was addressing following key research questions:

i) How does access to land influence youth engagement in agricultural projects activities in Yatta sub-county?
ii) In what ways does access to financial services influence youth engagement in agricultural projects activities in Yatta Sub-county?
iii) How does access to markets influence youth engagement in agricultural projects activities in Yatta Sub-county, Machakos County?
iv) In which ways does extension services influence youth engagement in agricultural projects activities in Yatta Sub-county, Machakos County?

1.6 Significance of the Study

This study is significant since agricultural sector is the back bone to the Kenyan economy. Youth engagement in agricultural activities is one of the ways through which the National and County governments can address the youth un-employment problem in the country. The

findings from this study are thus expected to contribute to the efforts of the national and county government efforts of addressing youth un-employment, improving food production food security through youth participation in agriculture. It was hoped that important beneficial information would be generated for use by the Ministry of Agriculture, Youth department, policy makers, Non-Governmental Organizations (NGOs) and other private sectors implementing agricultural projects that target youths within Yatta Sub-County. It was anticipated that this study would generate knowledge within the agriculture sector which could be used by financial institutions, market players, extension actors to tailor make products and services that meet the needs and expectations of the youths in farming. Further, this study was expected to generate new knowledge in regard to youth engagement in agricultural activities in the University.

1.7 Delimitation of the Study

This study was for academic purposes only and was conducted within Yatta Sub-county of Machakos County between October and November 2016. Yatta Sub-County was selected due to its high productivity and availability of the Yatta irrigation canal that ensures all year round crop production and thus offering a constant source of engagement in agricultural activities by youth (Muli, 2014). This study was restricted only to youth living in Yatta Sub-county of Machakos County aged between 15-34years of age. The youth were targeted by the study because majority of them are faced by the un-employment problem, they learn fast and are capable of adapting to new technologies and innovations in agriculture. The data collection in this study was restricted to quantitative methods only. The target population was 46 225 and statistically tested methods were used to draw the sample population. Validity and reliability of the data collection tools were tested to ensure that the results from the sample population were valid and represent the population. Quantitative data analysis was done using SPSS. Presentation of the research findings was through tables, frequencies, percentages and measures of central tendency.

1.8 Limitations of the Study

In some areas of Yatta Sub-county, and especially the ones bordering the Yatta Plateau, the settlements are spatially dispersed and this posed challenge the data collection process as it took longer than anticipated to complete the process. Additionally, the area experienced rain during the data collection and this made some areas inaccessible. The researcher used data clerks from within the areas to mitigate these challenges.

1.9 Assumptions of the Study

It was assumed that the sample would represent the population and that the data collection instrument was valid and would measure the desired constructs. It was assumed that the youths would be willing to cooperate, participate in the study and answer the questions correctly and truthfully. It was assumed that the Ministry of Agriculture would provide credible and updated lists of youths engaged in agriculture to support the sampling. Additionally, it was assumed that the local administration will be supportive in mobilizing the necessary youths to participate in the study.

1.10 Definitions of Significant Terms

The significant terms are explained below:

Access to extension services

This refers to the ability of the youth to know the available sources of extension information and utilizing the same.

Access to financial services

This refers to the ability of the youth to know the available financial service providers and utilize their products and services such loans and financial advice

Access to land

This refers to the youth ability to have land to practice their agricultural activity engagements.

Access to market

This refers to the ability of the youth to know the available market and exploit them for maximum returns through selling their produce

Influence

Influence refers to the capacity to have an effect on the character, development, or behaviour of the youth

Socio-economic factors

Socioeconomic factors is used to refer to the social and economic realities and encounters that affect youth engaged in agricultural activities

Youth

Youth means Yatta Sub-County residents both male and female aged 15 to 34 years

Youth engagement in agricultural Activities

Youth engagement in agricultural activities refers to the meaningful participation and sustained involvement of a young person. The activities could be focusing on agriculture related small scale initiatives and agri-businesses grouped as production, processing and marketing activities for livelihood and income generation. These could include growing of crops, livestock rearing, selling agricultural produce as a business venture, providing labour in the farms. Full time engagement will be defined by spending 7 hours and more while half time will be spending 1-6 months in agriculture related activities (FAO, 2010)

1.11: Organization of the study

This research report has been organized into five chapters. Chapter one features the background of the study, statement of the problem, purpose of the study, objectives of the study research questions and the significance of the study. This chapter also features, limitation of the study, delimitation, critical assumptions as well as the definition of the significant terms in the study. Chapter two looks at the literature review, theoretical framework, conceptual framework as well as the literature gaps from the literature review. Chapter three expounds on the research methodology and covers research design, target population, the sample size and selection. Additionally, data collection procedures, techniques of data collection as well as operationalisation of study variables. Methods of data analysis and ethical consideration are also discussed. Chapter four focuses on the research findings through data analysis, presentation and interpretation. Chapter five covers the summary of findings from the study, discussion, conclusion as well as recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter highlights literature review in relation to the study variables. The theoretical framework, conceptual framework, literature gaps and summary of the literature review have been discussed. This section presents analysis and discusses previous study findings, expert opinions and theories from, pamphlets, books, periodicals and magazines in relation to youth engagement in agricultural activities. Literature review is important for this study as it helps the researcher get the overall state of knowledge in the problem area and identify the knowledge gap upon which the study will be based.

This section has been organized as follows: The body that looks at Agriculture and its importance, the Agriculture situation in Africa and Kenya, the concept of youth engagement in agricultural activities, the influence of access to land, financial services, market and access to extension services, education and information on youth engagement in agricultural activities. Other areas covered by this section are the Theoretical framework that looks at two theories; Theory of planned reasoned action as well as the push and pull theory. The Conceptual framework is also discussed in this section.

2.2.1 Agriculture and its importance

Agriculture involves soil cultivation for plants and crops growing, animal rearing for food and meeting other human basic needs (Bareja, 2014). According to Devi (2015) food production, food processing, distribution and promotion of agricultural products could also be used to define agriculture and it contributes to development and economy. Agriculture contributes up to 40% GDP in most Sub Saharan African countries and hence remains an important sector that by 2015 could potentially create employment for up to 300 Million youth (Britai, 2013). Agriculture contributes a quarter of Tanzania GDP and the sector provides up to 62.3% employment (Kayombo, 2012). In Kenya the sector is considered a major driver of the economy contribution to the 30% GDP (KNBS, 2016).

Agriculture provides livelihood to many through employment creation. Globally agriculture accounts for 32% of total employment (ILO, 2014). In Africa the sector provides employment for 69% (World Bank, 2013) whereas in Kenya 80% of the population depend on agriculture for their livelihood. (MoA, 2015). Agricultural sector provides food and fodder

for domestic animals. A stable agricultural sector ensures the food security of a nation. This sector plays a role in international trade that bring foreign exchange from the marketable surplus that can be exported to other nations, raw materials for major industries, foreign exchange through export trade, economic development and also acts as a source of saving (Devi, 2015). The food markets in Africa are forecasted to rise from 313 billion USD registered in 2010 to 1 trillion USD by 2030 (World Bank, 2013). Agricultural income is an important contributor to reduction of poverty for sustainable development to be realised (Godoy & Dewbre, 2010). Agriculture avails numerous employment opportunities for youth in most countries and thus it is vital in addressing the challenge of youth unemployment challenge faced by the Sub-Saharan African countries (David, 2015).

2.2.2 Agriculture situation in Africa

Majority 79% of the arable land in the world is found in Africa out of which 79% is uncultivated (Chissano, 2014). Agriculture provides for 69% employment in Africa (World Bank, 2013) and was identified as necessary for the growth of the sub-Saharan Africa and a key contributor towards the achievement of the Millennium Development Goal that seeks to reduce poverty levels by half by 2015. Despite this being a key sector, food insecurity still remains a challenge in Africa. The World food programme estimates that one person in four in the sub-Saharan African region are undernourished which represents the highest percentage population faced by hunger in the world according to the World Food Programme (WFP 2016).

Africa's agriculture is primarily done by the elderly, retired and weak left behind in the rural areas as youth leave to pursue job opportunities in towns or in their neighbourhood. The youth exit from the rural areas also means that they exit from agriculture and therefore puts Africa in a situation of no replacements to agricultural production. (SACAU, 2013). Agriculture in Tanzania is majorly subsistence on small scale and mostly relies on traditional farming implements that limits the size of land that a family can cultivate (URT, 2013).

2.2.3 Agriculture in Kenya

Agriculture is considered one of the major drivers of the country's economy at contributes 30% of the GDP and accounts for 16.7% employment (KNBS, 2016). Agriculture in Kenya mainly depends on rain with the majority 80% of the country being semi-arid and arid. The average farms are 0.2 to 3ha in the high potential areas. Most farmers engage in small-scale farming which accounts for 75% and 70% of agricultural output and marketed produce

respectively (Kibet, 2011). The Kenyan trend of population making living from agriculture has been a steady decline in proportion from 80% in 1980 to 67% at present (The World Bank, 2015). This decline can be explained by the fact that the 84% of total arable in high, medium potential and Arid and Semi-Arid Lands (ASALs) remains largely underutilized (ASDS, 2010). The Kenya Vision 2030 envisions increasing food production through among others utilising additional 1.2 million hectares in ASALs for irrigation. This scenario presents a huge potential for expansion in livestock and increasing crop production through agriculture.

The government of Kenya has signed and domesticated several laws, policies, strategies and legal frameworks aimed at improving the agriculture sector. The Constitution of Kenya (August 2010) has explicit provisions addressing food security and nutrition issues. Indeed freedom from hunger is stipulated as a constitutional right: Article 238 (1). Section 43 (1) state that every Kenyan has a right to freedom from hunger and enough quality food.It stipulates that Kenyans shall be own, utilize and manage land equitably, in a well-organized and sustainable manner. The overarching Agriculture Sector Development Strategy (ASDS) 2010-2020 gives guidance on the direction of agriculture in the country specifically in the subsectors of crop and land development, livestock, cooperatives, fisheries, and private sector cooperation (GOK 2010). According to AD associates (2014), the ASDS is the most comprehensive agriculture development strategy ever developed in that it does not only strive to ensure food and nutritional security but also higher income and employment for all Kenyans. The legislature also passed The Agriculture, Livestock, Fisheries and Food Authority (ALFA) whose focus if to transform Kenya's agricultural sector to commercial production, using modern faming technologies, strengthening the service delivery and ensuring coordination of government programs (Carol, 2013).

