RELATIONSHIPS BETWEEN SCHOOL FACTORS AND STUDENTS' CHOICE OF AGRICULTURE IN SECONDARY SCHOOLS IN NAKURU COUNTY, KENYA

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DECLARATION AND RECOMMENDATION

Declaration

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

Signature …… Date……..…

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Recommendation

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

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DEDICATION

This thesis is dedicated to my loving wife Emily and my children Brian, Faith, Dan and Nimrod whose love, patience and understanding during my period of study enabled me to complete this thesis.

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ABSTRACT

Subject choice leading to post secondary school career choice for school leavers in Kenya has become more challenging in the light of competition for admissions to relevant University, tertiary institutions' courses and access to job opportunities. Many students miss relevant placement for agricultural courses and employment opportunities due to wrong subject combinations in secondary school. The problem that was investigated was the reasons for the decline in enrolment in Agriculture subject in secondary schools especially in Nakuru and whether there was a relationship between the low enrolment and variables like; performance of agriculture subject in the previous KSCE results, availability of teaching and learning resources and the category of the school on the students' choice of agriculture in secondary schools in Nakuru County, Kenya. The study used an *ex-post facto* research design. The target population composed of 7955 Form Three agriculture students and 18 agriculture teachers in Nakuru County. A sample of 367 Form Three agriculture students was selected using stratified random sampling technique. The different school categories formed the strata. Two sets of questionnaires were developed for the study. One set was used to collect data for the students and the other set was used to collect data for teachers. Data was analyzed using Statistical Package for Social Sciences (SPSS). Pearson Moments Correlations (r) and Spearman's (Rho) tests were used to examine and analyze relationships among study factors. Hypotheses were tested at 0.05 alpha levels. The study revealed that several factors including schools are related to students' choice of agriculture subject. The study recommended that the subject should have relevant resources and facilities to reflect its practical nature and promote subject choice. The findings of the study may be useful to curriculum developers and policy planners in developing policies and strategies that will increase and sustain secondary school students' interest and participation in agriculture subject in Nakuru County and the entire country, Kenya.

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LIST OF ABREVIATIONS AND ACRONYMS

ASQ	Agriculture Students' Questionnaire
ATQ	Agriculture Teachers' Questionnaire
C.C	County Commissioner
C.D.E	County Director of Education
D.DC	Deputy County Commissioners
FAO	Food and Agriculture Organization
GDP	Gross Domestic Product
KCSE	Kenya Certificate of Secondary Education
KICD	Kenya Institute of Curriculum Development
KNEC	Kenya National Examinations Council
KUCCPS	Kenya Universities and Colleges Central Placement Service
MOA	Ministry of Agriculture
MOE	Ministry of Education
NACOSTI	National Commission for Science, Technology and Innovation
NEPAD	New Partnership for Africa's Development Organization
RAE	Re-inventing Agricultural Education
SAE	Supervised Agricultural Experience
SCDE	Sub- County Director of Education
SOG's	Self Observation Generalizations
SPSS	Statistical Package for Social Sciences
TAS's	Task Approach Skills
UCE	Uganda Certificate of Education
UNESCO	United Nations Educational, Scientific and Cultural
USA	United States of America
WFP	World Food Programme
WOW	Wider Opportunities for Women
YFC	Young Farmers Association

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

Education systems worldwide are characterized by several optional subjects that students have to choose from for their future careers. There is a need for every student choosing a subject leading to a career to understand the implications and consequences of making such choices. In USA for example, the students choosing vocationally oriented subjects tend to do it, having been fully exposed to the implications of their choices and having acquired a substantially better understanding of general educational skills in their future occupations (Mustapha & Greenan, 2007). A choice in agriculture as a learning subject at a high school level in the USA is motivated by three main categories of learning experiences: classroom instruction, Supervised Agricultural Experience (SAE), and learning by doing through youth agricultural activities such as the Young Farmers Association (YFC) and the Future Farmers of America Organization (FFA) as argued by (Phipps, Osborne, Dyer, Ball, Lloyd, Edward., 2008 & Konyango, 2010) has led to increased number of students pursuing the course.

In Malaysia, vocational agricultural education has produced educated, skilled and motivated workforce in the agricultural industry. This finding is based on the view that technical and vocational education is considered as an important measure for development of workforce (Syeda, 2011). In Bangladesh, technical subjects, agriculture included, are highly recognized due to their contribution to national development in areas of man-power creation and running of industries (Gazi, 2008).The vocational education in other parts of the world, for example, in Europe is characterized by students taking vocational courses with a substantially better understanding of general educational skills (Mustapha & Greenan, 2007).

The countries in African continent, take agriculture as an optional subject, except in South Africa and in Uganda where agriculture subject is not optional(Ajidagba, 2010). Attracting youth to and retaining them in the agriculture sector remains a global challenge. Many developing countries, such as Uganda, are faced with the challenge of ensuring food security for their growing populations amidst a decline in youth engagement in agriculture (Ahaibwe, Mbowa, & Lwanga, 2013; Mukembo,

2013). Although the employment opportunities available in the sector continue to increase for graduates in agriculture, in many countries, too few youth have embraced food production as a career field (Food and Agriculture Organization, Technical Centre for Agricultural and Rural Cooperation, & International Fund for Agricultural Development, 2014; Kruijssen, 2009; Russell, 1993). According to Uganda Secondary School Examinations (UCE Examinations, 2013) Agriculture belongs to group (V) which includes Science Subjects (500 General Science, 527 Agriculture: Principles & Practice, 535 Physics, 45 Chemistry, and 553 Biology).

Whereas in Kenya, agriculture as a subject of study in high schools has been in the curriculum since the introduction of the subject in Kenyan high schools since 1959(Konyango, 2015) the recognition with reference to student choice poses challenges. This is due to the grouping of subjects in which the subject is grouped with ten other subjects including; Home Science, Art and Design, Woodwork, Metalwork, Building Construction, Power Mechanics, Electricity, Drawing and Design, and Aviation Technology, Computer Studies and Business Studies from which a student chooses only one even if the school offers two from the group. This grouping creates a challenge for learners to choose the subject. The above is further complicated with a Kenyan policy on KCSE in which there are three compulsory subjects: Mathematics, English and Kiswahili, any two science subjects, one humanity subject, one technical subject comprising a minimum of seven subjects for grading (KIE, 2002). There are other twenty three subjects, Agriculture included, to choose from (Table 1) below is a reflection of the challenge a student may face in making a choice for agriculture;

Table 1.1

Groupings of compulsory and optional subjects at KCSE:

Group	Compulsory/ Optional	Subject	Minimum Chosen
I.	Compulsory	English, Mathematics, and Kiswahili -	Take all the Three
II.	Optional	Biology, Physics, Chemistry, Physical sciences, and Biological sciences	Choose at least two
III.	Optional	History and Government, Geography, Christian Religious Education, Islamic Religious Education, Social Studies and Ethics, and Hindu Islamic Education	choose at least one
IV.	Optional	Home Science, Art and Design, Agriculture, Woodwork, Metalwork, Building Construction, Power Mechanics, Electricity, Drawing and Design, and Aviation Technology, Business and computer studies	choose at least one
V.	Optional	French, German, Arabic, Music, Accounting, Commerce, Economics, Typewriting and Office Practice	choose at least one

Source: Kenya National Examination Council, 2012.

