INFLUENCE OF YOUNG FARMERS' CLUB OF KENYA ACTIVITIES ON STUDENTS' PERFORMANCE IN KENYA CERTIFICATE OF SECONDARY EDUCATION AGRICULTURE IN RONGAI SUB-COUNTY OF NAKURU, KENYA.

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A Thesis Submitted to the Board of Postgraduate Studies in Partial Fulfillment of the Requirements for the Award of the Degree of Master of Science in Agricultural Education of Egerton University

EGERTON UNIVERSITY

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DECLARATION AND RECOMMENDATION

Declaration

This thesis is my original work and has not been submitted for any award of a degree or diploma in any other University.

Signed....…….. Date…….

David Njoroge

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Recommendation

This thesis has been submitted for examination with our approval as University Supervisors.

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DEDICATION

To all the members of Young Farmers' Clubs who have a desire and passion to go forth an extra mile in their generation, those youngsters who are longing to better their life and prove that Agriculture is a dignified profession.

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ABSTRACT

Young Farmers' Club (YFC) activities are vital in the mastery and attainment of skills in agriculture subject since it is best learned by use of practical activities. Increased youth participation in agricultural production is necessary and vital in facilitating food and nutritional security. The primary objective of YFCK is to train young people to be productive future farmers. Since secondary school education is terminal to the majority of the Youth, non-attainment of lifelong skills in Agriculture may lead to low standards of living and a decline in agricultural activities. The study sought to show the influence of YFCK activities on secondary school students' performance in KCSE Agriculture Examinations in Rongai Sub-County. A cross-sectional survey design was used to collect data from a target population of 1,506 YFCK members in 30 public secondary schools. A purposive sampling method was used to select eight secondary schools to represent all the types and categories of schools in the four Divisions of the Rongai Sub-County. A proportionate sampling method was then used to obtain a sample of 175 YFCK members. Information provided by Agriculture teachers from the eight secondary schools were used for data analysis. Two sets of questionnaires; for agriculture teachers and YFCK members were validated by two experts from the Department of Agricultural Education and Extension of Egerton University were used to collect data. Reliability of the instrument was estimated through a pilot-test using 50 YFCK members of the Jomo Kenyatta Secondary School in the Nakuru North Sub-County. Its reliability coefficient was 0.72 and 0.73 for YFCK members and Agriculture teachers respectively, at a significance level of $\alpha = 0.05$. Data was collected using questionnaires administered to Agriculture teachers and YFCK members. Data analysis was carried out using the Statistical Package for the Social Sciences (SPSS) Version 20. The study indicated there was no statistically significant difference between the mean scores in KCSE Agriculture Examinations of schools with active and non-active YFCK. Participation in YFCK was limited for schools in the study. The researcher recommends that Agriculture teachers in liaison with school administration should enhance YFCK activities. This is for effective practical activities in teaching and learning of Agriculture subject according to the syllabus.

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ABBREVIATIONS AND ACRONYMS

AID	Agency for International Development
ASK	Agricultural Society of Kenya
CEYA	Council of European Young Agriculturalist
DFYFC	Dominion Federation of Young Farmers' Clubs
ELT	Experiential Learning Theory
FFA	Future Farmers of America
IFAS	Institute of Food and Agricultural Sciences
KCSE	Kenya Certificate of Secondary Education
KLB	Kenya Literature Bureau
KNEC	Kenya National Examinations Council
MOFA	Ministry of Food and Agriculture
MRCSP	Modern Rongai Constituency Strategic Plan
NACOSTI	National Commission for Science, Technology and Innovations
NFYC	National Federation of Young Farmers' Clubs
NRMED	Natural Resources Management and Environment Department
SAE	Supervised Agricultural Experience
SPSS	Statistical Package for the Social Sciences
USDA	United States Department of Agriculture
YFCK	Young Farmers' Club of Kenya
YFCU	Young Farmers' Clubs of Ulster
YIAP	Youth in Agriculture Program
YMCA	Young Men Christian Association

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

Mobilizing the youths for National development is a common phenomenon among the western and developing nations. In nations such as Great Britain, Netherlands, Denmark, Germany, the United States of America and Tanzania, the participation of youths in agricultural production through Youth programs had contributed significantly to agricultural growth and empowering the citizenry (Daudu, Okwoche, & Adegboye, 2009). Many young people view farming as hard, backbreaking and dirty work with little self-esteem (Mangal, 2009). Young Farmers' Clubs can help Youth see farming as a dignified profession from which people can derive a decent livelihood and not where the practitioners are condemned to poverty (Olujide, 2008).

In many developed states, Young Farmers' Clubs are active and well established for instance; the Dominion Federation of Young Farmers' Clubs (DFYFC) has served to establish Young Farmers' Clubs throughout New Zealand (McLintock, 2009). Canada takes in its own 4-H program, which broadcasts data on new farming methods and maintains experimental farms, research stations, and research institutions throughout the country. Great Britain has a program of Youth clubs called Young Farmer's Clubs that resemble 4-H (National 4-H, 2012). In England and Wales YFC, activities encompass Agriculture, athletics, community volunteering, environment, and social activities (National Federation of Young Farmers' Clubs [NFYFC], 2011). According to Hantos (2010) in the rural policies of the European Union (EU), more emphasis has been made in the past 5-10 years to support bills that target at making farming more attractive for new people.

In the United States of America agricultural education at high school focuses on classroom instruction, Supervised Agricultural Experience (SAE), and active participation in the National FFA Organization (Future Farmers of America) (NFYFC, 2011). Classroom instruction of an agricultural class teaches the students the basic concepts of the particular course through hands on learning and experience. Another essential for agricultural teaching at the high school level is the Young Farmers Association group, which is a prerequisite for the teacher, not the students

(Phipps, Osborne, Dyer, & Ball, 2008). The group usually meets monthly and consists of all the local farmers, citizens, or anyone interested in finding out more about Agriculture and new farming methods. The Young Farmers Associations were designed for technologies, which created an agricultural field that would be presented and utilized in the economy (Phipps et al., 2008). The National Federation of Young Farmers' Clubs (NFYFC) memberships comprise of young people aged between 10 and 26 years. The calendar of FFA program in the USA usually covers a 12-month period (NFYFC, 2011). Schools go by the timetables created by Agriculture; summer vacation exists for students to have adequate time to help in their parent's farm (Texas Young Farmers, 2007).

In Ghana, the Youth in Agriculture Program (YIAP) is a Government initiative with the objective of motivating the Youth to accept and appreciate farming as a commercial venture, thereby taking up farming as a lifetime vocation (Ministry of Food and Agriculture [MOFA], 2013). The YIAP has the task and responsibility of rallying the youth to take up farming and its other related natural processes as a lifetime vocation through the provision of tractor services and agro-inputs. YIAP has the aim of making Youth accept farming as a commercial business venture; Generate appreciable income to meet farmer's domestic and personal needs and improve the standard of livelihood of the Youth through improved income (MOFA, 2013). In Nigeria, Young Farmers' Club is an organization in which young people (9-20 years) are encouraged to learn about better farming and homemaking. The members are under the guidance of the Agriculture teachers, agricultural extension personnel and local volunteer leaders (Adebo, 2009).

In Kenya, YFCK were established to help boys and girls develop ideas for better farming, provide social and recreational activities, help give the necessary dignity to agriculture as an occupation and develop good and competent agricultural leadership. The YFCK are associations whose member's age range from 15-24 years drawn from secondary schools and tertiary institutions. These clubs operate under the aegis of the Agricultural Society of Kenya (ASK), whose primary purpose is to monitor their activities and to record them for administrative purposes (Agili, 2007). The objectives of YFCK include promoting interest in farming, sound training in advanced methods

of crop and animal husbandly, leadership skills, self-reliance, self-confidence and responsibility (Lewa & Ndung'u, 2011).

In the 1960s, the Kenya Government incorporated agricultural education in secondary school curricula with the intention to acquaint students to modern Agriculture methods, careers, and as a means of creating students interest in farming (Mbaga, 1996). In order to make Youth self-reliant, Agriculture subject was made compulsory in both primary and secondary schools in 1985, following recommendations by the Mackay Commission. School Agriculture is thus an effort to instill values, attitudes, knowledge as well as practical skills in learners, which are required to improve agricultural production (Nyangau, Kibet., & Ngesa, 2011). This was in line with secondary school training in Kenya whose aim was to equip learners who terminated their training after secondary school level with skills for self-reliance, resourcefulness and problem solving abilities in agriculture (KNEC, 2010).

For a country to reach economic stability, the agricultural sector must be vibrant. Thus, the youth must be encouraged to consider farming as a noble profession according to Ojediran (as cited in Daudu, Okwoche., & Adegboye, 2009). In addition, efforts should be made to change the negative perception the Youth have about Agriculture, as a profession for the uneducated and unskilled laborers with extremely low economic return (MOFA, 2013). The Youth is the ideal catalyst for change, given their greater prosperity and willingness to adapt new ideas, concept and technology, which are important to changing how Agriculture is practiced and perceived (Young People and Agriculture, 2009).

Youths migrate to urban areas in order to make up for things that are lacking in rural areas (Adebo, 2009). This leaves the majority of work in agriculture to the uneducated and old members of the society. This will consequently contribute to low productivity, low income and hence the vicious cycle of poverty and food insecurity (Mangal, 2009). Lack of financial backing to better productivity to bring innovation in the sector has pushed out young people from business opportunities in farming into other sectors such as Information and Communication Technology (ICT). If Youth are to choose careers in Agriculture, the sector has to be financially rewarding, modern and

challenging (Mutambo, 2011). More awareness of agricultural opportunities can be promoted through educational trips to model farms, research centers and supplementing teaching of agriculture by the use of YFCK activities in secondary schools. While rural schools may have the land for farming, urban schools could explore other activities that do not require a lot of land, such as balcony farming, floriculture, poultry, rabbit rearing, fish farming and agro processing (Lewa & Ndung'u, 2011).

1.2 Statement of the Problem

Practical activities are vital in the teaching of agricultural education; therefore, it is important to determine the influence of YFCK activities on secondary school students' performance in KCSE Agriculture Examinations. Inadequate practical activities in Agriculture subject make learners not to be properly acquainted with knowledge and technical skills. This is because Agriculture is a practically oriented subject that is best learned by practicing. Granted that, secondary school education is terminal to most students; it might lead to the non-attainment of lifelong skills, low living standards and eventually, a decline in agricultural output. YFCK activities can be used to supplement practical activities in the teaching Agriculture subject in of secondary schools. This may help improve performance in KCSE Agriculture examinations, enable learners to be self-reliant after school and boost economic growth.

1.3 Purpose of the Study

The purpose of the study was to determine the influence of YFCK activities on secondary school students' performance in KCSE Agriculture Examination in Rongai Sub-County of Nakuru County.

1.4 Objectives of the Study

The objectives of the study were to:

i Determine the status of YFCK in selected secondary schools in Rongai Sub-County;

ii Determine the main YFCK activities in selected secondary schools in Rongai Sub-County;

iii Compare the performance in KCSE Agriculture Examinations between active and non-active YFCK in selected secondary schools in Rongai Sub-County.

1.5 Research Questions

The following Research Questions and null hypothesis guided the study:

i What is the status of YFCK in selected secondary schools in Rongai Sub-County?

ii What are the main YFCK activities in selected secondary schools in Rongai Sub-County?

1.6 Hypothesis of the Study

$H_{01:}$ There is no statistically significant difference between the mean scores in KCSE Agriculture of schools with active and those with non-active YFCK.

1.7 Significance of the Study

The findings of the study may help students to apply theoretical concepts learned in class to real life experiences. The presence and opportunity to work in the school farm or garden would equip learners with a richer experience on careers and opportunities existing in agriculture and related sectors. This may lead to better understanding of agricultural concepts and subsequent acquisition of lifelong skills thus becoming self-reliant. Secondly, the study might lead teachers on how to use YFCK activities as a teaching resource in secondary schools thus improving students' performance in agriculture. Lastly, it may influence school administrators and managers to finance and strengthen YFCK as part of income generating projects and supplement school feeding, hence an effective way to attract students to school and improve attendance.

1.8 Scope of the Study

The survey was confined to establishing the status of YFCK in public secondary schools that offer agriculture subject at KCSE. These were categorized into schools with active and non-active YFCK. The frequency of YFCK activities in a school determined this categorization. YFCK main activities included crop and livestock projects, participation in Agricultural Show exhibitions, YFCK National Rally, tree planting in schools and educational trips. These YFCK activities at the club level

helped members to apply theoretical concepts learned in class into real life experiences. The study delved into how these activities influenced performance in KCSE Agriculture in Rongai Sub County.

1.9 Assumptions of the Study

The study was based on the following assumptions:

i The operations of YFCK in secondary schools in Rongai Sub-County did not change significantly due to external factors over the period 2008-2012.

ii The teaching and learning activities in Agriculture subject in public secondary schools in Rongai Sub-County did not change significantly due to outside factors over the period 2008-2012.

iii The respondents selected in the sample would agree to co-operate and be honest in their responses when answering questions during data collection.

1.10 Limitations of the Study

The subject was sensitive, particularly in low performing schools with inactive YFCK. This is because it was misconstrued to imply that it was a probe on the failure of the Agriculture teacher to implement YFCK activities. To overcome this, the researcher visited and asked for the principal's permission to conduct the research before administering the questionnaires directly to the respondents. In addition, the study covered the period between 2008 and 2012. It was confined to public secondary schools in Rongai Sub-county that had registered students for KCSE agriculture examinations over for at least five years. Therefore, any generalizations of the results were limited to the specified period (2008-2018) and to public secondary institutions.

1.11 Definition of Terms

Academic Performance: refers to achievement of quality grades in an examination (Kenya National Examinations Council [KNEC], 2010. In the study, it is attainment of a grade in KCSE Agriculture examinations that is higher than overall mean score of the school.

Agriculture Teacher: refers to a professionally qualified personnel deployed by the Teachers Service Commission (TSC) to be in charge of Agriculture subject in post primary educational institutions. In the study, it refers to agriculture teachers in secondary schools who may double up as patrons of YFCK.

Influence: The effect that something or someone has on the way a person thinks or behaves or the way something works or develops (Dictionary.com, 2009). In this study, activities of YFCK have the positive or negative effects on performance in KCSE Agriculture Examinations subject as a mean score.

Practical Activities: consisting of, involving, or resulting from practice or concerned with experience or actual use; not theoretical (Online Dictionary.com, 2009). In the study, these are hands on activities that usually follow theoretical concepts during the teaching of agriculture subject.

School Category: A group of people or things with exceptional characteristics in common (Oxford Advanced Learner's Dictionary, 2011). In this study, category of the school refers to the nature of a public secondary school a pupil is admitted upon successful completion of Kenya Certificate of Primary Education (KCPE). It is classified as National, County and Sub-County schools.

School Type: A class or group of people or things that share particular qualities or features and are part of a larger group; a kind or sort (Oxford Advanced Learner's Dictionary, 2011). In this study, type of school refers to the gender of students admitted in a school and the nature of residence during the term

such as Boys' Day, Boys' Boarding, Girls' Day, Girls' Boarding, Mixed Boarding, Mixed Day and Mixed Day and Boarding schools.

Young Farmers: Refers to young adults 18-35 years engaged in farming activities (Mangal, 2009). In this study, Young farmers are students' in secondary schools who voluntarily join YFCK upon payment of the registration fee. The students could either be taking Agriculture subject or not but, are involved in agricultural activities at school level.

Young Farmers' Club Activities: These are agricultural activities conducted by YFCK in secondary schools ((Foeken, Owuor & Mwangi, 2007). In this study, it refers to the main YFCK activities which are; crop production, livestock production, tree planting, participation in ASK Exhibitions, YFCK National Rally and academic trips in secondary schools.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This study focused on the history of the young farmers' club, agricultural youth organizations, the formation and the role of Young Farmers' Clubs, participation of young farmers' in agricultural development, challenges facing Young Farmers' Clubs in Agriculture, current approaches in agricultural education as well as theoretical and conceptual frameworks.