The Kenyan government has signed the Comprehensive African Agriculture Development Programme, The Millennium Development Goals, Maputo Heads of States Declaration, New Partnership for Africa's Development(NEPAD), Vision 2030 currently being implemented through a series of policies and strategies which include the National Food and Nutrition Policy (2011), the National Agriculture Sector Extension Policy (2012), National Livestock Policy (2014), National Environment Policy (2013), National Climate Change Response Strategy (2010), National Agri-business Strategy (2012), Agriculture Fisheries and Food Authority Act, Draft Water Policy (2012) among others (AD associates 2014).

Machakos County has identified agriculture as one of the main mechanisms to increase income, employment and productivity within the county. (Machakos strategic Plan 2013-2017). Emphasis by the county has been to increase the area under agriculture and irrigation and providing subsidized fertilizer to farmers (AD Associates, 2014). According to a study conducted by Drylands Development Program (DryDev, 2015) on extension services within the county, one Sub-county Agricultural Officer and 16 extension officers provide extension services on the various aspects of farming within Yatta Sub-County. Some of the crops grown in Yatta Sub-County include beans, maize, sorghum, green grams, vegetables, pumpkins and cassava and the area is characterised by crop failure as a result of frequent drought seasons (Kibet, 2011).

2.2.4 The concept of youth engagement in agricultural project activities

The global population comprises of 14% youth and while the numbers are expected to increase, unemployment and opportunities for entrepreneurial engagements will also remain limited (FAO, 2014). Globally, agriculture accounts for 32 per cent of total employment according to International Labour Organization (ILO, 2014). Most farmers in the world reside in middle and low-income countries where agriculture mainly contributes to the national employment and income (Elder, de Haas et al., 2015). In these countries, job creation for youth has not been realised despite the investments made to diversify services and structures in the rural areas (IIED, 2012). This sector therefore has the ability of availing avenues for youth to engage in livelihood ventures (FAO, 2014)

The world's youngest population resides in Africa where people below 30 years account for about 60 to 70%. The present trend projects the possibility of the population doubling by year 2045 (African Economic Outlook report, 2012). Young Africans are reluctant to pursue an agriculture-based livelihood, which may have implications for continent-wide initiatives aimed at revitalising the agriculture sector (Jennifer & Sally, 2010). This study further reveals that the ability of the youth to embrace agriculture as a source of livelihood will also enhance their ability to access important factors of production such as labour, land and credit. For this reason, there is need to identify ways and opportunities for engaging the youth in agriculture to create employment, wealth and economic growth for this population majority.

African countries have identified avenues that seek to ensure that youth benefit and also participate in Agriculture. These include The Malabo declaration that seeks to ensure proper coordination of existing agricultural youth programmes to help eradicate

unemployment amongst the youth through agriculture; the Comprehensive Africa Agriculture Development Programme (CAADP) that among other issues proposes the incorporation of youth voices and recognizing them as major stakeholders in agriculture was devised (Chissano, 2014).

The World Bank 2014 estimated Kenyan population at 45.5Million with 38% of the population being youth between 15-35years. 70% of its youthful population is unemployed (KNBS, 2013). Over 12 million Kenyans work in the informal sector out of which 6.5 Million are involved in small holder farming. (World Bank 2012). With this sector creating most job opportunities, developing the skills of the youth is important Kenya's Vision 2030 focuses on this (Work force connections, 2014). Additionally, the Kenya National Youth Policy (2006) recognizes the youth unemployment problem among about 500,000 youths who graduate annually from tertiary institutions. This policy points out that out of these youth, only about 25% manage to secure employment opportunities and in response the government seeks to establish industries in rural areas for processing agricultural produce and also cottage industries in order to create informal employment

Over the years, the government of Kenya has put in measures aimed at stimulating the interest of the youth towards agriculture. With the introduction of the 8-4-4 system of education in Kenya in 1985, all the schools started offering agriculture as a subject for the youth to appreciate the role it plays in the economy (Joyline, Gilbert, & Kathuri,2013). 4k clubs in schools were also initiated with the aim of involving youths in sustainable agriculture through hands-on activities in the schools' demonstration gardens and then transfer the technologies learnt to their communities and this provided the best foundation for numerous smallholder farmers currently driving the Kenyan economy (Isaiah Esipisu, 2013).

Several studies have identified potential entry points for youths in agriculture sector which include provision of unpaid labour at their households or even work as day casual labourers for wages using during the rainy seasons (SACAU, 2013). Agribusiness (Mibey, 2015), Fish farming (Mandania, 2012), poultry farming (Kirui, 2014) and horticulture farming (Gichuki, 2012) have also been identified.

Machakos County being one of the regions with the highest number of unemployed youth has benefited from the Kazi Kwa Vijana initiatives (Ann, 2016). The youth enterprise fund initiative has empowered youth in Machakos County individually and at a group level and was

used for vegetable growing and animal rearing among others (Sophia, 2013). According to Machakos County Strategic Plan (2013-2017), youth engagement in agricultural activities is minimal as most youth prefer to move to neighbouring towns in search of employment opportunities. A study by Stella, Peter & Fabian (2015) recommended the need for promotion of agricultural programmes for the youth in Yatta Sub-County.

2.2.5 Access to land and youth engagement in agricultural project activities

Access to land is an important factor of production for the youth in the rural areas who intent to earn their livelihood through agriculture. (MIJARC/IFAD/FAO, 2012). Land is a limited commodity and which youth are expected to access through the adults (GLTN as quoted by UN-Habitat, 2013). Land can often be difficult for youth access (FAO, 2014) as traditional land ownership systems restrict the youth from accessing land for investment as ownership of land is only granted to eldest household male (Njenga et al, 2012). The land issue affects both male and female youth (SACAO, 2013). The inheritance laws and customs which are the principle mechanism through which young people access land (MIJARC et al, 2012) often prohibits the transfer of land to young women (Sanginga, 2014). Studies by FAO further confirm that young women face greater challenges in securing access to land since they can only obtain user rights through a male relative (FAO, 2014) or through their husbands and oftenly do not have control over its usage (Tafere & Woldenhanna 2014 as quoted by Mibey, 2015). As a result, only a small proportion of women own land which also happens to be very small sizes smaller than what men own (FAO, 2011b). Worse still, accessing family land while parents are still alive remains a taboo in many African countries (UN-HABITAT, 2011). Poverty in developing countries, usually force selling of land to outsiders by parents without even consulting their young children on the agreements which may bar and exclude them and their next generations' access to land (White, 2012). According to FAO (2011b) the land size for farming by youth is further limited by land degradation that has been on the increase which results to uneconomical land sizes that cannot effectively engage the farmers (Njenga et al, 2012).

Youth consider secure land access as principle for starting farming (FAO, 2011b). Youth access to land contributes to household food security, employment creation and income generation as land is used as collateral and security for one to access credit, signifies their identity, elevates their status, and also improves their participation in decision making within their communities and other organizations (MIJARC et al, 2012). According to UN-Habitat

(2013) youth need land for livelihoods, work place, economic assets, income generation, leasing, markets/shopping, accessing services, and training and skills

The system of land tenure significantly affects crop production patterns (FAO, 2012). A study in Uganda revealed that the land tenure systems hinder youth from engagement in agriculture as many use it without exclusive rights of ownership (Ahaibwe et al 2013). In Rwanda which is a densely populated country, the land has been highly fragmented which led to adoption of laws that prohibit further land division which means that the family sole heir and final decision maker is the eldest son (IFAD, 2010a). Valle (2012) argues that limited access to information and finance limits youth from benefiting from land reforms as they lack the knowledge to lobby for a lease or seek financial support to enable them buy land and therefore end up seeking informal land rights which can be grabbed and have little prospect for lack of title deed . Further, according to UN-HABITAT (2011) youth are always never aware of land acquisition, registration and taxation requirements and therefore fall prey to fraudulent and corrupt land dealers. Nonetheless, expecting youth to acquire land through purchasing is unrealistic since most are not employed and those who are have low wages and also the land prices are so high which pose even a bigger challenge for young women in developing countries who usually work as house helps and earns low wages (FAO, 2011b). The policy and legal documents on the other hand do not always include youth land rights and if so there are no defined mechanisms for policy implementation since the youth are never involved in the development of the laws and policies in relation to land and thus they never respond to their needs. (FAO, 2012).

Security of land tenure is not guaranteed in Kenya, due to gender discrimination resulting from biased laws and customs, lack of proper land administration for sustainable development and reforms aimed at improving land administration and management for sustainable development. (Gottero, 2015) The National Land Policy of 2009 which was followed by the promulgation of the Kenyan Constitution 2010 were major steps in ensuring land rights for all Kenyans as it requires use and management of Kenyan land equitably, efficiently, productively and sustainably. Gotterro (2015) further argues that rural youth rights in access and control of land resources still remain a challenge especially in Arid and Semi-Arid Lands (ASALs) in Kenya where communal land governed by customary laws denied ownership rights to youth despite the availability of adequate arable land. The land rights for the youth were limited to access rights, therefore could only provide casual or family labour.

A study conducted in Machakos county revealed that male youth are disadvantaged as they are not allocated a piece of land until they get married which limits their access to productive resources even after they attain the age of majority. (Upward Bound, 2015). This study further found out that in Yatta women did not have the authority to protect the interests of the family with regard to land and married women, in particular, would not be allowed to own land while their husbands were alive. Title deeds would be registered in the names of their husbands even when they jointly purchased the parcel of land.