The above grouping does not consider agriculture as a core subject despite the position which agriculture occupies in the economy of Kenya and ignored the heavy funding and provision of resources which eventually became idle (Konyango, 2010) and therefore failing to promote agriculture subject among the students during subject selection. According to (Olajide, Odoma, Okechukwu, Iyare, Okhaimoh, 2015) most of the students erroneously associate Agriculture Science with the local farmer. Orodho (2014) found out that some students are of the perception that Agricultural Science has no future prospects for them. According to (Vaughn, 1999), Reinventing Agriculture Education for 2020 (RAE 2020) is inevitable; in order to help agricultural

education create its preferred future, rather than react and respond to change only after it happens. Ngugi, Isinika, Temu, Kitalyi, (2002) observed that, Agricultural education at all levels has been declining from the early 1980s to the present and that the decline has affected enrolment in the programmes as well as their quality, teaching, facilities and outputs and so the choice of the subject is dramatically compromised.

This is a direct indication of how the educationist fails to arrest the interest of students and only watch them gravitating away from choosing agriculture subject. Students in secondary schools in Kenya, experience a more complex schooling system characterized by many optional subjects interconnected with post high school careers and this exacerbate the scenario of agriculture subject choice by students. According to (Atweh & Singh, 2005), the schooling years are meant to equip students with skills, knowledge and dispositions to meet their needs for the future citizenship and participation in economic life including employment and careers and it is here that secondary school students are influenced to decide on a certain career pathway. Documentary evidences (EAEC, 1969; Konyango, 2010) shows that between 1959 when the subject was introduced in the school curriculum, agriculture was grouped with sciences. This was a boost for the subject, however with the coming of 8-4-4 system of education challenges to the grouping emerged.

Secondary schools should sensitize their stakeholders including their chief clients; the students and provide an enabling environment that encourages students to make informed subject choices concerning the prospective potentialities that are integrated in agriculture subjects, as argued by Ohiwerei and Nwosu (2009). Choosing a subject to study at any level of education is important as it makes the learner to be career oriented, this is so because making a choice is a vital part of life that is crowded with so many options (Ongang'a, Nkurumwa, & Konyango, 2014). In Kenya the subject combinations that the students select in secondary schools, determine the career they pursue later in life and especially vocational agriculture as it contribute to the Gross Domestic Product GDP of the country and playing a big role in the rural development. Every year students in Form Three class select subjects as a requirement to have a minimum subjects stipulated by the Kenya National Examination Council (KNEC).

According to (Hewitt, 2010), factors influencing career choice can either be intrinsic or extrinsic or both. Secondary school characteristics that influence the learners choice of agriculture subject comprise of ; the history of agriculture subject in the school, the availability of agriculture teaching resources, the geographical location and the type of the school which is seen in two categories namely; broad category which include, national, extra-county, county and district secondary schools; and specific category comprising of secondary schools based on student's gender boarding or day and finally public or private schools. (Donnermeyer & Kreps, 1994) found that students already exposed to agriculture tended to enroll in agriculture more than those who are not.

1.2 Statement of the Problem

Despite the importance of agriculture in the economy of Kenya, and whereas Nakuru County is considered as a granary for agricultural production, there is evidence that the number of students opting for the subject from the secondary schools in the County is not only low but there is also a concern that the subject is attracting lower achieving students. This is shown by a trend in the decline in enrolment in agriculture at KCSE, a situation creating a concern for the full recognition of the subject in the lead for job creation and academic pursuit. This is further complicated by an emerging trend by the policies of the Kenya–University and College Central Placement Service (KUCCPS) in which students with lower cut off points and those who never chose agricultural based courses are admitted to do agriculture in Universities and tertiary institutions against their will. Further indications are that even students from schools located in agriculturally potential areas and endowed with resources for teaching the subject are opting out of the subject. These trends may be due to the influence of both institutional and non-institutional based factors. There is inadequate empirical data on the role of the school in influencing the choice of agriculture subject by secondary school students in Nakuru County, it is upon this background that this study sought to determine the relationship between school-related factors such as; secondary school's history of agriculture subject performance, availability of agriculture learning and teaching resources and the category of school in the choice of agriculture subject by students in secondary schools in Nakuru County.

1.3 Purpose of the Study

The purpose of this study was to determine the relationship between school-related factors and students' choice of agriculture subject in secondary schools of Nakuru County.

1.4 Objectives of the Study

The study was guided by the following objectives;

i. To determine the relationship between the performance of agriculture subject in KCSE and the choice of the subject by students in Nakuru County.
ii. To establish the relationship between agriculture learning and teaching resources and the choice of the subject by students in Nakuru County.
iii. To determine the relationship between the category of the secondary school and the choice of agriculture subject by students in Nakuru County.

1.5 Hypotheses of the study

The following hypotheses were tested at 0.05 alpha levels:

$H_0$1: There is no statistically significant relationship between performance in agriculture subject in KCSE and the choice of the subject by secondary school students in Nakuru County.

$H_0$2: There is no statistically significant relationship between learning and teaching resources and the choice of agriculture subject by students in Nakuru County.

$H_0$3: There is no statistically significant relationship between category of school and the choice of agriculture subject by students in Nakuru County.

1.6 Significance of the Study

Knowledge of the school factors that influence students to choose agriculture as a career is a step forwards for the ministry of education to developing policies and strategies that will increase and sustain the school leavers' interest and participation in agriculture subject. This study is of significance to several groups of people including schools, policy makers, curriculum developers, and international organizations dealing with agriculture. The findings of the study will give new insights to the teachers and administrators on the factors influencing students' enrolment in agriculture subject in secondary schools. The study is of great use to Kenya Institute of Curriculum Development (KICD) and the Ministry of Education in general for decision making purposes concerning agriculture education. The study will help the

decision makers in agriculture to draw up policies that will boost the secondary agriculture education. The study is of significance to the society because it enlightens them on new agricultural activities taking place in a certain area through the Ministry of Agriculture. Also educates the society on the benefits of Agriculture to them. The study is also expected to enlighten curriculum developers on the areas of weakness and strength in secondary agriculture education syllabus, and therefore appropriate moderations done. The findings will also be used by other bodies in agriculture like the NEPAD, WFP, FAO, and MOA to come up with ways of increasing agricultural knowledge among the youth in order curb most of the agricultural related problems. Furthermore, the findings will help teachers and parents when guiding students on career choice.