2.2 History of Young Farmers' Club

A Young Farmers' Club (YFC) is an organization in which young people (9-20 years) are encouraged to learn about better farming and homemaking, community development and other associated areas (Adebo, 2009). Great Britain has a program of Youth clubs called Young Farmers' Clubs that resemble 4-H. The 4-H-type Youth development programs started to spring up around 1900. At its height, nearly 103 such organizations flourished in 82 countries outside the US on all continents (National 4-H, 2012). The emblem is a four-leaf clover with the letters standing for Head, Heart, Hands and Health, which are the basis of all 4-H. Its slogan is "learning by doing" (Adebo, 2009).

Canada 4-H clubs were started in 1913. The idea extended to Europe when Swedish 4-H began in 1918 (NFYFC, 2011). By 1928, the movement spread to Oceana with the formation of Junior Farmers' Club in New South Wales. In Western Australia, the Junior Farmers Clubs started in 1935. The expansion of Junior Young Farmers' Clubs in Central and South America and the Caribbean began in 1939 with the formation of 4-C in Haiti and 5-V in Venezuela. The concept was brought to Asia with the formation of Korea 4-H and Japan 4-H in 1947 and 1948 respectively.

As early as 1940's in the USA, the YFC was organized under the sponsorship of local vocational Agriculture teachers (National 4-H, 2012). The former FFA members took the name Gold Key Club or FFA alumni club. In 1954, FFA changed to the State Association of Young Farmers' Clubs of Texas, whose role was leadership training, recreation for families and participation in community service (Texas Young Farmers,

2007). In the United States of America, the FFA is a national organization that all agricultural classes at the high school level are involved. The Agriculture teacher is the leader of that particular school's FFA chapter and guides students' activities and programs throughout the year (Texas Young Farmers, 2007). FFA is an educational program designed to teach students leadership skills in both agricultural settings, encourages personal growth in students, boosts self-confidence, builds character, encourage healthy lifestyles, and give students opportunities to be a part of the agricultural economy (Phipps, et al., 2008).

In the UK, the first Young Farmers' Clubs opened in 1921 in Hemlock, Devon, where the United Dairies Milk Factory gave the children of the area milk producers the task of calf rearing, with competitions and prizes for those achieving the highest standards (NFYFC, 2011). Over the next decade, more clubs opened to provide agricultural education, with the focus on growing crops and keeping livestock including calves, pigs, poultry and bees. The Young Farmers' Club of Ulster (YFCU) was started in 1929. It is open to anyone between 12 and 25 years old. The organization in 2012 had 2,600 members spread across the 60-member club (Young Farmers' Clubs of Ulster [YFCU], 2012). The NFYFC of England and Wales ware formed in March 1932, with its head office in London. NFYFC is one of the largest rural Youth organizations in the UK. It heads a body of around 662 Young Farmers' Clubs (YFC) throughout England and Wales (NFYFC, 2011). New clubs sprang up in Scotland, Northern Ireland, Australia and New Zealand and joined the Council of European Young Agriculturalists (CEYA).

The first local YFC was formed in 1927 in New Zealand; its main work was running of an annual agricultural show for exhibitors under the age of 21 years. Later, in 1930 the Auckland Young Farmers' Club, a post-school agricultural club was established (National 4-H, 2012). The Dominion Federation of Young Farmers' Clubs (DFYF), helped to establish Young Farmers' Clubs throughout New Zealand. Currently, there are over 90 Clubs situated around New Zealand (McLintock, 2009). The objectives of individual clubs included development of leadership, educational work and promoting interest among young farmers. The club activities include, Interclub visits, discussions, debates and other judging competitions. In 2012, there were 369 clubs

with 10,786 active members (McLintock, 2009). Africa was the last to join the worldwide advancement of Youth development programs, led by Young Farmers' Club of Kenya in 1949 and Ethiopia 4-T in 1956. All the programs were based on the US 4-H model (National 4-H, 2012).

2.3 Agricultural Youth Organizations

The Agricultural Youth Organization is an organized group of young people under the guidance of a leader for capacity building. Youth Organizations in Agriculture were formed so that young people could grow and develop capacity in a positive way (Adebo, 2009). The Youth organizations involved in agricultural education include the National FFA Organization (FFA), 4-H Clubs and YFC. The National FFA Organization teaches students leadership skills and is designed to help members become better-rounded citizens in the agricultural field (Texas Young Farmers, 2007). The FFA is an integral part of the program of agricultural education in many high schools; each student has a Supervised Agricultural Experience program (SAE). Learners do participate in many conferences and conventions to develop leadership, citizenship, patriotism and excellence in Agriculture (Phipps et al., 2008).

The 4H Club is a Youth development program that teaches children about the sciences, leadership and research. It has over 6 million members nationwide and is the largest Youth development organization in the United States. 4H members use hands on learning to reach goals and help in communities (National 4-H, 2012). According to Adebo (2009), special, characteristic of 4-H Club is learning by doing. It is an action program where participants watch others study and experiment, but they 'do and practice' by themselves. The slogan of the club is 'Learning by doing'. In Kenya Agricultural Youth Organizations in secondary schools include clubs and societies such as; Wild Life Clubs, Boy Scouts and Girl Guides, Boys' and Girls' Brigades, Christian faith; Young Men's Christian Association (YMCA) and Undugu Society.

In Agriculture, there are three types of Youth groups, namely: Young Farmers' Club of Kenya (YFCK), 4-K Clubs an acronym for *Kuungana, Kufanya na Kusaidia Kenya*, which means "get together, act and help Kenya" and Out of school Youth groups (Agili, 2007). YFCK have 15 branches spread countrywide and working

closely with the parent body Agricultural Society of Kenya (ASK). YFCK primarily draws most of its voluntary membership of secondary and tertiary learning institutions (Kenya Literature Bureau [KLB], 2009). The ASK employs an executive national secretary who coordinates the clubs and cares for the YFCK secretariat with offices at Jamhuri Park, Nairobi (KLB, 2009). The Agriculture teacher acts as the patron of the club and supervises the club and its activities.

The club activities are extracurricular activities with varied aims and membership (Agili, 2007). In schools with an Agriculture class, the syllabus determines the practical activity to follow. Each student has plot and the crops grown are assessed for examination purposes. According to Foeken et al. (2007), the government through the 4-K clubs promoted farming, especially in rural primary schools. The major goal was to teach the Youth improved methods of farming, appreciation and dignity of labor with respect to Agriculture and develop leadership skills (KLB, 2009). Members are boys and girls 8-14 years old who participate in agricultural activities. There are around 40 members in each group (Lewa & Ndung'u, 2011).

The Out-of-school Youth groups are not attached to any learning institution. Member's age varies from 18 to 35 years (Mangal, 2009). They receive technical assistance and material support from the Ministry of Agriculture. The groups are required to register with the Ministry of Culture and Social Services to enable them for consideration of financial and material support from willing donors (Agili, 2007). A Youth organization helps the Youth to perceive Agriculture as a dignified profession from which people can earn a decent living (Olujide, 2008).

The clubs are in learning institutions that have a formal curriculum. The membership is open to all students in secondary schools. The Out-of-school membership is available, but up to 30 years of age. Members above this age may serve on the executive committee of the young farmers. Agriculture often forms part of this curriculum, which enables students to gain valuable insights about sustainable agricultural production, such as organic farming, use of clean sources of energy (biogas) and biological control of pests and diseases. It was expected that those who

participate in agricultural Youth programs while at school would in future not hesitate to take Agriculture as an occupation (Mutambo, 2011).

2.4 Formation and Role of Young Farmers' Clubs of Kenya

Young Farmers' Clubs of Kenya were established in 1949, as an affiliate Youth wing of the ASK. The main objective was to prepare young people to be effective farmers (Kalya, 2012). The YFCK program is a practical activity that emphasizes learning by doing. The membership of the club is voluntary. It is open to any rural Youth who meets the requirements for membership. There are no compulsory dues charged before becoming a member. In addition, there are no compulsory requirements for membership and participation. It is non-political, non-sectional and thus no limitations. (Adebo, 2009). YFCK promotes interest in Agriculture; create awareness and opportunities existing in Agriculture and related sectors; enhance skills needed in carrying out agricultural practices; enable schools to take part in national development through agricultural activities and demonstrate that farming is a dignified and profitable profession (KNEC, 2010). According to Mukembo (2013), students mainly join the YFCK to improve their academic performance, for personal interests, and to gain life skills.

The Young Farmers' Club is an organization in which young people are encouraged to learn better farming methods and homemaking (Agili, 2007). The members are under the guidance of the Agriculture teachers, agricultural extension personnel and local volunteer leaders (Adebo, 2007). The members of the club elect their officials, plan and execute their own programs and hold meetings regularly. They carry out projects or activities in farming, homemaking, community development and other related areas. Formation of YFCK in secondary schools can stimulate the interest of youths in Agriculture and acquisition of lifelong skills. According to Hedjaz and Omidi (2008) Agriculture is an applied science in which acquisition of skills is of paramount importance, thus a presentation of theory would be followed by actual field practice.

The activities of YFCK at the national level include; Tree Planting, National Rally, National Camps and Exchange Program with United Kingdom, participating in ASK Exhibitions; while at the club level includes tree planting in schools, YFCK annual

rallies and educational trips (KLB, 2009). Youth activities vary from one part of the country to another due to different agro-ecological zones. A main variable is in the level of moisture available for crop production. Most of the Youth tend to grow vegetables because they require little space to grow and mature within a relatively short period, giving higher incomes within a short period (Agili, 2007).

YFCK members usually cultivate crops as a group on their school plots. Individual members often extend what they learn at school to their family farms (Foeken et al., 2007). Some NGOs such as FARM-Africa help young people to establish demonstration plots, both at school and in their community. These plots enable them to receive agricultural training on new technologies in animal and crop husbandry (Amiran Kenya, 2010). They receive practical training on cultivation, processing and marketing of high value crops such as spinach, tomatoes and beans (FARM Africa, 2011). The Out-of-school Youth groups under the category of Young Farmers' Club of Kenya are not attached to any learning institution (Agili, 2007). The group offers guidance on leadership, skill training and production purposes to the rural Youth. According to Jones (2011), educated Youth ensures quality personnel that are fundamental to achieving national objectives for business success.

Considering the nature and interests of Youth, instituting recognition for outstanding achievements in productive work, leadership and service of rural Youth and young farmers may be a way of motivating Youth in agricultural production (Adebo, 2009). According to Herblin (2012), the poor image of persons involved in Agriculture need to be changed. Young people are the ideal catalysts for such change given their greater propensity and willingness to adopt new ideas, concepts and technology that is critical to changing the way Agriculture is practiced and perceived. Given the many opportunities available in food production, Agriculture can play a significant role in influencing and reducing Youth unemployment in the country (Kalya, 2014).

2.5 Participation of Young Farmers in Agricultural Development

The youths play an important role in the supply of labor, donation of materials, initiate projects, attend meetings and use initiatives to gain outside help (Daudu, et al., 2009). The average age of farmers in Kenya is 50 years and the life expectancy in the

region averages between 50 and 60 years. This is compelling evidence of an ageing farmer population in the region, which need to be addressed in order to facilitate sustainability in agricultural production and by extension food availability in the region. Consequently, if young farmers do not replace the ageing producers the production of food within the region would decline in the next 10 years (Lewa & Ndung'u, 2011).

Increased participation by Youth in Agriculture is necessary and vital to facilitate food and nutritional security (Daudu, et al., 2009). The ASK through the YFCK has since 1949 continued to recruit and involve the Youth in Agriculture. The main objective was to prepare young people to be productive future farmers (Kalya, 2014). Low levels of Youth participation and interest in Agriculture and rural development is influenced by a negative stigma attached to the sector (Mangal, 2009). The almost non-existent implementation of modern agricultural methods and technologies has contributed to the sector being unattractive to the Youth (Longshal & Usman, 2009). According to Laogun (2002), an investment in the Youth is the only way to ensure the future growth and development of any country. Hence, the kind of education (formal or informal) that Youth have access to, determine the nation's overall development.

2.6 Challenges Facing Young Farmers' Club Members in Agriculture

The major problems that inhibit Youth participation in agricultural activities were lack of commitment, logistic support and lack of land ownership (Daudu, et al., 2009). Globally the agricultural population is continuously ageing, in several member states of the EU, the average age of farmers is over 55 years, and there is no sufficient replacement from the younger generations (Mangal, 2009). Only in Poland, German, Finland and Austria does the number of farmers under 35 years exceed those over 65 years (Hantos**,** 2010). The present situation of rural Youth in developing countries is characterized by illiteracy, lack of educational and training opportunities, unemployment, under-employment and the flight of large numbers of rural Youth to the cities (Mangal, 2009).

Young people are the ideal catalysts for such change given their greater propensity and willingness to adopt new ideas (Kalya, 2012). Concepts and technology are

critical to changing the way Agriculture is practiced and perceived (FARM Africa, 2012). They face problems such as lack of amenities, social services and educational facilities, isolation and lack of organization for the Youth, contradictions between new aspirations and traditional attitudes and systems, limited access to land and the introduction of new techniques in Agriculture (Natural Resources Management and Environment Department [NRMED], 2012). Changing the perception of young people towards Agriculture is essential; they need to see it as financially rewarding, modern and challenging. However, for many young people, farming is old-fashioned, offering little opportunity for making money, and is usually practiced when a person cannot get a white collar job in any other business (Young People and Agriculture, 2009).

According to Wanjira (2009), UNESCO reports indicate that of the total population, 60% are Youth under the age of 30 years. However, Agriculture tends to be a practice for older people than the Youth (Mutambo, 2011). The overall effect is that agricultural productivity and by extension, Kenya's food security is in jeopardy, while unemployment especially among the Youth soars. To reverse the trend, Agriculture has to appeal as a career choice for the Youth (Lewa & Ndung'u, 2011). Most schools lack the funds to buy essential items such as textbooks, seeds, and tools to equip the Young Farmers' Club (Foeken et al., 2007).

Teachers often lack knowledge of the latest agricultural technologies. Once a young person has left school, there is little support for them to make a living from Agriculture in rural areas. It is estimated that about 92 per cent of Kenya's youth have no lifelong skills, and it is therefore, important for them to enroll in Youth Polytechnics (Amiran Kenya, 2011). Youth clubs can be sustained through; provision of incentives to boost the morale of the participants, cooperation, accurate record keeping; publicizing the results of projects after completion, recognition and rewarding of excellent performance (Adebo, 2009).

2.7 Students Performance in KCSE Agriculture Examinations

In Kenya, national examinations are used to measure academic achievement of students, which is an important aspect of the educational system. Essentially

examinations are used as the main basis for judging students' ability and a means for selection for educational advancement and employment (Ngeno, Simatwa & Soi, 2013). Over the years, the wrong choice of teaching methods by teachers has been blamed for the poor performance of students in public examinations (Nsa, Ikot & Udo 2013).

A student's performance in any examination is dependent on many variables such as; type of school and its facilities, the qualification of teachers, the students' academic background, the environment from which they come from, the type of leadership provided by head teachers, academic qualifications, and parenting skills (Njagi & Amukowa, 2012). The personal characteristics of the teacher such as age, gender, professional qualification, and teaching experience are not related to academic performance (Kimani, et al., 2013). However, teachers job group, weekly teaching load, administration of students classroom assignments, evaluation of students' Continuous Assessment Tests (CATs), completion of form four syllabus, setting performance targets and provision of individual attention to weak students' significantly affects students' academic performance (Brya, Dyer & Brad, 2001).