2.2.6 Access to financial services and youth engagement in agricultural project activities

The availability of funds plays a substantial in agriculture development and the ability to access financial services in form of loans and savings is essential for starting any agricultural venture (FAO, 2014).The number of young farmers in Africa is increasing but the issue of lack of affordable financing is holding them back according to Barret (2014). According to FAO (2014) Agriculture is becoming more mechanized at present which requires enormous capital investments to purchase farm inputs and implements. The financial services providers should play an important role for these needs to be met (IFAD, 2010b). However, as they attempt to access financial services, youth across the world are faced with several challenges such as lack of tailored financial products, fear of the financial providers to offer services to the youth as well as the restrictive nature of the existing legal and regulatory environment. (Valle, 2012). Sanginga (2014) adds that lack of collateral and low financial literacy makes the financial providers reluctant to provide their services to the youth. Additionally, funding youth is considered highly risky because they lack experience and have limited financial capacities. (Atkinson and Messy, 2012). Most financial providers in both developed and developing country mainly focus on credit, and yet saving and asset building is also very important for the youth (MIJARC et al, 2012). Furthermore, Micro Finance Institutions (MFIs) charge high interests on their loans offered to youth (UNCDF, 2012). Valle (2012) further argues the dependence on rain fed agriculture which limits production at times in rural areas makes provision of financial services in these areas risky. Therefore, to access financial services, youth resolve to use family and friends as well as ICT that offers various financial products through mobile banking such as e-trade, e-business, e-banking, e-business (Valle, 2012). Other financial access mechanisms involve matching grants through government and NGOs programmes. (Rutten, 2014). A large number of NGOs that target youth act as Financial Service Providers (FSP) and provide trainings, loans, writing of business plans and sensitization on financial literacy among poor rural and urban owners of small enterprises in

(Valle, 2012). In Mozambique, Rwanda, Tanzania, and Zambia providing financial arrangements and also contractual farming to reduce on default risk or selling on the side has proved to be effective whereas more than 3000 Kenyan farmers have benefited from credit through supply chains facilitated by The Alliance for a Green Revolution in Africa's Innovative Finance Initiative (Rutten, 2014). Acquisition of farming inputs is a challenge to Kenyan youth since they are costly and they lack capital for investment tailored to address their needs within this sector (Njenga et al 2012).

In Kenya, skills development and youth economic opportunities are key focus for Kenya's Vision and among other key policies. (Work force connections, 2014). The Youth Enterprise Development Fund (YEDF) established in 2006 aims at supporting youth owned enterprises as well as enabling youth to start their own enterprises and market their products locally and abroad (Gachugia, et al 2014). Through the Ministry of Youth Affairs and Sports the YEDF offers a loan product for youth for agribusiness and acquiring agricultural inputs called "Agri-Vijana" (Ochilo, 2014). A study by Barret (2014) revealed that the accessibility of this fund has interested youths to borrow money for farming and availability of finances would result to increased number of young people working in the agricultural sector. Funds for Agriculture and Agribusiness and Economic Stimulus Programmes for poverty alleviation and creation of employment opportunities among the youth is also a government initiative targeting the youths (Mandania, 2012)

2.2.7 The influence of access to market on youth engagement in agricultural project activities

Market is an important economic factor in agriculture. Access to market by farmers is defined by their ability to buy farm inputs and services, as well as their ability to supply agricultural yield to buyers (IFAD, 2010a). Access to markets is crucial for young farmers all over the world as markets provide the opportunity to generate income and influence production to respond to consumer quantity and quality demands (Schalkwyk et al., 2012). The distance from the market determines the cost of transportation and also the types of crops grown and enables youth to undertake viable and sustainable agricultural initiatives (FAO, 2014). The future of the agricultural sector depends on youth (MIJARC et. al 2012) and hence their ability to access markets is very crucial for increasing production, income as well as dealing with poverty and hunger in the future.(FAO, 2014).

The youth are faced with several challenges as they try to access markets, which at times surpass what generally smallholder farmers in developing countries experience (Giuliani and Valle, 2014). These include: strict supply chain standards for the supermarkets and the international market (FAO, 2014), inadequate knowledge and experience on market systems and structures, lack of skills to manage their entrepreneurial ventures as well as lack of information about prices. Further, demand for highly processed food triggered by globalization affects the market systems and standards and leads to introduction of new safety and quality standards that youth must comply to (Giuliani and Valle, 2014). This limits them from accessing and selling their produce for higher prices to other national, regional and international markets and this scenario leaves the youth with the option of the local (rural) markets (FAO, 2014). In Zambia, the markets are characterised by instability in demand and prices, disorganization of the markets and delayed payments by dominant buyers which affects youth in farming (SACAU, 2013) This study further points that youths are interested in farming businesses which yield money fast, have minimal labour demands and also the ones with guaranteed such as contractual farming.

Greece, Italy, France, Spain and Cyprus initiated a platform "We Deliver Taste" aimed at improving the ability of the small scale farmers to access market as the mainstream stream supply chain oftenly excludes them and hence connects the producers to the consumers. (FAO, 2014). The United states of America also have Youth Trade that supports young entrepreneurs dealing with agro products or agro-processed products, provides certification for youth businesses and link them to other companies (Valle, 2014)

In Kenya, the Mkulima Young online platform connects the youth engaged in various agricultural ventures through a virtual space where they can sell or buy produce and agricultural input (FAO, 2014). The Kenyan youth are faced by several challenges in regard to market access. A study by Njega, et al (2012) revealed that 71.7% of the youth and women engaged in agriculture were not happy with their agricultural earnings resulting from low return on investment. Lack of market, lack of market information, high competition, inadequate skills of marketing their produce, inaccessibility to potential good markets, high exploitation by the middle men and low prices further affect youth access to market (Gichuki, 2012). Additionally, the rapid changes in the market, rising quality standard, the growing demands for high value products and the emergence of new market types and arrangements also affect the youth (Akpan 2011). Lack of markets for agricultural produce is highlighted as one of the constraints

to the sector within Machakos County. (Machakos county strategic plan 2013-2017). The plan further points out that the production and marketing of fruits and vegetables in the county are characterized by seasonality which creates periods of surplus and scarcity during resulting to wastage and low income.

2.2.8 Access to extension services and youth engagement in agricultural project activities

Youth access to knowledge and information about agricultural production, processing techniques, finance land and markets is crucial for their successful participation in the agricultural sector (Sanginga, 2014). Appropriate information to the youth enables them to contribute to policies related to their ability to access land, finance and market (Goemans, 2014). If youth are to utilize the available market opportunities and establish their own businesses, training and education is very vital for them. (FAO, 2014). Youth can improve their agricultural production by utilizing modern farming technologies as they are fast learners (MIJARC et al 2012).

In many rural areas of the developing countries, accessibility to suitable education and training is always limited (Sanginga, 2014) and hence farming knowledge is mostly transferred to children from their parents (PAFPNet, 2010). Supporting education related to agriculture for efficient operation of small scale farms, profitability, market access and engagement process in the various agribusiness will enhance youth engagement in agriculture (Abdul et al., 2013). Agricultural curricula has slowly disappeared, it is outdated and inadequate in most schools in developing countries where agriculture is considered a fall back plan for those who don't perform well in school. Additionally, the aspirations and attitude of youth in most African countries have been influenced negatively by the fact that agricultural activities are used as means punishment in schools and also at the household level. (MIJARC et al, 2012; PAFPNet, 2010).

A study in Zimbabwe, Madagascar, Zambia, Malawi and South Africa revealed that agriculture as a subject in school is not packaged and delivered in a manner to stimulate passion among the youth to embrace career opportunities within this sector after school (SACAU, 2013). This study further revealed that there are few formal mentorship prospects and also youth with the agriculture training have the mentality of being employed to provide extension and not become farmers.

Inadequate access to education, information and knowledge affects young people engagement in agriculture which limits productivity and the development of entrepreneurial ventures (FAO, 2014). According to Sanginga (2014) the development of entrepreneurial undertakings in Africa is limited by insufficient skills acquisition and knowledge whereas limited education affects productivity. During a regional consultative workshop for East African young farmers held in 2009, youth from the rural areas highlighted limited opportunities for apprenticeship, scarce leadership and business management training opportunities as key challenges (Proctor and Lucchesi, 2012). Prospects for their training are further constrained by their low levels of education (IFAD, 2010a). A study in Uganda revealed that male youth with at least secondary education in households with more adults were less likely to engage in agriculture. (Ahaibwe et al 2013). These challenges in education, information and knowledge necessitates education and entrepreneurial skills development for rural youth and incorporation of agricultural and entrepreneurial skills into rural education. (Sanginga, 2014). IFAD (2012) adds that not only do rural youth need general education but they also need skills training on agricultural activities.