1.7 Scope of the Study

The study focused on the influence of selected school-related factors on students' choice of agriculture subject in secondary schools of Nakuru County. It was only limited to form three students and agriculture teachers because of the enormous role they play during the choice of the subject. Nakuru County was used as an area of study due to its resourcefulness in wide range of agricultural institutions and the community being predominantly agricultural and poses potential of great influence to the choice of agriculture subject by the students.

1.8 Limitation of the Study

This study faced a number of limitations including:

i) The main shortcoming was that, a hidden periodicity in the universe, systematic sampling would not generate a representative sample of the population. For example, in every i^{th} school, it was not guaranteed to choose the intended school category.

ii) Kenya is made up of forty seven Counties with schools in varied and unique set ups therefore, One County was chosen and a limited sample was used.

iii) The failure by some respondents to return questionnaires. The study managed to obtain a questionnaire return rate of 97% which was sufficient for analysis.

1.9 Assumptions of the Study

The study was based on assumptions that, the respondents:

i) Have formally acquired reasonable knowledge of the current status of the choice of agriculture subjects by students,

ii) Gave unbiased and honest responses to the study.

iii) Made informed decisions regarding how they are influenced in the choice of agriculture subject

1.10 Definition of Terms

The following operational definitions were used in the study:

Agriculture subject performance: An account of agriculture performance in the last five years (2012 and before) in relation to trend in which enrollment of students of agriculture subject is portrayed.

Agriculture Teachers: These are trained secondary school teachers at diploma level and above with biasness in teaching Agriculture subject in secondary and tertiary institutions in this study, it will be used to mean the agriculture teachers in public and private secondary schools within Nakuru County.

Category of the school: Refer to the value in which the society perceives the schools to measure the weight of pupils after KCPE results. In this study it will be used to refer to National, Extra-County, County and Sub-County schools.

Choice: In this study, it means choice of agriculture subject by students when presented with a list of optional subject groups from which one selects appropriate number of examinable subjects.

County schools: These are schools in Kenya which recruit majority of the students for their form 1 intake classes from the primary schools in the county in which they are located.

Curriculum: The subjects taught and all the activities provided at any school, and may include the time devoted to each subject and activity.

Extra-county schools: These are schools in Kenya which select majority of their form 1 intakes from several counties, usually former province. Since their catchment areas are wider than those of sub-county schools and county schools and narrower than national schools, they admit students of higher marks. Normally they are expected to admit 85% of their students from all counties in the former province in which they are located.

National school: These are schools in Kenya which select their form 1 students from primary schools throughout the country, Because they are limited in number (115 schools nationally), well endowed with learning resources and recruit students from the whole Republic, the threshold marks required for admission into these schools are usually higher than for district, county and extra-county schools.

School-Related factors: These are school context variables affecting the teaching and learning of agriculture such as the performance of the subject in school KCSE results, availability of teaching and learning resources and the category of school: These are the variables that describe the sampled schools under study.

Sub-County schools: These are schools in Kenya which select majority of their form 1 intakes from the primary schools in the sub-county in which they are located.

Teaching and Learning resources: In this study, it refers to physical facilities which aid the delivery of agricultural instruction to the teachers and learners which include school farm, textbooks, workshops, and laboratories.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter presents a review literature related to this study. The review has been divided into thematic headings in relation to school-related factors influencing subject choice in secondary schools. These include history of agriculture subject's performance in the school, the available relevant learning and teaching resources, the type of school and other extraneous variables.

2.2. Agriculture in Secondary School

Agricultural education at all levels has been declining from the early 1980s to the present. The decline has affected enrolment in the programmes as well as their quality, teaching facilities and outputs and the situation has been exacerbated by declining donor support to agricultural education (Ngugi, Isinika, Temu, Kitalyi, 2002). Agricultural education is instruction about crop and livestock production, farm economics and management, soil and water conservation and various other aspects of agriculture (Schultz, Wiekert, Howard and Dickson 2008). Agricultural education also aims at improving the quality of life for all people by helping farmers increase production, conserve resources and provide nutritious foods. Secondary school agriculture in Kenya borrows its foundation from United States of America in which the purpose of high school agriculture is to provide students with the personal academic and career experiences essential for success in the fields of science, business and technology (Schultz, Wieckert, Howard, & Dickson, 2008, Maxwell,1965 & Konyango, 2010).

An ideal high school agricultural education programme should consist classroom/ laboratory instruction, student's field attachment and projects, youth extension programmes and work experience. Classroom curriculum and laboratory exercises provide students with foundation knowledge in agricultural practices, preparing them for careers in food, fiber and natural resource industries. Supervised agricultural experiences provide students the opportunity to experience ownership of their own agricultural enterprises or work in the industry. Examples of students projects includes; raising a crop or livestock or both, working on a farm or employment at an agriculture business such as machinery dealer or related agricultural based enterprises.

These undertakings projects offer real world experiences to students as well as practical application of concepts learned in the classroom. School agriculture projects also enables students to develop skills in agriculture related career areas (Schultz, Wieckert, Howard, & Dickson, 2008). A viable example is the Young Farmers Club movement in schools which aims to promote the youth in premier leadership, personal growth and career success. Students through their involvement in YFC activities class programs; community service projects acquire skills for self employment besides further studies. These are reasons why school agriculture should feature significantly in the school curriculum and a further reason for the choice of the subject in KCSE.

2.3 KCSE Agriculture Subject performance in the School

In China during the past decade, agriculture schools have started to take actions systems and to strengthen their vocational programs (Ministry of Education, 1998). There are 360 agricultural schools distributed among the provinces, autonomous regions and municipalities throughout China. Agricultural schools are typically resident schools that require students to pass standardized admission examinations (Chen, 2000). These schools enroll graduates from junior secondary schools and each program lasts for three or four years. The Ministry of Agriculture undertakes the function of guidance and macro-management for all agricultural schools. Unlike in Kenya, Agriculture is an option subject during the subject selection at form two. Thus, it selection is influenced by different factors which are either agriculture subject's performance in the school, the available relevant learning and teaching resources, the type of school and extraneous variables such as availability of guidance and counseling, teacher characteristics, teaching methods, career awareness or students social background.