According to Nsa et al. (2013) the performance of students in agricultural science and practical Agriculture in high school is not encouraged. Therefore, poor performance of students in agricultural examinations may not be unconnected with non-utilization of suitable instructional materials. Many teachers go to classes to teach agricultural science and practical Agriculture as liberal arts without any material to assist them or the learners. Learning is facilitated when learners make use of at least three of the sense organs, namely: seeing, hearing and touching. According to Mwangi (2013), lack of enough learning and teaching facilities in schools contributed to poor performance in KCSE results.

2.8 Current Approaches for Teaching of Agriculture Subject

A teaching approach entails all the steps an Agriculture teacher involve students during the learning process. The approach used by teachers is important to the success of the teaching process (Visel, 2008). Teachers should learn how to use several teaching methods. No one method of instruction will work all the time and under

every circumstance (Olowa, 2011). A study by Bryan, Garton, Dyer, and Brad (2001) revealed that when learning styles were considered in the teaching-learning process, student achievements were enhanced. According to Schroeder (as cited in Bryan et al., 2001) accommodating the variations in learning styles could improve curricular, the teaching-learning process, and ultimately the retention of students in higher education. Current approaches in agricultural education include experiential learning that involves SAE programs, others include, project method, teaching of practical skills and Mastery learning.

2.8.1 Experiential Learning

Experiential learning (EL) is also referred to as learning through action, learning by doing, learning through experience, and learning through discovery and exploration, all of which are clearly defined by Confucius, 450 BC: "I hear and I forget, I see and I remember, I do and I understand" (Northern Illinois University, 2011). Experiential learning is interwoven into the fabric of agricultural education. Research and empirical evidence, identify and strongly supports the benefits of Experiential Learning in agricultural education (Shannon, Wendy, & Edward, 2006). Through practice and experience, students apply what they have learned in real situations, thus the material becomes understandable and usable (Cheek, Arrington, Cater, & Randell, 2010).

According to Parr and Edwards (2004), learning in agricultural education has been historically hands on and minds on in intent, design and delivery. The learner is actively involved in the planning of learning activities; choosing what they learn, how they learn and how they should be evaluated (Shannon et al., 2006). Its key distinction is that it addresses the needs and wants of the learner. The basis of experiential learning is that students learn best when they have personal experience of the learning tasks (Atherton, 2010). In addition, the learners should apply the theory learned (Longshal & Usman, 2009). The qualities of experiential learning include personal involvement, self-initiation, evaluation and pervasive effects by the learner.

According to Knobloch, (as cited in Baker & Robinson, 2012) the greatest challenge for today's teachers and students of Agriculture is to move beyond the 'doing' and

ensure that all learning is connected to thinking and knowledge that will be easily remembered and applied later in life. The role of the teacher, therefore, is to facilitate learning by setting a positive climate for learning, clarifying the purpose of the learner, organizing and making available learning resources, balancing intellectual and emotional components of learning and sharing feelings and thoughts with learners without dominating (Richard, 2012).

Concrete experiences allow for personal application, understanding, and meaning of abstract principles. The reflective observation component encourages students to critically examine a concrete experience. This reflection period forces students to take responsibility for their own learning and engages the learner mentally and emotionally in the recent experience. The use of abstract conceptualization allows students to generalize about principles related to the experience and strive for improvement. The final stage, active experimentation, requires the transfer and application of principles to a new situation. Students must be allowed the opportunity to apply the new knowledge and test for validity and usefulness (Shannon et al., 2006). Kolb's theory presents a cyclic model of learning, consisting of four stages as in Figure 1.

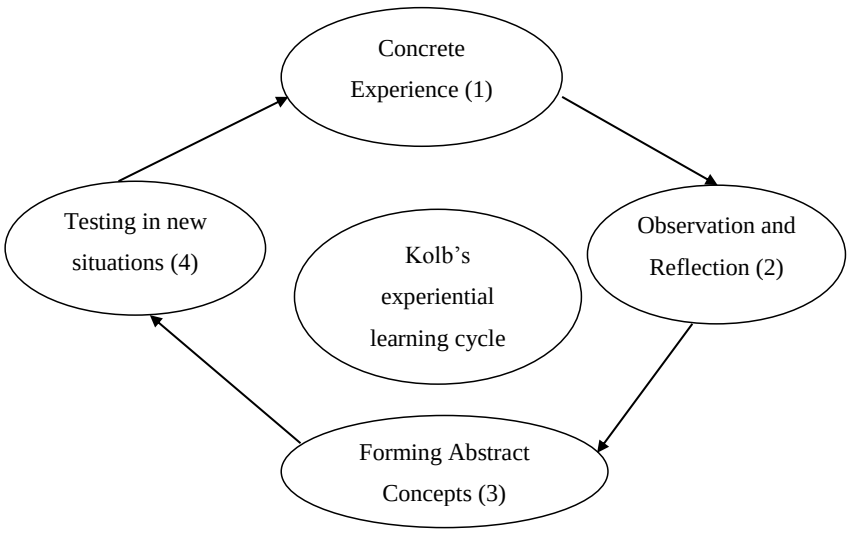

Figure 1. Kolb's experiential learning cycle

Source: Learning theories.com (2012)

2.8.2 Project Method

A project is a hand on activity undertaken by students singly or in a group with the intention of solving a problem, hence contributing to knowledge (Olowa, 2011). Teaching of school Agriculture puts emphasis on use of projects since they provide a link between theoretical knowledge learned in class and real-life experience. According to Nyangau, Kibet, and Ngesa (2011), some of the factors influencing project initiation include the suitability of the project to local ecological conditions, availability of land, inputs, tools and equipment, interest of the agriculture teacher, student and the school's interest in the project. These same factors may influence the successful implementation of YFCK in secondary schools in Rongai Sub-County.

According to Egun (2009), use of projects should be encouraged in schools since it enables the learner to face challenges and bring initiatives to bear. Students taught using project based learning out-performed their counterparts in regular teaching approach (Nyang'au, Kibet & Ngesa, 2011). In schools with an Agriculture class, farming is determined by the syllabus and is a practical session of what has been taught in class (Foeken et al., 2007). Each student has a plot and the crops grown are assessed for examination purposes (KNEC, 2010). School-based production units may be a better way of promoting Agriculture than having it as another subject in the curriculum (Young People and Agriculture, 2009).

The Youth are offered a futuristic education based on the image of the future and individual perceptions, therefore an affective curriculum of education in Agriculture can be utilized to influence the learner's values, attitudes, emotions, interests and disposition in desired directions (Egun, 2009). Evaluation of the learning process was based on a progressive assessment of individual's current state and point of entry (Roberts & Harlin, 2007). All the projects are assessed, graded and marks awarded. The criterion for awarding marks is communicated to the students before the start of the project. According to Olowa (2011), a Youth club project enables them to utilize all their senses effectively and develop the affective, cognitive and psycho-motive knowledge (Adebo, 2009).

2.8.3 Teaching Practical Skill Subjects

Practical skills subjects such as Agriculture require students to use both hands and the brain to acquire lifelong skills (Wanjira, 2009). Secondary school students' ability to understand, retain and apply the agricultural knowledge and skills taught is improved when the teaching and learning are conducted practically. Teachers can often use the school farm to conduct practical Agriculture lessons and demonstrations (Nyangau, et al., 2011). However, some practical skills subjects such as Agriculture, Woodwork, and Building Construction are considered inferior in status. People feel they do not lead to white-collar jobs (Macho, 2008). In addition, there is lack of tools and equipment.

Many teachers go to classes to teach agricultural science and practical Agriculture as liberal arts without any material to assist them or the learners (Nsa et al., 2013). According to Longshal and Usman (2009) most practical skills subjects including Agriculture are taught theoretically. This contributes greatly to the present lack of interest in Agriculture by students, which is evident in the low levels of enrollment in Agriculture and agricultural related disciplines (Longshal & Usman, 2009). In a study carried out by Nsa et al. (2013) on the instructional materials utilization and students' performance in practical Agriculture at the University of Uyo, Nigeria, the results indicated that students taught practical Agriculture using instructional charts, pictures and filmstrips performed significantly better than students taught without instructional materials. The finding suggests that teachers should encourage the acquisition of knowledge, ideas, skills and attitudes to learning.

In many schools, practical skills subject, such as Agriculture are used as punishments leading to a negative attitude towards the subject (Macho, 2008). Teachers of agricultural sciences still stick to outdated teaching methods where undue emphasis is put on theory to the detriment of practical's, which is supposed to equip students with basic skills and knowledge (Kolo, 2007; Olowa, 2011). The major advantage of practical activities is that learning is done by doing. Students learn to solve problems and think for themselves, gaining scientific skills and first-hand knowledge (Mbaga, 1996). In all secondary schools, membership to the YFCK is voluntary and gives the

students exposure to practice farming technologies and opportunities in the Agric-sector (Lewa & Ndung'u, 2011).

All scientific truths are discovered through observation and experiment, not through telling. According to the Readers digest (as cited in Mudulia, 2012) "words alone don't teach people... Nor do they guide us with experience. Words alone aren't nearly enough" (p. 530). This was in reference to South African schools, unfortunately, in some schools in Kenya including Eldoret Municipality, science was taught through talking and chalking, not through doing, due to absence of experimental objects. Based on KNEC (2010), Agriculture syllabus, learners at all levels should be involved in practical activities, which aim at assisting learners to acquire useful agricultural skills. The syllabus indicates the type of practical activity and various projects to be done in each level of education. This is because Agriculture subject is both an art and a science (Kenya Literature Bureau [KLB], 2012).

2.9 Theoretical Framework

The study was guided by David Kolb's (1984) Experiential Learning Theory (ELT), which explain the influence of learning by doing. ELT defines learning as the process whereby knowledge is created through the transformation of experience. Students learn through student-rather than instructor-centered experiences by doing, discovering, reflecting and applying. The teacher is, thus, an essential element to successful experiential learning. The theory was called experiential learning to emphasize on the central role that experience plays in the learning process (Sternberg & Zhang, 2000). ELT is learner-centered and operates on the premise that individuals learn best through experience (Conlan, Grabowski & Smith, 2003).

Experience provides relevance to the education process. On secondary school Agriculture, Longshal and Usman (2009) emphasized on learning by doing, this is because Agriculture is a practical-oriented subject. Teachers perceive their role in the experiential learning process as a guide, or facilitator of learning. Students are given a chance to utilize the principles they had learned in class and apply them to real-life situations (Cheek et al., 2010). Through these experiences, students develop communication skills, self-confidence, and gain and strengthen decision-making skills

by responding to and solving real world problems and processes (Northern Illinois University, 2011). According to Mabie and Baker (as cited in Shannon et al., 2006) hands-on activities lead to a better understanding of subject concepts and provide concrete critical thinking and problem solving behavior. Similarly, participating in the various main activities of YFCK may lead to improved learning, student personal development and career development. YFCK activities present an opportunity to move outside of the classroom into relevant agricultural contexts, thus facilitating learning by doing.

There are multiple benefits of Experiential Learning including; increased subject matter retention among students, active engagement, and use of higher order thinking skills, and academic success. Students should participate completely in the learning process and have control over its nature and direction.

The experiential learning activities or the main activities of YFCK must be structured correctly in order to strengthen the link between cognitive learning and life skill. Therefore, teachers and students of Agriculture should move beyond the 'doing' and ensure all learning is linked to thinking and knowledge that will easily be applied later in life. Baker and Robinson (2012) argued that, classroom and laboratory experiences, including school farm work, and group projects provide the impetus for the Experiential Learning process.

2.10 Conceptual Framework

The teaching of agriculture subject requires learners to be sensitized and exposed to a variety of theoretical concepts as well as practical activities. Therefore, the different agricultural activities that occur within and without schools during club activities can be used to complement the teaching of the main curriculum. Club activities at secondary school level form part of co-curricular activities. The conceptual framework postulates that there are certain determinants of students' academic performance in KCSE Agriculture Examinations in Rongai Sub-County.

The type of a school may influence the learning outcomes since different schools have varied resource allocation. Generally, county schools are better equipped in resources

than sub-county schools. The types and categories of schools that were involved in the study had examined students in KCSE Agriculture examinations for the period between 2008 and 2012. This ensured that the influences of YFCK activities were taken at one point in time. On the admission to schools, KCPE entry marks determine the category and type of school a student was admitted. Students with top marks in KCPE examination are first admitted to National schools, followed by county schools, sub-county schools and lastly to private secondary schools in that order. There were two categories of public secondary schools; County and Sub-County schools both of which were represented proportionately.

On gender of the learners, practical skills subjects are associated with boys thus perception might affect performance. However, registration to the YFCK is voluntary and as a result, gender did not influence performance of students in KCSE agriculture examinations.

The age and experience of the Agriculture teacher determines the effectiveness of the teaching approach. The study involved qualified teachers in charge of agriculture therefore; the variable on teacher characteristics would not influence the outcome of the results. Individual school's KCSE analysis records provided secondary data on performance in KCSE agriculture examinations and School mean scores between 2008 and 2012.

The main YFCK activities are carrying out projects in crops and livestock, competitions in ASK Shows, YFCK National rallies, educational trips, and tree planting in schools. While the intervening variables were school characteristics such as type and category of schools, KCPE entry mark's, learner's gender, age and experience of Agriculture teachers. The dependent variable was performance in KCSE Agriculture Examinations; measured as a mean score obtained by the school in KCSE Agriculture Examinations over the period 2008-2012. Figure 2 shows the relationship among the variables in the study.

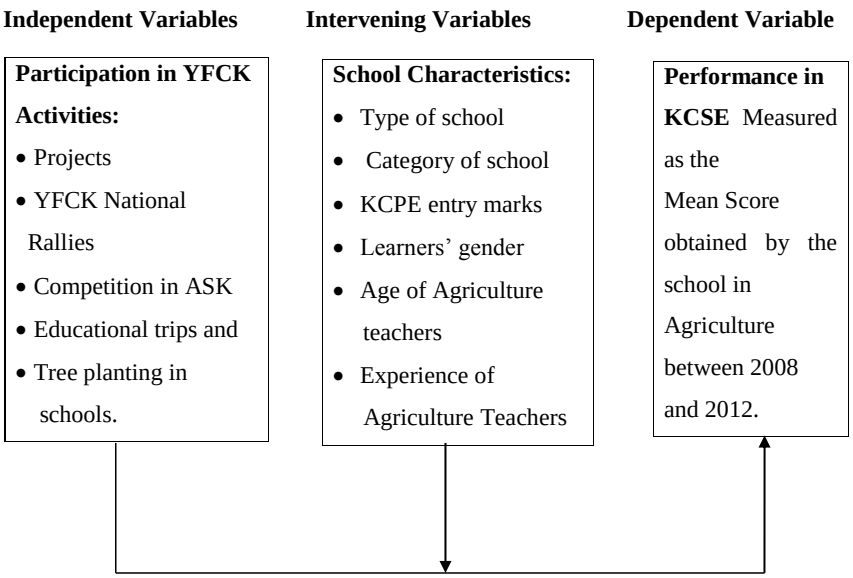

Figure 2. The relationship between participation in YFCK activities and students performance in KCSE agriculture in various school characteristics.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the overall approaches that were employed to carry out this study. It gives an overview of the research design, location of the study, the population of the study, sampling procedure and sample size, instrumentation, data collection procedure and data analysis.

3.2 Research Design

A cross-sectional survey was used to establish the influence of YFCK activities on secondary school students' performance in KCSE Agriculture Examinations in Rongai Sub-County. According to Bowling and Ebrahim, (2005) a cross-sectional survey obtains information from a given population on many variables at one point in time. The study covered the period between 2008 and 2012. The researcher preferred this design since the study would largely seek information regarding self-reported facts about the respondent's feelings, opinions, attitudes and beliefs on the current situation in comparison with the influence of YFCK activities on students' performance in KCSE Agriculture Examinations in Rongai Sub-County (Kendall, 2007).

