INFLUENCE OF SELECTED FACTORS ON PARTICIPATION OF RURAL YOUTH IN AGRICULTURE IN BALAKA DISTRICT, MALAWI

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A Thesis Submitted to the Graduate School in Partial Fulfillment of the Requirements for the Award of the Degree of Master of Science in Agricultural Extension of Egerton University

EGERTON UNIVERSITY

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DECLARATION AND RECOMMENDATION

Declaration

I hereby declare that this thesis is my original work and that it has not been presented in part or any other form for an award of a diploma or degree in any University.

Signature…… Date……

Alfred D. B. Tsitsi

EM12/14262/15

Recommendation

This thesis is the candidate's original work and has been prepared under our guidance, and is submitted with our approval as the candidate's official university supervisors.

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DEDICATION

This work is dedicated to my beloved daughter Zizwani Tsitsi, my true inspiration. To my lovely wife Elizabeth Mpindang'ombe Tsitsi whose love propelled me through. To my beloved parents; Mr. David B. Tsitsi and Mrs. Jane A. Tsitsi who love me unconditionally. I owe my accomplishments to you.

To the Lord God Almighty with whom everything is possible.

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ABSTRACT

Worldwide, young people and mainly the rural youth face challenges in trying to earn a livelihood, yet agriculture offers a lot of opportunities for investment and their livelihood. Malawi economy is predominantly agricultural. Young people form more than 50 per cent of the country's population. Despite the Malawi government efforts to enhance youth participation in the agriculture sector through policy support, only few youths participate actively in this sector. This study sought to determine the influence of selected factors on participation of rural youth in agriculture in Balaka District, Malawi. The factors that were examined include: age, sex, marital status, education level, occupation, rural youth's perceptions towards agriculture, awareness of investment opportunities in agriculture, access to finances and credit, land, markets, knowledge and information, and alternative jobs. The study employed the cross-sectional survey design. Proportionate stratified sampling technique was used to attain a sample size of 196 rural youth respondents and 4 key informants. A researcher administered questionnaire and key informant questionnaire were administered. Reliability of the instrument was determined using Cronbach's Alpha Reliability Coefficient whose value was found to be 0.81. The collected data was analysed using both quantitative and qualitative methods. The inferences were derived using the Pearson product-moment correlation and multiple linear regression models at 95% confidence level. The study findings indicate that participation of rural youth in agriculture is very weak with a majority participating as primary producers. Factors that include: age (p=0.000), marital status (p=0.000), education level (p=0.010), occupation (p=0.000), awareness of investment opportunities (p= .033), perceptions (p= .010), access to land (p=0.000), access to markets (p=0.000) and access to alternative jobs and income (p=0.017) have significant influence on participation of rural youth in agriculture. From the study findings it was concluded that demographic and socio-economic factors significantly influence participation of rural youth in agriculture in Balaka District of Malawi. The researcher recommends that Government of Malawi could consider introducing youth specific agricultural interventions, set up a youth desk office to engage rural youth in agricultural policy processes, institute an agricultural development fund for rural youth and an agri-preneurial training facility for rural youth. Malawi Extension and Advisory Services Strategy Paper could also include rural youth development in agriculture as one of its priority areas.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABBREVIATIONS AND ACRONYMS

ACE	Agricultural Commodity Exchange
ADB	African Development Bank
ADMARC	Agriculture Development and Marketing Corporation
AGRA	Alliance for Green Revolution in Africa
AHCX	Auction Holdings Commodity Exchange
ASWAp	Agriculture Sector Wide Approach
BHEARD	Borlaug Higher Education for Agricultural Research and Development
CTA	Technical Centre for Agricultural and Rural Cooperation
DFID	Department for International Development
EPA	Extension Planning Area
FANRPAN	Food Agriculture and Natural Resources Policy Analysis Network
FAO	Food Agriculture Organization
FISP	Farm Input Subsidy Program
ICT	Information Communication Technology
IFAD	International Fund for Agriculture Development
IFPRI	International Food Policy Research Institute
ILO	International Labour Organization
IWH	Institute for Work and Health
JFFLS	Junior Farmer Field and Life Schools
MGDS	Malawi Growth and Development Strategy
MIJARC	International Movement for Catholic Agricultural and Rural Youth
MoAIWD	Ministry of Agriculture, Irrigation and Water Development
MPRSP	Malawi Poverty Reduction Strategy Paper
MYSPC	Ministry of Youth Sports and Culture
NAP	National Agriculture Policy
NASFAM	National Smallholder Farmers' Association of Malawi
NSO	National Statistical Office
PAP	Poverty Alleviation Programme
SEP	Socio-Economic Profile
TA	Traditional Authority
UNDESA	United Nations Department of Economic and Social Affairs

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

United Nations Department of Economic and Social Affairs (UDESA, 2011) indicates that population around the globe is projected to reach 9 billion by 2050. Population for young people (aged 15 to 24 years) is also expected to increase to 1.3 billion, accounting for almost 14 per cent of the projected global population. Most will be born in third world countries in Africa and Asia, where more than 50 per cent of the population still live in rural areas. Rural youth are the future of food security [Food and Agriculture Organization (FAO), Technical Centre for Agricultural and Rural Cooperation (CTA) and International Fund for Agricultural Development (IFAD), 2014]. Yet around the world, few young people see a future for themselves in agriculture or rural areas. Young people and mainly the rural youth face many challenges in trying to earn a livelihood yet agriculture offers a lot of opportunities. Alliance for Green Revolution in Africa (AGRA, 2015) specifies limited access to arable land, credit, markets, and many other productive resources necessary for agriculture as major problems worldwide. Older farmers are less likely to adopt the new agricultural technologies, and ultimately feed the growing world population while sustainably utilizing the environment (Mapila, 2014). Hence, there's need to engage youth in agriculture.

Africa has an exceptional population profile where 200 million people are between the ages 15 to 24 years, constituting over 20 per cent of the African population; about 65 per cent of the total population of Africa is below the age of 35 years and 10 million youth enter the labour market annually (AGRA, 2015). Seventy per cent of African youth resides in rural areas and account for 65 per cent of labour in agriculture. Young people make up 36 per cent of the working population, and account for 60 per cent of the total unemployed (International Labour Organization (ILO), 2012; Euromonitor, 2012). According to, this considerable youth demographic in Africa should be viewed as an asset for the continent's development. Youth participation all along the agricultural value chain is thus vital to the growth of the agriculture-based economies of most African countries (AGRA, 2015).

Africa is faced with the problem of inadequate involvement of rural youth in agricultural-based livelihoods (Bennell, 2007; Leavy & Smith, 2010; Anyidoho, Kayuni, Ndungu, Leavy, Sall, Tadele & Sumberg, 2012). IFAD (2011) attributes this to lack of lucrative incentives in smallholder subsistence farming in many third world countries. The low participation of rural youth in agricultural livelihoods raises concerns for the future of agriculture (Mapila, 2014). As such, any strategies to revive the agricultural sector in Sub Saharan Africa requires that youth find sufficient incentives to facilitate their active involvement in the sector.

The World Bank (2012) indicates that Malawi faces employment challenges, in particular for youth. The country's economic profile indicates that 74 per cent of the total population are living in poverty. According to FAO & National Smallholder Farmers' Association of Malawi (FAO & NASFAM, 2015), Malawi economy is predominantly agricultural, with about 84 per cent of the population living in rural areas. The Malawi National Agriculture Policy (GoM, 2016) indicates that the agricultural sector generates over 80 per cent of the export earnings and 30 per cent of the Gross Domestic Product (GDP). The sector therefore provides investment opportunities for Malawi rural youth for their livelihoods.

The youth, according to Government of Malawi (GoM, 2013), are defined as all young females and males between the ages of 10 and 35 years. The age range, however, is flexible depending on the context. This study used the age range of 15 to 35 years. Malawi provides a fascinating case since the youth form a large proportion of the country's population (Chinsinga & Chasukwa, 2012). Yet the country's agricultural sector is characterised by inadequate participation of the youth, who are seen to be the future for agriculture (Government of Malawi, 2016). Chinsinga and Chasukwa (2017); Mapila (2014) suggest inadequate involvement of the youth all along the agricultural value chain. Malawi youth are inadequately involved in activities along the agricultural value chain with the majority participating in subsistence farming focusing on production for consumption only (Kamchanca, 2012). The study area was chosen because this challenge manifests itself in Balaka District, where a majority of rural youth are not employed and face challenges in trying to earn a livelihood as outline by Balaka District Council (2017). Factors like perceptions, availability of investment opportunities, demographic and socio-economic characteristics are responsible for rural youth's participation in agricultural sector (FAO, 2014). Despite the efforts by Malawi Government to address these issues, determinants for rural youth's participation in the agriculture sector in Malawi were not extensively studied and documented.

1.2. Statement of the Problem

Malawi economy, just like in many developing countries, is predominantly agricultural. The Malawi Growth and Development Strategy paper indicates that one of the key limitations to the attainment of improved agricultural productivity; and food and nutrition security in the country is inadequate involvement and consideration of youth in the agricultural sector. The youth in Malawi form more than 50 per cent of the country's population. Despite the government efforts to enhance youth participation in agriculture sector through policy support, only few youths participate actively in this sector. The problem presents itself in Balaka District as outlined by Balaka Socio-Economic Profile (SEP). This is also articulated in the National Agriculture Policy (NAP), a roadmap for development of the agricultural sector in Malawi; and Agricultural Sector-Wide Approach (ASWAp), a strategic development and investment plan for Malawi's agricultural sector which provides for monitoring and evaluating the participation of the youth in decision making, policy formulation, and implementation processes within the sector. Youth in Balaka District are at the periphery of the agricultural value chain, with a majority participating as primary producers whose main aim is subsistence. The rural youth do not fully exploit the investment opportunities that exist along the agricultural value chain. The low participation of rural youth in agricultural livelihoods raises concerns for the future of agriculture since the youth form more than fifty percent of Malawi's population. While there is a lot of documentation on youth participation in agriculture, current studies have focused on their participation in relation to policies, with few focusing on the specific factors influencing their participation in agriculture. This study therefore, sought to uncover selected factors influencing participation of rural youth in agriculture in Balaka District, Malawi.

1.3. Purpose of the Study

The study sought to determine the influence of selected demographic and socio-economic factors on participation of rural youth in agriculture in Balaka District, Malawi. The determined factors could be used as basis for enhancing youth engagement in the sector.

1.4. Objectives of the Study

The study was guided by the following objectives:

i. To determine the level of rural youth participation in agriculture in Balaka District, Malawi.
ii. To determine the influence of awareness of investment opportunities in agriculture on rural youth's participation in the sector in Balaka District, Malawi.
iii. To determine the influence of perceptions of rural youth towards agriculture on their participation in agriculture in Balaka District, Malawi.
iv. To determine the influence of demographic characteristics of the rural youth on their participation in agriculture in Balaka District, Malawi.
v. To determine the influence of selected socio-economic factors on participation of rural youth in agriculture in Balaka District, Malawi.

1.5. Hypotheses of the Study

$H0_1$: There is no statistically significant influence of awareness of investment opportunities in agriculture on rural youth's participation in the sector in Balaka District, Malawi.

$H0_2$: There is no statistically significant influence of perceptions of rural youth towards agriculture, on their participation in agriculture in Balaka District, Malawi.

$H0_3$: There is no statistically significant influence of demographic characteristics on rural youth participation in agriculture in Balaka District, Malawi.

$H0_4$: There is no statistically significant influence of socio-economic factors on rural youth participation in agriculture in Balaka District, Malawi.

1.6. Research Question of the Study

What are the types of rural youth's participation in agriculture in Balaka District, Malawi?

1.7. Significance of the Study

The results obtained from this study can aid in the advancement of innovative youth-responsive agricultural research, extension approaches, programs and policies for enhanced rural youth involvement in agriculture which in turn improves productivity and results in better rural youth incomes in Malawi. The findings from this study could be useful in determining the level of participation of rural youth along the agricultural value chain which puts policy makers in a better position to align youth interventions accordingly, targeting profitable value chains and exploiting the many investment opportunities that exist in the agricultural value chain. The

study has also brought to light significant factors that are discouraging rural youth from participating in agriculture. Through the recommendations, these hindrances can be turned into opportunities that when exploited can enhance participation of rural youth in agriculture in Malawi. The study could therefore contribute to agricultural development in Malawi.

1.8. Scope of the Study

The study was carried out in Balaka District, Malawi. It focussed on selected factors that influence participation of rural youth in agriculture. Selected demographic and socio-economic factors were addressed in this study, they included: perceptions towards agriculture, awareness of investment opportunities in agriculture, age, sex, marital status, education level, occupation, access to finances and credit, access to land, access to markets, access to knowledge and information, and access to alternative job opportunities. Participation was measured in terms of rural youth engaged in agricultural activities along the value chain. Types of rural youth participation along the value chain were categorized as: primary producers, input suppliers, wholesalers, agro-processors, transporters, association members, cooperative members, Junior Farmer Field and Life School (JFFLS) members, young farmer club members, agricultural educators, extension officers and lead farmers. Rural youth in this study were considered to be males and females within the age range of 15-35 years old; living in designated rural areas of Balaka District in Malawi.

1.9. Assumption of the Study

The study was operating under the assumption that: primary respondents, who are rural youth; were honest, truthful and open in their responses.

1.10. Limitation of the Study

The study may have been limited by the fact that there was no definite procedure to verify the age of the respondents as Malawians did not have national identities at the time of data collection. As a way of mitigating this challenge, the researcher sought verbal confirmation of the age by the respondents before administering the questionnaire.

1.11. Definition of Terms

Agricultural educators: The Agriculture for Impact (2016) defines Agricultural education as a broad range of formal and informal activities that build capacity within the agriculture sector and for wider rural development encompassing higher education, diploma and certificate levels, vocational and in-service training and informal knowledge and skill acquisition. The study used the term to refer to male and female rural youth who provide formal agricultural education and training in schools and universities.

Agricultural value chain: Defined as the people and full range of activities that bring a basic agricultural product from obtaining inputs and production in the field to the consumer, through stages such as production, processing, packaging, distribution, transportation and marketing (Farm Radio International, 2012). In this study, the term was used to refer to series of activities in the agriculture sector that may provide opportunities for rural youth participation for their livelihood.

Awareness: According to Rogers (2003), awareness is the knowledge of the innovation's existence. This type of knowledge can motivate individuals to learn more about the innovation and, eventually, to participate in it. The study defined awareness as rural youth's knowledge of investment opportunities that agriculture may offer for their livelihoods.

Demographic Factors: The term demographics refer to particular characteristics of a population (Salkind, 2010). Demographic information provides data regarding research participants. The study used selected characteristics of rural youth population in Balaka District, which included: age, sex, marital status, educational level and occupation; which may have an influence on youth's decision to participate in agriculture.

Influence: Solis (2010) defines influence as the ability to cause desirable and measurable actions and outcomes. The study applied the term to establish the capacity to which selected demographic and socio-economic factors would compel rural youth to participate in agriculture.

Investment Opportunities in Agriculture: According to Sapling (2011), an investment opportunity is any situation where you have the option to venture into something that has a chance to gain value in the future. This study defined investment opportunity in agriculture as a prospect of rural youth engaging in profitable agricultural enterprises along the value chain as a sustainable means of their livelihoods.

Junior Farmer Field and Life School (JFFLS): FAO (2011) defines JFFLS as a simple methodology for teaching vulnerable children and young people about farming and how to take care of themselves. It uses a "living classroom" approach in which the students observe

the crops throughout the growing season with the help of a facilitator. Agricultural topics are linked to life skills so that when children talk about how to protect their plants from diseases they also learn how to protect themselves from diseases and other adverse conditions. In this study, the term was used to refer to an agricultural extension methodology for teaching rural youth about farming techniques meant to overcome current challenges faced by rural youth in the agriculture sector.

Lead farmer: The Government of Malawi (2010) defines a Lead Farmer as an individual farmer who has been elected by the community to perform technology specific farmer-to-farmer extension and is trained in the technology. The study used the term to describe rural youth that participate in agriculture by way of performing technology specific farmer-to-farmer extension.

Participation: United Kingdom's Department for International Development (DFID, 2010) defines participation as "the active, informed and voluntary involvement" of people in a development process. This study focussed on youth participation that enables the rural youth to take an active involvement along the agricultural value chain for purposes of fulfilling their livelihood needs.

Perception: McDonald (2011) defines Perception as an individual's or group's unique way of viewing a phenomenon. This study used the term to refer to opinions held by rural youth towards agriculture. The views of rural youth towards agriculture may influence their participation in the sector.

Rural Area: The Encyclopaedia defines rural as an area of low density with small settlements. Most rural areas have primitive and peasant organizational structures and cultural systems. This study used the term to refer to low density Malawian areas whose main economic activity is small scale agriculture for the livelihood of the community.

Rural Youth: The Malawi National Youth Policy defines youth as all young females and males between the ages of 10 and 35 years (GoM, 2013). This study defined rural youth as young females and males between the ages of 15 and 35 years living in rural areas.

Socio-Economic Factors: According to Chase (2016) Socio-economic factors are the social and economic experiences and realities that help shape one's personality, attitudes, and lifestyle. The socio-economic factors in this study included access to land, access to credit, access to markets, access to agricultural information and access to alterative job opportunities and income sources; which may have an influence on youth's decision to participate in agriculture.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

The literature reviewed addressed areas that are related to and supports the study. It consists of a review of the literature on variables that have been used in this study and relate to rural youth and agriculture as previously presented by researchers and publications. It is divided into the following sub-headings: contribution of agriculture to the economy, youth employment and agriculture, rural youth Participation in Agriculture, exploring constraints for rural youth in agriculture, exploring investment opportunities for rural youth in agriculture, rural youth's perceptions towards agriculture, socio-economic factors as determinants of rural youth's participation in agriculture and rural youth and agriculture in Malawi from a policy perspective. The chapter also present theories which guided the study. Finally, a conceptual framework which illustrates the interaction of the various variables in the study was developed.