Miller and Dlamini (2007) established that at the secondary education level in Swaziland, the goal of junior – level agricultural education is to develop in students an appreciation for and a positive attitude towards agriculture, while the goal of the senior – level agricultural education programme is to prepare interested youth to gain entry to the college of agriculture at the university of Swaziland. According to (Bowen & Doefert, 1989) girls choose to study agriculture in high school in Swaziland because of economic, personal, educational, family and social reasons. (Hewitt, 2010) in reference to Ghana established that a student‘s decision to choose agricultural science subjects is influenced by gender and socio-economic background

of student, the level of knowledge about prospects in choosing agriculture as vocation, the terminal nature at agricultural colleges, where trainees are awarded certificates in agriculture, the influence of parents, guardians and peers who accord agriculture low recognition compared to other professions. Despite having workable educational objectives of post – primary agricultural education and training in sub – Saharan African countries, there is an increased trend of food insecurity, rural- urban migration and high poverty levels. The countries are meant to be in the group of underdeveloped countries in the world, Poor infrastructures and low levels in technology among others (Gazi, 2008).

In Kenya agriculture is offered at all levels of the formal education system. The primary level has 8 years of compulsory universal education system and agriculture is integrated in the science subject. The secondary schools level lasts for four years and agriculture is offered as an optional subject. There are 3 categories of tertiary education levels, that is, certificate, diploma, and degree, and agriculture is offered in the three levels (Sifuna, 1976).The teaching of agriculture in Kenya is expected to promote the acquisition of skills for self – reliance in farming (Mwiria, 2002 Ngesa 2006). It is viewed as particularly critical for the development of Kenya as agriculture is the main economic activity in most parts of the country. The overall objective of the course is the development of basic agricultural skills relevant to Kenya and the learners' home environment. The choice of agriculture subject is meant to have a large practical component to enable learners acquire useful agricultural practical skills (Republic of Kenya, 2007a, 2007b, 2008, 2010, 2012a, 2012b), which help them identify the goals of teaching agriculture, leading to reinforcement of interest and awareness of opportunities existing in agriculture by demonstrating that farming is a dignified and profitable occupation, expand the student's knowledge on basic principles and practices in agriculture and to develop students understanding of the value of agriculture to the family and community with a view to promoting self reliance, resourcefulness, problem solving abilities and an occupation outlook in agriculture in Nakuru County, Kenya.

The content of the agriculture syllabus includes crop and livestock production, farm machinery, farm structures and agricultural economics. Key areas of coverage include soils and soil fertilities, water conservation supply and irrigation, land reclamation, farm layout, principles of crop production, crop parts and diseases, crop production

practices, crop types; principles of livestock production, farm power tools, equipment and machinery, farm records, land tenure and land reform, production economics, farm accounts, agricultural marketing and agricultural organizations Mwiria, (2002). Ngesa (2006) notes that while agriculture is an optional subject at the secondary school level in Kenya all public secondary school offer the subject. Comparative data on candidature by subjects, the KCSE examination for 2005 shows that agriculture at the secondary level attracts over 40% of the high school students (106,437 students out of a total of 260,665 have chosen agriculture as a subject) apart from the three compulsory subjects (mathematics, English and Kiswahili) there are 29 other subjects from which students are expected to choose an additional four to six subjects. Among these 29 subjects agriculture was ranked fifth in popularity.

Ngesa further established that professional agricultural education graduates are estimated at less than 50% of the teachers currently teaching agriculture in secondary schools. This indicates that the number of students taking agriculture is supposed to be at a larger number and kept increasing at a constant rate. This study investigated the factors that influence choice of agriculture subject in secondary school. The agriculture curriculum formulators expected graduates of the subject in secondary schools to be able to plan their farms keep relevant records and employ the best agricultural practices in their farms (Ngesa, 2002). However, the effective teaching and learning of agriculture in secondary schools needs review and probably, overhaul to accommodate emerging issues in modern day economies that Kenya proudly finds itself in over the years. The teaching of the subject has been hampered by lack of suitable teaching and learning materials. Agriculture is a skill oriented subject where theory forms an entry point and learners get initiated to the practical experience.

The Kenya vocational agriculture programme in which resources and facilities are provided to spur innovations in the teaching of the subject dates back to 1959(Konyango, 2015). The teaching of agriculture in Kenya dates back to the turn of the century when missionaries and the colonial administration recognized that the education that was being provided was not relevant to the needs of the majority of the African population who dwelt in the rural areas(Ngome ,1993) Periodic attempts to introduce vocational subjects like agriculture in school curriculum were met with parental and pupil resistance who demanded academic education that could lead to salaried employment and hence higher status. Moreover the methods that were used,

which involved the use of the hard manual labor as a means of transfer of farm skills emphasized the attitude that agriculture was “just digging” (Sheffied, 1976). This led to the drop of the subject in 1931 barely five years after its introduction in 1926 because of the view of the many that it would lead them backwards both politically and economically.

The teaching of agriculture was re-introduced on a pilot basis at Chavakali Secondary school in Western Kenya in 1960 with the assistance of Friends African Mission who donated funds. Under the contract, a grant of $ 310,685 enabled Earlham College to recruit a teacher of agriculture and furnish tractors and other farm implements, woodworking and metalworking, and hand tools (Stabler, 1969). The programme was expanded to six more schools in 1964 under AID contract with West Virginia University. The secondary schools that started teaching agriculture between1964-1975 were allocated funds to construct and equip an agriculture workshop. Each school was also required to have at least a two hectare space, which could be converted, into a school farm. The school farm was required for conducting practical and for establishing agricultural projects, and demonstration plots.

2.4 Learning and Teaching Agriculture Resources in Kenyan Secondary Schools.

In 1985 the teaching of agriculture was made compulsory, with the introduction of 8-4-4 system of education in all secondary schools in Kenya. This decision followed the recommendations of the Report on the Working Party on the Second University which recommended that agriculture be taught in all secondary schools (GOK, 1981). This expansion was significant because it recognized the important role that agricultural education plays in economic development of Kenya. However the problem of inadequate funding, inadequate land, and inadequate teaching resources (Kathuri & Pals, 1993) hampered the effective implementation of this phase of the programme.

Student recruitment is not a new concern in agricultural education. Rossetti, Elliot, Price, & McClay (1990) focused on this issue as a major problem and identified strategies to recruit students into vocational education. Thompson & Russell (1993) emphasized the link between declining enrollment in agricultural education and a shortage of qualified individuals in the food and agricultural sciences. They recommended developing an understanding of student attitudes and beliefs about

agricultural science to facilitate recruitment. Beliefs and attitudes held about an issue or event are good predictors of intentions to participate in an educational program. Similarly, there is a desire to enhance personal identity or be involved with activities affect student enrollment in agriculture (Marshall, Herring, & Briers, 1992). These theories depict knowledge as being constructed from the interplay between individuals and their experiences. The role of perception in interpreting experiences is emphasized. Perceptions of experience guide action. Perceptions therefore affect both what is learned and what actions are taken.