3.3 Location of the Study

The study covered Rongai Sub-County, which is one of the nine Sub-Counties of Nakuru County. It comprises four administrative Divisions; Ngata, Kampi ya Moto, Rongai and Solai. The Sub-County headquarters is at Kampi Ya Moto. It boarders Nakuru North Sub-County to the East, Njoro Sub-County to the West, Baringo County to the North and Nakuru town Sub-County to the South. The area is arid with the main economic activity being sisal production. However, it has a progressive livestock sector, especially dairy cattle, goats and bee industry. Tourist attraction sites include Menengai crater and Lake Solai.

The elevation is about 1,912 m above sea level. It receives a rainfall of about 800-1600 mm per year. The long rains are experienced between March and June and short rains between October and November. Rongai Sub-County occupies an area of

1,349.71km^2, which is 18.8% of Nakuru County land area (Modern Rongai Constituency Strategic Plan [MRCSP], 2011). The population is 163,864 (50.44% female and 49.56% male) with a population density of 391 people per km^2. Poverty prevalence in rural areas is 44%, while urban poverty is 47%. It contributes 2.5 % to the National Poverty index (MRCSP, 2011). The locale was appropriate for the study since the researcher is knowledgeable about schools in the Sub-County. In addition, no similar studies had been carried out before in the area. (MOE Rongai, 2013).

3.4 Target Population

Orodho (2008), states that the specification of the population to which the inquiry is addressed affected decisions that researchers make both about sampling and resources. The target population of the study was 1,506 YFCK members in 30 public secondary schools in Rongai Sub-County (MOE, 2011). There were 54 Agriculture teachers comprising 21 male and 33 female. The Sub-County had two Boys Boarding schools, two Girls Boarding schools, 1 Mixed Day/Boarding school and 25 Mixed Day secondary schools.

Table 1

Population Distribution (n=8)

Type of school	No. of Schools	No. of Agric Teachers	No. of YFCK members
Boys Boarding	2	4	114
Girls Boarding	2	4	62
Mixed Boarding	1	2	80
Mixed Day	25	44	1,250
Total	**30**	**54**	**1,506**

Source: MOE, 2011 Rongai Sub-County Annual Report

3.5 Sampling Procedure and Sample Size

Purposeful sampling method was used to select eight public secondary schools; two Girls' Boarding schools, four Mixed Day secondary schools, one Mixed Boarding school and one Boys' Boarding school. All the schools selected had administered KCSE Agriculture Examinations over the period 2008-2012 and had at least 30 YFCK members. This is consistent with Fraenkel and Wallen (2000) who recommend at least 30 subjects per group. YFCK meeting attendance registers were used to obtain 316 YFCK members for the study. According to Borg and Gall (1983), the minimum

recommended sample size for a survey is 100. Therefore, 175 YFCK members obtained using Proportionate sampling method was adequate for the study. The sample included 10% adjustment for mortality or refusal to participate (Balian, 1988). In addition, 13 Agriculture teachers from the eight selected secondary schools were included in the study.

Table 2

Distribution of YFCK Members (n=8)

Type of School	No. of Schools	No. of YFCK Members	No. of YFCK Members
Boys' Boarding	1	54	30
Girls' Boarding	2	62	34
Mixed Day	4	120	67
Mixed Boarding	1	80	44
Total	**8**	**316**	**175**

Source: YFCK Records of Selected Secondary Schools in Rongai Sub-County

3.6 Instrumentation

The study employed two sets of instrument to collect data from the YFCK members and Agriculture teachers. According to Orodho (2008), questionnaires are extensively used to gather data on current conditions, practices, opinions and attitudes quickly and in a precise way. The questionnaire for YFCK members consisted of three sections; Section A; yielded the demographic data of the respondent. Section B yielded data on the status of YFCK in Rongai Sub-County. Section C collected data on the main activities of YFCK.

The questionnaire for Agriculture teachers consisted of three sections: Section A yielded data on personal information of the Agriculture teachers and school characteristics. Section B provided data on performance in KCSE Agriculture Examinations in each of the schools studied over the period 2008-2012. Section C used a 5-point Likert scale to collect data on influence of YFCK activities on performance in KCSE Agriculture Examinations. The items covered were the main YFCK activities in secondary schools; competitions in ASK Exhibitions, educational trips, crop production, livestock production, national agricultural rallies and tree planting in schools.

3.6.1 Validity

Validity is the degree to which a test measures what it is supposed to measure (Mugenda & Mugenda, 2003). The validity of the instrument was determined through judgment of two experts from the Department of Agricultural Education and Extension of Egerton University. According to Bowling and Ebrahim (2005), content validity ensured that the items adequately represented the subject area and had a relationship with the concept as operationally defined. While face validity checked on the general appearance of the items in the instrument.

3.6.2 Reliability

Pilot- testing of the instrument was carried out at Jomo Kenyatta secondary school using 62 members of YFCK. Simple random sampling method was used to adopt a sample of 50 YFCK members. This was within the recommended sample size of between 25 and 50 for a pilot-test (Kathuri & Pals, 1993). The type of school was suitable for the study; it was a Mixed Boarding with separate tuition arrangement for boys and girls. The instrument on Agriculture teachers was pre-tested using 10 teachers from six secondary schools in the neighboring Nakuru North Sub-County. A reliability coefficient of 0.72 for YFCK members and 0.73 for Agriculture teachers at α=0.05 was obtained using Split-half method. The results showed a high positive reliability coefficient. According to Fraenkel and Wallen (2000), a reliability coefficient of 0.70 set priori at a significance level of α= 0.05 or higher is preferred for research purposes.

3.7 Data Collection Procedures

After approval of the research proposal by the Graduate School of Egerton University, a research permit was subsequently obtained from the National Commission for Science, Technology and Innovation (NACOSTI). Permission to access public secondary schools in Rongai Sub-County was granted by the County Director of Education Nakuru County. The questionnaires were hand-delivered to the YFCK members and Agriculture teachers in each of the eight selected secondary schools in Rongai Sub-County. The researcher first introduced himself to the respondents and then explained the purpose of the study. The questionnaires were administered to each of the YFCK members and Agriculture teachers. The researcher went through the

questionnaires together with the respondents clarifying any issues that were not clear. The respondents were thereafter, given about an hour to complete the questionnaires. Examination analysis records were used as a secondary source of data to capture information on the school mean scores in KCSE Agriculture Examinations between 2008 and 2012.

3.8 Data Analysis

According to Orodho (2008), data analysis involves carrying out some type of grouping of the data collected, there after placing the data in common categories and computing a number or a percentage of each division. The data collected was organized, tabulated and analyzed using descriptive and inferential statistics. Data presentations were carried out in the form of tables and graphs. All the computations were then done using Statistical Package for the Social Sciences (SPSS) version 20.

For objective one, on the status of Young Farmers' Clubs in Rongai Sub-County, the level of YFCK activities carried out over the last 5 years in the selected schools were used to distinguish between active and non-active clubs. The frequency of participation in the activities were measured using a five point Likert scale with 1 = annually, 2 = Every Six Months, 3 = Every Three Months, 4 = Monthly 5 = Weekly. This was re-coded to 5 = Very Often, 4 = Often, 3 = Occasionally, 2 = Rarely, 1 = Very Rarely. The index ranged from 6 to 30 responses. The lowest score was one and the highest score five, with a midpoint of 18. The scores below and above the midpoint were interpreted as shown in Figure 3. The results yielded categorical data that were analyzed using descriptive statistics.

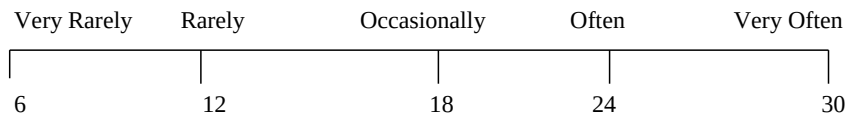

Figure 3. Status index of YFCK

For objective two, on the main YFCK activities in secondary schools in Rongai Sub-County. The frequency of participation in selected YFCK activities; crops and livestock, YFCK National Rallies, competition in ASK Exhibitions, educational trips

and tree planting in schools were measured using a five point Likert scale, that is, 5 = Very Often, 4 = Often, 3 = Occasionally, 2 = Rarely, 1 = Very Rarely. The index ranged from 6 to 30, with a midpoint of 18. The scores below and above the midpoint were interpreted as shown in Figure 4. This yielded categorical data that were analyzed using descriptive statistics.

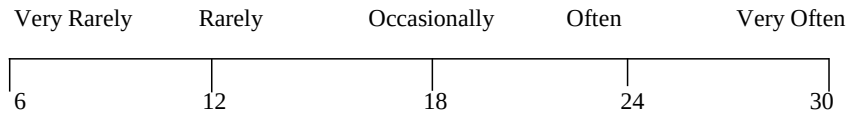

Figure 4. Main activities of YFCK

For objective three on performance of schools with active and non-active YFCK in Rongai Sub-County, data was obtained by comparing the frequencies of YFCK activities in selected schools and the mean score of KCSE Agriculture Examinations between 2008 and 2012. This was measured by scoring the level of agreement on a Likert scale of 1 = Strongly Disagree, 2 = Disagree, 3 = Unknown, 4 = Agree, 5 = Strongly Agree. The negative items in the questionnaire were re-coded to 5 = Very High, 4= High, 3 = Moderate, 2 = Low, 1 = Very Low. The index calculated from the four items in the questionnaire ranged from 4 to 20. One was the lowest and five the highest. The midpoint was 12. The score below and above the midpoint were interpreted as shown in Figure 5. This yielded categorical data that were analyzed using descriptive statistics.

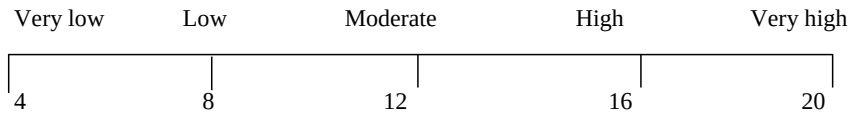

Figure 5. Performance in KCSE

The levels of YFCK activities for Active and non-active YFCK were determined by measuring the frequency of YFCK activities. The main YFCK activities used were participation in ASK show, crop production, livestock production, tree planting, educational trips and competitions in annual agricultural rallies. The analysis of the mean scores between active and non-active YFCK was done using a T-test at a

significance level of $\alpha = 0.05$. The t-test is appropriate whenever two means drawn from independent samples are compared. It has a superior power to detect differences between the two means.

CHAPTER FOUR
RESULTS AND DISCUSSIONS

4.1 Introduction

This chapter presents the results and discussions of the study based on the objectives and hypothesis. The aspects analyzed and discussed include response rate, demographic characteristics of YFCK members and Agriculture teachers, status of YFCK, the main activities of YFCK, secondary school students' performance in KCSE Agriculture examinations between selected secondary schools with active and non-active YFCK, testing the hypothesis, and discussion of the results.

The research targeted a sample of 175 YFCK members and 13 Agriculture teachers. From the YFCK respondents, 162 (92.6%) of the questionnaires were properly filled and returned; 13 (7.4%) of the questionnaires were either partially filled or not returned and were therefore discarded during data analysis. All the 13 questionnaires given to the Agriculture teachers were filled in and returned. Mugenda and Mugenda (2003) argued that a return of 50% and above is satisfactory for data analysis. A return rate of 92.6% for YFCK and 100% for Agriculture teacher's respondent were considered appropriate for data analysis.

4.2 Demographic Characteristics of YFCK Members

This section presents the distribution of the YFCK member's respondents by gender, divisions, type and category of schools, class level, and duration as YFCK member.

4.2.1 Distribution of YFCK Members by Gender

The study found that 52.5% of YFCK members were female and 47.5% were male as indicated in table 3.

Table 3

Characteristics YFCK Members by Gender (n=162)

Gender	Frequency	Percent
Male	77	47.5
Female	85	52.5
Total	**162**	**100.0**

Gender was insignificant in the implementation of the main YFCK activities in public secondary schools. Enrollment in the club was voluntary and based on students interest. This concurs with Nyang'au et al. (2011) in a study of Kisii County found gender was perceived to be the least important in the implementation of KCSE projects by learners. The notion that boys are better at manual work than girls has no basis, since boys and girls were found to be equally capable of implementing KCSE Agriculture Examinations project to the same level. However, there were slightly more girls than boys in YFCK, this contradicts a report by FAO that girls continue to be a minority among students at all levels, particularly in developing countries. The report added that existing curricula in rural schools continue to provide female students with relatively little preparation in agricultural and rural development (NRMED, 2012).

4.2.2 YFCK Members per Division

Table 4 shows that Kampi Ya Moto division had the highest 37.0% percent of YFCK members followed by Rongai (36.4%). Ngata division had the lowest number of YFCK 11.1%.

Table 4

YFCK Members by Divisions (n=162)

Division	Frequency	Percent
Kampi Ya Moto	60	37.0
Rongai	59	36.4
Solai	25	15.4
Ngata	18	11.1
Total	**162**	**100.0**

The high membership of YFCK 73.4% in Rongai and Kampi Ya Moto Divisions were probably due to the category of secondary schools in these Divisions (MRCSP, 2011). It had a Girls' Boarding, which was the only Mixed Boarding school. These schools had boarding facilities and therefore better infrastructure. They were categorized as County schools and had a higher enrollment of students due to a wider catchment of students in and out of the Sub-County than Sub-County schools. Ngata Division had fewer secondary schools; mainly Mixed Day secondary schools with a lower

enrollment of students. The general enrollment and particularly the catchment in form one admission were confined to primary schools within the environs of the schools.

4.2.3 YFCK Members by Type of School

Rongai Sub-County had four types of schools; Mixed Day, Mixed Boarding, Boys' Boarding and Girls' Boarding schools. Mixed Day schools had the highest number of respondents, 49.38%, while Mixed Boarding schools had the lowest 10.49% as shown in table 5. The sub-county had no Boys or Girls day schools.

Table 5

YFCK Respondents by Type of School (n=162)

Type of school	Frequency	Percent
Mixed Boarding	17	10.49
Boys' Boarding	25	15.43
Girls' Boarding	40	24.69
Mixed Day	80	49.38
Total	**162**	**100.00**

It is important to note that Agriculture option was popular in most Sub-County Mixed Day schools because it was considered cost effective to start in schools with limited resources; a characteristic of many day schools in the Sub-County. All the boarding schools had lower frequencies of YFCK members probably because of competions of the various clubs already established in the schools such as Wild Life Clubs, Boy Scouts and Girl Guides, Boys' and Girls' Brigades (Adebo, 2009).

On the distribution of YFCK members, data in Table 6 shows two categories of schools; County schools with 50.6% and Sub-County schools with 49.4%. It is important to note that Rongai Sub-County has no National public secondary school.

Table 6

YFCK Members by Category of Schools (n=162)

Category of school	Frequency	Percent
County	82	50.6
Sub-County	80	49.4
Total	**162**	**100.0**

The frequency of YFCK Members in County schools is slightly higher than in Sub-County schools. All the County schools in the study had boarding facilities, admitted students from within, and outside Rongai Sub-County. Therefore, they had a higher enrolment than most of the sub-county schools. In addition, the boarding facilities enabled YFCK members to have adequate time in school to engage in young farmers' club activities, unlike in Sub-County schools, which were day schools.

4.2.4 YFCK Members by Class Level

Table 7 shows that 45.1% of YFCK respondents were in Form Three; while 10.5% were in Form One. In the lower classes, form one, form two formed 35.2% of all the YFCK members, while 64.9% were from the upper class, which is Form Three and Form Four.

Table 7

YFCK Members by Class Level (n=162)

Class of Study	Frequency	Percent
Form 1	17	10.5
Form 2	40	24.7
Form 3	73	45.1
Form 4	32	19.8
Total	**162**	**100.0**

According to KNEC (2010), Examination Regulations and Syllabuses for the KNEC 2010-2012, students are supposed to sit for a minimum of seven subjects. Agriculture is categorized as a group four subject together with other technical and applied subjects such as Home science, Art and Design, Woodwork, Metalwork, Building Construction, Power Mechanics, Electricity, Drawing and Design, Aviation Technology and Computer Studies. A student usually selects one optional subject in this group.