2.2. Contribution of Agriculture to the Economy

Agriculture plays a critical role in the entire life of a given economy. All over the world, the development of a strong economy goes hand in hand with agricultural development (Ogbalubi & Wokocha, 2013). Agriculture is the mainstay of economic system of a given country. The sector is responsible for provision of food, raw materials and employment opportunities to very large percentage of population (Agriculturegoods.com, 2016). According to The World Bank (2016), agricultural growth might have been the forerunner of the industrial revolutions that spread over the temperate world, starting with England in the mid-18th century to japan in the late nineteenth century. More recently, fast agricultural development in China, India and Vietnam might have been the forerunner of the rise of industry. Worldwide, agriculture has proven to be important by providing a source of livelihoods, contributing to national revenue, foreign exchange resources, food security and economic development.

In the agriculture-based countries of Sub-Saharan Africa, agriculture is important to growth, which is in turn necessary for reduction of poverty and food insecurity (World Bank, 2016). According to FAO (2015), agriculture employs 62 per cent of the population of Sub-Saharan

Africa (excluding Republic of South Africa) and generates 27 per cent of GDP of these countries, with the majority of the poor living in rural areas.

Agriculture is the mainstay of the economy of the Republic of Malawi considering that it employs about 80 per cent of the workforce, contributes to over 80 per cent of foreign exchange earnings, accounts for up to 39 per cent of Gross Domestic Product (GDP) and contributes significantly to national and household food security (GoM, 2015). The sector has two main sub-sectors, the smallholder sub-sector that contributes to more than 70 per cent and the estate sub-sector that contributes less than 30 per cent to agricultural GDP (GoM, 2007). The sector therefore provides opportunities for Malawi rural youth which they can tap for their livelihoods. It could provide employment through their involvement along the value chain. Some opportunities include: agro-processing, export, value addition, Information and communication technology for better productivity and group organization like cooperative societies (GoM, 2011).

2.3. Youth Employment and Agriculture

The youth global unemployment rate is estimated at 12.6 per cent and about 73 million young people are estimated to be unemployed (ILO, 2013). Rural youth face many challenges in trying to earn a livelihood. Rating highly in many parts of the world is pressure on arable land which is an essential production resource in agriculture. Dyer (2013) observes that the 'young people and agriculture' problem is complex. Depictions of young people are conflicting, representing them on one hand as 'the nation's future', whilst also linking them to problems of unemployment, under-employment, vulnerability and negative behaviours.

A modern, sustainable and productive agricultural sector in Africa is the basis for national food security and improved nutrition and has the potential to offer income and employment opportunities for young people (Valle, 2014). According to Leavy and Smith (2010), recent demographic trends point to more youthful African population than in the past. Africa has an extraordinary population profile where 200 million people are between the ages 15 to 24 years, constituting over 20 per cent of the African population; 70 per cent of African youth resides in rural areas and account for 65 per cent of labour in agriculture. Young people make up 36 per cent of the working population, and account for 60 per cent of the total unemployed (ILO, 2012; Euromonitor, 2012). According to Afande, Maina and Maina (2015), this significant youthful population in Africa should be seen as an asset for the continent's development. Youth

participation all along the agricultural value chain is thus crucial to the development of the agriculture-based economies of most African countries, from agricultural research and development, to food production, storage and handling, to agro-processing, through to marketing and distribution in local, regional and international food markets (AGRA, 2015).

Malawi has a young population; its median age is 17 years (GoM, 2009). According to the country socio-demographic profile, 84.7 per cent of the total Malawian population are living in the rural areas. The Youth bulge indicates that 60 per cent of the population in Malawi is under the age of 20 years, 48 per cent under 18 years and 40 per cent between 10-29 years, while the life expectancy is at 44 years. However, the country faces employment challenges, in particular for youth, most of who are living in poverty. About 74 per cent of the total Malawian population live in poverty (World Bank, 2012).

According to The Malawi National Agriculture Policy (GoM, 2016) the country's agricultural sector is characterised by inadequate participation of the youth, who are seen to be the future of agriculture. The need to create employment for youth is therefore at the heart of the country's development policies (Kamchacha, 2012). According to Government of Malawi (2016), the National Agriculture Policy recognizes the fact that a majority of Malawian youth depend on agriculture as their livelihood. However, their participation is constrained with challenges which obstruct their participation. The youth face challenges associated with limited access to, ownership and control of finances and productive assets (Chinsinga and Chasukwa, 2016).

However, the current literature in this section provides inadequate information on the levels of involvement of Malawian rural youth along the agricultural value chain and how they actually rely on the sector as their means of income. This study therefore has attempted to determine the types of rural youth participation along the agricultural value chain with an index which is useful in determining the level of rural youth participation.

2.4. Youth Participation in Agriculture

Food and Agriculture Organization, Technical Centre for Agricultural and Rural Cooperation and International Fund for Agricultural Development, (2014) observe that rural youth are the future for agriculture and food security. Yet around the world, few young people see a future for themselves in agriculture or rural areas. Young people and mainly the rural youth face many

challenges in trying to earn a livelihood yet agriculture offers a lot of opportunities (FAO, 2014). Alliance for Green Revolution in Africa (AGRA, 2015) specifies limited access to arable land, credit, markets, and many other productive resources necessary for agriculture as major problems worldwide. Literature suggests that older farmers are less likely to adopt the new agricultural technologies, and ultimately feed the growing world population while sustainably utilizing the environment (Mapila, 2014). Hence, there's need to re-engage youth in agriculture.

There seems to be an increased number of rural youth leaving agriculture for other opportunities in Africa (AGRA, 2015). Wellard (2013) presents the problem of young people and agriculture as either 'youth in peril' or 'agriculture in peril', depending on one's point of view. Modernised, business like agriculture with its assumed potential for growth and employment is hailed as the 'saviour of young people'. At the same time, young people are hailed as the saviour of agriculture'. Given the many opportunities available in food production and its subsidiary services, agriculture can play a significant role in reducing youth unemployment and providing sustainable livelihood sources (Akpan, Patrick, James, & Agom; 2015). According to Adekunle, Adefalu, Oladipo, Adisa and Fatoye (2009), a lot needs to be done to enhance youth's active participation in agriculture. Overcoming challenges related to youth participation in agriculture will therefore prove vital to increasing youth's involvement in the agricultural sector, and ultimately addressing the significant untapped potential of this sizeable and growing demographic (FAO, 2014).

Most Malawi youth do not define their vision of good life with reference to their involvement in the agriculture sector (Chinsinga & Chasukwa, 2012). According to Government of Malawi (GoM, 2016) the country's agricultural sector is characterised by inadequate participation of the youth, who are seen to be the future for agriculture. Chinsinga and Chasukwa (2017); Mapila (2014) suggest inadequate involvement of the youth all along the agricultural value chain. Malawi youth are inadequately involved in activities along the agricultural value chain with the majority participating in subsistence farming focusing on production for consumption only (Kamchanca, 2012). According to a report on integrating youth into extension systems in central Malawi by Strengthening Agriculture Nutrition and Extension project (2017), lack of support for new farmers in entrepreneurship and agribusiness skills is one of the prominent constraints being faced by Malawian rural youth farmers. However, the reviewed literature does not clearly bring out the levels of rural youth participation in agriculture, in Malawi. This

study therefore focused on determining the level of rural youth participation along the agricultural value chain in Balaka District, while bringing out investment opportunities that could be exploited through efforts aimed at enhancing rural youth participation in the sector.

2.5. Constraints for Rural Youth Participation in Agriculture

Valle (2014) argues that youth are faced with significant challenges. However, they possess the potential to contribute significantly to poverty reduction and realisation of better incomes in rural areas. Rural youth lack the required experience to be employed in formal jobs and organisations, fewer chances to access or obtain capital and other assets, and little or no voice in decision-making processes are some of the key constraints for rural youth. Valle (2014) further argues that the youth hardly gain access to extension services, affordable inputs, or markets, information, technical skills, and basic education. In addition, youthful females face limitations associated with persistent gender inequalities.

A joint MIJARC, FAO and IFAD project on Facilitating Access of Rural Youth to Agricultural Activities was conducted in 2011 whose objective was to determine the challenges and opportunities in relation to rural youth's participation in agriculture. The study identified six key constraints which included: limited access to land, insufficient access to knowledge, information and education, inadequate access to financial services, difficulties accessing green jobs, limited access to markets and limited involvement in policy dialogue (FAO, 2014). A status report on Africa Agriculture: Youth in Agriculture in Sub-Saharan Africa by AGRA (2015) indicates land tenure and reform problems, lack of capital and limited access to finance and credit, inadequate supplies of improved farming inputs, limited availability of new and innovative technologies and methods, untapped entrepreneurship skills, and limited public and private sector investment in agriculture and social infrastructure; as some of the challenges the youth face. Daudu, (2009) examined the role of youths in agricultural development in Makurdi Local government area of Benue State, Nigeria. The study identified the major problems that inhibited youth participation in agricultural activities as; lack of commitment, lack of logistic support and insufficient land for farming. According to FAO (2014), despite the agricultural sector's huge ability to provide investment opportunities for rural youth, challenges related specifically to youth participation in this sector; and more importantly options for overcoming them, are not extensively documented.

At national level, Malawian young farmers face challenges related to lack access to finance for investment in their farm enterprises, access to markets and access to land (GoM, 2016; Mapila, 2014). The study identified two factors that hinder rural youth in their pursuit of agricultural based livelihoods. These included rising costs of farm inputs and land issues due to high population growth rates and continued cultivation. Young farmers inherit land that is marginal in size and often highly degraded. Chinsinga and Chasukwa (2012) carried out a study on 'youth, agriculture and land grabs in Malawi'. The researchers argue that government support programs to the agriculture sector especially for the youth are insufficient. The youth that are engaged in farming also lack links and information about lucrative markets (Mapila, 2014). There was need to explore further as the reviewed literature point out challenges for young farmers at regional level. Specific constraints for Malawi rural farmers are not extensively documented. The study has therefore exposed significant constraints that are limiting rural youth from realizing their full potential in agriculture.

2.6. Investment Opportunities for Rural Youth in Agriculture

The sizeable African youth population present a unique opportunity for improving productivity in the agricultural sector, thereby overcoming some of the constraints and challenges holding back development of the sector (AGRA, 2015). Enhanced agricultural sector, sustainable security, job creation, and rural incomes will be achieved if the sector invests in embracing the energy, strength, and dynamism of Africa's youth into productive, competitive and profitable agribusinesses. According to Committee on World Food Security, Food and Agriculture Organization of the United Nations, International Fund for Agricultural Development and World Food Program (2015), Youth involvement and participation in agriculture will therefore bring about sustainable economic growth, better rural livelihoods and improved nutrition across the continent.

Information Communication Technology (ICT) brings about new opportunities for improved agricultural productivity, processing, distribution and marketing functions in Sub-Saharan Africa (Valle, 2015). According to AGRA (2015) opportunities such as the use of improved technologies, ICTs, innovative and inclusive financing programs, entrepreneurship and agribusiness initiatives, education and training, and supportive policy environment; all make youth in agriculture a creditable and timely theme. FAO (2014) further argues that youth-specific projects and programs can attract them to participate in the sector. Access to the right information can help overcome young farmers' lack of experience (IFAD, 2012). Young

farmers often have greater capacity for innovation and entrepreneurship than the elderly. This capacity may put them in a better position necessary for them to keep up with the emerging agricultural demand (IFAD, 2010).

At National level, the Malawi Government, through the Ministry of Agriculture and Food Security is promoting the youths of Malawi through creation of young farmer's clubs. The aim is to empower the youth to contribute to increased agriculture productivity as they participate actively in the economic development of the country (GoM, 2013). The ministry recognizes the fact that rural youth organizations and associations expose them to various opportunities, as they can be influential in attaining: economies of scale when buying agricultural inputs and selling agricultural produce; access to financial services, as the group can serve as guarantor for its members, giving youth a lower risk profile; access to land, as youth can pool their resources to buy or lease land; and participation in policy-making. The ministry further observes that ICTs, education and training, modern farming technology, existing concepts like the Junior Farmer Field and Life Schools (JFFLS), lead farmer concept; and favourable policy environment for rural youth which also includes their involvement in policy dialogue, implementation, monitoring and evaluation; are essential to enhancing rural youth's engagement in agriculture (GoM, 2011). Kamchacha (2012) who carried out a study on 'Current and Emerging Youth Policies and Initiatives and their Links to Agriculture' revealed a number of opportunities for the youth engagement in the agricultural sector value chains including production, processing and marketing, agro-processing, cold chain development, farm input supply, transport and logistics, storage services, wholesaling and brokerage services, packaging and offering training and consultancy services in agriculture. The reviewed literature in this section however, does not indicate whether these opportunities are known among the rural youth in Malawi. The study therefore focussed on determining the awareness of these opportunities among Malawi rural youth. Comprehensive statistical documentation of rural youth's awareness on the opportunities in agriculture sector has been achieved.

There are a number of agricultural opportunities that exist for rural youth in Balaka District (BDC, 2017). These include availability of arable land for primary production, favourable conditions for production of cotton and tobacco which are the major cash crops in Malawi and contribute significantly to the country's foreign exchange earnings, great potential for irrigation which is not yet fully exploited. According to the publication, Balaka District has a potential irrigable area of about 22, 000 ha. In addition, the District has existing structured agricultural markets where rural youth can sell their produce. These include Agriculture Development and

Marketing Corporation (ADMARC), Auction Holdings Commodity Exchange (AHCX) and Agricultural Commodity Exchange (ACE) all of which facilitate produce marketing at competitive rates. The District also presents opportunities for rural youth association through existing structures like National Association of Smallholder Farmers (NASFAM), cooperatives, Junior Farmer Field and Life Schools (JFFLS) and young farmer clubs. Existence of agricultural credit lending institutions in the District is also an opportunity for rural youth. Lastly, presence of service providers for extension service delivery is also a huge opportunity for rural youth's access to agricultural information. Notable providers include the Ministry of Agriculture, Irrigation and Water Development (MoAIWD), Non-Governmental Organisations (NGOs), Private estate farms, Farmer Based Organisations (FBOs) and some input suppliers.

2.7. Rural Youth's Perceptions towards Agriculture

Current publications suggest that youth have negative perceptions towards agriculture (Wellard, 2013). This is so despite the ability of agriculture to provide rural youth's employment and better livelihoods (Abdullah, 2012). According to this study, most youth do not view the agriculture sector as a lucrative work area.

On the other hand, an assessment on rural youth employment activities in Malawi by FAO and NASFAM (2015) revealed that most Malawian youth farmers perceive farming as significant, especially given the increasing rates of un-employment in the country. The youth indicated that agriculture serves as a simple source of household livelihoods in rural areas given adequate production resources such as fertilizers, good seeds, adequate finances, good climatic conditions and reliable markets to absorb the produce. Kamchacha (2012) who carried out a study on the current and emerging youth policies and initiatives and their links to agriculture, also found out that the youth are interested in agriculture in Malawi.

Perceptions discussed in this section indicate a general view on agriculture as a sector. This study however, has focussed on rural youth's perceptions towards the specific areas of participation along the agricultural value chain which include rural youth's position and views on production, processing and marketing, agro-processing, farm input supply, transport and logistics, storage services, wholesaling, packaging and offering training and consultancy services in agriculture.

2.8. Demographic, Socio-economic Factors and Youth Participation in Agriculture

Demographic characteristics significantly influence participation of rural youth in agriculture (Akpan, 2010). Labaisi, Marinda, and Wakhungu (2016) observe that gender; marital status and education levels had a significant effect on rural youth's participation in agricultural enterprises. Age, education, marital status, parent income, parent occupation, household size and youth dependent ratio were significant factors influencing youth participation in agricultural activities in Imo state, Nigeria (Nnadi & Akwiwu, 2008).

Onemolease and Alakpa (2009) observe that contact with extension agents; income and gender were important determinants of young farmers' adoption of crop-related technologies in Niger Delta region of Nigeria. Akpan (2010) also recognized factors that limit rural youth participation in agricultural production in Nigeria. The factors were: inadequate credit facilities, low farming profit margins, lack of agricultural insurance, insufficient initial capital and production inputs. Social factors that the study identified include: public perception about farming and parental influence to move out of agriculture. Akpan (2010) also identified economic push factors such as; poor physical infrastructure and social amenities in the rural areas; search for education and skills, and the absence of desirable job opportunities.

Chikezie, Omokore, Akpoko and Chikaire (2012) also assessed factors influencing adoption of the recommended cassava production practices among rural youth in Nigeria. These included: age, gender, marital status, education, farm size, and household size, farming experience, amount of credit received extension contact, and membership of cooperative societies, yield and income. According to Kimaro, Towo and Moshi (2015), factors influencing rural youth's participation in agricultural activities include age, sex, marital status, education level, family background, availability of rural credit facilities, land, agricultural knowledge, lack of job alternatives. Perceptions were also found to be important factors in youth participation in agricultural activities.

Most of the reviewed literature however, articulates factors relating to East and West African situation. Limited documentation exists of the specific factors influencing rural youth's participation in agriculture; in the case of the Malawian situation. This study has therefore focussed on examining the specific influences in Balaka District, Malawi.

2.9. Rural Youth and Agriculture in Malawi from a Policy Perspective

On 25 September 2015; Malawi joined other countries in adopting a new set of global goals to end poverty, protect the planet and ensure prosperity for all as part of a new sustainable development agenda. One of the 17 new Sustainable Development Goals seeks to promote economic growth and ensure decent work for all. Domestically, Malawi has a number of policies and programmes that seek to tackle youth unemployment. These include the Malawi Growth and Development Strategy, the National Employment and Labour Policy, the National Youth Policy and the Malawi Decent Work Country Programme (UNDESA, 2016).

The Malawi Growth and Development Strategy paper (MGDS II, 2011-2016), identifies nine key priority areas and youth development and empowerment is one of them along with agriculture and food security as a pre-requisite for economic growth and wealth creation. The National Agriculture policy has also highlighted empowerment of youth, women and vulnerable groups in agriculture, as one of its priority areas (GoM, 2016). According to the policy, youth participation will be promoted through: access to, ownership and control of productive resources; agricultural education and technical training, support in agribusiness entrepreneurship, and facilitation of access to finance among rural youth farmers.