A study in Nigeria recommended identification of a more participatory way that focus on agricultural best practices, land laws and knowledge sharing in Education and capacity-building programmes for rural youths (Ajani E.N.et al, 2015). The providers of agricultural train and education should focus on addressing the agricultural labour market requirements and expose youth to real working world, the rewards and challenges thereof. In Cambodia, Bahmas and China youth being trained in agricultures are exposed through internships and tours to other areas for learning purposes (FAO, 2014)

Use of ICT is a critical factor in contributing to sustainable and inclusive development through agriculture (Suttie & Benfica, 2015). Young people adapt more easily to use of ICT technologies and hence ICT can contribute greatly in their capacity development, communication improvement, acceleration of information accessibility and decision making processes which keeps them abreast with emerging information and opportunities in the market (David, 2015). The young farmers through enhanced access to market information, improved technologies and production methods and financial openings can contribute significantly in reducing youth rural-urban migration. (Ochilo, 2014). Use of Short message service (SMS) plays a key role in accessing agriculture extension information (Lung'ahi, 2014). Additionally young people can through their numerous acquired skills in ICT, support

the country to carry out research aimed at enhancing agri-business (Waikenda, 2013). The various players in various value chains connect through ICT market based information services such as the mobile based sales system in Ghana which connects women producers and retailers; the customized youth advice and linkage to partners for tailor made solutions to agricultural issues in Rwanda as well as the Mfarm platform in Kenya that connects consumers to traders and also offers education, knowledge and information through social media. Additionally, youth receive agricultural advisory services via audio conferencing (FAO, 2014). Use of ICT was identified as one of the current extension methods within Yatta Sub-County (Obanyi et. al 2015)

Kenya's research system is organized in a way to promote new technology development for improved production in agriculture. The existing county government structure through the Ministries Environment, energy and Natural resources; of Agriculture, water and irrigation; Industrialization, Trade and Enterprise development and also the National Research institutions such as KARLO, Kenya Forestry and Research Institute (KEFRI) and Universities and other development agencies provide a wide range of opportunities to famers for extensions services and relevant technology transfer (ASDS, 2010). The use of modern farming technologies remains limited in Kenya despite the well-developed agricultural research system (Njenga, et. al 2012). Use of outdated unproductive agricultural technologies remains rampant as the current research, extension and farmer linkages are limited and are driven by demand further inhibiting productivity in agriculture (Kibet, 2011). The dependence on manual labour due to inadequate innovative production techniques further inhibit youth participation in agriculture (Njenga et al 2013).

In his study, Gachuki (2012) found out that only a few youths applied modern technology to horticulture farming due to lack of skills among others reasons. This study recommended awareness creation and regular training sessions on new modem techniques. Limited use of high potential technology also affects farming in Kenya (Chege, 2013). Roling et al (2012) established that low technology levels implied that only small surpluses could be generated from farming and yet increased output and hence the country's self- sufficiency would depend on the available technology and its acceptance by the farmer (Schonherr, 2012).

2.3 Theoretical Framework

Theoretical framework shapes and unites all study the elements (Mugenda, 2008). This study was guided by the planned behaviour theory and also the Push and Pull theory.

2.3.1 Theory of planned behaviour

This study was supported by the planned behaviour theory formulated in 1980 by Ajzen and Fishbein. This theory assumes that someone's purpose to behave in a certain manner requires their intention to do so which is determined by their purpose to behave in a specific manner. It further states that intention forecasts one's willingness to behave in a particular way. This theory assumes that people behave in a sensible manner and use the available information to decide on what to do. A person's immediate action is determined by their intention to behave in a specific way or not. The theory would help to determine the intentionality of the youth to make a choice to embrace agricultural activities as a source of their livelihood.

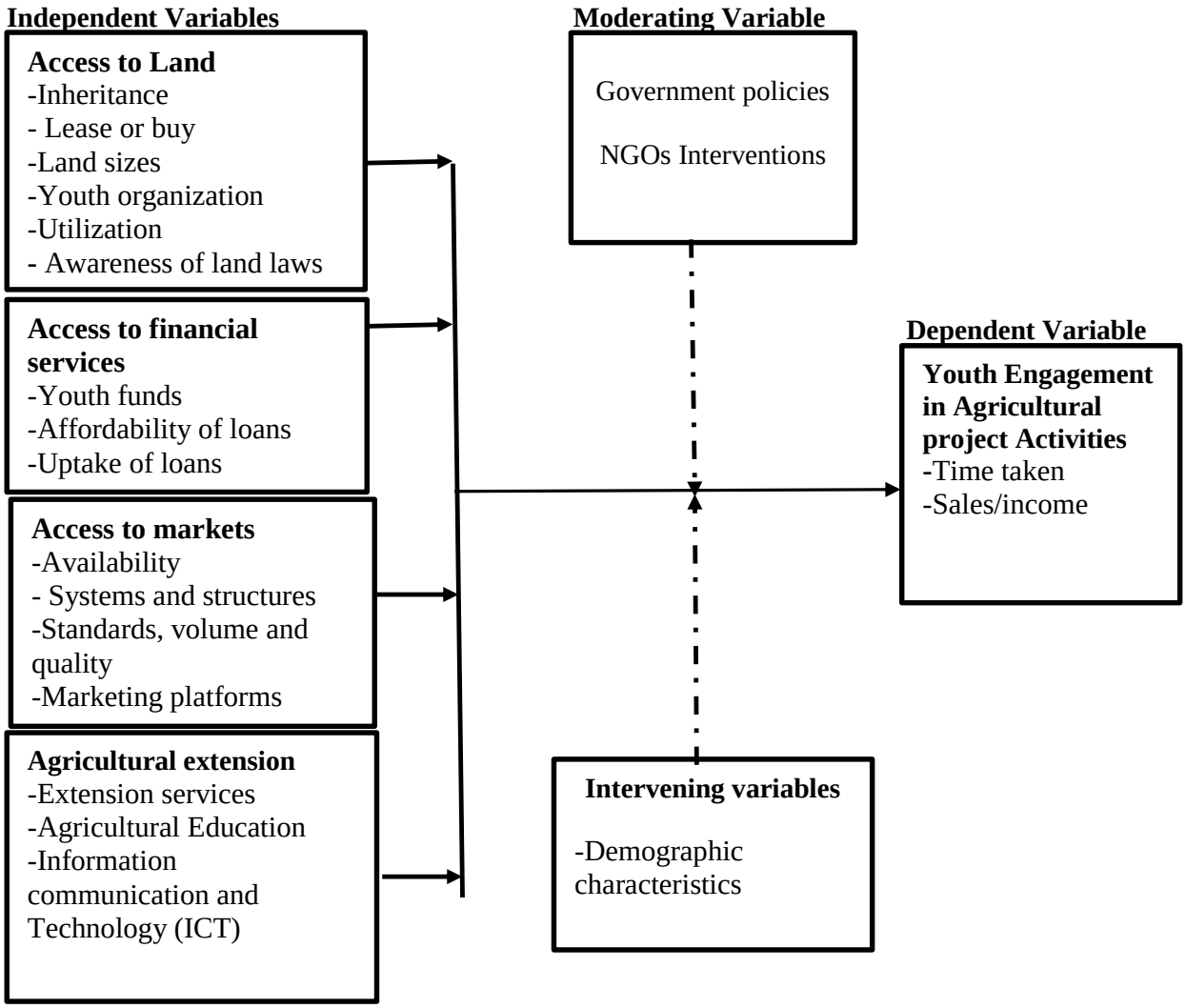
2.3.2 The Push and pull Theory

The Push and Pull theory of motivation proposes that there factors that push or pull a person towards and end state. There are similarities between the framing of agriculture and the young people and the early push and pull theory (Sumberg et al., 2012). This theory is applicable in this study since the youth face different factors that either push them towards involvement in agricultural activities or pull them away from them. Some of the pulling factors for youth engagement in agricultural activities could land inaccessibility, high land prices, lack of financial support for carrying out agricultural activities, lack of market for produce and inadequate information on agricultural activities.

2.4 Conceptual Framework

A conceptual framework represents interconnected ideas and functionality of a given phenomenon and its relationship to its various parts. The framework functions as the foundation for understanding the correlational or causal patterns of interconnections across knowledge, observations, events, concepts, ideas, interpretations as well as components of an experience (Marilla, 2010). This study sought to investigate factors that influence youth engagement in agricultural activities with focus on access to land, financial services, markets and agricultural extension. The relationship of these variables of the study are illustrated in Figure 1.

Figure 1: Conceptual framework



2.5 Knowledge Gap

Table 2.1: Knowledge gap

Variable	Indicator	Author, Year of study	Title of study	Findings	Knowledge gap
Youth engagement in agricultural activities	The Number of hours youth engaged in agricultural activities	UNDP, 2016	Cultivating youth entrepreneurship through agribusiness	In Kenya, the average age of a farmer is 60 years	Previous studies did not look at time invested by youth in agricultural activities in Yatta sub-county
Access to land	The number of youth able to get land from parents and utilize the same	Upward Bound Company Ltd, Kenya 2015	Study on inclusiveness and gender mainstreaming in food security and commercialization of rural economy in eastern Kenya.	Male youth only get land after getting married & women only own land after husbands die	The previous studies did not look at the number youth accessing family land for agricultural activities in Yatta sub-county
Access to financial services	The number accessing funds to support their agricultural activities	Peter Njenga Dr. Fridah Mugo Romanus Opiyo (2012)	Youth and Women Empowerment through Agriculture in Kenya,	Kenyan youth are challenged by lack of inputs, investment capital and tailor made financial products	Previous studies did not look at the number of youth accessing and utilizing various financial services to support them in agricultural activities in Yatta sub-county
Access to Markets	The number of youth knowledgeable on how the market works	Gichuki, Ibrahim N (2012):	The challenges facing horticulture farming among the youths in youths groups in Kieni West District Nyeri County, Kenya.	Kenyan youth are affected by lack of market, market information, stiff competition, lack of marketing skills and low prices	The previous studies did not look at how many youth understand how market works in Yatta sub-county
Extension services	The number of youth accessing and utilizing extension support	Obanyi S, Kathuli P and Kaburu F. (2015)	Agricultural practices and extension methods. Report to EFSEK-DGIS project. Kenya.	Use of IT is one of the extension methods on Yatta sub-county	Previous studies did not look at number of youths accessing extension services within Yatta sub-county

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section discusses the research methodology that was applied in the research. It describes the research design, the target population, sample size and the sampling procedure for the respondents, research instruments used, data collection methods and procedures, validity and reliability, the data analysis and presentation as well as ethical issues.

3.2 Research Design

To achieve its objectives, the study used descriptive survey design to achieve the set objectives. Preference was given to this design due to its ability of providing lots of information from large a sample of individuals and could further assist in determining the particular characteristics of a group.

3.3 Target Population

This study was a survey that was conducted in Yatta Sub-County, Machakos County. The Sub-County has a total population 74,919 residents out of which 46225 (62%) are youths between 15-34 years of age (KNBS & SID, 2013). This study focus on the youth aged 15-34 living in Matuu, Ndalani, Kithimani, Ikombe and Katangi wards of Yatta Sub-County.