Though the membership of the club was voluntary, it attracted most of students who took Agriculture subject option. This agrees with Lewa and Ndung'u (2011) who argued that membership to the YFCK is voluntary and gives the students exposure to practical farming technologies and opportunities in the agricultural sector. In many schools, the Agriculture teacher who is the patron could have influenced recruitment

of the members of the club. This is in line with Agili (2007) who found out that, the Agriculture teacher who acts as the patron of the club supervises the club and its activities. The low number of students who did not take Agriculture option and were members of YFCK were probably attracted by out-of-school activities such as participation in ASK Shows, National rallies, tree planting, and educational trips.

4.2.5 YFCK Members Studying Agriculture

The study revealed that most 93.83% of YFCK, members as shown in Figure 6 took Agriculture subject, while another 6.17% took other optional subjects as required by the syllabus (KNEC, 2010).

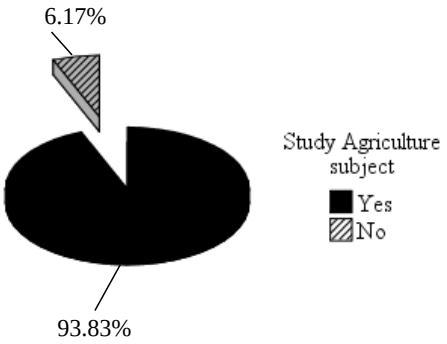

Figure 6. Distribution of YFCK members studying agriculture subject

The study found out that most students in sub-county schools were studying agriculture elective. However, this contradicts Longshal and Usman (2009), who attribute low enrollment of students in agricultural sciences, especially at secondary and tertiary levels in Nigeria as reflective of poor methods of teaching at primary school level where emphasis was laid on theory. Selection of the subjects was done when students were joining form three classes. The recruitment of students to the membership of YFCK was voluntary in all class levels.

According to the KLB (2009), YFCK primarily draws most of its voluntary membership from secondary and tertiary learning institutions. Recruitment of new members was usually carried out annually. Form Three classes had good knowledge on the operations of the club thus probably attracting a large membership of students to the YFCK. In most schools visited, it was observed that most of the Form Four

students were busy revising for their KCSE examination and hence were unavailable. Consequently, it was observed that the low enrollments of YFCK members in form one, perhaps is as a result of lack of information on the objectives of the club or that most of the students were new and adjusting to the new school environment.

The respondents were asked to indicate the length of time as members of YFCK. The number of years ranged from six months to four years, which was independent of the class of students. Slightly, more than half 50.7% of the students had between 2.0 and 3.3 years. The lowest 3.1% had 1.3-1.9 years in the YFCK. Table 8 shows that the majority of the students 30.9% had 2.0-2.6 years as members of YFCK.

Table 8

Duration of Members in YFCK (n=162)

Duration (Years)	Frequency	Percent
0.6-1.2	51	31.5
1.3-1.9	5	3.1
2.0-2.6	50	30.9
2.7-3.3	32	19.8
3.4-4.0	23	14.2
Total	**162**	**100.0**

There are three types of Youth groups involved in agricultural activities; Young Farmers' Club (YFCK), 4-K Clubs, and Out of school youth groups (Agili, 2007). However, in secondary schools, YFCK is the only club engaged in agricultural activities. Every student must be a member of a certain club as per the school rules and regulations. Students usually select the club to join on admission to the school. Registration to the YFCK is renewed annually and members are free to join other clubs of their choice. Since most members of the YFCK are drawn from students taking Agriculture option, in Form Three and Form Four their membership reduces due to competition from other clubs in the school.

According to Agili (2007), club activities are co-curriculum activities with varied aims and membership, which explains the shift in membership. Students at the end of form two usually have a wide range of other elective subjects to choose according to KNEC, (2010) regulations. On the frequency of attendance of the YFCK meetings, a

majority of 88.3% stated that they attend meetings on a weekly basis. The result in Table 9 indicates that 11.1% attended the meetings monthly.

Table 9

Attendance of YFCK Meeting (n=162)

YFCK Meeting Attendance	Frequency	Percent
Daily	1	0.6
Weekly	143	88.3
Monthly	18	11.1
Total	**162**	**100.0**

On the meetings by YFCK members, the school timetable allows clubs to meet once per week as directed by the Ministry of Education. The meetings are supposed to facilitate planning, monitoring and execution of the YFCK activities. The majority 88.3% of the respondents pointed out that they usually met once in a week to organize YFCK activities. This agrees with the ministry of education guidelines, which stipulates the school routine to provide time for co-curricular activities at least twice a week. In schools where the rules may be relaxed, members usually met once a month 11.1%.

It is important that YFCK should diversify its activities, for instance, in England, members of the YFCU usually meet regularly to compare notes, discuss costs and hear talks from experts. In addition, YFCU also promotes its membership with new skills in order to realize the full potential, encourages members to take advantage of the opportunities to meet and make new friends; with members from other clubs and sister organizations throughout the world. Members enjoy a wide range of social and travel opportunities (YFCU, 2012).

4.3 Demographic Characteristics of Agriculture Teachers

The demographic characteristics of agriculture teachers included age, gender, level of education and work experience.

4.3.1 Characteristics of Agriculture Teachers by Age

The respondents age ranged from 25-44 years (M= 38.10, SD=7. 34) as shown in Table 10. The majority of the teachers 61.6% were aged 39 years and below. Two teachers were between 40 and 44 years.

Table 10

Agriculture Teachers by Age (n=13)

Age	Frequency	Percent
35-39	5	38.5
25-29	3	23.1
45-49	3	23.1
40-44	2	15.4
Total	**13**	**100.0**

Most of the Agriculture teachers in Rongai Sub-County were aged below 39 years that is arguably the most productive age group. However, this contradicts Kimani, Kara, and Njagi (2013) who argued that teacher's age was not significantly related to academic achievement; but productivity of the teacher might be influenced by other factors such as a teacher's job group, teaching load and meager salary (Kirimi, Gikunda, Obara, & Kibett, 2013).

4.3.2 Characteristics of Agriculture Teachers by Gender

On the distribution of Agriculture teachers by gender, Table 11 shows that 53.8%, were female teachers and 46.2% were male teachers.

Table 11

Agriculture Teachers by Gender (n=13)

Gender	Frequency	Percent
Male	6	46.2
Female	7	53.8
Total	**13**	**100.0**

Source: Field Survey 2013

According to Akiri and Ugborugbo (as cited in Kimani et al., 2013) there was a significant relationship between teachers gender and student's academic achievement. This concurs with Nadeem, Rana, Lone, Maqbool, Naz, and Ali (as cited in Kirimi, et al., 2013), found that poor salary, excessive workload, poor infrastructure, lack of library facilities, lack of teaching and learning material, teacher morale, working relations with staff and head teacher and working environment are the factors, which affect the female teachers performance negatively. Over 61% of Agriculture teachers in Rongai Sub-County are female (MOE, 2013). All the schools in Solai Division of

Rongai Sub-County have poor accessibility and are classified by the TSC as hardship area (TSC, 2005). This could be negatively affecting female teacher's performance of duty.

4.3.3 Characteristics of Agriculture Teachers by Level of Education

Figure 7 shows two levels of education Diploma and Bachelor's degree. The majority of the teachers 76.92% had a Bachelor's degree and 23.08% had a diploma in education.

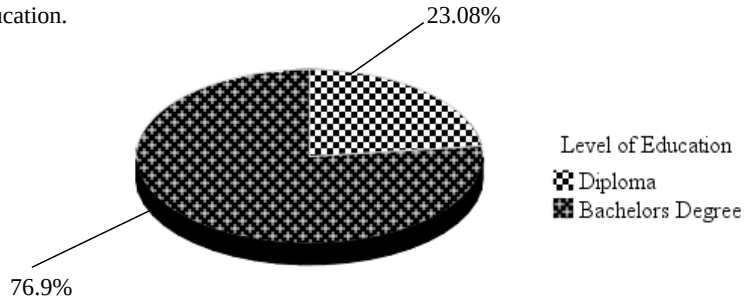

Figure 7. Characteristics of agriculture teachers by level of education

According to Kimani et al. (2013), academic and professional qualifications of teachers are not related to academic achievement of the learners. This is partly because the TSC employs academically and professionally qualified teachers in all public secondary schools (TSC, 2005). However, according to Kusereka (as cited in Kirimi et al., 2013) the primary factor that contributes to better performance of teachers in class is motivation.

4.3.4 Characteristics of Agriculture Teachers by Work Experience

The number of years that the respondents had worked as trained teachers was regarded as work experience. The respondents work experience ranged from 1 to 24 years (M=11. 38, SD=7. 08). To provide better insight, the data was converted into a grouped frequency distribution. Table 12 indicates that the majority of the teachers 69.3% had teaching experience of 15 years and less.

Table 12

Agriculture Teachers by Work Experience (n=13)

Work Experience (years)	Frequency	Percent
21-25	1	7.7
16-20	3	23.1
11-15	4	30.8
6-10	3	23.1
1-5	2	15.4
Total	**13**	**100.0**

According to Clotfelter et al. (2007), (as cited in Rice, 2010) early-career experience has a clear payoff in teacher effectiveness, and the impact is stronger than the effect of most other observable teacher-related variables including advanced degrees, teacher licensure tests scores, National Board certification at the elementary level, and class size. This disagrees with Kimani et al. (2013) in the study of teacher factors influencing students academic achievement in secondary schools in Nyandarua County, Kenya, found out that teacher factors, including age, gender, professional qualification and teaching experience were not significantly related to academic achievement of the learners. However, this does not agrees with Erickson (2006),

Bates (1999), and Jayarante et al. 2009 found out that work experience is a significant factor in the teaching profession as teacher gains knowledge and skills through experience. On work experience, most 30.8% of the respondents had 11-15years of experience. Only 7.7% had more than 20 years experience. According to Rice (2010), the impact of the experience is strongest during the first few years of teaching; after that, marginal returns diminish, it will take a sharp decline after working for more than 25years.

The decline in performance among the most experienced teachers is evident at the high school level. In addition, multiple studies using data from North Carolina and Florida showed that, on average, teachers with 1–2 years of experience are more effective than teachers with no experience Rice (2010). Therefore, 92.4% of the teachers in Rongai Sub-County had the required knowledge, skills and experience to impact positively on students' academic performance in KCSE Agriculture Examinations since they had over two years teaching experience.

4.3.5 Distribution of Agriculture Teachers by Type of School

Figure 8 shows that Mixed Day schools had 46.2% of the Agriculture teachers. The TSC usually deploys teachers in schools, according to Curriculum Based Establishment (CBE) (MOE, 2013).

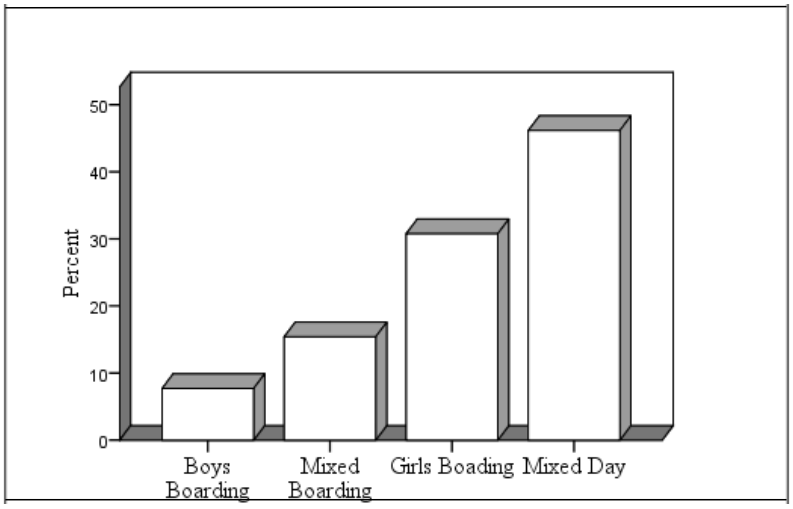

Figure 8. Characteristics of agriculture teachers by type of school

According to Wright, Horn, and Sanders (as cited in Kimani et al., 2013) the most important factor-influencing student learning is the teacher. Teachers stand at the interface of the transmission of knowledge, values and skills in the learning process. The TSC has the responsibility of deploying and balancing teachers based on CBE. Most of the Mixed Day schools with a single stream had one teacher only in charge of Agriculture subject, while most of the boarding schools had at least two teachers in charge of Agriculture subject.

The study found out that most of the boarding schools attracted teachers to work in their stations since they were accessible and had better infrastructure including teacher's quarters. This agrees with Rice (2010), who argued that studies offer compelling evidence of an uneven distribution of inexperienced teachers, that is, systematically related to school and student characteristics. Teachers with three or fewer years of experience are likely to be deployed to work in high-poverty schools.

4.4 Status of Young Farmers' Clubs in Rongai Sub-County

The types of activities carried out by the clubs over the last 5 years (2008-2012) in eight selected secondary schools were used to distinguish between active and non-active clubs. Table 13 shows that crop production projects is the most popular 74.7% main YFCK activity. In many schools, 48.8% of the YFCK members were from Mixed Day secondary schools.

Table 13

Crop Production Project by Type of School (n=8)

	Type of school									
Crop production	Boys Boarding		Girls Boarding		Mixed Boarding		Mixed Day		Total	
	f	%	f	%	f	%	f	%	f	%
Yes	9	5.6	31	19.1	2	1.2	79	48.8	121	74.7
No	16	9.9	9	5.6	15	9.3	1	.6	41	25.3
Total	**25**	**15.4**	**40**	**24.7**	**17**	**10.5**	**80**	**49.4**	**162**	**100.0**

All the Agriculture teachers' respondents strongly agreed that the main YFCK activities had a positive influence on student's performance in KCSE Agriculture Examinations. This concurs with Egun (2009); Nyang'au et al. (2011) argued that the use of projects should be encouraged in schools since it enables the learner to face challenges and bring initiatives to bear. Students taught using project based learning out-performed their counterparts in regular teaching approach. Longshal and Usman (2009) posited that Agriculture is a practical-oriented subject that is, best "learned by doing". Therefore, it is critical to engage learners in practical agricultural activities involving production of various types of crops covered in the syllabus.

On livestock production project by type of school, slightly more than half 55.6% of the schools did not engage in livestock keeping. However, Table 14 shows that 44% of YFCK in Rongai Sub-County were engaged in rearing various breeds of livestock. Girls' Boarding schools had the lowest participation 5.6% in livestock keeping.

Table 14

Livestock Production Projects by Type of School (n=162)

Livestock production	Type of school									
	Boys Boarding		Girls Boarding		Mixed Boarding		Mixed Day		Total	
	f	%	f	%	f	%	f	%	f	%
Yes	22	13.6	9	5.6	16	9.9	25	15.4	72	44.4
No	3	1.9	31	19.1	1	0.6	55	34.0	90	55.6
Total	**25**	**15.4**	**40**	**24.7**	**17**	**10.5**	**80**	**49.4**	**162**	**100.0**

According to MRCSP (2011), the Rongai Sub-County is generally arid with its main activity being sisal. This could possibly explain that it is expensive to keep livestock in terms of feeding and disease control, hence the low preference for rearing livestock.

Further analysis on the types of crops grown and livestock kept, revealed that 89.5% of the YFCK preferred vegetable production, especially carrots and Kales to cereal production mainly maize and sorghum 44.4% as shown in Table 15. On production of other crops such as Onions, Passion fruits and Sweet potatoes, 26.5% were involved. On livestock production, 46.9% preferred rearing of cattle and other type of livestock such as poultry, fish and pigs, while 32.7% of the respondents kept rabbits.