The Agriculture Sector Wide Approach (ASWAp), a strategic development and investment plan for Malawi's agricultural sector; on the other hand, points out that one of the key limitations to the attainment of improved agricultural productivity; and food and nutrition security in the country is inadequate involvement and consideration of youth in the agricultural sector (GoM, 2011). Despite the undisputable recognized role of agriculture in providing better livelihoods for rural youth, public policies have partially and insufficiently addressed the issue of youth and agriculture in Malawi (Mathivha, 2012). The 2011 FANRPAN Regional Multi-Stakeholder Policy Dialogue in Swaziland re-affirmed that there are opportunities for development of related youth and agricultural policies. Yet the policy platforms fell short on their capacity to make use of these opportunities for enhanced youth participation in agriculture.

Mapila (2014) carried out a study on 'agricultural policy processes and the youth in Malawi'. The author argues that there are inadequate efforts by policymakers to involve rural youth in agricultural policy process. Mapila then recommends that government needs to consult all relevant stakeholders including the youth themselves, to develop a policy that ensures the

deliberate involvement of the youth in all agricultural-sector policies and programs. According to Chinsinga and Chasukwa (2012) no noticeable policy pronouncements have been made on the youth's role and involvement in the agricultural sector since the dawn of Malawi democracy in 1994. The primary development strategies such as the Poverty Alleviation Programme (PAP, 1995), the Malawi Poverty Reduction Strategy (MPRS, 2001) and the Malawi Growth and Development Strategy (MGDS) have implicitly specified the role and involvement of the youth in agriculture; a sector highly recognized as the engine for economic growth and development for Malawi.

The reviewed literature in this section however, attempts to analyse policies without engaging the rural youth to seek their views on how best the Malawi government and other non-state actors could improve rural youth's participation in agricultural sector through policy formulation and implementation. This study has therefore documented insights from rural youth on how best policy makers can develop and implement agricultural policies that deliberately target enhanced and favourable rural youth participation in agricultural sector.

2.10. Theoretical Framework

The study was guided by the 'Social Structural Theory' as outlined by Kerckhoff (1976) and Meyer (1987); and the Three Lens approach to youth participation by DFID (2007). Social Structural Theory attempts to explain participation from the socio-economic perspective in societies. The three lens approach on the other hand advocates that development assistance should be for the benefit of youth as target beneficiaries (first lens), with youth as partners (second lens) and be shaped by youth as leaders (third lens).

The social structural theory underscores "the role of external factors i.e. the role of extra-individual or structural forces that place individuals into occupations or reward their efforts on the basis of group characteristics such as gender, race or their placement in an external structure (Meyer, 1987). The Structuralism theory, therefore suggests that the individual low status and low wages comes about as a result of different opportunities available to people in societies. It is based on the premise that the environment is the catalyst of social problem and not the individual, also that the clients or sufferers are not the cause of their problems but social arrangements could be the reasons. Kerckhoff (1976) observes that social structural model focuses on the larger, predominant culture or society, its needs and how it functions, the needs and the behaviours of society at large not those of individuals, also on how well they fit into

their cultural setting and if their actions enhance or undermine the health, strength and effectiveness of the larger culture". This theory has therefore been useful in explaining how demographic and socioeconomic factors like: gender, age, occupation, culture, access to production resources and perceptions in the rural settings influence youth participation in agriculture.

The three lens approach to youth participation was developed and promoted in 2007 by the Youth Working Group of the UK Department for International Development (DFID). The approach advocates that assistance rendered by agencies to countries for development should be for the benefit of youth who should be targeted as beneficiaries (first lens), with youth seen as partners (second lens) and be designed by youth themselves as leaders (third lens). The approach operates under the assumption that, it is essential for development agencies and specialists to put into consideration all the three lenses because they are not mutually exclusive. According to United Nations Program on Youth (2010), the ultimate purpose is to mentor and nurture the youth as partners and leaders in development which is based on youth having their capacity to act, their skills, capabilities and ability to change their own lives. Therefore, the approach underscores that, youth should be target group which is adequately informed, there should be collaborative interventions where young people are fully consulted and enabled youth-initiated/directed interventions (DFID, 2010). Agricultural interventions which include policies, programs, strategies and extension should focus on rural youth as beneficiaries, leaders as well as partners in agricultural development. This is essential for enhanced youth participation in agriculture.

2.11. Conceptual Framework

The study focussed on the selected factors that influence rural youth to participate in agriculture in Balaka District in Malawi. The conceptual framework depicts how the variables in the study interact. According to Mugenda and Mugenda (2003), a conceptual framework gives details of the variables that are examined and their expected relationships of the study. It groups the variables into independent, dependent and intervening variables.

In this study, independent variables are seen to predict the factors that influence youth to participate in agriculture. These included: demographic characteristics which include: age, sex, marital status, education level and occupation, Socio-economic factors which include: access to finances and credit, access to land, access to markets, access to knowledge and information,

and access to alternative job opportunities were also seen to influence participation of rural youth in agriculture. Other factors included perception and awareness of agricultural opportunities by the rural youth. These were examined to determine their influence on the dependent variable which is rural youth participation along the agricultural value chain whose forms include: primary producers/farmers, input suppliers, agro-processors, lead farmers, wholesalers, agricultural educators, association members, cooperative members, Junior Farmer Field and Life School (JFFLS) members, young farmer club members, extension workers and transporters. Figure 1 presents a summary of the interaction of the variables of the study.

The interaction between the independent variables and dependent variables were seen to be further influenced by intervening variables: family background and family income. These are seen to influence some of the demographic and socio-economic factors like education, occupation and access to production resources. The intervening factors come in between to indirectly influence rural youth attainment of education, source of income and access to land, credit and markets. These variables were observed as constants.

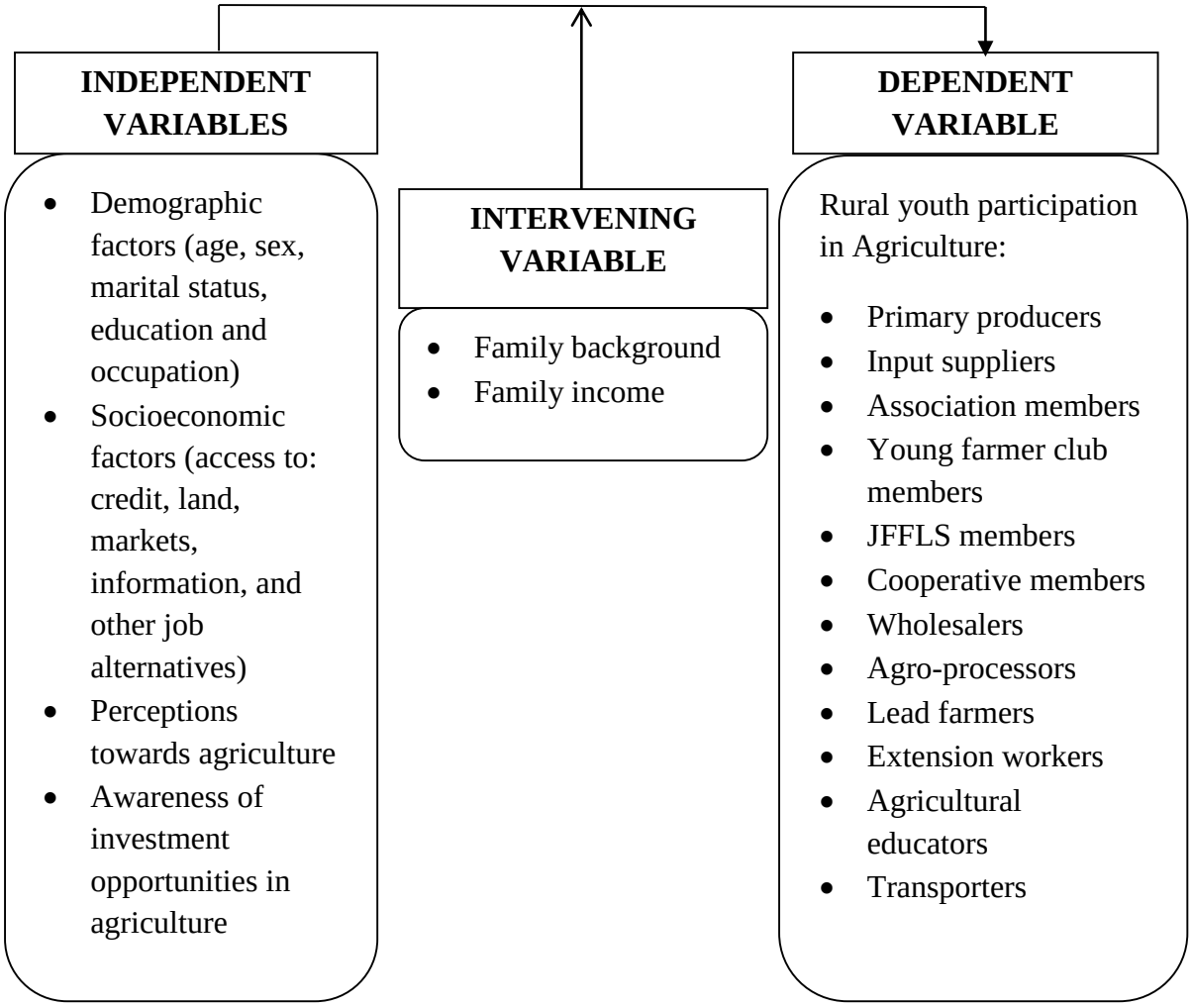

Figure 1: Conceptual Framework Demonstrating Interaction of Independent and Dependent Variables in the Study

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Introduction

This chapter outlines the research methodology used to attain the objectives of the study. It encompasses the research design, study location, study population, sampling procedures and sample size, instrumentation, data collection methods and data analysis procedures.

3.2. Research Design

The study employed a cross-sectional survey design to achieve its objectives. This design was selected because it enabled the researcher to make comparisons at a single point in time. According to Institute for Work and Health (2015), the benefit of a cross-sectional study design is that it allows researchers to compare different components of variables at the same time. This is in agreement with the nature of the study since it was examining many demographic and socio-economic variables in relation to participation.

3.3. Location of the Study

The study was carried out in Balaka District which is located in the Southern Region of the Republic of Malawi, as shown in Appendix C. Malawi is part of the sub-Sahara of Africa, and is a landlocked country located in the south-eastern part of the continent. It is bordered in the north and east by Tanzania, to the east, south and southwest by Mozambique, and to the west by the nation of Zambia. It is composed of 45,747 square miles and lies within the Great African Rift Valley system.

Balaka District borders Ntcheu District to the North, Mangochi District to the East and Machinga District to the south west, Zomba and Mwanza to the South (BDC, 2017). The District covers an area of 2,193 square kilometre representing 2.4 per cent of the total land area of Malawi. The District has a total arable land area of 211,716 hectares; of which 188,062 hectares is under customary land and is used by the smallholder farmers plus a few estates that operate on commercial basis. The food crops grown in the District include maize, groundnuts, sorghum, roots and tubers plus some pulses while cotton and tobacco are the major cash crops. Farmers in the District keep different stocks of livestock and these include cattle, sheep, goats,

pigs and different types of poultry. Smallholder subsistence farmers constitute the majority of farming community in the District of Balaka. The average land holding size per farming family is estimated at 0.6 ha. The total number of smallholder farm families in the District is currently estimated at 125,444.

BDC (2017) indicates that there are a number of agricultural opportunities that exist for rural youth in the District. These include availability of arable land for primary production, favourable conditions for production of cotton and tobacco which are the major cash crops in Malawi and contribute significantly to the country's foreign exchange earnings, great potential for irrigation which is not yet fully exploited. Balaka District has a potential irrigable area of about 22, 000 ha. The District has existing structured agricultural markets where rural youth can sell their produce. These include Agriculture Development and Marketing Corporation (ADMARC), Auction Holdings Commodity Exchange (AHCX) and Agricultural Commodity Exchange (ACE) all of which facilitate produce marketing at competitive rates. The District also presents opportunities for rural youth association through existing structures like National Association of Smallholder Farmers (NASFAM), cooperatives, Junior Farmer Field and Life Schools (JFFLS) and young farmer clubs. Existence of agricultural credit lending institutions in the District is also an opportunity for rural youth. Presence of service providers for extension service delivery is also a huge opportunity for rural youth's access to agricultural information.

The study area was therefore chosen because the challenge of inadequate youth involvement and consideration along the agricultural value chain manifests itself in Balaka District, where a majority of rural youth are not employed and face challenges in trying to earn a livelihood as outline by Balaka District Council (2017). The District has vast untapped agricultural potential for rural youth as discussed. Furthermore, the youth population is adequate in the District for purposes of this study.

3.4. Target Population

The study targeted 151,567 rural youths in Balaka District. The rural youths were sampled regardless of their involvement in agriculture. All young men and women within the age range of 15-35years had an equal chance of being sampled for this study. The youth population per Extension Planning Area (EPA) is as shown in Table 1.

Table 1

Rural Youth Population for Balaka District

EPA	Target youth Population
Ulongwe	42,566
Bazale	43,877
Mpilisi	28,260
Phalula	11,345
Rivirivi	11,104
Utale	14,414
Totals	**151,567**

Source: Modified from BDC (2017)

According to population projections of the 2008 Malawi census (NSO, 2008), by 2016 Balaka District has a total population of 409,420 representing about 2.42 per cent of the national population. The average annual population growth rate is estimated at 2.3 per cent per annum, lower than the population growth rate in the country of 2.8 per cent. The youth population is projected at 151, 567; representing about 37.02% of the total. The same demographics were accessed during data collection. Therefore, the target population was the same as the accessible population.

3.5. Sampling Procedure and Sample Size

Proportionate Stratified Random Sampling technique was used to sample the number of rural youth respondents from each Extension Planning Area. The sample size of each stratum in this technique is proportionate to the population size of the stratum when viewed against the entire population. This means that each stratum has the same sampling fraction. As proposed Nassiuma (2000), the following formula was used to come up with appropriate sample size for the study.

$$\mathbf{n} = \frac{\boldsymbol{NC^2}}{\boldsymbol{C^2 + (N-1)e^2}}$$

Where: n= the required sample size, N = the population within the study area, C= Coefficient of Variation, e = Standard error.

The sample was obtained using coefficient of variation. Nassiuma (2000) asserts that in most surveys or experiments, a coefficient of variation is in the range of 21%≤ C ≤ 30% and a standard error in the range of 2% ≤ e ≤ 5% is usually acceptable. Therefore, a coefficient of variation of 28% and a standard error of 2% was selected for this study based on the recommended ranges as recommended by Nassiuma (2000). In this case, the sample was drawn from all the six Extension Planning Areas whose total accessible youth population is 151,567. Applying the formula:

$$n = \frac{151567 \times (0.28)^2}{(0.28)^2 + (151567 - 1)(0.02)^2}$$

For this study, N = 151, 567 rural youth in the six EPAs, C =28% and e =2%

Based on the population of the area and the formula the required sample size was arrived at 196. Having determined the sample size on the basis of the population, the number of rural youth respondents interviewed in each of the six EPAs was sampled proportionately according to the youth population in the respective EPA. Therefore, youth population in a particular EPA helped determine the number of rural youths to be sampled form that EPA. At EPA level, the researcher used a sampling frame to randomly sample the respondents in that specific EPA. In addition, the stratification also considered equitable representation of both male and female rural youths to ensure that both gender categories were represented in the sample. Table 2 outlines the sample size as drawn using the explained methodology.

Table 2

Sample Size by Youth Proportion

EPA	Youth Population	Proportion of youth sampled	Proportionate Youth Sampled
Ulongwe	42,566	28%	55
Bazale	43,877	29%	57
Mpilisi	28,260	19%	37
Phalula	11,345	7%	14
Rivirivi	11,104	7%	14
Utale	14,414	10%	20
Totals	**151,567**	**100%**	**196**

Source: Modified from BDC (2017)

In addition to this sample size, Key informant questionnaires were also administered where a total of four key informants were interviewed. These included agricultural extension officers from the EPAs. According to BDC (2017), Balaka District has a total number of fifty-four Agricultural Extension workers in the various EPAs. Applying this population size of fifty-four to the formula proposed by Nassiuma (2000) at 28% coefficient of variation and 2% standard error, the sample size for the key informants was found to be four and was sampled using simple random sampling technique. Therefore, the total sample size for this study was 200 respondents.

3.6. Instrumentation

The study used two instruments to collect the data necessary for achieving the objectives. A researcher administered questionnaire was used to collect primary data from the rural youth. A questionnaire was also used for key informants. The questionnaire had sections designed to acquire supporting data from agricultural extension workers from the study area.

3.6.1. Validity

The instruments were reviewed by a panel of specialists from the Department of Agricultural Education and Extension of Egerton University to address content and face validities. The specialists ensured that items in the instruments adequately measured the degree to which data collected represented concepts that cover all relevant issues under this empirical study. According to Mugenda and Mugenda (2003), content validity measures the degree to which the test items represent the domain or universe of the trait or property being measured. Suitability and complexity of the items was checked and the instruments were reframed to achieve validity. Face validity was enhanced by subjecting the instruments and objectives of the study to scrutiny by specialists. Professional suggestions were used to improve the validity of the instruments. This was done to ensure that the items are clear, concise, complete, comprehensive, well organized and clear-cut before administering in the field.

3.6.2. Reliability

According to Kothari (2008), reliability measures the degree to which a research instrument yields consistent results of data over repeated trials. To ensure the internal consistency of the instrument, the researcher administered questionnaire was pre-tested in the neighbouring Machinga District. This District was selected due to its similarities with the targeted Balaka District in terms of agro-ecological zone and population distribution. The sample for pilot-test

has to be between 20 and 50 (Kathuri & Pals, 1993). Thirty rural youths were therefore sampled using Simple Random Sampling technique and one agricultural extension officer was sampled for the key informant questionnaire. Mtubwi EPA from this District was sampled randomly for the pilot study, from where the 30 rural youth respondents were sampled by obtaining a sampling frame which assisted assist the researcher to sample randomly. The instrument's reliability was therefore estimated using Cronbach's Alpha Reliability Coefficient and found to be 0.81 at a confidence level of 0.05, which was within the acceptable range as recommended by Frankel & Wallen (2000).