3.4 Sampling size and sampling procedure

This section provides the sample size for the study and also the sampling procedure used to draw the study sample.

3.4.1 Sample size

Using the Krejcie & Morgan table of 1970) 381 respondents were sampled from a population of 46225 residents of Yatta Sub-County.

3.4.2 Sampling procedure

The study used both probability and non-probability sampling techniques. Purposive sampling was the non-probability sampling technique used and was applied in identifying the wards for data collection. The cluster procedure and simple random sampling procedure represented the probability sampling techniques used. The use of cluster sampling technique was applied in the wards within Yatta Sub-County were clusters. In this case 5 clusters represented the 5 wards in the area. To start with, a proportionate to youth population ratio was used to determine the number of youth to be interviewed per ward. Simple random sampling was applied within the

wards to randomly pick the youths for administration of questionnaires. The wards and selected samples against the number of youth is given in Table 3.1.

Table 3.1: Sampling Matrix

No	Ward	Youth Pop (15-34yrs)	Actual Sample
1	Ndalani	8940	73
2	Matuu	9789	81
3	Kithimani	10478	87
4	Ikombe	10453	86
5	Katangi	6565	54
	Total	46225	381

Source: KNBS & SID, 2013

3.5 Data collection methods

In order to generate quantitative survey instruments were used to collect the primary data.

3.5.1 Data collection instrument

Survey questionnaires

A questionnaire gathers short responses to questions from respondents simply a short time period. The questionnaires contain structured and semi-structured questions were administered to the youth participants in agriculture. The structured questions were administered to selected respondents (youths) provided answers to the questions. The questionnaire supports data collection from a large number of people and it is less intensive and requires minimal resources. Pre-testing was done to ensure relevance and clarity of the research tools before administration.

3.5.2 Pilot testing

Pilot testing of the research instrument is a pre-test of a particular research instrument (Wilklison & Birmigham, 2003). The pilot study enables testing and revision of the research instruments in order to make them reliable and valid. It is appropriate to pre-test a tenth of the total sample with a pilot sample that has homogenous characteristics (Mugenda and Mugenda, 2003). Therefore, a pre-test of the designed questionnaires was carried out in Mwala Sub-County. The split-half technique that entails randomly dividing the sample into two sets and then administering the instrument to each group to respond was used. This helped in checking the consistency by comparing the responses obtained from each half.

3.6 Validity and reliability of research instruments

3.6.1 Validity of research instruments

Validity is defines as the degree to which a research study measures what it anticipates to. The opinion of the experts in the field was sought to establish the validity of the content of the

research instruments. This helped to ascertain if all themes in objectives were well captured. This provided feedback to the researcher that enabled her to revise and modify the research instruments as necessary and hence enhancing validity.

3.6.2 Reliability of research instruments

Reliability refers to the consistency and stability with which a data collection instrument measures a specific concept. It is vital to ensure appropriateness of research methods as well as ensuring the integrity of the final report and specifically the conclusions which involves the researcher's assessment of the reliability of the study findings according to Helen & Joanna (2015). To ensure reliability of the research instruments, the researcher used the split half technique. The same questionnaire was administered to the sample which was randomly divided into two halves. Thereafter, to compare the correlation between the two total set scores a Pearson's product moment of correlation co-efficient was used. A coefficient of 0.7 and above was considered to be acceptable.

3.7 Data analysis methods

The completeness and consistence of the questionnaires was assured through editing of completed questionnaires. The data was cleaned for any anomalies and the responses were assigned specific numerical values for further analysis. Data analysis was done using the descriptive statistical tools (SPSS and Excel). Frequencies, numbers and percentages were obtained and presentation of the findings was done in tables, frequencies and percentages as per the study objectives.

3.8 Ethical issues

During the study period, the researcher strictly ensured that the youths and other respondents were treated with respect and courtesy. The researcher also ensured that the procedures and questionnaires used were reasonable, non-exploitative, carefully considered and fairly administered. Further, focus was on humanity and the individual participants to ensure that they would benefit and caution was exercised to avoid unnecessary risk, harm or wrong.

The results of this research was completely confidential and no identification data was collected. Consent was always sought to ensure voluntary participation in the study.

3.9 Operational definition of variables

Table 3.1: Operationalization of variables

Objective	Type of variable	Indicators	Measurement Scale	Type of data analysis methods
Access to land	Independent	-Youths benefiting from parental land -Land sizes available to youth -Youths making decision on land use	Nominal	• Descriptive statistics, • Frequency distribution, • Percentages
Access to financial services	Independent	-Availability of youth funds -Youths utilising the funds	Nominal	• Descriptive statistics, • Frequency distribution,
Access to markets	Independent	-Availability of markets - Market systems and structures	Nominal	• Descriptive statistics, • Frequency distribution, • Percentages
Extension services	Independent	-Availability of agricultural information -Accessibility of agricultural information	Ordinal	• Descriptive statistics, • Frequency distribution, • Percentages
Youth engagement in agricultural activities	Dependent	-Amount of time engaged in activities -Sales/Income from proceeds	Ordinal	• Descriptive statistics, • Frequency distribution, • Percentages

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND INTERPRETATION

4.1 Introduction

This chapter covers the data analysis, data presentation and data interpretation.

4.2 Rate of return

From the 381 questionnaires administered, 318 were filled and returned as in Table 4.1

Table 4.1: Rate of return per ward

Ward	Frequency	Percentage
Matuu	75	24
Kithimani	84	26
Ndalani	73	23
Ikombe	86	27
Total	318	100

This represented an 83% response rate, which is quite suitable to make a final for the study. According to Mugenda and Mugenda (2003) a return rate of 70% is very good.

4.3 Demographic Characteristics

The respondents' demographic characteristic of gender, age, level of education and marital status

4.3.1 Distribution of the respondent by Gender

The gender of the respondents is presented in Table 4.2

Table 4.2: Distribution of respondent by gender

Description	Frequency	Percentage
Male	172	54
Female	146	46
Total	318	100

There were more male youth respondents' of 54% than Female 46%. Therefore, Gender balance was fairly well distributed

4.3.2 Distribution of Respondents by Age

The age of the respondents is presented in Table 4.3

Table 4.3 Distribution of respondents by age

Age in years	Frequency	Percentage
15-20	19	6
21-25	77	24
26-30	110	35
31-34	112	35
Total	318	100

Age between 26-30 years and (31-34) years were highest represented by 35 the least was 15-20 years by 6%

4.3.3 Distribution of Respondents by Marital Status

The marital status of the respondents is presented in Table 4.4

Table 4.4 Distribution of return by marital status

Description	Frequency	Percentage
Single	98	31
Married	179	56
Widow/widower	22	7
Divorced	7	2
Separated	12	4
Total	318	100

The majority of the youth who participated were married represented by 56% followed by those who are single by 31the least were the divorced by 2%.

4.3.4 Distribution of Respondents by Level of Education

The level of education of the respondents presented in Table 4.5

Table 4.5 Distribution of respondents by highest/current level of education

Description	Frequency	Percentage
Never been to school	2	1
Primary	82	26
Secondary	122	38
Degree	22	7
Post graduate	13	4
Tertiary (polytechnic and collage)	77	24
Total	318	100

Secondary education was the highest presented by 38% and lastly those who have never been to school at 1%.

4.4.1 Access to land and youth engagement in agriculture project activities

The youth we asked to indicate their take on various issues in relation to access to land and youth engagement in agriculture project activities in Yatta Sub-county. The family sizes are represented in Table 4.6

Table 4.6 Average Family size in acres

Description	Frequency	Percentage
Less than 0.1	17	5
1-0.5	49	15
0.51-1	106	33
1.01-2	101	32
2 and above	45	14
Total	318	100

The largest family land size was 1.51-1 at 33% followed closely by 1.01 -2 at 32. The last was less than 0.1 by 5%

The different ways through which youth accessed land for agricultural activities are presented in Table 4.7

Table 4.7: How youth access land for agricultural activities

Description	Frequency	Percentage
Inherited from parents	237	74
Rented/leased	66	21
Group land	15	5
Total	318	100

Majority of the youth inherited land from parents represented by 74%, followed by those who rented/leased land at 21% and finally those using group land at 5%. Out of the ones who accessed land through inheritance 66% have no control over use. Among the youth who have not inherited land from their parents, 55% believe that they will inherit land someday.

The youth who anticipated to inherit land from their parents indicated the various ways they would utilize the land as in Table 4.8

Table 4.8: How youth would use land

Description	Frequency	Percentage
Cultivate/Practice agri-business	45	60
Rent it out	7	10
Sell it	6	8
Construct my house only	16	22
Total	74	100

Majority 60% would cultivate/practice agri-business while 5% would sell it.

Youth awareness on land registration and taxation requirements and laws is as Table 4.9

Table 4.9: Youth awareness of Land laws and group affiliation

Item	Response	Frequency	Percentage
Are you aware of land registration and taxation (land rates) requirements	Yes	112	35
	No	206	65
Are you aware of land laws	Yes	114	36
	No	204	64
Do you belong to any group	Yes	232	73
	No	27	27

n=318

The number of the youth who are not aware of land registration and (taxation rates) requirements was high and represented by 65% whereas those who are aware of the requirements was 35%. Also highly represented was the number of those who are not aware of the land laws by 64% and the majority 73% belong to groups

4.4.2 Access to financial services and youth engagement in agriculture project activities

The youth were asked to indicate their take on various issues in relation to access to financial services and youth engagement in agriculture project activities in Yatta Sub-county. Their response is indicated in Table 4.10

Table 4.10: Youth knowledge and access to financial services

Item	Response	Frequency	Percentage
Do you know the available financial services for youth	Yes	252	79
	No	66	21
Do you believe the available youth funds are affordable	Yes	192	61
	No	124	39
Have you ever applied for any of these funds	Yes	120	45
	No	148	55

n=318

Majority of the youth 79% know the available financial services, 61% believe that the available youth funds are affordable and those who have not applied for the funds were the highest by 55%

The reasons given for non-application of loans is in Table 4.11below

Table 4.11: Why Youth did not apply for funds

Description	Frequency	Percentage
I did not know the application process	85	58
The repayment terms were not friendly	15	10
I feared i would lose my property if i defaulted	42	29
I did not have enough shares	3	1
I did not have enough collateral	3	2
Total	148	100

The youth who did not apply for youth funds who indicated that they did not know the application process were the highest with 58% and finally the least represented were those who did not have enough collateral and enough shares with 2% and 1% respectively.