According to Oni (1992), facilities constitute a strategic factor in organizational functioning and hence determine effective functioning of any social organization or system including education. The researcher further stated that their availability, adequacy and relevance influence efficiency and high productivity. According to Farombi (1998) the wealth of a nation or society is determined by the quality of education. A wealthy society would establish effective schools with quality teachers, learning infrastructures that promote high levels of academic achievements. Writing on the role of facilities in teaching, Balogun (1982) submitted that no effective science education programme can exist without equipment for teaching. This is because facilities enable the learner to develop problem-solving skills and scientific attitudes.

According to UNESCO (1999) lack of financial resources hindered the expansion of facilities which led to specific problems in vocational subjects like agriculture. The research, added that lack of funds prevents schools from developing their farms. It is upon this background that this study aimed at finding out the school-related factors influencing the choice of agriculture subject by students in secondary schools in Nakuru County, Kenya, was conceived and conducted.

2.5 Categories of Secondary Schools in Kenya

According to Ngesa (2002) students who learned agriculture in provincial schools score significantly higher in the subject than the students who learnt in district schools, a scenario which is contrary with observation that, despite the good performance in extra county schools the choice of the subject the learners is low as compared to county school where the choice of the subject is high regardless of the subject performance. At the top are the national schools that consist of a tiny minority

of prestigious public funded schools, found mostly in Kenya's larger cities where agriculture is learned theoretically and conceptualization of the relevancy of the subject is not guaranteed, hence contributing conversely in the choice of the subject by the students. Then there are provincial schools in the middle and finally, the largest and lowest ranking group is the district schools, where majority of the average students are restricted by the limited availability of subject options. Due to the fact that national schools are so prestigious, only about one in 100 primary school students will move into these national schools (Oketch & Somerset, 2010). The national schools tend to be boarding schools so there is the added cost of room and board. Under the national school quota system, there must equal numbers of students from each district in an attempt to address equal access for regional and tribal admissions.
Agriculture teachers have been found to recognize the importance of recruitment and often play an important role in counseling students (Jackson, 1987). Similarly, Kotrlik, Harrison, & Wall, (1986) found that agriculture teachers were often as influential as the guidance counselor in affecting student career decisions. Therefore, as Matulis & Osborne (1990) indicated, the support of guidance counselors is crucial to enrollment in vocational education courses such as agricultural education. Guidance counselor support should be enhanced by an awareness of the extent of student interest in agriculturally related courses. Similarly, information on the rationale students use to enroll in agriculture is critical to the improvement of guidance practices. Student interest may be affected by perceptions of agriculture including course content, pedagogical strategies, and career potential (Marshall, Herring, & Briers, 1992).

According to Swindells and Henderson (1998) secondary school educators often have a large influence on students' vocational choices. A student may like agriculture but the teacher who stands in front is a little eccentric. The teacher tends to trail off the subject matter, which the students are meant to be learning and just go off on tangent. Somerset (1974), undertook a survey of career and education aspirations among secondary school students in Kenya to determine whether boys and girls attending schools of different quality had different career and educational aspirations. The findings revealed that two thirds of students from well staffed and equipped schools had high occupational aspirations followed by students from medium staffed and equipped ones. Three quarters of boys and girls from poorly staffed and equipped

schools did not hope to pursue further beyond secondary level. The researcher concluded that boys and girls attending such schools were aware that they would not perform well in the examination at the end of the secondary cycle of the education on which further academic education depended. This study revealed that boys and girls from well staffed and equipped schools had higher occupational aspirations and expectations than their colleagues in poorly staffed and equipped schools.

Writing on school-based factors, Orodho, Waweru, Ndichu, & Nthinguri (2013) contend that school context is depicted through certain avenues. In certain schools, the system may be too bureaucratic to the point that both teachers and students cannot do their jobs. This Secondary School Student's Perception towards Agriculture Subject in Public Secondary Schools eventually leads to poor performance. (Bowen & Doefert, 1989). In other situations, teachers lack the skills to impart knowledge and this may cause failures. Likewise, some teachers may be disengaged with their students and this brings about problems in the end (Broughton, 2003). Additionally, there are certain school environments that are influenced by the external world to such a large extent that the students cannot concentrate on what they are meant to do. Hence, to reiterate, a lot of research has been done in the field of academic achievement and many authors have given their suggestions about the factors that influence students within the school environment. Three of these factors include performance of agriculture subject, teaching and learning resources and school category. Against this theoretical backdrop, it is necessary to look at how important these three factors are and exactly how those factors affect student choice of the subject. Thus, this study focused on secondary school student's influence on the choice of agriculture subject in public secondary schools in Nakuru County, Kenya.

2.6 Career Advice

The focus on careers and career preparation has long been a major component of secondary agricultural education programs. Not only is the mission of agricultural education to prepare and support individuals for careers being emphasized (Case & Whitaker, 1998), but agricultural education in public schools has a successful record of helping students set and achieve career and educational goals which is contrary to the declining number of students in the choice of agriculture subject (Bajema, Miller, & Williams, 2002). Phipps and Osborne (1988) state that, the most important function of agricultural education is to prepare youth and adults for careers in agricultural

education and this is done early enough when vocational subject choices are done. More importantly, the duo argued that all schools need to provide opportunities for students to prepare for agricultural careers demonstrated by the students when they make agriculture subject their choice, so that the predicted shortage of trained professional in agriculture may be alleviated.

Students' enrollment of subjects based on its relevancy to their future career aspirations predominates as the students get closer to graduation and they begin to search for jobs (Wilhelm, (2004). Students in secondary schools are then greatly influenced by the potential for career opportunities and advancement; therefore, the more valuable a subject is to a future career, the greater the likelihood a student will enroll in it (Ackerman Gross, 2006). Zoldoske (1996) asserted that, there is an overall decline in the number of students pursuing agricultural careers through a college education. Zoldoske further stated that, it is estimated that nearly one-third of all agricultural job opportunities will be filled by individuals trained outside of agriculture. Not only are problems of initial entry into agricultural careers an issue, but problems related to individuals who exit agriculture-related occupations has been the focus of recent research. Garton and Cartmell (1999) studied career choices and factors influencing career change among Agricultural education graduates and suggested that, teacher educators need to understand why graduates leave their selected careers or why they never enter the profession. In order to reverse the trend of individuals who do not pursue careers in agriculture, it is important to understand not only the motivational factors and rewards that lure people into a particular career (Zoldoske, 1996), but it may also be critical to research students' career-decision making processes (Lucas, 1993).