3.7. Data Collection Procedure

A letter of clearance was sought from Egerton University Board of Graduate Studies. This enabled the researcher seek research permit from the Government of the Republic of Malawi and Balaka District Council for data collection. To make the data collection more effective and efficient, the researcher was working closely with the Balaka District Agriculture Office and Balaka District Youth Office who assisted in the development of the sampling frame and location of the sampled rural youth. Appointments were booked through frontline agricultural extension officers in the Extension Planning Areas with permission from the village leadership to ensure availability of the sampled respondents in their respective households for the researcher to administer the researcher administered questionnaire. The key Informants were interviewed at their work stations using a self-administered questionnaire.

3.8. Data Analysis

The collected data was analysed using both quantitative and qualitative methods. Quantitative analysis employed both descriptive and inferential statistics. The collected data was checked for accuracy, coded and entered using Statistical Package for Social Sciences (SPSS) version 22 and analysed to produce necessary frequency tables and percentages and also make inferences using multiple linear regression model. The study had five objectives, one research question and four hypotheses.

Objective one focused on determining the level of rural youth participation in agriculture in Balaka District, Malawi. The data was analysed and presented using frequencies and percentages. An index for participation was developed for this objective, whose purpose was to determine the level at which the rural youth are participating along the agricultural value chain. The indicator items for participation were given a score of '1' each, indicating an equal

weight of participation along the agricultural value chain. Although there are no firm rules for index scoring, practice tends to support the method that items be weighted equally unless there are compelling reasons for differential weighing (Babbie, 1989). The indicator items for type of participation are therefore mutually exclusive and carry the same weight of measure in this study. The index therefore had a maximum possible score of ’12’ indicating strong participation, since the total indicators items were twelve; and a minimum possible score of ‘0’ indicating no participation at all. The index was developed to further characterize level of participation into five distinct categories. A total possible score of ‘0’ indicated ‘no participation’, a total possible score of ‘1 to 3’ indicated ‘very weak participation’, a total possible score of ‘4 to 6’ indicated ‘weak participation’, a total possible score of ‘7 to 9’ indicated ‘moderate participation’, while a total possible score of ’10 to 12’ indicated strong participation. The categorical data was therefore quantified to allow running of the multiple regression model as recommended by Babbie (1989). In addition, thematic analysis was used for this objective where a theme was developed for analysing the qualitative data collected from the key informants.

Objective two sought to determine the influence of awareness of investment opportunities in agriculture on rural youth’s participation in Balaka District, Malawi; the data was analysed and presented using frequencies and percentages. From this objective, a null hypothesis was tested using Pearson's Product-Moment Correlation (PPMC) at 0.05 level of significance ($\alpha \leq 0.05$). The test was used to make inferences about influence of rural youth’s awareness of investment opportunities in agriculture; on their participation in the sector. A Pearson's correlation is used when you want to find a linear relationship between two variables. It can be used in a causal as well as an associative research hypothesis (Chen & Krauss, 2003).

Objective three concentrated on determining the influence of perceptions of rural youth towards agriculture, on their participation in agriculture in Balaka District, Malawi; Data from this objective was analysed and presented using frequencies and percentages. From this objective, a null hypothesis was tested using Pearson's Product-Moment Correlation (PPMC) at 0.05 level of significance ($\alpha \leq 0.05$). The test was used to make inferences about the results from the rural youths’ perceptions towards agriculture. Thematic analysis was also used in this objective to interpret the qualitative data from the key informant interviews.

Objective four sought to determine the influence of demographic characteristics on rural youth's participation in agriculture. Data generated for this objective was analysed using means, frequencies and percentages. From this objective, a null hypothesis was also tested using multiple linear regression model at 0.05 level of significance ($\alpha \leq 0.05$). The model was used to make inferences about the results from the demographic characteristics. An index for participation was also developed in this objective where the participation indicators were collapsed into two scores of '1' to indicate participation and '0' to indicate no participation at all. The categorical data was therefore quantified to make it possible to run of the multiple regression model as recommended by Babbie (1989); aimed at statistical determination of influence of the demographic characteristics on participation. According to Babbie (1989), indexes are efficient devices for data analysis and data reduction where several indicators may be summarized in a single numerical score while maintaining the specific details of all the individual indictors.

Objective five sought to determine the influence of socio-economic factors on rural youth's participation in agriculture. Data generated from this objective was analysed using means, frequencies and percentages. From this objective, a null hypothesis was tested using multiple linear regression model at 0.05 level of significance ($\alpha \leq 0.05$). The model was used to make inferences about the results from the socio-economic factors. An index for participation was also developed in this objective where the participation indicators in objective one were collapsed into two scores of '1' to indicate participation and '0' to indicate no participation at all. This was done to make it possible for the researcher to run a multiple regression model with the aim of running a statistical test on influence of the socio-economic factors on participation. Furthermore, thematic analysis was also used for this objective to make sense of the qualitative data from the key informant questionnaires.

The summary of the data analysis procedures is presented in Table 3.

Table 3

Summary of Data Analysis

Hypothesis	Independent variables	Dependent variable	Statistical analysis
$H0_1$: There is no statistically significant influence of awareness of investment opportunities in agriculture on rural youth's participation in the sector in Balaka District, Malawi.	Awareness of Investment opportunities in agriculture	Rural youth participation in agriculture	Pearson's Product-Moment Correlation
$H0_2$: There is no statistically significant influence of perceptions of rural youth towards agriculture, on their participation in agriculture in Balaka District, Malawi.	Perceptions towards agriculture	Rural youth participation in agriculture	Pearson's Product-Moment Correlation
$H0_3$: There is no statistically significant influence of demographic characteristics on rural youth participation in agriculture in Balaka District, Malawi	Demographic characteristics (age, sex, marital status, education, occupation)	Rural youth participation in agriculture	Multiple linear regression model
$H0_4$: There is no statistically significant influence of socio-economic factors on rural youth participation in agriculture in Balaka District, Malawi.	Socioeconomic factors (Access to: land, credit, markets, knowledge and information, alternative job opportunities)	Rural youth participation in agriculture	Multiple linear regression model

CHAPTER FOUR

RESULTS AND DISCUSSIONS

4.1. Introduction

This chapter discusses the results of this study based on formulated objectives and hypothesis as presented in Chapter One. The study examined the influence of selected factors on participation of rural youth in agriculture. Descriptive and inferential statistics were used in analysis of data. The chapter has seven sections as follows: introduction, demographic characteristics of rural youth respondents, types of rural youths' participation in agriculture, influence of awareness of agricultural opportunities on rural youth's participation, influence of perceptions of rural youth towards agriculture on their participation in the sector, influence of demographic characteristics on participation of rural youth in agriculture and influence of socio-economic factors on rural youth's participation in agriculture.

4.2. **Demographic Characteristics of Rural Youth in Balaka District**

This section presents the descriptive parameters of respondents' demographic characteristics. The demographic attributes that were of interest in this study were: sex, age, marital status, level of formal education and main occupation. The description is presented in form of tables and figures showing means, frequencies and percentages of the respective parameters. These attributes form part of the demographic characteristics examined in relation to rural youth participation using multiple linear regression model that was used to test the null hypothesis as discussed in section 4.6.

4.2.1. Sex of Respondents

The results indicate that 55.6% of the respondents were male and 44.4% were female. The percentage distribution of the respondents by sex is shown in Figure 2.

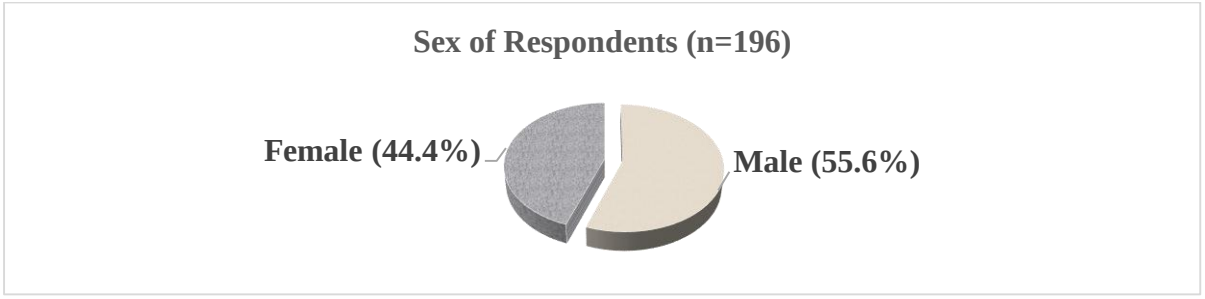

Figure 2: Distribution of Respondents by Sex

The results can be attributed to gender roles among rural youth in Malawi where males are seen to take active roles in economic activities than females. As such for married youth, the males were likely to be the respondents as compared to the females. According to Mussa (2016), gender difference to the disadvantage of young women is apparent in economic activities, including agriculture, in Malawi. The youth, when not in school, are involved in activities as directed by their parents. The pattern often is that male youth will work with the men while female youth habitually work with their mothers on productive and reproductive activities (Kaitano & Martin, 2009). This could explain how roles and responsibilities are passed on to posterity. Addressing gender inequalities and gender mainstreaming therefore is critical to promotion of equal participation of rural youth along the agricultural value chain.

4.2.2. Age of Respondents

The results show that 38.3% of the respondents were within the age group of 20 to 24 years. Figure 3 illustrates the frequency and percentage distribution of the respondents by age.

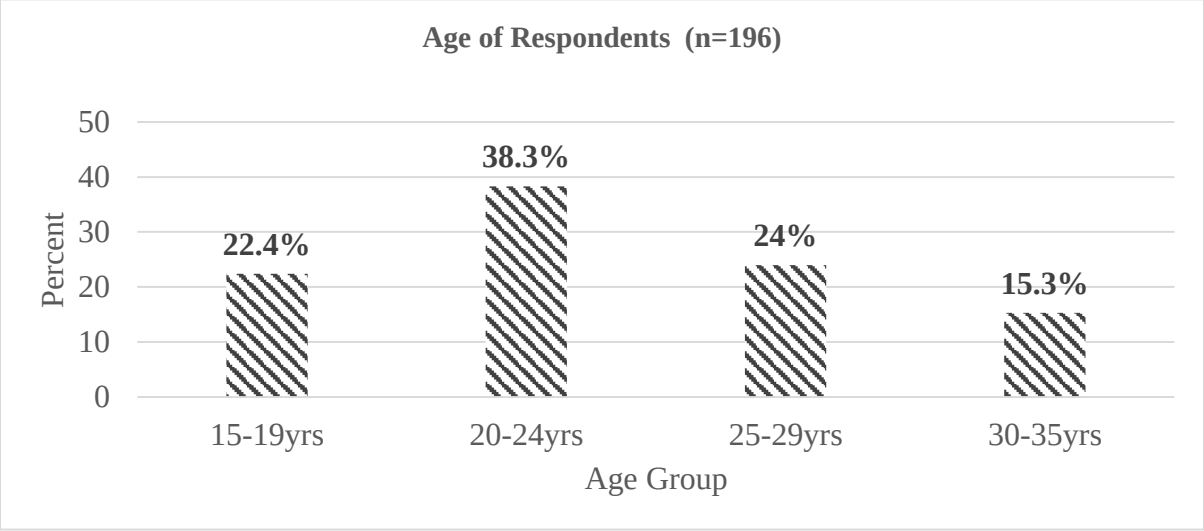

Figure 3: Distribution of Respondents by Age

The higher percentage in the age group of 20 to 24 years could be explained by the age at which most youth in Balaka District finish secondary school. School leavers are mostly available at home unlike those below 19 years' old who are mostly still in school and those above 25 years who mostly migrate to look for other job opportunities. The median age was found to be 24.0 years which is within majority age group. This is mature enough to venture into agriculture and it should be seen as an asset to the sector.

The results agree BDC (2017); which indicate that the majority of the youth are between the ages of 15 to 24 years. According to Malawi population and housing census main report (2008), about 46 per cent the total population of Malawi is aged 18 years or older. The median age of the population is 17 years (GoM, 2009). Between 1998 and 2008, the share of youth in the total population, defined as 15– 29, remained stable. In 2008, youth aged 10–29 years constituted 40 per cent of the total population, and youth aged 15–24 years constituted 19 per cent of the total population. The District Youth Officer (DYO) had this to say:

"The youthful population in the District however, could be taken as an opportunity for the youth since they are energetic and can ably participate in the agriculture sector. There is therefore need to actively involve the rural youth in agriculture, if the country is to achieve notable strides in the development of the sector [KII, DYO 2017]."[1]

4.2.3. Marital Status of Respondents

The results indicate a higher percentage (57.1%) of single youth than married Youth in Balaka District. Figure 4 indicates results on marital status of the rural youth respondents.

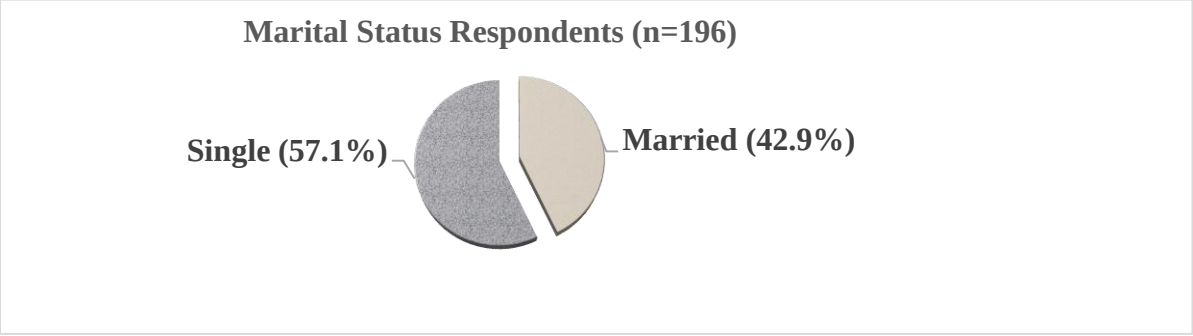

Figure 4: Distribution of Respondents by Marital Status

The findings could agree with the higher percentage of respondents that were below 25years of age and could not be married yet since they are either in school or have just completed their secondary school. The findings agree with Mussa (2016) who observed that a majority of youth in Malawi are single or had never married. According to Kimaro et al., (2015), marital status is an important demographic that is well associated with rural youth participation in agriculture. Most of the married rural youth are more likely to be involved in agriculture (Muhammad et

[1] Key Informant Interviews, District Youth Officer, January 2017

al., 2009). This is because most rural young people lack the required education and skills necessary for alternative jobs which could provide other options to their livelihood.

4.2.4. Education Level of Respondents

Education was regarded as an important demographic factor as it may influence participation of rural youth in agriculture. FAO (2007) suggests a positive association between education of youth and food security through rural youth participation in agriculture. Formal primary and secondary education can provide young people with basic numeracy and literacy, managerial and business skills, and introduce youth to agriculture (FAO, 2014). The results are summarised in Table 4.

Table 4

Distribution of Respondents by Education Level (n=196)

Level of education	Years in School	Frequency	Percent
None	0	0	0.0
Primary	8	57	29.1
Junior Certificate of Education	10	71	36.2
Malawi School Certificate of Education	12	61	31.1
Diploma	15	6	3.1
Bachelor's degree	16	1	0.5
Total		**196**	**100.0**

Mean=10.22, Median=10.0, Mode=10.0

The results indicate 36.2% attained the Malawi Junior Certificate of Education (JCE) which indicates 10 years in schooling, 31.1% attained Malawi School Certificate of Education (MSCE) indicating 12 years in schooling. The mean number of years in school for the respondents was found to be 10.22, mode was 10.0 and median was 10.0. However, the results show that more than 65% have not attained the MSCE, which shows high rates in secondary school drop-out. According to FAO (2014), development challenges in rural areas could be solved by youth empowerment through education. Rural youth require basic understand of agricultural technologies for them to effectively participate in the sector and be able to apply the technologies for their livelihood support. The results, on the other hand; show that 0.0% of the respondents did not attend any formal education at all.

The results could explain the high unemployment rates among Balaka rural youth as outlined by BDC (2017). A majority of the sampled rural young people did not attain MSCE which is a

pre-requisite for professional training in Malawi. According to Glick and Sahn (2000), low level of education among sub-Saharan population is widely considered to be responsible for the slow economic growth, high unemployment rates and widespread poverty. However, the results also indicate that a majority of the sampled rural youth are literate. This is in agreement with the Malawi Youth Policy (2013) which endorses that literacy rate within this age bracket is estimated at 81.8% with slightly more males (86.6%) than females (77%) being literate. For rural youth to effectively engage in agriculture, school is crucial. The youth can therefore take this as an opportunity to engage in various agricultural activities along the agricultural value chain most of which do not require professional training.

4.2.5. Main Occupation of Respondents

The findings indicate that 44.4% of the respondents were engaged in farming as their main occupation. The other 30.1% were students who are still in school, while 25.5% were engaged in other activities as their means to livelihoods. Those who were engaged in other occupations included: primary school teaching, hawking or vending, operating grocery stores, doing piece works, operating bicycle taxis, working as house help or ground laborers. The results are presented in Table 5.

Table 5

Distribution of Respondents by Main Occupation (n=196)

Main Occupation	Frequency	Percent
Farming	87	44.4
Student	59	30.1
Other (specify)	50	25.5
Total	**196**	**100.0**

Access to alternatives jobs and other income sources could negatively influence rural youth participation in agriculture. Those that are formally employed form a very small proportion of the respondents. This indicates that the majority of the respondents still depend on the sector for their livelihood. The findings are in line with The World Bank (2012) which observes that Malawi faces employment challenges, in particular for youth. BDC (2017) attributes the low levels of employment among rural youth to low levels of education and inadequate alternative job opportunities and other income sources available in other sectors.