Table 15

Preference for Agricultural Activities by YFCK (n=162)

Type of Livestock	**Frequency**	**Percent**
Cattle	76	46.9
Rabbits	53	32.7
Others: Poultry, Fish and Pigs	76	46.9
Type of crops		
vegetables	145	89.5
Cereals	72	44.4
Others: Onions, Sweet potatoes, Passion Fruits	43	26.5

The highest preference was production of vegetables. This agrees with Agili (2007) who found that most of the Youth tend to grow vegetables since they require little

space to grow and mature within a relatively short period giving a quick income. YFCK cultivate crops as a group on their school plots. Livestock production ranked lowly possibly because the area is arid and feeding, parasite and disease control would have been expensive for the members. Where livestock were reared, the Board of Management supported the YFCK activity. The role of the YFCK members was to carry out routine management practices.

On preference for crops by type of school, production of vegetables was highest in Mixed Day schools 43.8%; the most popular vegetables were Carrots, Cabbages, Kales, Onions, Brinjals, and Tomatoes. Production of cereals was (3.1%). Thus, it was unpopular in Mixed Boarding schools as shown in Table 16.

Table 16

Preference for Crops by Type of School (n=162)

Crops	Boys Boarding		Girls Boarding		Mixed Boarding		Mixed Day		**Total**	
	f	%	f	%	f	%	f	%	**f**	**%**
Cereals	25	15.4	18	11.1	5	3.1	24	14.8	**72**	**44.4**
Vegetables	25	15.4	35	21.6	14	8.6	71	43.8	**145**	**89.5**
Others: Onions, Sweet potatoes Passion fruits	11	6.8	15	9.3	1	0.6	16	9.9	**43**	**26.5**

Source: Field Survey 2013

According to the strategic plans of most of the boarding schools, land had been reserved for construction of buildings. However, this contradicts Foeken (2007), who argued that most boarding schools with enough land practiced farming as a way of producing their own food. Crop production (mainly maize and beans) was carried out by the school administration to reduce the cost of buying food for the students. This practice has become one of the ways schools respond to increases in food prices, reduced government subsidies while at the same time maintaining affordable school fees for parents. On livestock production, 27.8% of the boarding schools, reared rabbits, while 4.9% of Day schools reared rabbits as indicated in Table 17. Mixed Boarding schools had a high preference for keeping cattle 19.8%.

Table 17

Preference for Type of Livestock by Schools (n=8)

Type of livestock	Type of school: Boys Boarding		Girls Boarding		Mixed Boarding		Mixed Day		**Total**	
	f	%	f	%	f	%	f	%	**f**	**%**
Cattle	24	14.8	17	10.5	3	1.9	32	19.8	**76**	**46.9**
Rabbits	22	13.6	7	4.3	16	9.9	8	4.9	**53**	**32.7**
Others: poultry, fish and pigs	16	9.9	9	5.6	14	8.6	37	22.8	**76**	**46.9**

Source: Field Survey 2013

The school Board of Management had facilitated acquisition of cattle due to the high initial costs involved. These were left to YFCK members for routine management practices together with other personnel employed by the school. This concurs with Foeken (2007), who found that most boarding schools with enough land practiced livestock keeping (mainly for milk). It was carried out by the school administration to reduce the cost of buying food for the students.

4.5 Main Activities of YFCK

On the main YFCK activities in secondary schools, data in Table 18 show that the respondents' main activity was highest 77.8% on crop production activities followed by tree planting 51.9%, and the lowest 19.8% was YFCK National Agricultural Rallies.

Table 18

Main YFCK Activities by Schools (n=8)

Main Activities of YFCK	f	Percent	Rank
Crop Production	126	77.8	1
Tree Planting	84	51.9	2
Educational Trips	70	43.2	3
ASK Exhibitions	68	42.0	4
Livestock Production	52	32.1	5
YFCK National Rally	32	19.8	6

Source: Field Survey 2013

Most of the YFCK produced crops, especially vegetables. This finding is consistent with Agili (2007), who found that Youth activities vary from one part of the County to another due to different agro-ecological zones. A main variable is in the level of moisture available for crop production. Livestock production ranked among the lowest, the result is rather unique as expectations were that it was the most popular YFCK activity and forms a major part of the syllabus. According to Foeken et al. (2007), the popularity of crops over livestock may be explained that growing of crops is not only cheaper but also easier than livestock keeping. This is in terms of feeding, disease management and day-to-day care. In addition, the school curriculum lays equal emphasis on crop and livestock production when assessing students in the Agriculture project (paper 443/3).

This agrees with KNEC, (2010) since paper three (443/3) on project, work is set from any topic in the syllabus. It, thus, gives equal weight to both crop and livestock production. Consequently, it implies that other factors such as security of the project, suitability of the project to local ecological conditions, weather conditions prevailing during the project period, guidance of the teacher, and student's interest were probably considered in the choice of the project to undertake.

The YFCK National Rally ranked the lowest probably because most secondary school patrons of YFCK in Rongai Sub-County were not aware of its objectives. In addition, it is costly in terms of travel and subsistence by the YFCK members, annual subscription and participation. Members of YFCK normally converge from all over the Country at Jamhuri Park in Nairobi to compete on various presentations relating to agricultural production under the guidance of experts in various fields (KLB, 2009). This contradicts Agili (2007), found that ASK has the responsibility to closely monitor the YFCK activities and register them for administrative purposes.

Further analysis on the main YFCK activities by school category shows that crop production was the main activity 77.8% performed by county and Sub-County schools in Rongai Sub-County. The lowest 19.8% ranked activity was YFCK National Rally. In Sub-County schools, the highest performed activity 41.4% were on crop production and the lowest 4.3% was on YFCK National Rally as indicated in Table 19. County

schools performed better than Sub-County schools on competition in ASK Exhibitions 27.2% and livestock production 25.3%.

Table 19

Main YFCK Activities by School Category (n=8)

Main YFCK activities	School Category County		Sub-County		**Total**	
	f	%	f	%	**f**	**%**
Crop production	59	36.4	67	41.4	**126**	**77.8**
Tree planting	40	24.7	44	27.2	**84**	**51.9**
Educational trips	35	21.6	35	21.6	**70**	**43.2**
Competition in ASK	44	27.2	24	14.8	**68**	**42.0**
Livestock Production	41	25.3	11	6.8	**52**	**32.1**
YFCK National Rally	25	15.4	7	4.3	**32**	**19.8**

Source: Field survey, 2013

According to Daudu et al. (2009) found the major problems that inhibit Youth participation in agricultural activities were lack of commitment, lack of logistic support and lack of land ownership; factors which are common in many day schools. The low performance of students in KCSE agriculture examinations in most of the main YFCK activities by Sub-County schools was mainly due to lack of adequate land, this agree with Wambua (as cited in Kirimi et al., 2013) found that a school farm is necessary to facilitate practical activities, projects and demonstrations.

Most of the day schools had their land hived off from primary schools, hence had lower acreage compared to County schools. More than 51.9% of schools engaged in tree planting, this agrees with Foeken et al. (2007) argue that Agriculture extends beyond the traditional narrow view of crop cultivation and livestock keeping. Tree planting and flower gardening has often been neglected in studies concerning farming-yet these activities, and especially tree planting may be undertaken in relation to or together with farming.

The study found the level of participation of YFCK activities varied with the type of school. Table 20 shows the highest frequency of participation in the main activities of YFCK was annually (f=12) in mixed day secondary schools followed by girls

boarding schools (f=8). Mixed boarding secondary school had the lowest level of YFCK activities.

Table 20

Participation of Schools in YFCK Activities (n=8)

School type	Activities	Monthly	Every 3 Months	Every 6 Months	Annually
Boys boarding	ASK Exhibitions	0	0	0	1
	Tree planting	0	0	0	1
	Crop production	0	0	0	1
	Livestock production	0	0	0	1
	Educational trips	0	0	0	0
	YFCK National Rally	0	0	0	1
	Sub-totals	**0**	**0**	**0**	**4**
Girls boarding	ASK Exhibitions	0	0	0	2
	Tree planting	0	0	1	1
	Crop production	1	0	0	1
	Livestock production	0	0	0	2
	Educational trips	0	0	0	2
	YFCK National Rally	0	0	1	1
	Sub-totals	**1**	**0**	**1**	**8**
Mixed boarding	ASK Exhibitions	0	0	0	0
	Tree planting	0	0	0	0
	Crop production	0	0	0	1
	Livestock production	0	0	0	0
	Educational trips	0	1	0	0
	YFCK National Rally	0	0	0	0
	Sub-totals	**0**	**1**	**0**	**1**
Mixed day	ASK Exhibitions	0	0	0	4
	Tree planting	0	0	2	2
	Crop production	0	1	1	2
	Livestock production	0	0	1	1
	Educational trips	0	0	1	3
	YFCK National Rally	0	0	0	1
	Sub-totals	**0**	**1**	**5**	**12**

Source: Field survey 2013

According to the Agriculture teachers, annual participation in crop production, ASK Exhibitions, YFCK National Rally and tree planting could be attributed to dependence on seasonality, weather conditions and term dates. This agrees with Agili (2007) found that in terms of marketing, youths usually targeted harvesting time when the prices were at their highest. This is a problem when suggested growing period coincides at a time when pests and disease attacks are a problem, thus raising the total costs of production. Youth often do not have extra resources necessary to cope with

the additional costs. Therefore, they tend to choose to produce crops in the rainy season along with the other farmers.

ASK Exhibitions and educational trips ranked highest in participation of the main YFCK activities with (f=10). This shows that out-of-school activities were the most popular with YFCK, especially educational trips and ASK Exhibitions. According to Myers and Linda (2013), good field trips provide students with first-hand experience related to the topic or concept that is discussed in the classroom. They provide unique opportunities for learning that are not available within the four walls of the classroom or laboratory.

4.6 Performance in KCSE Agriculture between Schools with Active and Non-Active YFCK

The mean scores in KCSE Agriculture Examinations and School mean scores were computed by comparing means of individual secondary schools in the period between 2008 and 2012. Data in Table 21 indicate that, boarding schools had a higher average mean score in KCSE Agriculture examinations and in school mean scores, while Mixed Day schools had the lowest average mean scores in both KCSE Agriculture examinations and school mean scores.

Table 21

KCSE School and Agriculture Mean Scores 2008-2012 (n=8)

School	Type school	KCSE Mean Scores	KCSE YEAR 2008	2009	2010	2011	2012	**Av Mean score**
A	Girls' Boarding	AGR SCH	7.45 5.48	8.30 5.87	7.07 5.78	7.19 5.12	9.13 6.58	**7.83** **5.77**
B	Mixed Day	AGR SCH	4.59 4.10	4.54 3.60	4.24 3.97	4.73 4.17	3.92 4.00	**4.40** **3.97**
C	Mixed Boarding	AGR SCH	5.39 4.35	4.46 5.09	5.5 4.21	5.35 3.55	4.79 3.64	**5.10** **4.17**
D	Mixed Day	AGR SCH	5.84 4.28	6.38 4.73	6.06 5.25	5.94 5.42	6.27 5.10	**6.10** **4.96**
E	Mixed Day	AGR SCH	3.92 3.35	4.0 4.46	4.53 4.63	4.95 4.01	5.05 4.47	**4.49** **4.18**
F	Mixed Day	AGR SCH	3.87 3.38	4.38 3.65	4.77 3.34	6.11 4.75	4.62 3.68	**4.75** **3.76**
G	Girls' Boarding	AGR SCH	7.75 6.72	8.25 5.99	6.45 5.74	7.31 5.59	7.04 5.67	**7.36** **5.94**
H	Boys' Boarding	AGR SCH	7.20 5.30	7.8 5.79	8.97 6.55	9.27 7.00	9.15 7.05	**8.48** **6.34**

School type: Refer to Appendix H

Students performance in KCSE Agriculture Examinations in Girls boarding schools was consistently higher than the school mean score over the period between 2008 and 2012 compared to Mixed Day schools whose mean scores in KCSE Agriculture Examinations were lower. This concurs with Ng'eno et al. (2013) in a study in Kericho County who argued that the determinants of academic achievement in girls boarding schools included; school levies, student discipline, lack of basic needs, availability of recommended textbooks and reading culture. These limitations are likely to occur among student day scholars due to factors outside the school environment.

Analysis on performance of students in KCSE agriculture examinations shows boys boarding and girl's boarding schools following each other in first and second position with an average mean score of 8.48 and 7.71 respectively. As indicated in Table 22, Mixed day secondary schools posted the lowest mean score in KCSE agriculture of 4.82.

Table 22

Performance in KCSE Agriculture Examinations and Type of School (n=8)

Type of School	No.	**Performance in KCSE Agriculture Examinations**					**Av Mean score**
		2012	2011	2010	2009	2008	
Boys' Boarding	1	9.15	9.27	8.97	7.80	7.20	**8.48**
Girls' Boarding	2	8.61	7.22	6.92	8.29	7.53	**7.71**
Mixed Boarding	1	4.79	5.35	5.50	4.46	5.39	**5.00**
Mixed Day	4	4.73	5.43	4.77	4.70	4.45	**4.82**

Source: Field survey 2013

Boarding schools posted better results than mixed day schools perhaps because they admit students with high entry marks at KCPE since they are all county schools. This concurs with Nyangau et al. (2011) in a study in Kisii County found learners from county schools had better performance than Sub-County schools. This is partly because County schools have better facilities and admit students with higher marks at KCPE than Sub-County schools. This is also consistent with Ngeno et al. (2013) in a study of Kericho County, who found that overall students from boarding schools performed better than from day schools. Other studies by Njagi and Amukowa (2012) in a study in Embu County, they found out that day secondary schools had persistently produced poor results compared to boarding schools due to admission of weak students. This was because they were not allowed to select their students alongside the National, County, and Sub-County boarding secondary schools. Lack of teaching and learning facilities such as libraries, laboratories and other instructional materials influences academic performance negatively especially in sciences.

Table 23 shows that YFCK members felt that tree planting ranked the highest (M=2. 23, SD=0. 73) on its influence on students' performance in KCSE Agriculture

Examinations. Livestock production projects scored the lowest (M=1.54, SD=0.52) on the influence on students performance in KCSE Agriculture Examinations.

Table 23

Perceptions of Students on Influence of YFCK Activities on KCSE Agriculture Examinations (n=13)

YOUNG FARMERS' CLUB ACTIVITY	Mean	SD	Rank
Tree planting in schools often influence students performance in KCSE Agriculture Examinations	2.23	.73	1
Competition in ASK often influence students performance in KCSE Agriculture Examinations	1.92	.64	2
YFCK National Rally may influence students performance in KCSE Agriculture Examinations	1.69	.61	3
Crop production projects may influence performance	1.63	.58	4
Educational trips may influence students performance in KCSE Agriculture Examinations	1.57	.56	5
Livestock production projects may influence students performance in KCSE Agriculture Examination	1.54	.52	6

Source: Field survey 2013

According to Foeken et al. (2007), the prevalence of tree planting activities in most of the schools was closely linked to the wind and dust, which is common in the town due to its location on the floor of the Rift Valley with its volcanic soils. The Maasai named the place *Nakurro* meaning a "place of winds" or a "dusty place". It is because of this that schools plant trees to contain the winds and its effects.

On competition in ASK Exhibitions, these were popular annual events in secondary schools where students acquire knowledge on modern methods of agricultural production. In addition, most YFCK members attend the event for fun. The members are given an opportunity to exhibit and judge livestock stands during the annual ASK

Exhibitions. Although, the syllabus consists of two broad areas on crop and livestock production, the low score on livestock was expected since most of the YFCK in Rongai Sub-County did not engage in livestock production. This is consistent with Foeken et al. (2007) found the popularity of crops over livestock might be explained by the reason that growing crops is not only cheaper but also easier than livestock keeping. This is in terms of feeding, disease management and day-to-day care.