The level of career aspiration usually affects curriculum hence career choice (Herr & Cramer, 1996). Also, career aspirations are influenced by numerous factors including gender, race, parental support, academic achievement, socioeconomic status, and self-esteem. Similarly, several factors which have been found to be theoretically and empirically related to career aspirations also influence the career choice process. Some of these factors include gender (Houser & Yoder, 1992; Jones & Larke, 2001), parents' occupation (Stone & Wang, 1990), parents' level of education (Conroy, 1996) , parents' level of influence (Findlay & Rawls, 1984; Kotrlik & Harrison, 1987, 1989; Fisher & Griggs, 1995), and self esteem (Wilson & Fasko, 1992; Hughes,

Martinek, & Fitzgerald, 1985). Experiences acquired during the formative period of an individual's life leave their mark on personal efficacy, which may set the future direction of a person's life course by affecting the choices made and the achievements attained (Bandura, 1986). The perceived efficacy and academic orientations of youth determine their decisions to pursue different types of careers and also determine which careers they may avoid (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001). However, increased understanding is needed about the role played by youth organizations in fomenting the career interests of youth in developing countries, including their pursuit of post-secondary education in the agricultural disciplines and related careers. This study sought to describe the perceptions of YFC members at two schools in eastern Uganda to understand the impact of club participation on their career interests, especially in regard to preparing for and entering the agriculture sector.

The theory identifies the interactions of genetic factors, environmental conditions, learning experiences and task skills. It is posited that each of these variables play a part in all career decisions that are made, but different combinations of interactions of the influencers produce a multitude of different career choices that individuals make (Mitchell & Krumboltz, 1990). The four types of influencers and their interactions lead to three types of outcomes: self-observation generalizations (SOGs), task approach skills (TASs), and actions. Self-observation generalizations are overt or covert statements evaluating one's actual vicarious performance in relation to learned standards (Krumboltz, Mitchell, & Jones, 1976). Task approach skills are learned cognitive and performance abilities that are used in the process of career decision-making (Mitchell & Krumboltz, 1990). Finally, actions are entry behaviors that indicate overt steps in career progression.

In addition to the influencers and the outcomes of their interactions, social learning theory suggests three sets of testable propositions which include factors influencing (1) preferences, (2) career decision-making skills, and (3) entry behaviors into educational or occupational alternatives. Given this research focused on the enrollment behaviors of individuals into a specific educational program (such as agricultural education), the social learning theory's third group of propositions provided the primary theoretical underpinning for the study. Factors of primary importance in this study fall within the social learning theory's category of

influencers: 'Environmental Conditions and Events'. According to Sharf (2002), these factors are generally outside the control of the individual and include social, cultural, political, and economic conditions and for the purpose of this study they include performance of agriculture subject, availability of teaching and learning materials, category of school, teacher characteristics, guidance and counseling in school, economic background of the family and a lack of information about consequences of career decisions. Mitchell, described several conditions and events, categorized as social, educational, and occupational, that affect an individual's decision-making. Such factors may be planned or unplanned, but they are usually beyond the control of the individual. It was on this background that the researcher tried to make a thrust into school-related factors which influence students' choice of agriculture subject in secondary schools.

Developmental theories of career emphasize the importance of personal interests, skills, and values when expressing the barriers in decision-making (Creed et al., 2007:243). The values of the individuals affect their attitudes, behaviors and thoughts. Therefore, the values also affect career choice and so important. The career decision covers the training decisions, as well as the professional decisions (Bright et al., 2005:563). Career decision-making difficulties arising from relevant emotional, and personality sources are among the most important challenges that college students may face (Saka & Gati, 2007:341). The choice of career is one of the most important decisions in the lives of people. Final years of school are important in career decisions, because, these years are usually full with planning in attending the school or working, research and decision-making (Rogers et al., 2008:132). According to Nagy, Trautwein, Baumert, Koller, and Garrett (2006), high school students are likely to enroll in subjects that will pertain to what they want to study in college.

School guidance and counseling programmes have been introduced to assist students overcome the number of challenges they experience at home and at school on career choice and subject combinations. Nziramasanga (1999) states that because of many pressures imposed on the family, parents tend to have little time with their children to give them the necessary guidance, specifically on the subject choice. The parents expect the school to provide solutions to the indiscipline in secondary schools caused by their children. UNESCO (2002) adds that, African adults have become more

concerned with earning money and are less occupied with many traditional practices that formerly contributed to the upbringing of young people. Rapid sociological changes emanating from modernization and urbanization stress students Ubana, (2008).

Career advice, guidance and counseling by parents and teachers can influence students' choice of agriculture subject especially in Africa. In a related investigation (Farombi, 1998) revealed that parents have significant effect on students' choice of career and subjects. If we want to encourage more young students into agriculture, then students need rich opportunities to find out about the many ways agriculture can be used in interesting careers, most of the students have not been helped by their parents when making their study choices. Furthermore, the school has a great role to play in influencing students' choice of agriculture subject particularly in Africa. Okeke(2000). The school management should support subjects and careers decision making. This will go a long way to encourage students 'choice of agriculture subjects. In addition, students need information about the structure and content of the agriculture subject they want to study. This will help to influence their choice of the subject Republic of Kenya (2008).

In the past, agricultural education in the United States provided vocational training mainly for students who wanted to become agricultural producers or intended to pursue a career in the off-farm agricultural industry after high school graduation (Talbert, Vaughn, Croom, & Lee, 2007). However, many students, guidance counselors, and parents remain unaware of the vast career opportunities available in agriculture beyond the farm gate (Fursdon, 2013; Mallory & Sommer, 1986; Smith & Baggett, 2012). Agriculture teachers, together with school guidance counselors, need to make students aware of the variety of career opportunities connected to the agriculture sector (Jackson & Williams, 2003) and the preparation required to pursue those careers. Students are likely to enroll in more classes if they talk with their parents first, which implies that parents do have an effect on their child's decisions (Dempsey, 2003). Parents look forward to their children having new teachers and classes with the end result of them getting good grades, Smith et al., (2006). Therefore, parents will encourage their students to take a variety of classes where they think they can excel. Tenenbaum (2008) further argued that fathers are more likely to discourage their children from taking certain difficult classes, especially with

daughters. Teachers in the schools are supposed to provide assistance and guidance to their students on subject, but research indicates that teachers are not as influential as family or peers in a student's choice of courses (Malgwi et al, 2005). Either way, teachers and guidance counselors are not likely to discourage students from enrolling in classes, but to encourage the enrollment in certain classes (Anderson et al., 2008). Choices made by young people-what courses to take in high school, whether to attend college, what to study once there-affect who they are and what they do (Adelman, 1994). Making the wrong choices, particularly those that limit educational attainment, will reduce an individual‘s possibilities for job success and/or upward mobility over the course of a lifetime (Topel and Ward, (1992) by limiting the career-line paths which emerge from the initial job placement (Spilerman, 1977). This educational limitation impacts not only the evolution of earnings and status, but also the ability to network, maximize job satisfaction, and exercise voluntary job mobility.