The various sources of funds for youth are presented in Table 4.12

Table 4.12: Where youth applied for funds

Description	Frequency	Percentage
Bank	22	19
Government funds	29	24
Village Savings group	38	32
Micro-Finance Institution	15	13
Employer	6	4
Relative/Friend	10	8
Total	120	100

Among the youth who applied for funds, majority applied in the village savings groups represented by 32% and followed closely by those who applied for government funds.
Presented in Table 4.13 is the amount of money applied

Table 4.13 Amount of money applied (Kshs)

Description	Frequency	Percentage
1-5000	23	18
5001-10000	40	34
10001-50000	32	27
50001 and above	25	21
Total	120	100

The highest number applied for Kshs. 5001-10000 34% and the least were those who applied for Kshs. 1-5000 at 18%. Youth represented by 23% reported that they got the requested funds and 14% did not get the requested funds.

The reasons given by those that never got the requested amount are captured in Table 4:14

Table 4.14: Why youth did not receive requested funds

Description	Frequency	Percentage
Lack of collateral	2	5
I had an outstanding loan	7	20
The credit service was not available	2	5
I don't know	26	70
Total	37	100

70% reported that they do not know why and unavailability of the credit service and those who lacked collateral were represented by 5% each. Youth represented by 73% reported that they would make another request of funds in the future.

The youth who would not consider taking up a loan in the future gave the reasons in Table 4.15

Table 4.15: Why youth would not apply loan in the future

Description	Frequency	Percent
Terms and conditions were unfriendly	8	26
High interest rates	6	19
Stringent rules	2	7
Long application process	3	10
Getting the money takes long	9	29
Hidden information	3	10
Total	31	100

Getting money takes long 29%, Terms and conditions were unfriendly 26%, and Stringent rules 7%

4.4.3 Access to market and youth engagement in agriculture project activities

The youth we asked to specify their take on various issues in relation to access to market and youth engagement in agriculture project activities in Yatta Sub-county. On the availability of market for agricultural produce, 73% (235) of youth said that there is market for agricultural produce, 17% (53) said there is no market for agricultural produce and 10% (30) said they do not know.

The various market youth sell their produce are presented in Table 4.16 below

Table 4.16: Main market for agricultural produce

Description	Frequency	Percent
Local Market	254	80
Supermarkets	15	5
Big Towns	48	15
Export Markets	0	0
Total	318	100

The highest number of youths indicated the local market as the main market for agricultural produce by 80% and export market was the least by 0%

The various modes of selling used by the youth are presented in Table 4.17

Table 4.17: How youth sell their agricultural produce

Description	Frequency	Percent
Individually (face to face)	255	80
Collective marketing as a group	29	9
Through Phone/Online	34	11
Total	318	100

Individual (face to face) was the most used way of selling agricultural produce among others at 80%, those that sell through phone/online were 11% and the least used way was collective marketing at 9%

In regard to knowledge on market quantity, quality, standards and requirements, youth responded as per table 4.18

Table 4.18 Youth knowledge on market quality and quantity requirements

Item	Response	Frequency	Percentage
How much knowledge on market quality and standards do you have	None	14	4
	Little	223	71
	Substantial	65	20
	A lot	16	5
How much knowledge do you have on market quantity requirements	None	29	9
	Little	193	61
	Substantial	71	22
	A lot	25	8

n=318

The majority of the youth reported little at 71%, and lastly those that had none were represented by 4%. The response on knowledge of market quantity requirements: Little 61% and only 8% reported a lot.

Youth awareness and utilization of marketing platforms is captured in Table 4.19

Table 4.19 Awareness and use of marketing platforms

Item	Response	Frequency	Percentage
Are you aware of the available agricultural produce marketing platforms	Yes	100	31
	No	218	69
Have you benefited from the available marketing platforms	Yes	82	26
	No	236	74

n=318

Majority 69% report they were not aware and among those aware, 74t have not benefited from the available platforms.

4.4.4 Access to extension services and youth engagement in agricultural project activities

The participants were asked to point out how they would rate the access to agricultural extension services on youth engagement in Yatta Sub-County. The participants responded as follows in Table 4.20

Table 4.20: Youth access to extension services

Item		Response	Frequency	Percentage
i.	Extension services are readily available from the government	Strongly Disagree	39	12
		Disagree	57	18
		Neither agree nor Disagree	48	15
		Agree	130	41
		Strongly agree	44	14
ii.	Extension officers engage youth in modern farming technologies	Strongly Disagree	40	13
		Disagree	78	26
		Neither agree nor Disagree	89	29
		Agree	97	31
		Strongly agree	14	1
iii.	Youth attend trainings offered by extension officers	Strongly Disagree	32	10
		Disagree	97	31
		Neither agree nor Disagree	94	30
		Agree	77	23
		Strongly agree	18	6
iv.	Youth get information by learning from one another	Strongly Disagree	10	3
		Disagree	36	11
		Neither agree nor Disagree	50	16
		Agree	146	48
		Strongly agree	76	22
v.	Agricultural information is available to youth	Strongly Disagree	23	7
		Disagree	48	15
		Neither agree nor Disagree	55	17
		Agree	117	37
		Strongly agree	75	24
vi.	Agriculture is an important subject	Strongly Disagree	2	1
		Disagree	9	3
		Neither agree nor Disagree	18	6
		Agree	74	22
		Strongly agree	215	68
vii.	Youth have skills and knowledge to develop agricultural entrepreneurial ventures	Strongly Disagree	40	13
		Disagree	73	23
		Neither agree nor Disagree	62	20
		Agree	91	29
		Strongly agree	52	15
viii.	Youth Know the available ICT platforms for sharing agricultural extension work (TV,Radio,	Strongly Disagree	20	6
		Disagree	47	14
		Neither agree nor Disagree	69	20
		Agree	146	50
		Strongly agree	36	10

	Internet/Social Media)			
ix.	Youth Utilize the available ICT Platforms for sharing agriculture information (TV, Radio, Internet/Social Media)	Strongly Disagree	32	10
		Disagree	47	15
		Neither agree nor Disagree	75	24
		Agree	120	37
		Strongly agree	44	14

n=318

Extension services are readily available from the government: Youth who agree were the highest at 41%, and those who strongly disagree 12% were the least. Extension officers engage youth in modern farming technologies: Those who agree were the majority at 31%, the ones who neither agreed nor disagreed followed closely by 29%. Youth attend trainings offered by extension officers: Most of the youth disagree by 31%, they were followed closely by the neutral at 30%. Youth get information by learning from one another: Agree were highest by 48%, strongly agree and the ones who strongly disagree were the least at 7%. Agricultural information is available to youth: Those that agree were the majority at 37 and the ones who disagree were at 7%.

Agriculture is an important subject: Majority of the youth strongly agreed at 68% and those who strongly disagree were 1%. Youth have skills and knowledge to develop agricultural entrepreneurial ventures: Most of the youth agree at 29%, they were followed by the ones who disagree at 23% and the ones who strongly disagree were represented 13%. Youth Know the available ICT platforms for sharing agricultural extension work (TV,Radio, Internet/Social Media): Youth who agree were highest by 50%, those who strongly disagree were represented by 6% respectively. Youth Utilize the available ICT Platforms for sharing agriculture information (TV, Radio, Internet/Social Media): Most of the youth agree at 37% and the least were the ones who strongly disagree by 10%

4.4.5 Youth engagement in agriculture project activities

The youth were asked to give their take on various issues in relation to access to market and youth engagement in agriculture project activities in Yatta Sub-county. Their response is indicated in Table 4.21

Table 4:21 Agricultural activities youth engage in

Responses	N	Percent of Cases
Bee Keeping	11	3.5%
Poultry farming	136	43.3%
Goat and sheep keeping	128	40.8%
Pig farming	5	1.6%
Dairy Cow farming	62	19.7%
Vegetable growing	89	28.3%
Pulses-Green grams, beans, cowpeas	160	51.0%
Cereals-Maize, sorghum, millet	161	51.3%
Fish farming	9	2.9%
Fruit farming	79	25.2%
Buying and selling produce	61	19.4%
Transporting produce to market	54	17.2%

n=318

The majority of the youth were engaged in cereals and Pulses production at 51.3% and 51% respectively. Poultry farming and goat and sheep keeping followed at 43.3% and 40.8%respectively and the least were pig farming youths at 3.5%

The amount of time youth engage in agricultural activities is presented in Table 4.22

Table 4.22: Hours youth spent in agriculture related activities

Description	Frequency	Percentage
Part time (1-6 Months)	79	25
Full time (7 months and above)	239	75
Total	318	100

Majority of the youth are engaged in agricultural activities on full time basis at 75% and then the rest engage themselves in agriculture activities on part time represented by 25%

The Income levels are indicated in Table 4.23

Table 4.23: Average income/sales per month (Kshs)

Description	Frequency	Valid Percent
1-5000	138	43
5001-10000	115	36
10001-50000	51	17
50001 and above	14	4
Total	318	100

The highest percentage of youth were the ones with average income/sales per month was Kshs. 1 to 5000 by 43 and the least 4% earned Kshs. 50001.