To determine the mean participation scores on YFCK activities the highest score was 9.50 and the lowest was 0.01 as shown in Table 24. School D in spite of having the lowest the mean participation score on YFCK activities had an impressive KCSE agriculture mean score of 6.10. In addition, the highest average mean score in KCSE agriculture examinations was 8.48 for school H with an average mean participation score in YFCK activities of 4.17. The schools with the lowest mean score 4.40 in KCSE agriculture examinations was B.

Table 24

Mean Participation Scores on YFCK Activities and Performance in KCSE Examinations (n=8)

Type of School	**Mean Participation Scores on YFCK Activities**	**KCSE Agriculture Mean score**	**School Mean score**
H	4.17	8.48	6.34
A	0.33	7.83	5.77
G	4.83	7.37	5.94
D	0.01	6.10	4.96
C	1.17	5.10	4.17
F	9.50	4.75	3.76
E	3.00	4.49	4.18
B	5.50	4.40	3.97

School type: Refer to Appendix H

The average mean scores in agriculture for the period 2008-2012 were higher than the average mean scores for the eight schools under study. This means that agriculture subject was one of the best-performed subjects in these schools. The various main YFCK activities could have supplemented the practical activities in teaching of agriculture in these schools. According to Wanjira (2009) secondary school student's

ability to understand, retain and apply the agricultural knowledge and skills taught improved when the teaching and learning were conducted practically.

According to Kolo (2007) and Olowa (2011), teachers of agricultural sciences emphasise on theory at the expense of practical activities that is, supposed to equip students with basic skills and knowledge. However, secondary school students' performance in KCSE agriculture examinations in Rongai Sub-County in the sampled schools' was above the school mean scores. This indicated that Agriculture subject was among the subjects with highest mean scores in Rongai Sub-County.

Items were drawn from the statements on the main activities of YFCK (livestock production projects, crop production, educational trips, national agricultural rallies, competition in ASK Exhibitions, and tree planting in schools) and whether they rarely influenced students' performance in KCSE Agriculture Examinations. Table 25, shows that agricultural livestock projects had the highest mean score of 4.23. This was followed by educational trips with a mean of 4.15. Other factors that influenced students' performance in KCSE were tree planting in schools with the lowest mean of 3.15. The main YFCK activities are important in complementing student's practical activities in teaching of agriculture. This may help improve performance in KCSE agriculture examinations.

Table 25

Teachers Perceptions on influence of YFCK Activities on Performance in KCSE Agriculture Examinations (n=13)

Items	Mean	Std. Deviation	Rank
Livestock production projects	4.23	0.44	1
Educational trips	4.15	1.07	2
Crop Production Projects	4.08	1.26	3
YFCK National rallies	3.69	1.11	4
Competition in ASK Exhibitions	3.31	1.34	5
Tree planting in schools	3.15	1.06	6

Source: Field Survey 2013

Livestock production project was the most popular activity in the calendar of YFCK. The climax of the ASK Exhibitions is the Stockman's competition, which probably could have popularized attendance to the ASK by members of YFCK. According to Agili (2007), the clubs function under the auspices of the Agricultural Society of Kenya (ASK), they receive technical support from the Ministry of Agriculture through agricultural extension field staff. Registered YFCK members receive a wide range of benefits derived from the parent organization such as; space to exhibit without paying rent during the Show, agricultural tours, and cash prizes in Stockman's competition among others.

On whether educational trips hardly influenced students' performance in KCSE Agriculture Examinations, it was the second most important factor. This agrees with Lewa and Ndung'u (2011), found that membership to the YFCK, is voluntary and

gives the students exposure to practice farming technologies and opportunities in the Agric-sector through visits to modern forms. The use of educational field trips has long been a major part of the educational programming for both Youth and adults. However, due to funding limitations, time constraints, and increased liability concerns, many education professionals balk at requests for field trips. In spite of these concerns, well-planned educational field trips can be a valuable tool in equipping the participants with modern agricultural production methods (Myers & Linda, 2013).

Crop production projects had a high influence on performance in KCSE Agriculture Examinations. The mean score was high and ranked at position three. This could be attributed to the reason that paper one (443/1) in KCSE Agriculture Examinations tests on general Agriculture, crop production, agricultural economics, land and water management (KNEC, 2010). Accordingly, project paper 443/3 requires a candidate to undertake a project on crop production as stipulated by KNEC from year to year. All the Agriculture teacher respondents agreed that livestock production projects often influenced performance in Agriculture. This agrees with KNEC (2010) syllabus, Paper two (443/2) that entails agricultural theory and practices in reference to livestock production, farm power, farm machinery, farm structures, farm tools and equipment.

Agriculture subject is practical-oriented and its effective teaching requires the learner participation in the various activities by actual doing. Secondary school student's ability to understand, retain and apply the agricultural knowledge and skills taught were enhanced when the teaching and learning are conducted practically. Teachers can often use the school farm to conduct practical Agriculture lessons and demonstrations. This agrees with Wambua, (as cited in Kirimi et al., 2013) who says that a school farm is necessary to facilitate practical projects and demonstrations. In many secondary schools YFCK are used to conduct practical activities for Agriculture lessons.

National Agricultural rallies had a moderate influence on performance in KCSE Agriculture Examinations. The reason could be failure by the ASK officials to

articulate properly the objectives of the rallies to the YFCK patrons. The YFCK National Rally is normally held once in a year. YFCK members from all over the country converged at Jamhuri Park in Nairobi to compete on various presentations relating to agricultural production under the guidance of experts in various fields.

On competition in ASK Exhibitions, the influence on performance in KCSE Agriculture Examinations was moderate. The ASK Show is usually held annually in each of eight regions. The show is associated with fun, merrymaking, and not a serious forum for study by YFCK members. This contradicts KLB, (2009) which, states that one of the main functions of ASK is to organize YFCK; whose functions include participating in exhibitions and competitions at ASK Shows. The study found out that most of the clubs rarely participated in these exhibitions. In addition, those that did had fewer exhibits not well organized.

Tree planting had the lowest influence on performance in KCSE Agriculture Examinations. This is in spite of the syllabus covering a substantial part of agro-forestry across all the four levels of secondary school syllabus. According to KNEC, (2010) tree planting is covered under agro- forestry. The study found out that it was regularly carried out in most schools during the rainy season. This disagrees with Foeken et al., (2007), who argued that tree planting and flower gardening has often been neglected in studies concerning farming-yet these activities, and especially tree planting may be undertaken in relation to or together with farming.

On whether belonging to YFCK helped to improve performance in Agriculture examinations, all the Agriculture teacher respondents agreed. According to Nyang'au et al. (2011); Wambugu and Changeiywo, (2008) students taught using project based learning out-performed their counterparts in regular teaching approach. The teachers gave various reasons, citing the practical activities in the syllabus that require projects.

From the data, all the Agriculture teachers agreed to have integrated the YFCK activities in the teaching of Agriculture. However, this did not agree with the students response where 59.9% said that agricultural projects do not account for any credit in

any examination. The 40.1% who agreed had 19.8% citing KCSE examination and 16% citing the end of term examinations. This agrees with the KCSE project paper three (443/3) that is compulsory and contributes marks in the final grade in KCSE Agriculture Examinations (KNEC, 2010). The grading system in the internal examinations varied depending on the category of the school. However, where schools sat for joint examinations, the grading system was standardized. The grading in KCSE Agriculture Examinations is standardized for all the schools in Kenya.

The significant difference between the mean scores of schools in with active and non-active YFCK was determined using t-test. The null hypothesis (H_{01}) stated that there was no statistically significant difference between the mean scores in KCSE Agriculture Examinations of schools with active and non-active YFCK. The frequency of participation in the main YFCK activities (Crop production projects, livestock production projects, YFCK National Rally, competition in ASK Exhibitions, and educational trips) were used to differentiate between active and non–active clubs.

In order to determine if a significant difference existed between schools with active and non-active YFCK, T-test was used for data analysis. The results in Table 26 reveal that there was no significant difference between the mean scores in KCSE agriculture of schools with active and non-active YFCK (p=. 507 at 0.05 significant levels). The data supported the null hypothesis and it was therefore accepted since the t-value of 0.686 was not significant at α=0. 05; that is (p>0.05). This means that the p value was large and, therefore the obtained difference between the sample means was not significant.

Table 26

T-test Analysis between Active and Non-Active YFCK (n=8)

YFCK participation	n	Mean scores in KCSE Agric performance	Std. Deviation	df	t-value	p-value
Active	5	6.3174	1.70944	6	.686	.507
Non active	3	5.6987	1.50785			

Significance level=0. 05

In testing the null hypothesis (H_{01}), the t-test analysis showed that there was no evidence of a statistically significant difference between secondary school student's performance in KCSE Agriculture Examinations in schools with active and schools with non-active YFCK. The findings of the study indicates that YFCK has no influence on performance in KCSE Agriculture Examinations which, does not agree with Mukebo (2013) who argued that students mainly join the YFCK to improve on academic performance, for personal interest, and to gain life skills. Though the study emphasizes on the use of practical activities in teaching of Agriculture subject, YFCK are probably viewed like any other co- curriculum activity that exist in secondary schools.

According to Agili (2007) club activities are extra-curriculum activities with varied aims and membership; preferably to acquaint students to modern agricultural methods, careers, and as a means of creating student interest in Agriculture (Mbaga, 1996; KNEC, 2010). It is a requirement that every student must be a member of a club in a secondary school. According to Kalya, (2012) there are no compulsory requirements for membership and participation.

Most students join the clubs voluntarily to enjoy out-of-school activities such as tours, ASK Shows, YFCK National camps and National rallies but are not committed to learning activities. This agrees with results in Table 20, where Agricultural Show Exhibitions and Educational trips had the highest frequency of participation with f=4 and f=3 respectively in mixed day schools. This further, agrees with Phipps et al. (2008) who argued that in the USA, FFA is an educational program designed to teach students leadership skills in both agricultural settings, encourages personal growth in students, boosts self-confidence, builds character, encourage healthy lifestyles, and give students opportunities to be a part of the agricultural economy.

CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter outlines the summary, conclusion, recommendations of the study and suggests areas for further research.

5.2 Summary

Young Farmers' Club (YFCK) activities are critical in the mastery and acquisition of skills in the Agriculture subject since it is best learned by doing. The study employed a cross-sectional survey design to collect data from a target population of 1,506 students taking Agriculture subject in 30 public secondary schools in Rongai Sub-County. Purposive sampling method was used to select eight public secondary schools that had administered KCSE Agriculture Examinations over the period 2008-2012 in Rongai Sub-County.

Two sets of questionnaires for YFCK members and Agriculture teachers validated by experts from the Department of Agricultural Education and Extension of Egerton University were used to collect data. It attained a reliability coefficient of 0.72 for YFCK members and 0.73 for and Agriculture teachers at a significance level of $\alpha = 0.05$. The questionnaires were administered to 175 respondents; however, 162 members of YFCK (77 boys and 85 girls) and all the 13 Agriculture teachers filled and returned the questionnaires appropriately. The response rate was 96.2% for YFCK members and 100% for Agriculture teachers.

It was observed that all schools with students taking Agriculture had formed Young Farmers' Clubs; but the level of participation in YFCK activities varied from one school to the other. On average, 33% of the schools were actively involved in the main activities of YFCK, mainly projects in crop production, tree planting, Agricultural tours, and competition in the regional Agricultural Show of Kenya in Nakuru. YFCK participants in the YFCK National Rally were the least 19.8% performed activity over the period 2008-2012. The Agriculture teachers had two levels of education: Bachelor's degree 76.92% and diploma 23.1%. Academic performance differed between Day and Boarding secondary schools in Rongai Sub-

County with Boarding schools recording an average mean score above 5.00 (grade C plain in KCSE Agriculture Examinations between 2008 and 2012 period. On the other hand day schools recorded a slightly lower average mean score of 4.82.

The level of participation in activities of YFCK varied with the category and type of the school. As shown in Table 19, County schools had a higher frequency of YFCK main activities than Sub-County schools except in crop production. This is because County schools had a higher enrollment of students in all classes coupled with large acreage of land. This facilitated carrying out of many farming activities, which could partly have culminated in better performance in Agriculture subject in county schools than in Sub-County schools.

On comparison between active and non-active YFCK, a t-test analysis indicated that there was no statistically significant difference between the mean scores in KCSE Agriculture Examinations of schools with active and non-Active YFCK. This indicates the level of YFCK activities in secondary schools have no influence on students performance in KCSE Agriculture Examinations. These YFCK activities are treated like any other co-curriculum activity and are mostly important in acquainting students to modern agricultural methods, careers, and as a means of creating student interest in Agriculture. In addition, they are important in molding the student's character, self-confidence and leadership skills.

The type and category of the school, teachers age, designation and experience had no influence on the level of activities of YFCK and consequently on students' performance in KCSE Agriculture Examinations. The respondents work experience ranged from 1 to 24 years with 30.8% having 11-15 years of experience.

5.3 Conclusions

Based on the results of the study, the researcher concluded that:

i Although most public secondary schools had YFCK, the level of YFCK member's participation in the main activities was still low. Participation in crop production projects ranked highest in most schools.

ii The performance of student's in KCSE Agriculture subject between schools with active and those with non-active YFCK was the same.

iii Participation in YFCK National Rally among the YFCK activities was low.

iv The schools' mean scores in KCSE Agriculture Examinations in the study were better than the overall school mean scores.

5.4 Recommendations

Based on the findings and conclusions of the study, the researcher recommends:

a) The Ministry of Education should ensure that:-

The activities of YFCK are integrated adequately across all the levels in the syllabus.

b) The Agriculture teachers should ensure that:-

i. YFCK are active by enforcing the school routine and the curriculum.

ii Liaise with ASK for effective implementation of the YFCK National Rally, which currently has low participation in many schools.

c) The school Board of Management (BOM) should:-

Facilitate projects on livestock projects that have low participation in many schools by providing financing.

5.5 Recommendations for Further Research

For further research, the researcher recommends that:

i A study should be conducted in Rongai Sub-County on the influence of YFCK activities on secondary school student's career choice in Agriculture.

ii A study should be conducted to establish factors that hinder effective implementation of YFCK activities in public secondary schools in Rongai Sub-County.

iii A similar study should be conducted in other parts of the Country for comparative purposes. Indeed, a nationwide study would be useful in comparing the results in the various Counties in Kenya.

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APPENDICES

APPENDIX A

COVER LETTER

Dear Respondent,

I am a student at Egerton University, Njoro Campus pursuing a Master of Science degree in Agricultural education (MSc. Aged). I am conducting a study on the influence of Young Farmers' Club activities on secondary school students' performance in KCSE Agriculture Examinations in Rongai Sub-County to fulfill the requirements of this degree. I have selected your school to participate in the study. Kindly, respond to the items in the questionnaire. All the information provided would be strictly used for academic purposes and your identity will be kept confidential. Do not write your name or that of your school on the questionnaire.

Yours faithfully,

David Njoroge

APPENDIX B

QUESTIONNAIRE FOR YFCK MEMBERS

The purpose of this questionnaire is to collect information on the influence of YFCK activities on secondary school students' performance in KCSE Agriculture Examinations Examinations in Rongai Sub-County. Your information will be treated with utmost confidentiality. Tick where applicable. Also, use the space beside the question and the back of the questionnaire for additional information.

Section A: Personal Information of the Student

1. Gender

   Male [ ]

   Female [ ]

2. Name the administrative Division of your school.

   Ngata [ ]

   Kampi ya Moto [ ]

   Rongai [ ]

   Solai [ ]

3. State the Type of your school.

   Boys' Boarding [ ]

   Girls' Boarding [ ]

   Mixed Boarding [ ]

   Mixed Day/Boarding [ ]

   Mixed Day [ ]

   Boys' Day [ ]

   Girls' Day [ ]

   Others specify.....