4.3. Level of Respondents' Participation in Agriculture in Balaka District

Three attributes of the rural youth respondents in the section were considered. They include: participation or non-participation in agriculture by rural youth, participation type for those involved in agriculture, and enterprises engaged by rural youth in agriculture.

4.3.1. Respondents' Participation in Agriculture

The results show that 56.6% of the respondents participated in agriculture as compared to 43.4% that do not participate in agriculture. The results are presented in Figure 5.

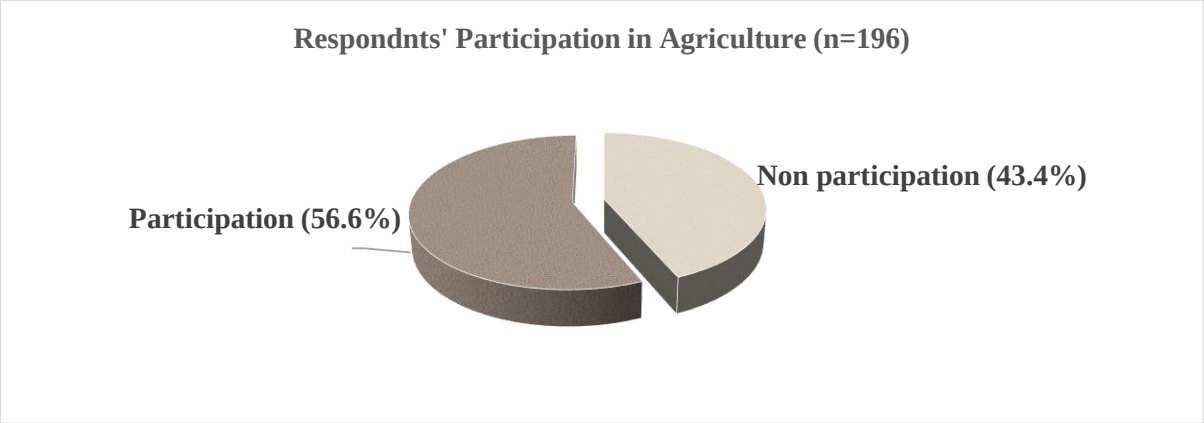

Figure 5: Percentage of Respondents Participating in Agriculture

Considering that a small proportion of the respondents have other alternative jobs, this means that the youth are not fully utilizing the opportunities for livelihood in the agriculture sector. Kwenye and Sichone (2016) observe that rural youth need to be actively engaged in agriculture as the sector provides options for livelihood.

The findings agree with the 2010 country demographic profile which indicates that 60.4 % of youth in Malawi are engaged in agriculture. It is important however, to note that this study looks at rural youth participation by the actual type of activities rural youth are engaged in along the agricultural value chain. Chinsinga and Chasukwa (2017); Mapila (2014) suggest inadequate involvement of the youth all along the agricultural value chain. The country's agricultural sector is characterized by inadequate participation of the youth, who are seen to be the future of agriculture (Government of Malawi, 2016).

4.3.2. Types of Respondents' Participation in Agriculture

Table 6 presents a summary of the results.

Table 6

Percentage of Respondents by Type of Participation in Agriculture (n=196)

Participation Type	Frequency	Percent	Rank
Primary Producer	107	54.0	1
Non-participation	85	43.4	2
Young Farmer Club Member	27	13.6	3
Lead Farmer	22	11.1	4
Association member	15	7.6	5
Input Supplier	7	3.5	6
Agricultural Educator	7	3.5	6
Cooperative member	6	3.0	8
Wholesaler	4	2.0	9
JFFLS Member	3	1.5	10
Agro-processor	0	0.0	11
Transporter	0	0.0	11
Extension Worker	0	0.0	11

The findings indicate that 54% of the rural youth respondents were participating in agriculture as primary producers, 43.4% were not participating at all in agriculture. Those participating as input suppliers, agricultural educators, cooperative members, wholesalers and junior farmer field and life skill school members were between 1.5% and 3.5%. The results also indicate that none of the respondents were participating in agriculture as agro-processors, transporters or extension workers. This means that the various profitable means to livelihood options that the agricultural value chain offers to the rural youth have not been fully exploited. Participation types like: cooperatives, transporting, agro-processing, input supplying and whole selling could provide the youth with better profit margins as compared to primary producing. Participation of the respondents is mainly subsistence, with more than 50 per cent engaged in primary production for consumption, not being fully involved in market oriented farming for income. Other options for employment in agriculture like agricultural educators and extension worker are also not fully exploited. The agricultural value chain could fulfil the needs of rural youths as a means of livelihood if well tapped.

The findings are in agreement with Kamchacha (2012) who observed that a very small percentage are engaged in food processing, marketing and storage services; transport and

logistics; and training and consultancy related services. According to a report on integrating youth into extension systems in central Malawi by Strengthening Agriculture Nutrition and Extension project (2017), lack of support for new farmers in entrepreneurship and agribusiness skills is one of the prominent constraints faced by Malawian rural youth farmers.

"rural youth involvement as agro-processors, cooperative members, transporters, input suppliers, and wholesalers could go a long way in boosting rural youth incomes from agriculture as these are market oriented types of participation and enhance their competiveness on the agricultural market [KII, AEDC 2017]."[2]

4.3.3. Level of Respondents' Participation in Agriculture

Table 7 presents the summary of the results.

Table 7

Percentage of Respondents by Level of Participation (n=196)

Level of Participation	Total Possible Score	Frequency	Percent
Non-participation	0.00	85	43.4
Very weak participation	1.0-3.0	108	55.0
Weak Participation	4.0-6.0	3	1.6
Moderate participation	7.0-9.0	0	0.0
Strong participation	10.0-12.0	0	0.0
Total		**196**	**100.0**

The findings of the study indicate that participation of respondents in agriculture was very weak as 55% of the respondents had a total possible score of one to three types of participation along the agricultural value chain. Only 1.6% was in the category of weak participation with a possible score of four to six types of participation. None of the rural youth respondents were in the categories of moderate and strong participation according to the index of participation. The very weak levels of participation indicate inadequate involvement of rural youth in the agriculture sector as asserted by The Government of Malawi (2016) in the National Agriculture Policy. With very weak participation in the sector, the rural youth cannot optimize on the investment opportunities which the sector can offer.

[2] Key Informant Interviews, Agricultural Extension Development Coordinator for Bazale EPA, January 2017

Chisinga and Chasukwa (2012) observe that; while agriculture remains the principal source of livelihood in Malawi and the youth are a dominant constituent in the country's demographic structure, they are not fully engaged in the sector. Malawi rural youth are very much at the peripheral of agricultural processes. The results further indicate that youth are only engaged in primary production of food crops for consumption leaving out participation in other activities along the value chain which could provide income options for them. Unless participation of rural youth in agriculture is strong, eradication of poverty becomes a pipe dream as there are not many options for rural youth livelihoods in Malawi considering that most of them did not undergo professional training as discussed in section 4.2.4.

4.3.4. Types of Respondents' Agricultural Enterprises

The results are presented as indicated in Table 8

Table 8

Percentage of Respondents by Type of Agricultural Enterprises (n=196)

Type of Enterprise	Frequency	Percent	Rank
Cereals	111	56.6	1
Legumes	108	55.1	2
Roots and Tubers	87	44.4	3
None	85	43.4	4
Livestock	79	40.3	5
Horticulture	69	35.2	6
Cash Crops	64	32.7	7
Rice	20	10.2	8
Bee keeping	3	1.5	9
Fisheries	0	0.0	10

The results show that 56.6% of the respondents engaged in cereals. This means that all respondents who participate in agriculture produce cereals. Other enterprises worthy noting include bee keeping (1.5%) and fisheries (0.0%) which the youth could use as an opportunity to engage in sustainable integrated farming systems. From the findings, it shows that most respondents are still engaged in farming for subsistence considering the higher percentages that are engaged in food crops. Low percentages are engaged in high value crops and market oriented agricultural enterprises which could boost income among rural youth farmers.

The findings are similar to observations by Kamchacha (2012), who asserts that youth in agriculture in Malawi are engaged in primary production mainly food crops. Rural youth involved in agricultural activities cultivate maize, vegetables, rice, groundnuts and beans for consumption (Kimaro, Towo & Moshi, 2015). The 32.7% of respondents growing cash crops may be attributed to the fact that Balaka District is a traditional cotton growing area. This could also be an opportunity for the youth in the District to actively engage in the cotton value chain. Youth engagement in fisheries, cash crops, honey production, commercial livestock, legumes value addition, transportation and agro-processing; would therefore be more ideal for rural youth income diversification.

4.4. Respondents' Awareness of Investment Opportunities in Agriculture

One attribute of the rural youth respondents in the study area was considered important in relation to objective two. This was rural youths' awareness of opportunities in agriculture and its relationship to participation or non-participation in agriculture.

4.4.1. Respondents' Awareness of Investment Opportunities in Agriculture

The results indicate that 95.4% of the respondents are aware of the various investment opportunities that agriculture can provide for rural youth. Results are presented in Figure 6.

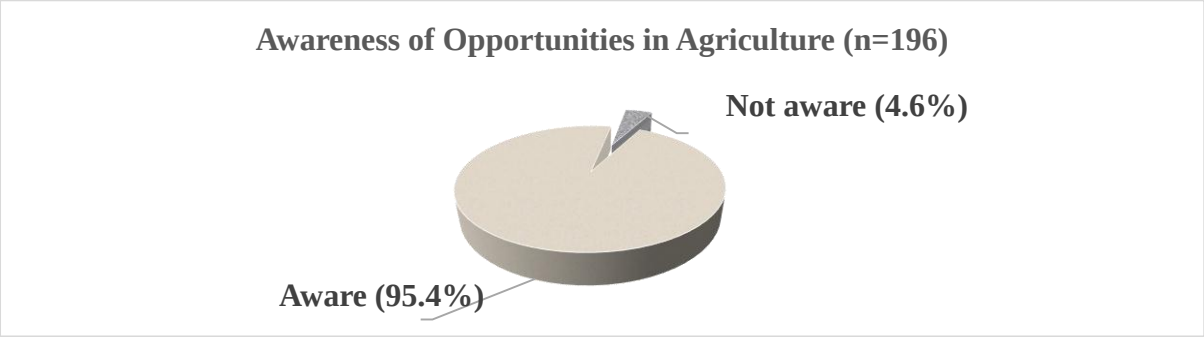

Figure 6: Percentage of Respondents by Awareness of Opportunities in Agriculture

Though the youth are aware of these opportunities, findings indicate that the respondents are not fully utilizing the investment opportunities. Therefore, agricultural extension and advisory services need to play the wider role of developing human and social capital, enhancing skills and knowledge for production and processing, facilitating access to markets and trade, organizing the youth farmers toward sustainable natural resource management practices as

proposed by Swanson (2008). Awareness of the investment opportunities could trigger interest of the rural youth to venture into the sector and earn a livelihood.

The results agree with MIJARC, IFAD and FAO (2012) which concluded that youth in Sub-Saharan Africa aspire to become 'agri-preneurs' who are engaged in all aspects of the value chain from production to processing, value addition and marketing. Highfill, Moore and McNamara (2017) also observe that rural youth in central Malawi express desire to earn their livelihoods in agriculture mainly due to awareness of the various benefits agriculture could provide. Awareness of opportunities in agriculture is critical to rural youths' participation as they are knowledgeable of the different unexploited and profitable roles they can play along the value chain; thereby influencing their choice to engage in agricultural enterprises.

4.4.2. Respondents' Perceived Investment Opportunities in Agriculture

The respondents indicated the investment opportunities that rural youth can exploit in agriculture. Table 9 shows the investment opportunities respondents indicated to be aware of.

Table 9

Percentage of Respondents by Perceived Opportunities in Agriculture (n=196)

Livelihood opportunities in agriculture	Frequency	Per cent	Rank
Employment	174	88.8	4
ICTs	141	71.9	13
Rural youth loan schemes	174	88.8	4
Youth-specific projects and programs	173	88.3	6
Rural youth innovation	163	83.2	10
Capacity building	178	90.8	1
Attainment of leadership skills	176	89.8	2
Attainment of entrepreneurial skills	176	89.8	2
Agro-processing and value addition	169	86.2	7
Transportation of agricultural produce	167	85.2	8
Wholesale produce trading	161	82.1	12
Irrigation	167	85.2	8
Primary produce at farm level	73	37.2	16
Farm gate or roadside sales	31	15.8	17
Organic farming	102	52.0	14
Export marketing	162	82.7	11
Contract marketing	93	47.4	15
Not aware	9	4.6	18

The study findings indicate a strong awareness of various investment opportunities by respondents and agree with AGRA (2015) which observes that opportunities such as the use of improved technologies, ICTs, innovative and inclusive financing programs, entrepreneurship and agribusiness initiatives, education and training, and supportive policy environment; all make youth in agriculture a creditable and timely theme.

The results on the other hand, show that only 47% of the respondents perceive contract marketing as an opportunity. The respondents view contact marketing as discouraging competitiveness of the produce on the market as selling prices are agreed upon before production. This indicates inadequate awareness on this potentially productive marketing arrangement by the respondents. Advisory services therefore need to play a crucial role of properly sensitizing rural youth farmers on new marketing concepts and potential benefits.

A Pearson Product-Moment Correlation (PPMC) was run to determine the influence of awareness of investment opportunities on participation of rural youth in agriculture. Table 10 indicates the findings for the test.

Table 10

Pearson Correlation Test for Awareness of Investment Opportunities

		Awareness of Investment Opportunities in Agriculture	Participation in Agriculture
Awareness of Investment Opportunities in Agriculture	Pearson Correlation	1	.152*
	Sig. (2-tailed)		.033
	N	196	196
Participation in Agriculture	Pearson Correlation	.152*	1
	Sig. (2-tailed)	.033	
	N	196	196

*Correlation is significant at the 0.05 level (2-tailed)

The findings indicate that there was a slight, positive correlation between awareness of investment opportunities in agriculture and rural youth participation in agriculture which was statistically significant (r=0.152, n=196, p= .033). This means that awareness of investment

opportunities in agriculture by rural youth; could be used to explain variations in participation of rural youth in agriculture. The null hypothesis is therefore rejected and it is concluded that awareness of investment opportunities in agriculture slightly and positively influence rural youth participation in agriculture. The findings are in line with FAO (2014) which asserts that youth awareness in specific projects and programs can influence them to participate in agriculture sector. Access to the right information on agricultural opportunities can help overcome young farmers' inadequate participation in agriculture sector (IFAD, 2012).

4.5. Perceptions of Respondents towards Agriculture

One attribute of the rural youth respondents in the study area was considered important in relation to objective three. This was rural youths' perceptions towards the agriculture sector and its relationship to participation or non-participation in agriculture.

4.5.1. Respondents' Interest in Agriculture

The results indicate that 95.9% of the rural youth respondents are interested in agriculture as compared to 4.1% who responded that they are not interested. The respondents that are interested, indicated that agriculture is the only option for their livelihood in the rural areas as they don't have skills in other alternative jobs. Results are presented as shown in Figure 7.

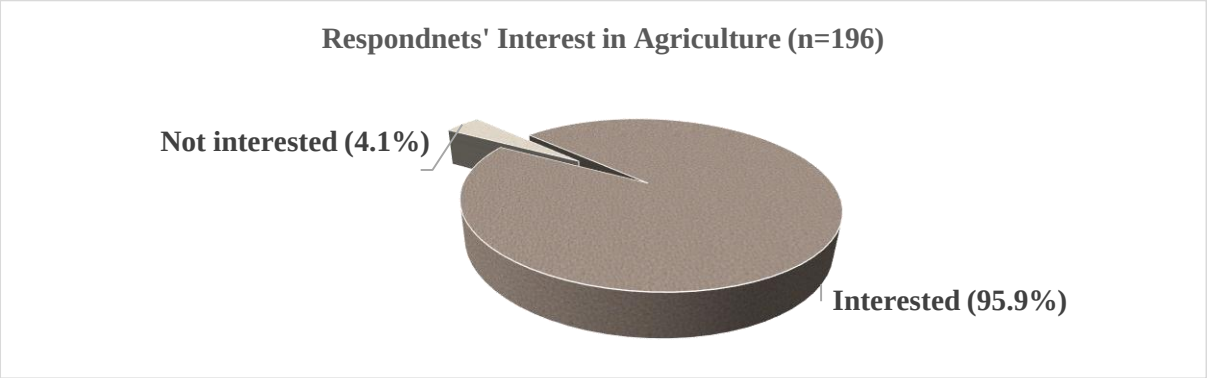

Figure 7: Percentage of Respondents by Expressed Interest in Agriculture

The high interest in farming could be attributed to narrow options that exist for other income sources among rural youth partially due to low education levels as highlighted in section 4.2.4. This also confirms that agriculture remain relevant to the youth population most of who have no professional training. Strengthening their participation in the agricultural value chains is therefore key to achieving sustainable agriculture and reducing unemployment.

The findings agree with Highfill, Moore and McNamara (2017); Kamchacha (2012) who observe that Malawi youth have an overwhelming interest to participate in the agriculture sector. The authors observe that among other reasons for youth's interest in the sector, rising trends of unemployment leave this age group with no choice but to employ themselves in farming which unlike other forms of income sources has fewer barriers to entry.

Respondents who expressed disinterest in agriculture argued that the sector has neglected the youth by not allowing them affordable access to farm inputs, finances, structured markets for their produce and land. Chinsinga and Chasukwa (2017) indicate that government programs, especially Farm Input Subsidy Program (FISP) have focused on the ageing population of farmers with no special interest for the youth. The disinterested respondents indicated that set up of the sector does not attract the youth to participate in its value chain citing that there are no enough sustainable benefits for their age group.

4.5.2. Respondents' Perceptions towards Agriculture

The findings show also that 64.3% of the respondents had strong positive perceptions towards agriculture sector while 31.6% agreed that agriculture as a sector is attractive to rural youth. Figure 8 presents perceptions of respondents towards agriculture.