4.3 Correlation test

Correlation tests were done on sampled indicators for the variables. Specifically access to land, financial services and market were tested using the Pearson Correlation whereas the Access to extension services was tested using Spearman's correlation since it was measured on ordinal scale. The results are in Table 4.31 below

Table 4.31 Correlation test

Variable	Pearson/spearman Correlation	Significance (2 Tailed Test
Access to land	0.011	0.842
Access to financial services	0.105	0.063
Access to market	0.046	0.415
Access to extension services	-.024	0.671

Access to financial services had a spearman correlation of 0.105 and access to extension services had a correlation of -.024

CHAPTER FIVE

SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes the research findings, discusses the findings, conclusions and the recommendations as well as recommendation for further research.

5.2 Summary of findings

This study seek to investigate factors influencing youth engagement in agricultural projects activities in Yatta Sub-County of Machakos County. The study sought to establish how access to land, access to financial services, access to markets and access to extension services influence youth engagement in agricultural activities.

The average land sizes in these areas are 0.5 – 1 acres at 33% and 1.01 -2 at 32%. Most of the youth 45% of youth do not believe they will receive land from their parents. Additionally, the majority 74% of youth are practicing agricultural activities on land inherited from their parents and 66% have no control over use. 65% are not aware of land rates requirements whereas 64% were not aware of land laws and 73% of youth belong to groups.

Majority of the youth 79% know the available youth funds while most 61% believe the funds are affordable and 55% have not been able to access the funds out of whom majority 58% of did not know the application process. Youth access funds majorly from the village savings groups and government funds where most of them 34% applied for Kshs. 5001-10000 and 77% did not receive the requested funds with majority 70% citing they did not know why they did not receive the requested funds. However, 73% would make another request in the future and 29% of whom would not indicated that getting the money takes long and also 26% said the terms and conditions were unfriendly.

Youth representing 73% of the youth believe there is market for agricultural produce and the main market was local market at 80% with export market at 0%. Most of the youth sell their produce individually (face to face) 80%. Majority 71% had little knowledge on market quality and majority 61 also had little knowledge on quantity of market requirements. Most youth 69% are not aware of the available produce marketing platforms. Among the ones who are aware of the available platforms, the majority 74% have not benefited.

Most youth 41% agree that extension services are readily available from the government, 29% neither agree nor disagree that the extension officers engage them in modern farming technologies. Those that disagree to this are 26%. Most youth 31% disagree that youth attend trainings offered by extension officers. Those who neither agree nor disagree are also closely following at 30%. 48% of youth agree that they get information by learning from one another. The highest number of youth 29% agree that they have skills and knowledge to develop agricultural entrepreneurial ventures. Those that agree that they know the available ICT platforms for sharing agricultural extension work (TV, Radio, and Internet/Social Media) were 50% and only 37% agree that they have utilized them.

Most of the youth engage in pulses and cereals production at 16.9% and 16.8% respectively and Poultry farming follows with 14.2% and goat and sheep farming at 13.4%. Additionally, that majority of the youth are engaged in agricultural activities on full time basis at 75% and the highest number 43% earn an average of Kshs. 1 to 5000.

Access to land had a Pearson correlation value of 0.011, Access to financial services had a Pearson correlation value of 0.105, Access to market had a Pearson's correlation value of 0.046 and finally extension services had a Pearson correlation value on -.024.

5.3 Discussions

Land is a key factor of production in agriculture. Access to land was found to pose a challenge for the youth engagement in agriculture activities. The average land sizes in these areas are 0.5-2 acres and with the average household size in Machakos County at 4-6 members (KNBS& SID, 2013). With this size of family to support it becomes practically challenging for some parents to give their youth land to engage in agricultural project activities. The most common avenue for youth to access land for practicing agricultural activities was inheritance from their parents which concurs with the finding of MIJARC et al (2012) that inheritance is the principle mechanism for youth accessing land. However, majority of these youth did not have full control over use of the land. This finding concurs with Ahaibwe et al (2013) that majority of the youth do not have full control of the land they use. This poses a challenge in that youth may be limited to make only short term investments on the land.

On the other hand, the youths who have not been able to inherit land from their parents have resolved to lease/rent land. This also limits the ability of the youth to invest in some projects since the lease/renting is time bound. A minimal number of the youth use group land to engage

in agricultural project activities. The challenge with this would also be the fact that the decision on the type of investment is depended on the group and usually majority and could not represent the best interest of some members. The majority of the youth who anticipate to get land from their parents would cultivate or practice agri-business. This concurs with FAO (2011) that youth perceive access to land as essential for engaging in farming.

Most of the youth were not aware of land laws and land rates requirements which agrees with Valle (2012) that youth suffer from limited information on land reforms. Additionally, it confirms the finding by UN-Habitat (2011) that youth do not have the relevant information on the land registration, taxation and acquisition measures. This limitation in knowledge poses a challenge to the youth since they may not be able to exploit provisions within the National and County land laws that would enhance their ability to get land for agriculture. With majority of the youth found to belong to groups, could be utilised as an avenue to educate youths and also lobby on issues affecting them in relation to land access.

Access to financial services is very important in any agricultural activity engagement for capital and purchase of inputs. Access to financial services was found to be a challenging factor in youth engagement in agricultural initiatives. Most of the youth know the available youth funds and also believe the funds are affordable which disagrees with Barret (2014) that lack of affordable financing is holding youth back from farming. Nonetheless, despite the availability and affordability majority have been able to apply for the available funds citing that they did not know the application process. This indicates a communication gap between the youth and the financial service providers. Surprisingly, very few youth identified lack of collateral as the reason for not taking up the loans. This indicates that the available financial products for youth have been tailor made to suit their needs which is confirmed by the finding that majority of youth accessed funds from the Village savings groups and Government funds. This finding concurs with Barret (2014) that the accessibility and availability of the Youth Development Fund has interested youth to borrow money for farming. The lack of information on the application process brings a new dimension to enhancing youth access to financial services from the traditional lack of collateral.

The average amount applied for was Kshs. 5001-10000 which could be attributed to the fact that most youth borrow loans from among themselves in the village savings set up. This would then mean that the youth would be limited to small scale enterprises and consequently minimal income in relation to engagement on agricultural project activities. With most of them having

received the funds they had applied for, majority of the ones who did not get funds they had requested indicated that they did not know why they did not receive the requested funds. This points out to a gap in the feedback mechanism from the financial service providers and the youth. Despite this, the study revealed that most of the youth would make another request in the future which provides an opportunity to promote more loan uptake among the youth. Most of the youth who indicated the reason for not considering applying for a loan again was that getting the money takes long and this also points out to the need for most financial service providers to improve on their financial services application process to gain the confidence of these youth.

Access to market is crucial as it provides the youth with the opportunity to acquire farm inputs, services, deliver agricultural produce to buyers and also generate income and drive production to meet food security needs. Access to market indeed influence how youth engage in agricultural project activities. Most of the youth believe there is market for agricultural produce and the local market being the main one. The common mode of selling their produce was individually (face to face) which could be attributed to the fact that they majorly sell at the local market.

In regard to knowledge on market quality and quantity requirements, majority of the youth were found to have little information which reflects the findings of FAO (2014) that youth lack experience, knowledge of how the markets works. There were no youth found to sell their produce at the export market and very few sold at the supermarkets and big towns and yet these markets could fetch the youth more income as compared to the local markets. The study by Guliani and Vale (2014) further confirms this finding that the required product quality and safety standards which youth have to comply to poses a challenge on their ability to access national, regional and international markets. The implication is that their scale of production will remain at small scale since the local market does not have specified quality and quantities. Additionally, with majority of the youth not aware of the available produce marketing platforms and not even utilized/benefited from the same, this means that majority the youth do not get the opportunity to interact with other youth and farmers in agri-business for learning, selling and marketing of produce which could help build a brand, establish a stable customer base, improve their distribution and sell more. This finding concurs with Gichuki (2012) that lack of marketing skills affect youth access to market.

Youth access to extension services influences how youth engage in agricultural project activities. Majority of the youth indicated that the extension officers do not engage them in modern farming technologies and trainings. This finding concurs with Njega et al (2012) that there is still a limitation in the use of modern agricultural production technologies. To bridge this extension gap, most of the youth get information by learning from one another. This finding agrees with Ochilo, 2014) that youth are potential players in ensuring enhanced access to new technologies and production techniques. This implies that majority of the youth have resolved to depend on themselves for extension information and hence will only be able to practice what they have tested and experienced which could lead to low productivity. This challenge limits the ability of the youth to engage in modern technologies for agricultural activities that could yield more income. This finding agrees with Kibet (2011) that inadequate extension-farmer linkage constraints efforts for increased agricultural productivity since farmers continue to use their old strenuous labour based techniques which hinder youth participation in agriculture

Most of the youth believe that agriculture is an important subject and that they have skills and knowledge to develop agricultural entrepreneurial ventures. It is therefore important for the schools to continue offering this important subject and more so focusing on modern farming technologies that would attract more youth to agriculture. Most youth know the available ICT platforms for sharing agricultural extension work (TV, Radio, and Internet/Social Media) and most of them have utilized these platforms. This finding concurs with Obanyi et. Al (2015) that use of ICT is one of the current extension methods in Yatta Sub-County. This provides an opportunity for the extension agents to package more youth relevant extension information for these platforms and also encourage the youth to interact with the same for more knowledge and information acquisition.

On the youth engagement to agricultural project activities, majority of the youth engage in pulses and cereals production. Poultry farming, goat and sheep farming were also identified as ventures youth mainly practice. The production of the pulses and cereals is seasonal and takes only 3 months before harvesting and on the other hand poultry and goat and sheep farming are considered less engaging in terms of labour requirements. This finding concur with SACAU (2013) that youth are interested in farming businesses which realise short time returns and have minimal labour demands. Majority of the youth found to be engaged in agricultural activities on full time basis with average income/sales per month being Kshs. 1 to 5000.

Access to land had a Pearson correlation value of 0.011 meaning that there is exists a very weak positive relationship between the access to land and youth engagement in agricultural activities. Access to financial services had a Pearson correlation value of 0.105 which means a weak positive relationship between youth access to financial services and their engagement in agricultural activities. Access to market had a Pearson's correlation value of 0.046 signifying a very weak positive relationship between access to land and youth engagement in agricultural activities. Finally, access to extension services had a Pearson correlation value on -.024 that signifies a very weak negative relationship between access to extension services and youth engagement in agriculture.