4. State the category of your school.

   National [ ]

   County [ ]

   Sub-County [ ]

5. What is your class of study?

   Form 1 [ ]

   Form 2 [ ]

   Form 3 [ ]

Form 4 [ ]

6. Do you take Agriculture subject?

Yes [ ] No [ ]

Section B: Status of YFCK

7. How long have you been a member of YFCK? .....Years/Months

8. What projects is/are currently on going in your school?

.....

.....

9. Are the projects assessed for credit in any examination?

Yes [ ]

No [ ]

If yes, explain eg (KCSE, CAT's, and End of Term Exam etc).....

.....

10. List down the type of livestock reared by YFCK.

.....

.....

.....

11. List down the type of crops grown for YFCK.

.....

.....

.....

12. How often do members meet to organize YFCK activities in a term?

Daily [ ]

Weekly [ ]

Monthly [ ]

Others (specify).....

Section C: Activities of YFCK

13. What are the **Main YFCK activities** in your school? You may tick more than one option.

a) ASK Exhibitions [ ]

b) Tree planting activities [ ]

c) Agricultural projects- crop production [ ]

d) Agricultural projects-livestock keeping [ ]

e) Educational trips [ ]

f) YFCK National Rally [ ]

Others specify.....

14. Using the activities, you selected in question 12; how often does the YFCK participate in the following activities? Please tick appropriately.

SOURCE	Monthly	Every 3 months	Every 6 months	Annually
ASK Exhibitions				
Tree planting activities				
Projects on crop production				
Projects on livestock production				
Educational trips				
YFCK National Rally				

15. Indicate the frequency of Participation (e.g. 2, 3, 4...times) by YFCK members in each of the years shown below.

ACTIVITY	FREQUENCY OF PARTICIPATION			
	2010	2011	2012	2013
ASK Exhibitions				
Tree planting activities				
Projects on crop production				
Projects on livestock production				
Educational trips				
YFCK National Rally				
Others specify				

APPENDIX C

QUESTIONNAIRE FOR AGRICULTURE TEACHERS

The purpose of this questionnaire is to collect information on the influence of YFCK activities on secondary school students' performance in KCSE Agriculture Examinations Examinations in Rongai Sub-County. This information will be treated with utmost confidentiality. Tick where applicable. Use the space beside the question and the back of the questionnaire for additional information.

Section A: Personal Information of the Agriculture teacher

1. Gender

   Male [ ]

   Female [ ]

2. Name the administrative Division of your school?

   Ngata [ ]

   Kampi ya Moto [ ]

   Rongai [ ]

   Solai [ ]

3. What is your highest educational level?

   Certificate [ ]

   Diploma [ ]

   Bachelors degree [ ]

   Masters degree [ ]

   Others (specify).....

4. What is your designation……...?

5. Please indicate your year of birth.....

6. Teaching experience.....years.

7. State the category of your school.

   National [ ]

   County [ ]

   Sub-County [ ]

8. State the type of your school.

   Boys' Boarding [ ]

   Girls' Boarding [ ]

   Mixed Boarding [ ]

Mixed Boarding/Day [ ]

Mixed Day [ ]

Boys' Day [ ]

Girls' Day [ ]

Others specify.....

Section B: Performance in KCSE Agriculture Examinations

9. For how long has the school administered KCSE Agriculture Examinations.....years?

10. Indicate the following mean scores in KCSE over the period 2008-2012.

Year	Agriculture Mean Score	School Mean Score
2012	.....	.....
2011	.....	.....
2010	.....	.....
2009	.....	.....
2008	.....	.....

11. How often does the YFCK participate in the following activities? Please tick appropriately.

SOURCE	Weekly	Monthly	Every 3 months	Every 6 months	Annually
ASK Exhibitions					
Tree planting activities					
Agricultural projects-crop production					
Agricultural projects-livestock production					
Educational trips					
YFCK National Rally					
Others specify					

12. In your view, does belonging to YFCK help improve the performance in Agriculture Examinations

(i) Yes [ ]

(ii) No [ ] (If No, skip to 13)

Explain.....

13. Do you incorporate the YFCK activities in teaching of Agriculture?

(i) Yes [ ] (ii) No [ ]

Section C: Influence of YFCK Activities on performance in KCSE Agriculture

14. Please, **circle** the rating that corresponds to your opinion on the influence of YFCK activities on performance in KCSE Agriculture Examinations: Strongly Disagree(SD) Disagree (D), Unknown (U), Agree (A), Strongly Agree (SA)

a) Competition in ASK rarely influence Performance in KCSE Agriculture Examinations. SD D U A SA

b) Educational trips may influence Performance in KCSE Agriculture Examinations. SD D U A SA

c) Agricultural crop projects rarely influence Performance in KCSE Agriculture Examinations. SD D U A SA

d) Agricultural livestock projects may influence Performance in KCSE Agriculture Examinations. SD D U A SA

e) YFCK National Rally rarely influences Performance in KCSE Agriculture Examinations SD D U A SA

f) Tree planting in schools hardly influence Performance in KCSE Agriculture Examinations. SD D U A SA

g) Competition in ASK often influence Performance in KCSE Agriculture Examinations. SD D U A SA

h) Educational trips hardly influence Performance in KCSE Agriculture Examinations. SD D U A SA

i) Agricultural crop projects may influence Performance in KCSE Agriculture Examinations. SD D U A SA

j) Agricultural livestock projects rarely influence Performance in KCSE Agriculture Examinations. SD D U A SA

k) YFCK National Rally may influence Performance in KCSE Agriculture Examinations SD D U A SA

l) Tree planting in schools often influence Performance in KCSE Agriculture Examinations. SD D U A SA

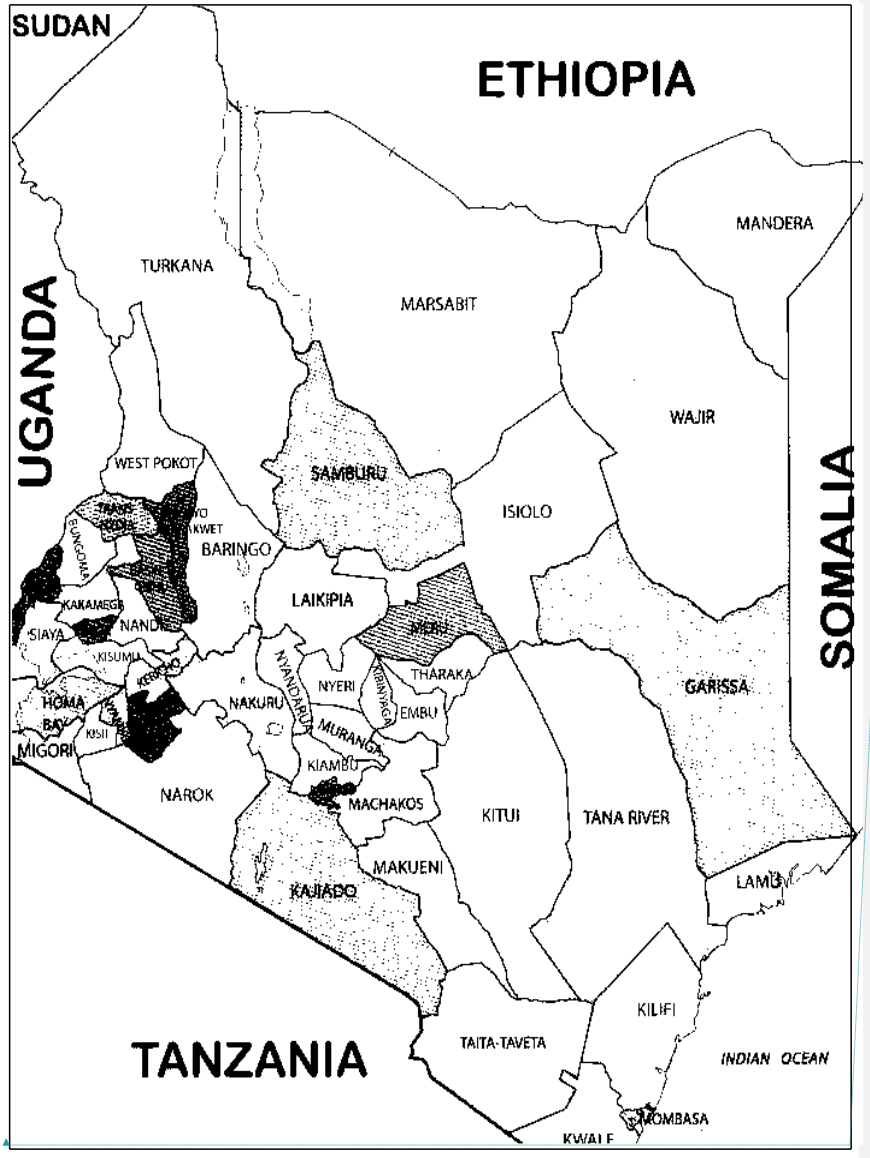
15. Indicate the frequency of participation (eg 2, 3, 4...) by YFCK in each of the years shown below.

ACTIVITY	FREQUENCY OF PARTICIPATION				
	2008	2009	2010	2011	2012
ASK Exhibitions					
Tree planting activities					
Projects on crop production					
Projects on livestock Production					
Educational trips					
YFCK National Rally					
Others specify					

THANK YOU

APPENDIX D

MAP OF KENYA SHOWING NAKURU COUNTY



Source: http://www.flickr.com

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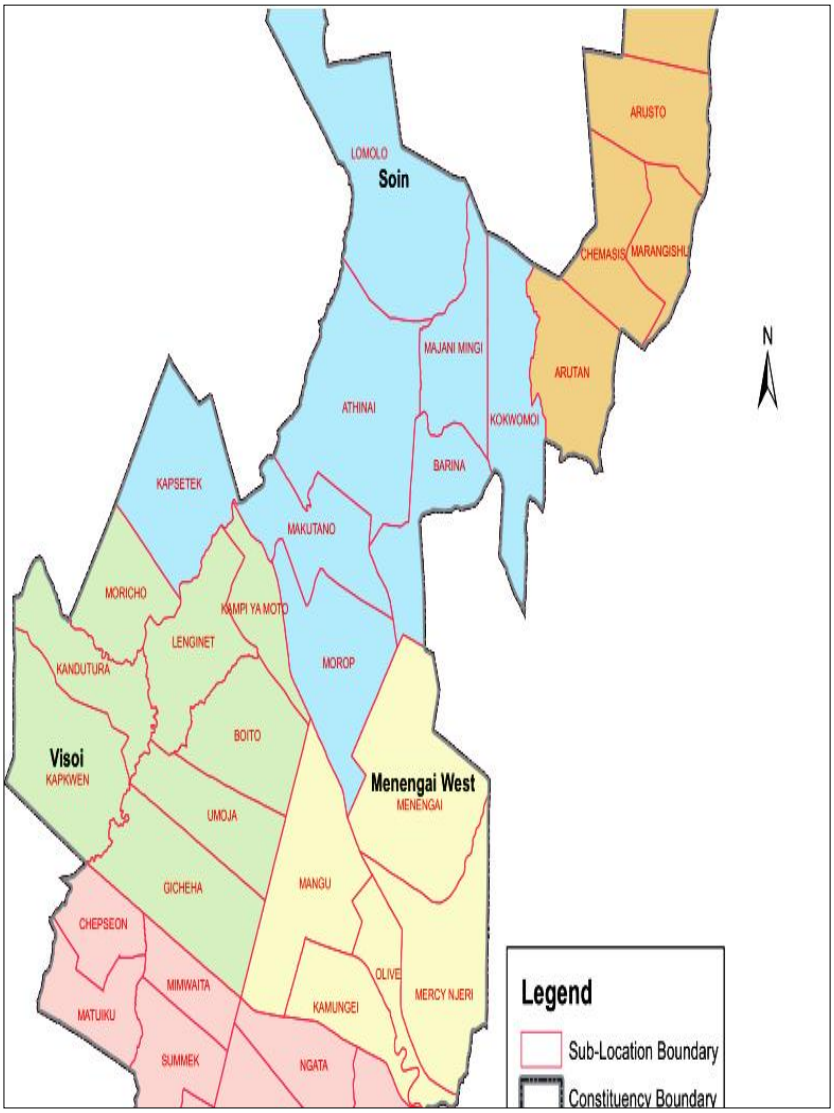
APPENDIX E

MAP OF RONGAI SUB-COUNTY



Source: Mars Group Rongai Constituency

APPENDIX F

RESEARCH AUTHORIZATION LETTER

NATIONAL COMMISSION FOR SCIENCE,
TECHNOLOGY AND INNOVATION

Telephone: +254-20-2241349, 20-267 3550,
0713 788 787, 0735 404 245
Fax: +254-20-2213215

Email: secretary@nacosti.go.ke
Website: www.nacosti.go.ke

9th Floor Utalii House
Uhuru Highway
P.O. Box 30623-00100
NAIROBI-KENYA

When replying please quote

Date:

24th September, 2013

Our Ref: NACOSTI/RCD/14/013/1664

David Njoroge
Egerton University
P.O.Box 536
Egerton.

RE: RESEARCH AUTHORIZATION

Following your application dated *9th September, 2013* for authority to carry out research on *"Influence of Young Farmers' Club activities on secondary school students' performance in Kenya Certificate of Secondary Education Agriculture in Rongai District of Nakuru County, Kenya,"* I am pleased to inform you that you have been authorized to undertake research in **Nakuru County** for a period ending **31st December, 2013.**

You are advised to report to **the County Commissioner and the County Director of Education, Nakuru County** before embarking on the research project.

On completion of the research, you are expected to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.

DR. M. K. RUGUTT, PhD, HSC.
DEPUTY COMMISSION SECRETARY
NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY & INNOVATION

Copy to:

The County Commissioner
The County Director of Education
Nakuru County.

APPENDIX G

RESEARCH PERMIT

PAGE 2

THIS IS TO CERTIFY THAT:
Prof./Dr./Mr./Mrs./Miss/Institution
David Njoroge
of (Address) Egerton University
P.O.Box 536, Egerton,
has been permitted to conduct research in

Location
Nakuru
District
County

On the topic: Influence of Young Farmers Club Activities on secondary school students' performance in Kenya Certificate of Secondary Education Agriculture in Rongai District of Nakuru County, Kenya.

for a period ending: 31st December, 2013.

Applicant's Signature

PAGE 3

Research Permit No. NACOSTI/RCD/14/013/1664
Date of issue 24th September, 2013
Fee received KSH. 1000

For: Secretary
National Commission for Science
Technology & Innovation

CONDITIONS

1. You must report to the County Commissioner and the County Education Officer of the area before embarking on your research. Failure to do that may lead to the cancellation of your permit
2. Government Officers will not be interviewed without prior appointment.
3. No questionnaire will be used unless it has been approved.
4. Excavation, filming and collection of biological specimens are subject to further permission from the relevant Government Ministries.
5. You are required to submit at least two(2) hard copies and one(1) soft copy of your final report.
6. The Government of Kenya reserves the right to modify the conditions of this permit including its cancellation without notice.

REPUBLIC OF KENYA

NACOSTI

National Commission for Science, Technology and Innovation

RESEARCH CLEARANCE PERMIT

Serial No. A 00237

CONDITIONS: see back page

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APPENDIX H

SECONDARY SCHOOLS IN THE STUDY

Serial no.	**Name of the School**	**Population of YFCK members**	**No. of questionnaires appropriately filled in**	**No. of Teacher(s) per school**
A.	Kiroboni Girls'	31	20	3
B.	Bomasan	40	22	2
C.	Mama Ngina	80	17	2
D.	Mema	40	18	1
E.	Ol-Rongai	40	20	1
F.	Kampi Ya Moto	40	20	2
G.	Morop Girls	31	20	1
H.	Solai Boys	54	25	1
TOTAL	**8**	**316**	**162**	**13**