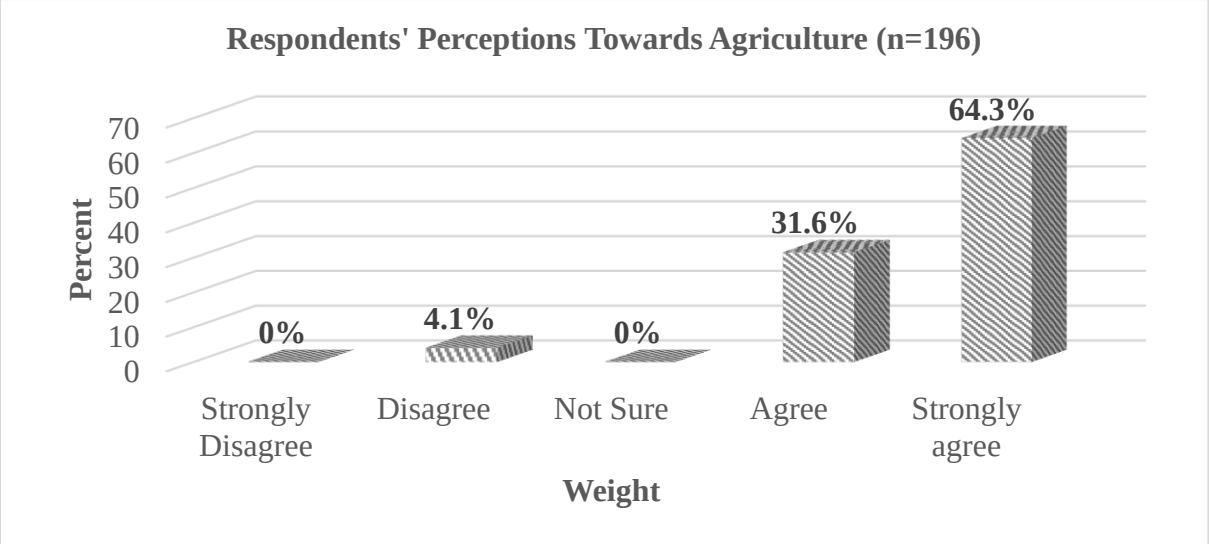

Figure 8: Percentage of Respondents by Perceptions towards Agriculture

This means that overall, 95.9% have positive perceptions towards agriculture and indicate the possible attitudes that could compel the youth to engage in the various livelihood options along

the value chain. The positive opinions in the sector therefore need to be reinforced to enhance rural youth capacity to participate in more profitable value chains.

These findings are in line with FAO and NASFAM (2015) that observed that most male and female young producers perceive farming as important, particularly given the increasing rates of unemployment in Malawi. The youth view agriculture as a simple source of household food and income if there were adequate production resources such as fertilizers, good seeds, adequate finances, good climatic conditions and reliable markets to absorb what they have produced. According to Kimaro et al., (2015), rural youth believe that they can get their socio-economic needs through participation in agricultural activities.

A Pearson Product-Moment Correlation (PPMC) was run to determine the influence of rural youths' perceptions towards agriculture on their participation in the sector. Table 11 presents the findings for the test.

Table 11

Pearson Correlation Test for Respondents' Perceptions towards Agriculture

		Perceptions towards Agriculture	Participation in Agriculture
Perceptions towards Agriculture	Pearson Correlation	1	.184**
	Sig. (2-tailed)		.010
	N	196	196
Participation in Agriculture	Pearson Correlation	.184**	1
	Sig. (2-tailed)	.010	
	N	196	196

**Correlation is significant at the 0.01 level (2-tailed)

The results indicate that there was a slight, positive correlation between perceptions towards agriculture and rural youth participation in agriculture which was statistically significant (r=0.184, n=196, p= .010). This means that perceptions of rural youth towards agriculture could be used to explains variations in their participation in the sector. Rural youth with positive perceptions towards agriculture are more likely to participate in the sector. The positive perceptions also mean there is an opportunity to engage more youth in the sector given that this factor influences participation. The null hypothesis is therefore rejected and it is concluded that rural youths' perceptions towards agriculture significantly and positively influence their

participation in agriculture. The results are similar to findings by Kimaro et al., (2015) who observed that perceptions are important factors in youth participation in agricultural activities.

4.6. Demographic Characteristics and Participation of Rural Youth in Agriculture

The demographic attributes that were of interest in this study were: sex, age, marital status, level of formal education and main occupation.

Results of the regression analysis are presented as shown in Table 12.

Table 12

Regression Model Summary of Demographic Characteristics

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.829[a]	.687	.679	.28065

a. Predictors: (Constant), Age, Sex, Marital status, Education level, Occupation

b. Dependent Variable: Participation in agriculture

The regression analysis results for the model indicate an adjusted R^2 value of .679; this show that variance in a combination of age, sex, marital status, education level and, occupation explained 67.9% of the variation in participation of rural youth in agriculture. The regression coefficients of the models showing the Beta, and p values are presented in Table 13.

Table 13

Regression Coefficients for Demographic Characteristics

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	p
1	(Constant)	.036	.221		-.165	.869
	Age	.046	.005	.472	9.223	.000
	Marital status	.269	.051	.270	5.283	.000
	Education	.032	.012	.117	2.590	.010
	Occupation	-.248	.028	-.409	-9.002	.000

The regression analysis from the model indicates that age had a positive and significant influence with $\beta=0.472$ and $p=0.000$ on participation of rural youth in agriculture in Balaka

District, Malawi. Educational level also has positive and significant influence with β=0.117 and p=0.010. Marital status had a positive and significant influence with β= 0.270 and p=0.000 on participation of rural youth in agriculture. This means that the older the rural youth, the more likely they are to participate in agriculture; and more years spent in school would likely influence participation in agriculture among the rural youth. The results further show that un-married rural youth are less likely to participate in agriculture as compared to married rural youth who are likely to be engaged for provision of their family needs.

The regression analysis also indicates that occupation had a negative and significant influence on rural youth participation in agriculture; with β= -0.409 and p=0.000. This indicates that rural youth with alternative jobs and income sources are less likely to participate in agriculture. The magnitude of the t-statistics therefore indicates that the most significant demographic factor influencing participation of rural youth in agriculture is age with t=9.223. Occupation was the second most significant factor negatively influencing participation with t= -9.002. Marital status was the third most significant factor indicating t=5.283. The least significant factor was educational level with t=2.590.

Therefore, the null hypothesis is rejected and it is concluded that demographic characteristics (age, marital status and educational level) had a positive significant influence occupation had negatively and significantly influenced participation of rural youth in agriculture.

Labaisi et al., (2016) observe that gender, marital status and education levels had a significant effect on rural youth's participation in agricultural enterprises. Age, education, marital status, parent income, occupation, household size and youth dependent ratio were significant factors influencing youth participation in agricultural activities in Imo state, Nigeria (Nnadi & Akwiwu, 2008). Chikezie et al., (2012) also assessed factors influencing adoption of the recommended cassava production practices among rural youth in Nigeria. The significant characteristics included: age, gender, marital status and education. According to Kimaro et al., (2015), factors influencing rural youth's participation in agricultural activities include age, marital status and education level.

4.7. Socio-Economic Factors and Rural Youth Participation in Agriculture

Five attributes of the rural youth respondents in the study area were considered important in relation to objective five. These included rural youths' access to: land, financial credit, markets,

agricultural information and knowledge; and alternate income sources in relation to participation or non-participation in agriculture.

4.7.1. Respondents' Access to Land

The results indicate that 57.7% of the respondents in Balaka District have access to land while 42.3% do not have access to land. The results are presented as shown in Figure 9.

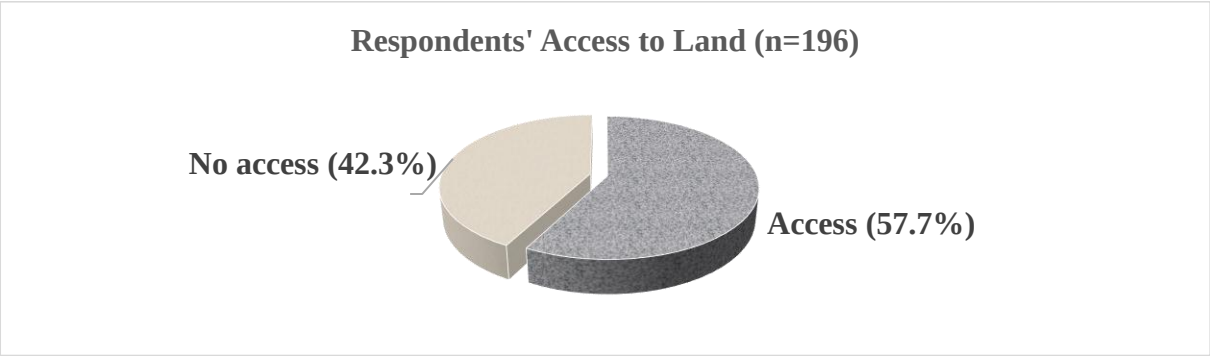

Figure 9: Percentage of Respondents with Access to Land

Respondents with access to land reported that the land was family land or own land. Rural youth with no access to land however indicated that they were either still in school or were not yet married therefore their families had not yet allocated them their own land for farming. It is common in Malawian culture that children will be allocated land when they are independent in which case it could be through marriage or moving out of the parents' house to settle in own home. According to FAO (2014), access to land is particularly key for young people whose livelihoods depend on agriculture in rural areas. It is a pre-requisite for young people who want to venture into farming. The 42.3% respondents' who do not have access to land cannot therefore be compelled to engage in the sector. The findings confirm that access to land remains a principle challenge among rural youth in Malawi.

The results are in line with FAO (2014); Kamchacha (2012; Kimaro et al., (2015) who observe that access to arable land for farming is one of the main challenges associated with rual youth participation in agriculture. The findings also reveal that ownership of land among rural youth farmers is mainly in form of family land that has been passed on from parents. Rural youth who participate in agricultural activities access land through their families.

4.7.2. Land Holding Size for Respondents

The results indicate that 69.9% of the respondents have total land size of less than one hectare. Only 2.6% have access to land size of equal to or more than 3 hectares. The results are presented as shown in Figure 10.

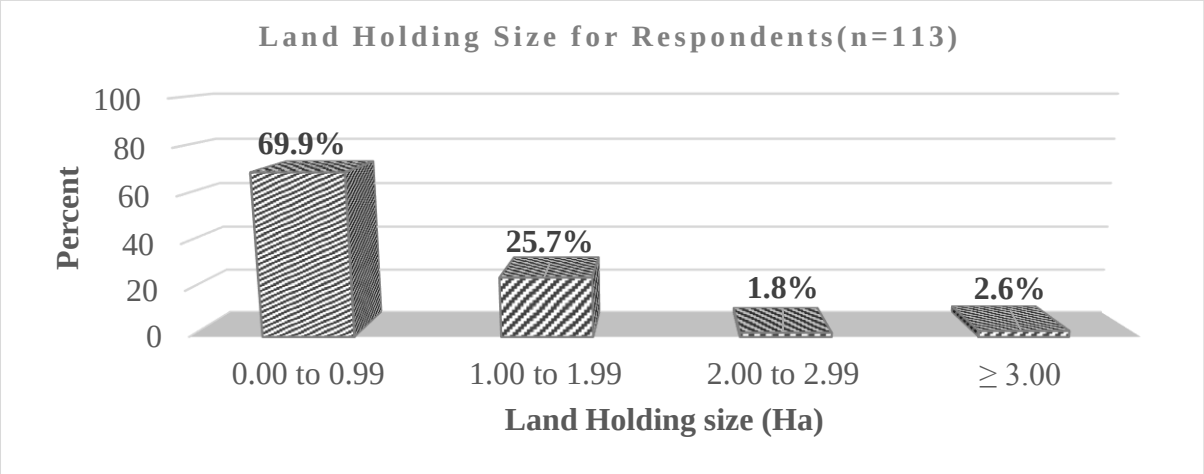

Figure 10: Percentage of Respondents by Land Holding Size

Mean=0.87, Mode=0.61, median=0.61

The findings indicate growing pressure on land in Balaka District as asserted by key informants. This has been validated by this study as the mean land holding size was 0.87 hectares; mode and median were 0.61 hectares. Furthermore, the study found out that most of the land is customary and rural youth could not use it as collateral for accessing loans.

The findings agree with the Government of Malawi (2016) which asserts in the National Agriculture Policy that smallholder farmers cultivate small and fragmented land holdings of less than one hectare (on average 0.6 ha) under customary land tenure arrangements and produce lower crop yields than those produced in the estate sub-sector. The increasing pressure on arable land could be attributed to the rapid population growth in Balaka District as presented by the Balaka District Council (2017) in the District Socio-Economic Profile. Malawi will continue to experience a rapid rate of population growth in spite of the assumption on declining fertility (GoM, 2009). Given that land is an essential production resource in agriculture, sustainable productivity for rural youth is highly unlikely.

4.7.3. Respondents' Access to Financial Credit

The results are presented as shown in Figure 11.

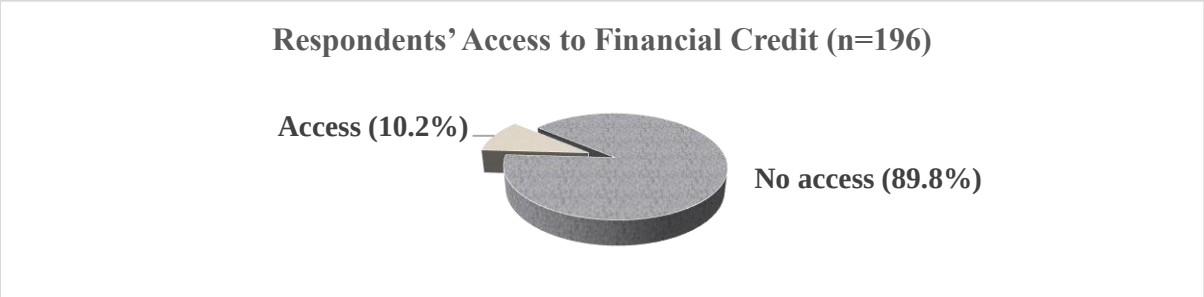

Figure 11: Percentage of Respondents by Access to Financial Credit

The results indicate that 89.8% of the sampled rural youth in Balaka District do not have access to financial credit as compared to only 10.2% of the respondents who have access. This means that the respondents may not have adequate access to inputs for production and may not engage in market oriented farming since these require high capital investments. Access to financial services is fundamental to starting any agricultural activity (FAO, 2014). The findings also indicate that access to credit is a key challenge with regards to rural youth participation in agriculture.

"For rural youth to engage in agro-entrepreneurship activities like transporting, wholesaling, agro-processing and large scale estate farming, they need injection of large sums of money which can only be acquired through loans. Despite having no access, most youth still engage in smallholder farming, which is mainly subsistence and attracts low profit margins [KII, AEDC 2017]."[3]

Lack of access to finance is a principle challenge faced by most young producers in Malawi (FAO & NASFAM, 2015). Valle (2014) observes that access to finance is a critical factor in developing self-employment opportunities for rural youth in agriculture.

[3] Key Informant Interviews, Agricultural Extension Development Coordinator for Utale EPA, January 2017

4.7.4. Respondents' Reasons for Having no Access to Financial Credit

The results are presented in Table 14

Table 14

Percentage of Respondents by Reasons for No Access to Financial Credit (n=176)

Reasons for no access	Frequency	Percent	Rank
High interest rates	75	42.6	1
High risk of agricultural enterprises	38	21.6	2
Requires collateral	32	18.2	3
Short repayment period	31	17.6	4
Total	**176**	**100.0**	

42.6% of the sampled rural youth indicated that they do not have access to financial credit because most lending institutions provide loans at high interest rates which range from 40 to 48 percent of the borrowed amount. In addition, 17.6% of the respondents indicated that the loan is supposed to be paid back in full within the period of three to six months which does not match very well with the agricultural calendar in Malawi.

"Most cereals and legumes in Malawi normally take a total period of three to six months to maturity. With high supply of farm produce during harvest period, most business oriented farmers prefer to market the produce when demand is high and supply is low to get better prices. This means that the repayment period for agricultural loan has to be at least twelve to eighteen months. This could give the rural youth farmers a realistic chance to realize profits from their enterprises and be able to repay their loans in full [KII, AEDO 2017]."[4]

Furthermore, 18.2% of the respondents indicated that most banks and micro-loans institutions require collateral from the farmers to provide the loans. The only asset most rural youth farmers have is land which mostly is customary land whose custodian is the Traditional Authority. This means that they cannot use the land as collateral since it's not leased and has no title deed. The other reason indicated by 21.6% of respondents is that the weather patterns in Balaka District have been highly un-reliable in the recent years. The findings confirm the challenge and indicate that lending conditions in Malawi are prohibitive for small holder rural youth. With

[4] Key Informant Interviews, Agricultural Extension Development Officer for Mpilisi EPA, January 2017

no supporting policies and efforts to improve access to agricultural credit, the youth might not be able to fully exploit opportunities in agriculture since most of them require heavy investment capital. Enterprises like transportation, irrigation, exporting, whole selling and agro-processing demand high initial capital. Considering that most rural youth are struggling even to earn a living, these participation types are only a dream.

The results are in line with FAO (2014) which observes that financial service providers are reluctant to provide their services; including credit, savings and insurance; to rural youth due to their lack of collateral and financial literacy. According to Balaka District Social Economic Profile (2010), the District has experienced disasters in the recent past which include dry spells, floods and pest infestation. The disasters have resulted into low production in various agricultural enterprises which have in turn affected income for the rural youth farmers. Responses from key informants indicated that rural youth avoid accessing a loan for farming due to the high risk of disasters and prohibitive loan conditions coupled with lack of insurance for agricultural enterprises.

4.7.5. Respondents' Sources of Financial Credit

The results in Table 15 show that 80% of the respondents with access to financial credit, indicated that they got the credit form Village Savings and Loan (VSL) Groups; which are popularly known as '***Banki M'khonde***' in vernacular, while 20% got the credits from Government loan schemes. The results also indicate that no respondent got the credit form either a micro-finance institutions or commercial banks.