Farrant (1997), asserts that today‘s society is much more complex and the tendency is that, there to be much more specialization, hence the place for the person without any special training is very much reduced. Education should provide each child with the basic skills for surviving in the modern world and help develop some useful marketable skill that will be of use to others hence ensuring employment. Farrant (1997) further asserts that large numbers of young people remain unemployed after school partly because the schools do not provide the range of qualification that match employment needs such as of career awareness, which includes career talks, guest speakers, visits to factories, industries, talks by alumni’s. Eyken, (1973), concurs with this view by asserting that education fails a child if it has little to do with real life education must relate to learners lives as they have been, as they are and as they will, hence giving purpose to the process of choosing vocational subject such as agriculture. Education should not reduce young people to bored, repressed and frustrated kids. Eshiwani (2001) argues that as the country strives to attain a higher level of social economic development. It is imperative that the education and training sector properly play its role of developing the necessary human resource, in fact sciences and mathematics need to be strengthened to form a firm foundation for subsequent development. This is so because in situations where people have access to education, the subjects they study tend to fix them to particular careers.

According to Ihanga and Kaundia (2001), different subjects are rated differently for specific jobs. Different subjects are weighed differently for specific jobs. This implies that there is need by teachers to continually point out that the relationship between what is being taught and its use in occupations. Further teachers can also provide opportunities for students to take part in a variety of experiences that relate to the subject matter being taught to occupations, according to Moon and Mayes (1995). According to Super and Bohn (1970), a child develops ideas about what one can do, likes to do, and what others expect him/her to do at a very young age. Hatter, (1990) stated that an adolescent‘s sense of selfish based upon performance in domains where success is important such as the school environment. Parents’ education and occupations are indices of social class but evolution of a vocational identity depends upon experiences within the family Erickson (1963). The high socioeconomic family, provides a career frame-of reference based on values associated with the states of the family Blau (1992) and Duncan(1967). For instant, sons in non intact families identified with the mother‘s occupation which is likely to be service or clerical in nature (Conroy, (1996).

Whitehead (1996) studied gender-related attitudes toward career choice in a study conducted in England and Wales, found that males were more likely to choose sex-stereotyped careers than females, and that males were much more biased in their subject choices toward masculine subjects and supported traditional sex roles for themselves. No such pattern was found for females. Females therefore are not avoiding masculine subjects to the same degree as males are avoiding feminine ones, nor are they concentrated in subjects thought, appropriate for them, again unlike males‖ Whitehead made an interesting comment that it is not so much that females are under-represented in mathematics and the physical science, but that males are greatly over-represented due to males’ choices away from feminine subjects.

These results supported prior research by Donelan, (1992) and Lokan and Fleming (1994) concluded that an overwhelmingly negative opinion of pursuing an agricultural career is really an expression of pursuing a career in farming and ranching. Students have not been exposed to factual information about the industry of agriculture and corresponding careers (Orthel et al., 1989). There is evidence to show that students’ perceptions about agriculture are formed and subsequently influence enrollment decisions at or before the junior high level, Scanlon, Yoder and Hoover,

(1989) Today‘s young adults are strongly influenced by expected economic rewards associated with career alternatives. Society‘s macro issues, changing lifestyles, and occupational images projected by the mass media have a major impact on career decisions of students. Therefore, food and agriculture information and recruitment issues must deal with these mega forces Miller and Dlamini (2007). An identification of factors that influence student‘s career choice can be a tool to assist program design in secondary agriculture, Tech-Prep, and School-To-Work Transition initiatives. Understanding these environmental and background factors which help shape how students view themselves in the world of work is a key to understanding their motivation for selection of programming options at the secondary level.

2.7. Teacher Characteristic

There is no firm consensus within the field as to exactly what constitutes high-quality teaching or a quality teacher. Effective teacher is one who has a positive influence on student learning and development through a combination of content mastery, command of a broad set of pedagogic skills, and communications/interpersonal skills. Quality teachers are life-long learners in their subject areas, teach with commitment, and are reflective upon their teaching practice. They transfer knowledge of their subject matter and the learning process through good communication, diagnostic skills, understanding of different learning styles and cultural influences, knowledge about child development, and the ability to marshal a broad array of techniques to meet student needs. They set high expectations and support students in achieving them. They establish an environment conducive to learning, and leverage available resources outside as well as inside the classroom Kisirikoi, Wachira and Malusu 2008).

Mitzel (1960) introduced the concept of presage variables. The term denotes dimensions of teacher personality and teacher experiences in teacher education programs that are considered to be potential predictors or presages of teaching effectiveness. Their relevance depends on an assumed or conjectured relationship to other criteria that is process or product. The presage variable describes the teacher in four distinct areas (a) Teacher personality attributes (b) Characteristics of teacher training (c) Teacher knowledge and achievement and (d) In-service teacher status characteristics. Teachers may have grown up in lower or higher socio-economic

communities, gone to more and less desirable schools and learned to speak one or more languages. These factors are likely to influence their professional personas and their own development as teachers once they are enrolled.

During teacher's program tenure by virtue of participation in all aspects of university life or any other college acquired knowledge that is likely to influence professional practices. Academic and pedagogical coursework, field experience, technology use, participation in volunteer activities and the attitudes and abilities of acquired from study, among other factors can be expected to shape or form teachers planning and teaching behavior (Goliath, 2008). Research on teacher‘s gender, physical characteristics dispositions and cultural or ethnic backgrounds has been thought to influence life in classrooms. Studies of teacher properties such as psychological traits and states, motives, abilities, propensities, beliefs and attitude are plentiful (Dunkin and Biddle, 1974). This is an indication that teacher characteristics have a bearing on the students' choice of Agriculture subject in secondary schools. The extraneous variables are relevant for what they might reveal about school-related factors influencing the choice of agriculture by secondary students. Good teacher training equips its clients with good curriculum management skills. The pre-service education prepares student teachers by equipping them with necessary academic and professional competencies. Other than professional and academic competencies, it‘s the role of pre-service teacher training programmes to produce all round teachers equipped with a body of knowledge attitude and skills to enable them correctly interpret the intended curriculum (Oluoch, 1982). Lesley (1976) says that, at all levels of teaching agriculture the major constraint is the quality of teaching. Unless a teacher can achieve personal relationship with students or an extension worker with farmers; unless students can be inspired to seek further knowledge themselves; unless enthusiasm can be brought to bear on the teaching, the teaching will be lifeless and the frames of inspiration remain lifeless.