5.4 Conclusions

This study has identified four influencing factors for youth engagement in agricultural project activities in Yatta Sub-County of Machakos County as access to land, financial services, markets and extension services.

Youth majorly access land through inheritance and have no control over its use which limits the youth to engaging in short term agricultural activity investments. The little knowledge and awareness of land laws and policies compromises their ability to exploit the available provisions or even provide feedback to policy makers on necessary improvements on the laws and policies to their advantage.

The Village Savings Groups and the government funds provide youth with affordable and available financial services. However, lack of knowledge on the application process and the long-time taken to get money discourages some youth from applying for the funds which limits their ability to grow their agricultural activity engagements.

The local market where youth engage on face to face basis is the main market for agricultural produce. Little information on market quantity and quality requirements limits youth ability to benefit from the external markets that can bring in more income.

The government extension services are inadequate and youth have resolved to learn from among themselves and also from ICT which poses the risk of youth using outdated technologies which do not yield much. Agriculture is still considered an important subject among the youth and most of them have skills and knowledge to develop agricultural entrepreneurial ventures.

5.5 Recommendations

1. There is need for the National, County government, NGOs and other relevant partners to carry out intense sensitizations among the youth on land laws, policies and regulations at the village level to equip the youth with the necessary information in relation to land use and ownership issues. Additionally, there is need for the National and County government to come up with modalities of ensuring that youth easily access and own land that they can make their long term agriculture related investments.

2. The financial service providers should engage the youth in trainings and sensitization on the loan application processes and also re-look at their loan processing procedures to shorten the time taken to receive the funds. The communication/feedback process between the financial service providers and youth need to be strengthened to give more youth confidence to apply for funds.
3. The National, County governments, NGOs and other partners need to package and offer trainings and sensitization meetings for the youth on the market requirements, standards, systems and structures. Further to organize and prepare the youths in ways that they can take advantage of the external market that remains highly underutilized.

4. The government agricultural extension staff should purposively target the youth during trainings and sensitization meetings on new and modern farming technologies. Additionally, the extension staff, the NGOs and other partners should sensitize the youth on availability and utilization of the information sharing platforms that would complement the government extension services.

5. Since the youth are already at the fore front in extension among themselves, the National and county government could explore developing an extension model that would involve youth in extension at the ward level where contact youth would reach the rest.

5.6 Recommendations for further research

1. To establish how modern faming technologies would influence youth to consider a career in farming
2. To assess the impact of access to financial services for agriculture among the youth

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APPENDICES

Appendix I: Introduction Letter

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NAIROBI

Dear Sir/Madam,

RE: REQUEST FOR YOUR PARTICIPATION IN M.A. RESEARCH PROJECT

Hello, my name is **Jedidah Mwendwa** from the University of Nairobi and I am conducting a survey to establish the factors influencing youth engagement in agricultural activities in Yatta Sub-county. This study is for academic purpose but will be useful for the government, NGOs and other private and corporate institution involved in development projects in communities.

Your participation in the exercise is voluntary and so you are free to choose to or not participate. But it would be helpful if you could participate fully.

The results of this research will be completely confidential and no identification data will be collected. Some of the questions I will ask may also be quite personal and I hope they will be okay with you. If, however, you do not feel comfortable answering any questions, please feel free to say so or seek clarification where you do not understand.

Yours faithfully

Jedidah Mwendwa

Appendix II: Youth Survey Questionnaire

(To be answered by a person between 18-34 years)

SECTION I: IDENTIFICATION INFORMATION

Sub-County: _____

Ward: _____

DEMOGRAPHIC INFORMATION

1. Gender

   Male ☐

   Female ☐

2. Age in years

   15-20 ☐

   21-25 ☐

   26-30 ☐

   31-34 ☐

3. Marital status

   Single ☐

   Married ☐

   Widow/widower ☐

   Divorced ☐

   Separated ☐

4. Highest/current education level

   Never been to school ☐

   Primary ☐

   Secondary ☐

   University ☐

   Post graduate ☐

   Tertiary (Polytechnic and collage) ☐

SECTION 2: YOUTH ENGAGEMENT IN AGRICULTURAL ACTIVITIES

5. Which agricultural activities do you engage in

Activity	**Tick where appropriate**
Bee keeping	
Poultry farming	
Goat & sheep farming	
Pig farming	
Dairy cow farming	
Vegetable growing	
Pulses - Green grams, beans, cowpeas production	
Cereals - Maize, sorghum, millet production	
Fish farming	
Fruit farming	
Buying and selling agricultural produce	
Transporting produce to market	

6. How many hours do you spent in agriculture related activities per year

   Part time (1-6months) ☐

   Full time (7 months and above) ☐

7. How much is your average income/sales from agricultural activities per month _____

   Kshs 1-5000 ☐

   Kshs 5001-10000 ☐

   Kshs 10001-50000 ☐

   Kshs 50000 and above ☐

SECTION 3: ACCESS TO LAND

8. Family land size in acres

   Less than 0.1 ☐

   0.11 – 0.5 ☐

   0.51 – 1 ☐

   1.01 – 2 ☐

9. How do you access the land for agricultural activities

   Inherited from parents ☐

   Rented/leased ☐

   Group land ☐

10. If you access land from parents do you have full control over use

    Yes ☐

    No ☐

11. If you have not received land from parents do you think they will give you some day

    Yes ☐

    No ☐

12. If you got the land, how would you use it

    Cultivate/practice agribusiness ☐

    Rent it out ☐

    Sell it ☐

    Construct my house only ☐

13. Are you aware of the land registration and taxation (land rates) requirements

    Yes ☐

    No ☐

14. Are you aware of land laws

    Yes ☐

    No ☐

15. Do you belong to any group?

    Yes ☐

    No ☐

SECTION 4: ACCESS TO FINANCIAL SERVICES

16. Do you know the available financial services for youth

Yes ☐

No ☐

17. Do you believe the available youth funds are affordable

Yes ☐

No ☐

18. Have you ever applied for any of these funds

Yes ☐

No ☐

19. If No to question (18) why did you not apply for the funds

I did not know the application process ☐

The repayment terms were not friendly ☐

I feared I would lose my property if I defaulted ☐

I did not have enough shares ☐

I did not have enough collateral ☐

20. If Yes to question (18) where did you apply for the funds

Bank ☐

Government funds ☐

Village savings group ☐

Micro-Finance institution ☐

Employer ☐

Relative/friend ☐

21. How much money did you apply

1-5000 ☐

5001-10000 ☐

10001-50000 ☐

50001 and above ☐

22. Did you get the requested funds

Yes ☐

No ☐

23. If No to question (22) why did you not get the requested funds

Lack of collateral ☐

I had an outstanding loan ☐

The credit service was not available ☐

I don't know ☐

24. Would you make another request for funds in the future

Yes ☐

No ☐

25. If No to question (24) what is the reason

Terms and conditions were unfriendly ☐

High interest rates ☐

Stringent rules ☐

Long application process ☐

Getting the money takes long ☐

Hidden information ☐

SECTION 5: ACCESS TO MARKET

26. Do you think there is market for agricultural produce

Yes ☐

No ☐

I don't know ☐

27. Which is your main market for agricultural produce

Local market ☐

Supermarkets ☐

Big towns ☐

Export markets ☐

28. How do you sell your agricultural produce

Individually (face to face) ☐

Collective marketing as a group ☐

Through phone/online ☐

29. How much knowledge on market quality and standards do you have

None ☐

Little ☐

Substantial ☐

A lot ☐

30. How much knowledge do you have on the market quantity requirements

None ☐

Little ☐

Substantial ☐

A lot ☐

31. Are you aware of the available agricultural produce marketing platforms

Yes ☐

No ☐

32. Have you accessed/benefited from the available marketing platforms

Yes ☐

No ☐

SECTION 6: AGRICULTURAL EXTENSION

The following statements regard the extension service for agricultural activities. What is your take on extension services as far as Agricultural activities are concerned in Yatta Sub-County? Use scale where: SD- Strongly Disagree (D) – Disagree (ND) – Neither agree nor Disagree (A) - Agree and (SA) - Strongly Agree.

Statements	**Opinion**				
	SD	**D**	**ND**	**A**	**SA**
Extension services are readily available from the government					
Extension officers engage youth in modern farming technologies					
Youth attend the trainings offered extension officers					
Youth get extension information by learning from one another					
Agricultural information is available to youth					
Agriculture is an important subject					
Youth have skills and knowledge to develop agricultural entrepreneurial ventures					
Youth Know the available ICT platforms for sharing agriculture extension information (TV, Radio, internet/social media)					
Youth utilize/benefit from the available ICT platforms for sharing agriculture information (TV, Radio, Internet/social media)					

Thank you for your time and participation

Appendix V: Timeframe

No	Activity	Time
1	Research project proposal/proposal development	April 1-July 23rd 2016
2	Research project proposal/proposal defending	23rd September 2016
3	Inco-operating feedback	24th -30th September 2016
4	Data collection	3rd -14th October 2016
5	Data analysis & Report wring	17th -21st October 2016
6	Report presentation	25th October 2016
7	Inco-operating feedback	26th -28th October 2016
8	Final report presentation	3rd November 2016

Appendix VI: Budget

No	Activity	Unit	Unit cost	Total
1	Printing of tools	400x3	5	6000
2	Data clerks allowances	10X5days	1500	75000
3	Field travels	10 days	1000	10000
4	Accommodation	10	2500	25000
5	Data analysis & Report wring	1	50000	50000
	Total			166,000

Appendix V: Sampling Table

Table 3.1

Table for Determining Sample Size of a Known Population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	1000000	384

Note: N is Population Size; S is Sample Size *Source: Krejcie & Morgan, 1970*