Table 15

Percentage of Respondents by Sources of Rural Financial Credit (n=20)

Sources	Frequency	Percent	Rank
VSL (Bank Mkhonde)	16	80.0	1
Government credit schemes	4	20.0	2
Microfinance institutions	0	0.0	3
Commercial Banks	0	0.0	3
Total	**20**	**100.0**	

The respondents indicated that they do not access credit from microfinance and commercial banks due to the same reasons as discussed in section 4.7.4. The lending institutions normally

attach prohibitive conditions to their loans which include collateral, short repayment periods and high interest rates which are not favourable with agricultural enterprises. AEDC for Utale EPA had this to say:

"Most farmers resort to getting their loans from the village banks which have way less interest rates normally ranging from 10 to 20 per cent on the borrowed amount, do not require collateral and the repayment period is favourable. However, the amounts from the village banks are not enough to acquire farm capital assets like land, machinery and buildings. The loans are normally used to procure farm inputs like seed and fertilizer [KII, AEDC 2017]"[5]

The respondents who got their credit from government loan scheme indicated that they only had access to this loan for only one growing season. The 'Farm Input Loan Program' was a government supported loan scheme for farmers; which has since been suspended. According to the respondents, there is no current government supported farm input loan scheme and reasons for suspension of the program are not known. The government also instituted the Youth Enterprise Development Fund (YEDEF) in 2010 which was meant to provide easily accessible loans to youth entrepreneurs in form of capital equipment and working capital. However, Kamchacha (2012) observes that most machinery that were procured through this fund were not for agricultural processing but vocational activities such as wielding, carpentry and brick-laying.

"This situation still puts rural youth in a fix; and they are not inspired to engage in agriculture. Rural youths' access to financial credit has the potential to equip young farmers with capabilities for increased agribusiness oriented farm production, agro-processing, transportation, export and marketing which in turn could offer options for youth employment and greatly improve their livelihoods if given support from government and other lending institutions. Investment in rural youth agricultural loans and agribusiness enterprises along the value chain could ensure notable growth of the Malawian economy which highly depends on agriculture [KII, DYO 2017]."[6]

4.7.6. Respondents' Access to Agricultural Markets

[5] Key Informant Interviews, Agricultural Extension Development Coordinator for Utale EPA, January 2017
[6] Key Informant Interviews, District Youth Officer, January 2017

The results, as highlighted in Figure 51.0% had no access to markets.

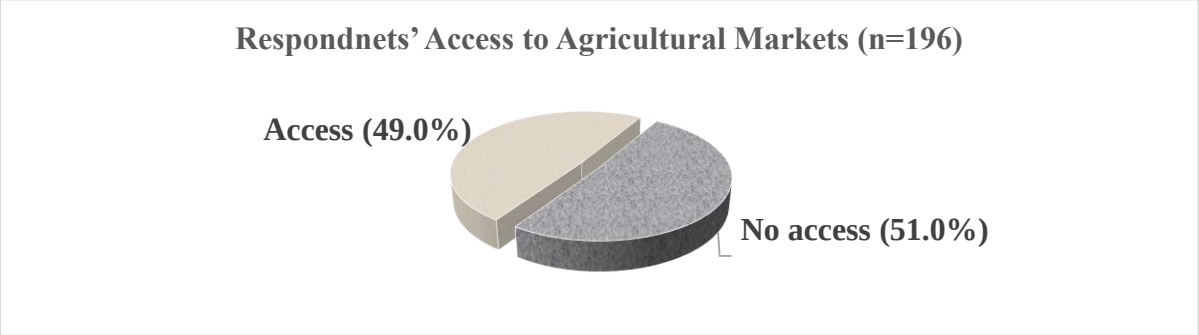

Figure 12: Percentage of Respondents by Access to Agricultural Markets

This means that more than half of the respondents do not rely on agriculture as a stable income source. These findings could also explain the high percentages of respondents engaged in subsistence farming mainly for consumption as discussed in section 4.3.

The results are in line with Government of Malawi (2016) which acknowledges that access to agricultural markets, especially among youth, remains a critical challenge in Malawi. Access to markets for youth is becoming even more difficult due to the growing international influence of supermarkets and the rigorous standards of their supply chains (FAO, 2014).

4.7.7. Type of Agricultural Markets Accessed by Respondents

Results in Table 16 indicate that 51.0% of respondents who had access to markets for their produce have done so through agricultural commodity traders commonly known as vendors, while 24.0% sold their produce at the local village market, 14.6% to wholesalers, 9.4% through commodity exchange platforms and only 1.0% through contract marketing.

Table 16

Percentage of Respondents by Types of Agricultural Markets Accessed (n=96)

Markets accessed	Frequency	Percent	Rank
Traders (Vendors)	49	51.0	1
Local village Market	23	24.0	2
Wholesalers	14	14.6	3
Commodity exchange	9	9.4	4
Contract Marketing	1	1.0	5

Total	**96**	**100.0**

The results show that rural youth in Balaka District do not necessarily have access to structured market platforms like contract marketing and agricultural commodity exchange as only. This is evidence that marketing is indeed one of the major constraints for rural participation in agriculture. Partly, the agricultural extension system is to blame for this situation as it focuses more on the production aspects of extension services delivery rather than market oriented extension (MEAS, 2012). According to the MEAS report, assisting smallholders in engaging in commodity markets does not stand out as a central theme in extension programming in Malawi. BDC (2017) indicates that the existence of Commodity exchange platforms like Auction Holdings Commodity Exchange (AHCX) and Agricultural Commodity Exchange (ACE), which are national marketing platforms linking Malawian farmers to both local and international buyers that offer competitive prices could be an opportunity for rural youth in the agriculture sector. Continued weak efforts towards notable policy interventions on agricultural marketing as observed by Chinsinga and Chasukwa (2017) could discourage this sizable and growing population from participating in agriculture.

4.7.8. Respondents' Access to Agricultural Information and Knowledge

The results in Figure 13 The results indicate that 99% of the respondents have access to agricultural information and knowledge.

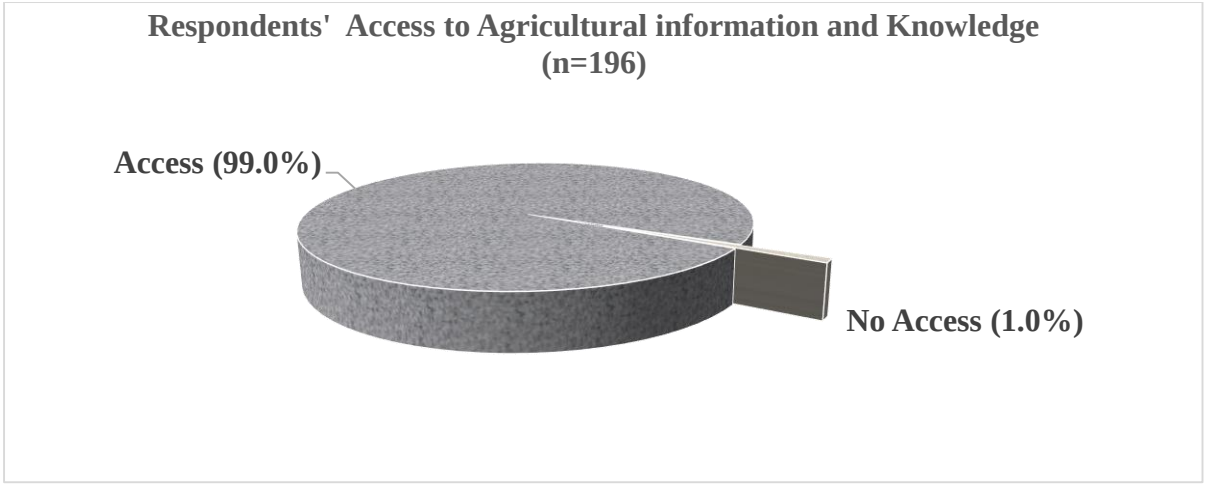

Figure 13: Percentage of Respondents by Access to Agricultural Information

The results indicate a stable agricultural information and extension system in Balaka District. This could be explained by the progressive demand driven extension system in Malawi.

Modern day ICTs like radio and internet could also be responsible for the increased access to agricultural information. The education level of the respondents also plays a role in these findings given that a majority attended secondary school.

The results are in agreement with MEAS report (2012) which recognized the well-defined, decentralized, demand driven and pluralistic agricultural extension service delivery in Malawi. The history and current provisioning of agricultural extension services in Malawi is particularly rich (Kabuye & Mhango, 2006). According to Chowa et al., (2013), the Malawi agricultural extension policy is one of the most progressive public sector planning documents, incorporating the prominence of involving several service providers and a focus on responsiveness to farmer's felt needs.

4.7.9. Respondents' Sources of Agricultural Information and Knowledge

The results are presented in Table 17.

Table 17

Percentage of Respondents by Sources of Agricultural Information (n=194)

Source	Frequency	Percent	Rank
Extension Workers	178	90.8	1
Radio/TV	171	87.2	2
School	163	83.2	3
Lead farmers/ Peers	142	72.4	4
Training/Demonstration/Field day	97	49.5	5
Print media	81	41.3	6
Internet	38	19.4	7
Church/Mosque	34	17.3	8
Farmer Field School	16	8.2	9

The findings point at high rankings on extension workers, schools and lead farmers or peers; as major sources of agricultural information and knowledge. According to key informants, this could be due to the fact that most of the respondents are relatively exposed since a majority of tem attended junior secondary school. They might be aware of the different channels from where they can get relevant agricultural information. The findings also indicate inadequate utilization of print media, internet and farmer field schools; which could be powerful sources of updated agricultural information. The extension system needs to focus on use of Information and Communication Technology (ICT) as reliable sources of agricultural information since

these are easy to access and to many clients; but also could be attractive to the already literate and dynamic youth population in Balaka District.

This is in agreement with Mapila (2014) who asserts that there is a positive correlation between education levels and access to agricultural information. Ability to process available information and to use it effectively and to participate in community development activities is highly correlated with education (United Nations Development Fund, 2010). Agricultural technology is dynamic and access to internet and relevant print media could also go a long way in improving rural youths access to updated agricultural information.

4.7.10. Respondents' Access to Alternative Job Opportunities and other income sources

The results, as presented in Figure 14, indicate that 34,7% of the rural youth respondents had access to other job opportunities and income sources.

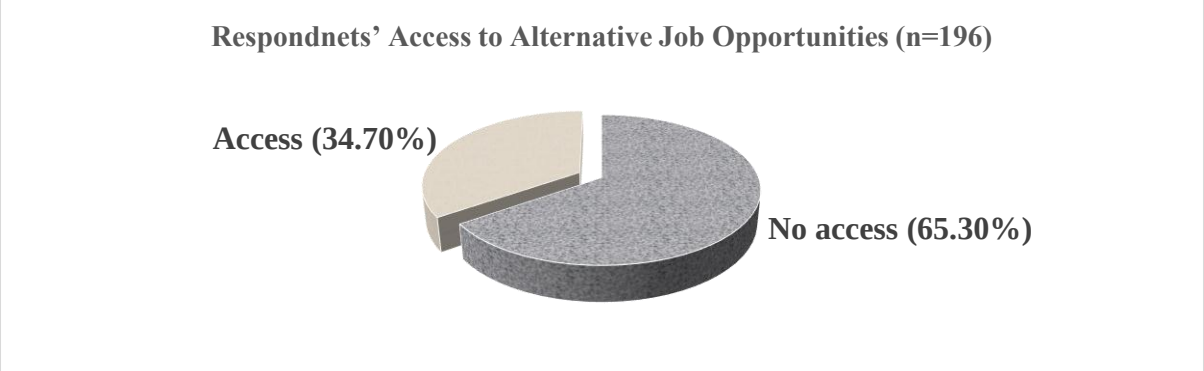

Figure 14: Percentage of Respondents by Access to Alternative Jobs and Income Sources

According to the respondents, the other income sources included: primary school teaching, hawking or vending, operating grocery stores, doing piece works, operating bicycle taxis, working as house help and ground works. This means that straitening youth participation in agricultural value chains could help provide livelihoods more options for the rural youth considering that 65% do not have alternative income sources.

The results agree with ILO (2012) that observe the seemingly lack of alternative jobs and other income sources for rural youth. Young people account for 60 per cent of the total unemployed (Euromonitor, 2012). Malawi faces employment challenges, in particular for youth, coupled with widespread poverty levels (World Bank, 2012). Chinsinga and Chasukwa (2017) argue that while the government continues to pursue resolute efforts to address chronic youth

unemployment, the problem persists because most of these efforts have been divorced from the agricultural sector. According to the respondents, low levels of professional education, family poverty, lack of capital and lack of skills are among the reasons for not having access to other income sources. According to FAO (2014), rural youth may not have the necessary skills or access to the necessary opportunities for skillset development and upgrade to participate in the green economy.

4.7.11. Other Factors Influencing Participation of Rural Youth in Agriculture

The rural youth respondents and key informants were also requested to outline other factors which may influence participation of rural youth in agriculture. The results indicate that variations in weather patterns, prolonged dry spells and flooding are among the reasons rural youth may be disinterested in agriculture. Key informants specified that this makes engagement in agricultural enterprises very unreliable and most youth are not willing to take the risk. The findings agree with Balaka District Socio-Economic Profile (2017) which states that one of the major challenges in agriculture is natural disasters which are a result of variations in weather patterns and climate change. The key informants also indicated that youth are not involved in agricultural policy dialogues and decision making processes. This has left the rural youth at a disadvantage as they are not considered to be an essential section of the extension clientele and other major agricultural programs which include Farm Input Subsidy Program (FISP). Mapila (2014) also observes the apparent neglect on the youth as regards to agricultural policy processes. Public policies have partially addressed the issue of youth and agriculture in Malawi (Mathivha, 2012). No noticeable policy pronouncements have been made on the youth's involvement in agriculture since the dawn of Malawi democracy in 1994 (Chinsinga & Chasukwa, 2012).

The results of the regression analysis are presented as shown in Table 18.

Table 18

Regression Model Summary of Socio-Economic Factors

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	.991[a]	.982	.981	.06841

a. Predictors: (Constant), access to: land, credit, markets, agricultural information and knowledge; and alternative jobs and income.

The regression analysis results for the model indicate an adjusted R^2 value of .981; this indicates that variance in a combination of access to land, access to credit, access to markets, access to agricultural information and knowledge and access to alternative jobs and income explained 98.1% of the variation in participation of rural youth in agriculture. The regression coefficients of the models showing the Beta, and p values are presented in Table 19.

Table 19

Regression Coefficients of Socio-Economic Factors

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	**Std. Error**	**Beta**	**t**	**p**
1	(Constant)	.029	.050		.590	.556
	Land	.900	.022	.899	40.455	.000
	Market	.084	.021	.085	4.007	.000
	Alt. jobs	-.029	.012	-.028	-2.403	.017

The regression analysis from the model indicates that access to land had a positive and significant influence with β=0.899 and p=0.000 on participation of rural youth in agriculture. Access to markets also had positive and significant influence with β=0.085 and p=0.000. This means that rural youth who have access to land and markets are more likely to participate in agriculture. The regression analysis also indicates that access to alternative jobs and other income sources had a negative and significant influence with β= -0.028 and p=0.017. This means that rural youth who have other income sources; are less likely to participate in agriculture as compared to those who depend on agriculture as their only means of livelihood.

The results of the regression analysis also indicate that access to credit had no significant influence with β=0.004 and p=0.727. This shows that access to credit does not compel rural youth to engage in agriculture. However, the study has established that it remains a challenge to youth engagement in agriculture. The same scenario is also true for access to knowledge and information which indicates β= -0.002 and p=0.827.

The magnitude of the t-statistics therefore indicates that the most significant socio-economic factor influencing participation of rural youth in agriculture is access to land with t=40.455. Access to markets was the second most significant factor influencing participation with

t=4.007. The least significant factor was access to alternative jobs and other income sources with t= -2.403, indicating negative influence.

Therefore, the null hypothesis is rejected and it is concluded that socio-economic factors have a significant influence on participation of rural youth in agriculture. The specific factors include access to land and access to markets that have positive significant influence; access to alternative jobs and other income sources that have negative influence.

Factors influencing rural youth's participation in agricultural activities include land, agricultural knowledge and lack of job alternatives (Kimaro et al., 2015). Chinsinga and Chasukwa (2012) observe that rural youth's access to land is very critical as it is a significant determinant of whether a household will be food secure, less vulnerable to risks and shocks and earn a livelihood above the poverty line in Malawi. Access to agricultural knowledge and information about lucrative markets is an important factor in participation of rural youth in agriculture (Mapila, 2014). Malawian young farmers face challenges related to access to markets and access to land (GoM, 2016).

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1. Introduction

This chapter presents a summary, conclusions and recommendations of the study. The first section of the chapter presents the summary of the study. It is followed by the conclusions of the study, by order of the objectives of the study; and based of the findings. Specific recommendations were drawn from the conclusions of the study. The recommendations of this study are for both policy and further research.

5.2. Summary of the Study

The purpose of this study was to determine the influence of selected factors on participation of rural youth in agriculture in Balaka District, Malawi. The factors that were examined include: age, sex, marital status, education level, occupation, rural youth's perceptions towards agriculture, awareness of opportunities in agriculture, access to finances and credit, access to land, access to markets, access to knowledge and information, and access to alternative job opportunities. The specific objectives of the study were: to determine the level of rural youth participation in agriculture in Balaka District, Malawi; to determine the influence of awareness of agricultural opportunities on rural youth's participation in Balaka District, Malawi; to identify the influence of perceptions of rural youth towards agriculture, on their participation in agriculture in Balaka District, Malawi; to determine the influence of demographic characteristics on participation of rural youth in agriculture in Balaka District, Malawi; and to determine the influence of socio-economic factors on participation of rural youth in agriculture in Balaka District, Malawi.

The results of the study indicate that 56.6% of the rural youth respondents participate in agriculture, in Balaka District and their participation is very weak with a majority participating as primary producers. The results also indicate that 95.4% of the respondents are aware of the various investment opportunities that agriculture can provide for rural youth. In addition, 95.9% of the rural youth respondents are interested in agriculture indicating strong positive perceptions towards agriculture.

The findings from the Pearson Product-Moment Correlation test indicate that there was a slight, positive correlation between awareness of investment opportunities in agriculture and rural youth participation which was statistically significant (r=0.152, n=196, p= .033).

The test also indicated that there was a slight, positive correlation between perceptions towards agriculture and rural youth participation in agriculture which was statistically significant (r=0.184, n=196, p= .010).

The regression analysis results from the model on demographic factors indicate that age had a positive and significant influence with β=0.472 and p=0.000 on participation of rural youth in agriculture in Balaka District, Malawi. Educational level also has positive and significant influence with β=0.117 and p=0.010. Marital status had a positive and significant influence with β= 0.270 and p=0.000 on participation of rural youth in agriculture. Occupation had a negative and significant influence on rural youth participation in agriculture; with β= -0.409 and p=0.000.

The results from the regression analysis also indicate an adjusted R^2 value of .679; this indicates that variance in a combination of age, sex, marital status, education level and, occupation explained 67.9% of the variation in participation of rural youth in agriculture in Balaka District. Furthermore, the results, from the magnitude of the t-statistics; indicate that the most significant demographic factor influencing participation of rural youth in agriculture is age with t=9.223. Occupation was the second most significant factor negatively influencing participation with t= -9.002. Marital status was the third most significant factor indicating t=5.283. The least significant factor was educational level with t=2.590.

The regression analysis results from the model on socio-economic factors indicate that access to land had a positive and significant influence with β=0.899 and p=0.000 on participation of rural youth in agriculture in Balaka District, Malawi. Access to markets also had positive and significant influence with β=0.085 and p=0.000. The regression analysis also indicates that access to alternative jobs and other income sources had a negative and significant influence with β= -0.028 and p=0.017 on participation.

The regression analysis results for the model indicate an adjusted R^2 value of .981; this indicates that variance in a combination of access to land, access to credit, access to markets,

access to agricultural information and knowledge and access to alternative jobs and income explained 98.1% of the variation in participation of rural youth in agriculture. The results further indicate, from the magnitude of the t-statistic; that the most significant socio-economic factor influencing participation of rural youth in agriculture is access to land with t=40.455. Access to markets was the second most significant factor influencing participation with t=4.007. The least significant factor was access to alternative jobs and other income sources with t= -2.403, indicating negative influence.

5.3. Conclusions

The study sought to determine the influence of selected factors on participation of rural youth in agriculture in Balaka District, Malawi. The examined factors include: age, sex, marital status, education level, occupation, rural youth's perceptions towards agriculture, awareness of investment opportunities in agriculture, access to finances and credit, access to land, access to markets, access to knowledge and information, and access to alternative job opportunities. The following conclusions have been drawn from the study findings:

i. The level of rural youth participation in agriculture in Balaka District is very weak. The very weak levels of participation indicate inadequate involvement of rural youth in the agriculture. While a majority of the rural youth is participating in agriculture, they are only engaged as primary producers; mainly for consumption leaving out participation in other profitable activities along the agricultural value chain which could provide livelihood options for them.
ii. Awareness of investment opportunities in agriculture slightly and positively influence rural youth participation in agriculture. Variations in participation of rural youth in agriculture in Balaka District could therefore be explained by their awareness of investment opportunities in agriculture.
iii. Rural youths' perceptions towards agriculture slightly and positively influence their participation in agriculture. Variations in participation of rural youth in agriculture in Balaka District could therefore be explained by their perceptions towards in agriculture.
iv. Demographic characteristics have a significant influence on participation of rural youth in agriculture in Balaka District, Malawi. Age, marital status and educational level are more likely to positively influence participation of rural youth in agriculture. Occupation had a negative influence on participation of rural youth in agriculture.

v. Socioeconomic factors significantly influence participation of rural youth in agriculture in Balaka District, Malawi. Access to land and access to markets have positive influence on participation. Access to alternative jobs and other income sources negatively influence participation of rural youth in agriculture.

5.4. Recommendations

Based on the study findings, recommendations have been suggested for both policy direction and further areas of research.

5.4.1. Recommendations for Policy Direction

The following recommendations have been stated for policy guidance in agriculture sector:

i. Ministry of Agriculture Irrigation and Water development should consider introducing youth specific market oriented agricultural interventions; focusing on profitable value chains, that aim at re-engaging and strengthening rural youth participation in the sector.

ii. The Department of Agricultural Extension Services (DAES) should consider setting up a youth desk office with a special task of engaging rural youth in agricultural policy processes while working closely with the Ministry of Youth Development and Sports. DAES should take advantage of the rural youth's positive perceptions towards agriculture and their awareness of investment opportunities by linking them to necessary stakeholders and initiatives.

iii. The Government of Malawi should consider instituting an agricultural youth fund targeting rural youth as beneficiaries, championed by the youth themselves as partners; with the aim of enhancing access to financial credit and loans to enable rural youth acquire land and other production resources for meaningful commercial farming.

iv. The Government of Malawi should consider instituting an agri-preneurial training facility for this sizable and growing demographic.

v. The Malawi Extension and Advisory Services Strategy Paper, which is currently being developed, should include rural youth development in agriculture as one of its priority areas; with clear attainable strategies aimed at improving access to land, credit and improved ICTs. The strategies should be guided by factors like age, education levels, marital status, and occupation.

5.4.2. Recommendations for Further Research

Based on the study findings, the following areas have been recommended for further research:

i. Examine the capacity of District Agricultural Extension Services System (DAESS) to champion inclusion of rural youth in agricultural policy processes.
ii. A comparative study on rural and urban youth participation in agricultural entrepreneurship.

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APPENDIX A

RESEARCHER ADMINISTERED QUESTIONNAIRE FOR RURAL YOUTH

Introduction

I am Alfred Tsitsi, a student at Egerton University in Kenya; pursuing a Master of Science Degree in Agricultural Extension. As part of my studies, I am carrying out a research study on 'Selected Factors Influencing Participation of Rural Youth in Agriculture in Balaka District, Malawi'. I therefore request you to take some time to respond to this questionnaire as part of the study. Should you accept to participate in this study, I would like to assure you that the information you provide will be treated with confidentiality and will only be used for the study purpose.

Section A: Demographic characteristics of rural youth

1. Respondent identification

Respondent code	(Indicate number assigned from the sampling frame)
Village of respondent	
Traditional Authority	
Extension Planning Area	
Date	

2. Demographic characteristics of rural youth

Sex	**Age**	**Household size**	**Marital status**	**Educational level**	**Main occupation**
1=Male 2=Female	Year of birth	Indicate number of people in the household	1=Married 2=Single	0=None 1=Primary 2=JCE 3=MSCE 4=Diploma 5=Bachelors 6=Other	1=Farming 2=Other (specify)

Section B: Type of Rural Youths' Participation in Agriculture

3. Indicate your type of participation in agriculture. (Tick appropriately)

Participation type	**Please tick where applicable**
Primary producer/farmer	
Input supplier	
Lead farmer	
Wholesaler	
Agro-processor	
Transporter	
Extension worker	
Agricultural educator	
Association member	
Cooperative member	
Young farmer club member	
JFFLS member	
None of the above	
Others (specify)	

4. What agricultural enterprises do you engage in?

Type of agricultural Enterprise	**Please indicate the appropriate code**
1=Cereal crops (maize, sorghum, millet)	
2=Cash crops (tobacco, cotton)	
3=Legumes (g/nuts, pigeon peas, beans, soy beans)	
4=Rice	
5=Roots and Tubers (cassava, potatoes)	
6=Livestock (specify)	
7=Bee keeping	
8=Horticultural crops (Fruits, Vegetables)	
9=Fisheries	
10=Others (specify)	

Section C: Awareness of Opportunities in Agriculture

5. Are you aware of the any livelihood opportunity that agriculture can provide for rural youth?

1=Yes 2=No	

6. If yes, please mention the opportunities that you are aware of (multiple response):

Livelihood opportunities in agriculture	**Please tick the appropriate**
Employment for rural youth (income)	
Information and Communication Technology (ICT) for access to information, markets and skills	
Rural youth loan schemes for improved productivity	
Youth-specific projects and programs	
Rural youth innovation	
Capacity building (education and training)	
Attainment of leadership skills (future leaders)	
Attainment of entrepreneurial skills	
Agro-processing and value addition for better incomes	
Transportation of agricultural produce as a job opportunity	
Wholesale produce trading as a job opportunity	
Irrigation for enhanced productivity	
Primary produce at farm level	
Farm gate or roadside sales	
Organic farming	
Export marketing	
Contract marketing	
Others (specify)	

Section D: Rural youths' Perceptions towards agriculture sector

7. Are you interested in Agriculture?

1=Yes 2=No	

8. Rural youths' perceptions towards agriculture sector. Please indicate the extent to which you agree with the following statements using the scale 1-5 provided:

   1= strongly disagree, 2= disagree, 3= not sure, 4= agree, 5= strongly agree

Statement	**Perception (Please tick where applicable)**				
	1	**2**	**3**	**4**	**5**
Agricultural activities can fulfill rural youth's socio-economic needs					
Government support is a good motivator for youth participation in agriculture					
Agriculture provides education and training opportunities for youth					
Agricultural education and training can motivate youth participation in agriculture					
Use of Information and Communication Technology in agriculture can attract more youths to participate in the sector					
Transportation of agricultural produce could be a job opportunity for rural youth					
Better access to production resources like land, credit and farm inputs could attract more youth in agriculture					
Better access to extension services could attract participation of youth in agriculture					
Young farmer clubs could attract more youth to participate in agriculture					

Section E: Socio-economic factors Influencing Participation of Youth in Agriculture

9. Rural youths' access to land

Do you have access to land for farming?	Land holding size (Acres)	Please specify the type of access to land
1=Yes 2=No	Specify the size in acres	1=Own land 2=Family land 3=Rental 4=Other (specify)

10. Rural youths' access to financial credit

Do you have access to credit for farming?	If no, please give reasons	If yes, please specify the sources of rural credits
1=Yes 2=No	1=High risk of agricultural enterprises 2=High interest rates 3=Requires collateral 4=un-conducive repayment period 5=Others (specify)	1=Government credit schemes 2=VS&L (***Bank Mkhonde***) 3=Microfinance institutions 4=Commercial Banks 5=Others (specify)

11. Rural youths' access to markets

Do you have access to markets for your produce?	Please specify the type of market you access.
1=Yes 2=No	1=Local village market 2=Traders (vendors) 3=Wholesalers 4=Contract marketing 5=Commodity exchange 6=Other (specify)

12. Rural youths' access to agricultural information and knowledge

Do you have access to information and knowledge on agricultural technologies?	Please specify the sources of knowledge and information (Multiple responses).
1=Yes 2=No	1=Extension workers (Government and NGOs) 2=Radio/TV 3=Print media 4=Farmer Field schools 5=Peers/lead farmers 6=School 7=Internet 8=Trainings/demonstrations/field days 9=Church/Mosque 10=Other(specify)

13. Rural youths' access to other income sources (job opportunities)

Do you have access to other job alternatives other than farming?	If none, please specify the reason for not having other sources of income
1=Formal employment (specify) 2=Small business/IGAs (specify) 0=None	1=Low level of education 2=Lack of capital 3=Family poverty 4=Lack of skills 5=Other (specify)

Section F: Agricultural Policy Intervention on Rural Youth and Agriculture

14. How do you think government can improve rural youth participation in Agriculture?

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……

15. How do you think non-state actors can improve rural youth participation in Agriculture?

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……

……

16. List 3 key factors that could limit/discourage rural youth from participating in agriculture

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……

……

Thank you for your time

APPENDIX B

QUESTIONNAIRE FOR KEY INFORMANTS

Introduction

I am Alfred Tsitsi, a student at Egerton University in Kenya; pursuing a Master of Science Degree in Agricultural Extension. As part of my studies, I am carrying out a research study on 'Selected Factors Influencing Participation of Rural Youth in Agriculture in Balaka District, Malawi'. I therefore request you to take some time to respond to this questionnaire. Should you accept to participate in this study, I would like to assure you that the information you provide will be treated with confidentiality and will only be used for the study purposes.

Section A: Respondent Identification

Name of Interviewer	
Respondent Name (Optional)	
Position of respondent	
Work station	
Sex of respondent	(1=Male, 2=female)
Work experience	(Specify in years)
Date	

Section B: Selected factors influencing rural youths' participation in agriculture

1. Your opinion on agriculture activities along the value chain that rural youth are involved in the District.

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   ……

2. Your suggestions on enhancing participation of rural youth in agriculture in the District.

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3. Your opinion on agricultural opportunities for rural youth in the District.

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4. Your opinion on rural youth's knowledge of agricultural opportunities available for them in the District.

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5. Your opinion on socio-economic factors influencing on participation of rural youth in agriculture in the District.

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6. Your opinion on other factors that influence rural youths' participation in agriculture.

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7. Your opinion on perceptions of rural youth towards agriculture in the District.

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8. Your opinion on policy interventions that enhance rural youth participation in agriculture.

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9. Your suggestions on how policy formulation and implementation could enhance rural youth participation in agriculture.

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……

10. Your opinion on some facorts that discourage rural youth from participating in agriculture in the District

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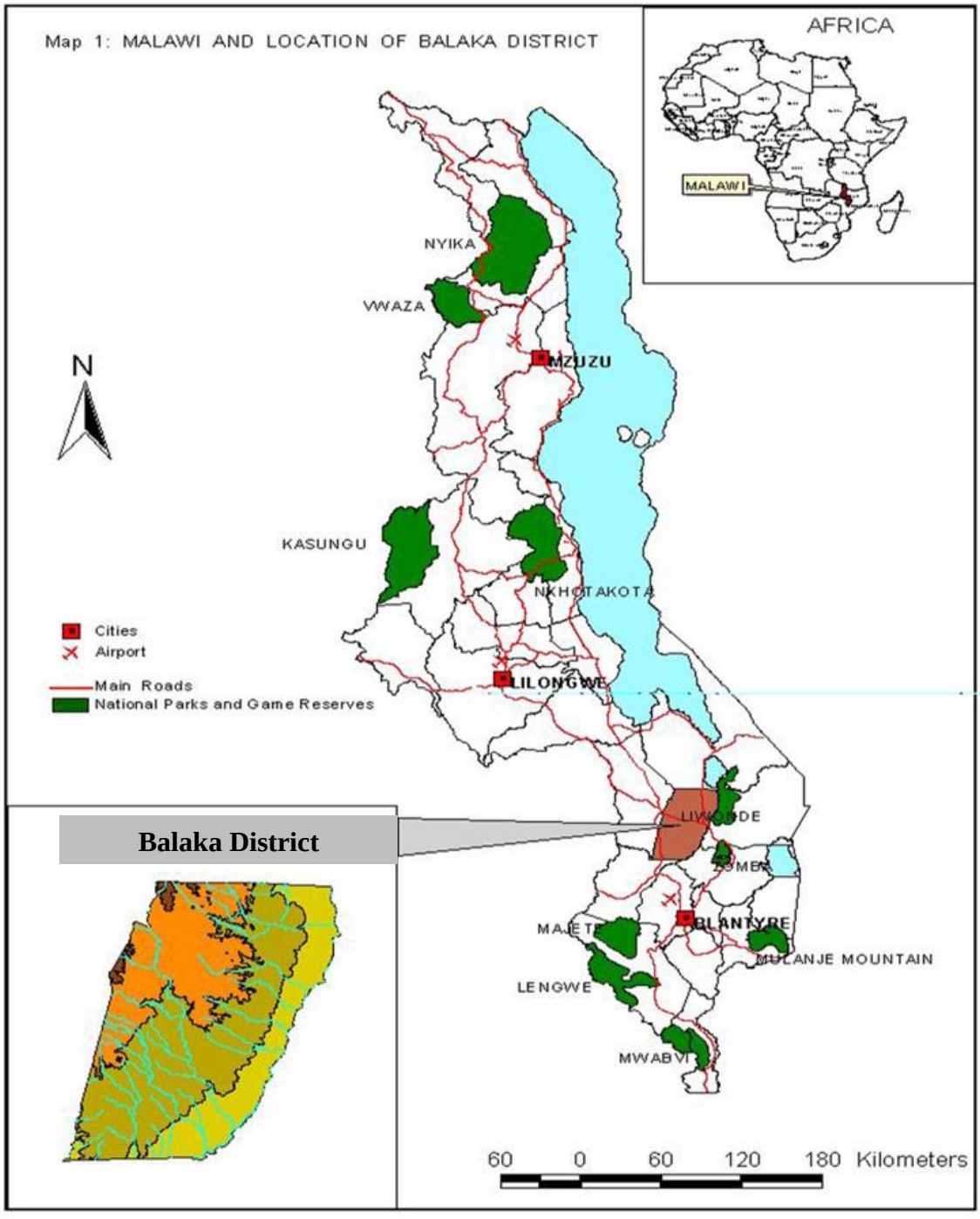
Thank you for your time

APPENDIX C

MAP OF MALAWI SHOWING LOCATION OF BALAKA



Source: BDC (2017)

APPENDIX D

COPY OF RESEARCH PERMIT

Telephone: (265) 01 552 790

All correspondence should be addressed to:

The District Commissioner

In Reply please quote:

Balaka District Council,
Private Bag 1,
Balaka,
Malawi.

25th October, 2016

Dear Sir/Madam,

PERMISSION FOR MR. ALFRED TSITSI TO CONDUCT A STUDY IN BALAKA DISTRICT

The bearer of this letter is Mr. Alfred Tsitsi, an employee of the Malawi Government under Balaka District Council. He is currently pursuing his MSc. studies at Egerton University in Kenya. As part of the studies, he would like to engage in a study on "Selected Factors Influencing Participation of Rural Youth in Agriculture in Balaka District, Malawi."

This letter therefore serves to grant permission to Mr. Alfred Tsitsi to conduct his study in the district. Be assured that the information you provide will be treated with strict confidentiality and will only be used for the study purpose.

We thank you for your kind cooperation.

DISTRICT COMMISSIONER
BALAKA DISTRICT
COUNCIL
25 OCT 2016
PRIVATE BAG 1
BALAKA

J. B. Baluti

(For District Commissioner)