Kivuva (2001) reaffirmed this by saying that the quality of teachers is important aspect in determining the level of education performance and achievement in examination. To fulfill their role, the teachers must first know their teaching subjects well. Ngau (1987) highlights on the quality credential of the teachers. He puts it that credential of teachers both in pre-service education attainment and the type of professional attainment given to them may be a major determinant of the quality of

Kenyan schools. GOK Report (1999) recommended that in-service programmes be regularly organized for teachers to improve their pedagogical skills in order to enhance quality. It is important to have a well-qualified and highly motivated teaching force capable of understanding the needs of learners and curriculum in order to implement it effectively. Such teachers would have the interest necessary in teaching agriculture as well as to create the urge to learn in the students. A trained teacher is an asset to the institution in which he/she is an instructor (Onguti, 1987) since a teacher has learnt the tricks of handling individual differences in classroom situation; he is well placed to ensure effective learning takes place. The interest of this study is therefore to find out how teacher characteristics influence the choice of agriculture among secondary school students which entails teacher characteristics such as qualifications, teaching experiences, teacher‘s altitude towards the students and student teacher relationships.

2.8 Teaching Methods

The agriculture teacher plays a key role in innovative and creative teaching as argued by (Konyango, 2015) and that the methodology employed by teachers must be meaningful and enjoyable for both learners and teachers. He further asserts that, agriculture teachers should continue to evaluate, reconstruct, and improve the face of school agriculture as we focus to the next century so as to attract more students in the choice of the subject. Research indicates that students develop competency by interacting with each other. However, the teachers' contribution to the acquisition of knowledge is important as the teacher is key in creating a conducive learning environment, which includes the teaching style adopted by the teacher (Wilhelm, 2004). A student's attitude about an instructor has a large impact on their attitude toward a class (Curran and Rosen, 2006). Students have a tendency to choose subjects that are taught by teachers who are enthusiastic, well spoken, knowledgeable, caring, and helpful as opposed to instructors, who are dry, inflexible, and unclear (Curran and Rosen, 2006). If instructors are inflexible and unclear, they are much more likely to be difficult to learn from, which is a major concern for students (Smith et al., 2006). If students are concerned about a teacher they are less likely to enroll in that class, and vice versa.

Some teachers are perceived by the students to be good teachers and this influence students into the class while students perceive other teachers not to be the right teachers for such subjects this reduce the rate of the subject choice by the students and vice versa, according to the research done by Wilhelm (2004). Agriculture education and training is special in comparison with other forms of education and training in that agriculture cannot be learned solely in the field or solely in the classroom (Vandenbosch, 2006). Practical training such as traditional apprenticeship training should ideally be complemented by more formal learning to enable many aspects of agriculture and rural development to be seen in their true perspective

Teaching learning strategies are traditionally referred to as methods of teaching (Kisirikoi, Wachira and Malusu, 2008). Modern trends in teaching emphasize certain approaches which determine the strategy to be used. These approaches include; interaction approach, collaborative approach, transmission approach, experiential approach and facilitation approach. Interaction approach is where there is exchange of ideas between the teacher and the learner or among learners themselves as in group work. Collaborative approach is where learners share ideas in groups or projects. Transmission approach, the teacher dominates the lesson by use of lecture. From the above approaches the agriculture teacher determines the strategy to use depending on the content he is teaching the learners (Ngesa, 2002 and Konyango, 2010).

A study by Ohiwerei and Nwosu (2009) revealed that a teacher is the central point of learning in the classroom situation because it is the methods and styles of teaching that create motivation to students. Inappropriate methods and styles of delivery drive students away from the subject. Interest in the subject on the other hand is a contributor to performance (Ongang'a, Nkurumwa, & Konyango 2014). Lecture as a method of teaching involves transmission of information from the teacher to the learner. The teacher reads out the notes to the learners as he explains to them. The method is mainly teacher – centered and the learner's activity is listening and taking notes. Demonstration is a practical way of explaining or describing a process or an activity. The teacher demonstrates an activity before engaging the class in the same. The teacher may also use one of the learners to demonstrate the activity. Discussion is a form of interaction which involves learners‟ participation through talking or writing in which merits and demerits of a process or object are considered it encourages an

open exchange of ideas. Educational visits provide learners with an opportunity to explore other environments and make school life more interesting it provides the learners with exciting experiences that bring joy and satisfaction that would not have been experience in the normal classroom interaction (Kisirikoi, Wachira and Malusu 2008). (UNESCO, 1999) observed that lack of financial resources hinder the effective teaching of the subject hence undermines the desire for the subject by the students, which led to specific problems in the choice of vocational subjects like agriculture in secondary schools.

2.9 The Influence of Students Home and Social Background on career advice

Okeke, (2000) parents had a significant effect on students' choice of career and subjects. Parents' characteristics played a vital role in students' choice of technical subjects. Parents had a crucial task of preparing the child for education. In their task of socializing the child's parents had a greater influence on the child's development and future life choices (Mabunda, 2002). It has been postulated that the family environment impinges on curriculum and influences the quality of school practices. This is possibly because the family is represented in school organizations and they influence the curriculum and practices through ideas and financial support. Further the family socio-economic background provides the social environment that the children first and closely interact with in a bid to make vocational subject choices. This is because seeing their parents only occasionally children benefit too little from their skills and knowledge on subject choice.

Coleman and Hotter, (1987) further asserts that some parents raise their children with certain principles in mind and such can influence and direct the learners on the choice of subjects they can undertake in order to meet the parental expectations. This assumption points to the fact that parents may not advice their children on subject choice due to their limited information and awareness. Chambliss (1996) argues that parents and guardians want schools to satisfy the culture of real life interests and needs of children as well as to prepare them for success later in life. The students' decision on choice of subject is determined by such facts of their parents. Achieng (2003), in her research on low student enrolment in the applied subjects found out that many secondary schools have been opting not to offer Home science as a subject due to the expenses associated with it. This is because many parents have found it difficult

to contribute towards Home science expenses and only students who can afford opt for the subject, while others enroll in other optional subjects. This finding implies that choice for certain subjects is limited by the extra expense that is included in the subject. This implies that the aspect of home background becomes the course of unfulfilled potential and unequal changes in education.

This condition is further supported by Winslow, (1993), in which he asserts that the level of the family income is one of the most powerful influences on demand on secondary and higher education and even primary school enrolment rates in developing countries. The family background such as economic status, in the student's choice of the subject, also orientates the learner towards certain thinking that determines what the learner thinks of him/herself. According to Ainscow, (1993), certain conditions within, the home or the family can expose children to experiences, which may render them more vulnerable to onset of learning and behavior problems socially. Disadvantaged children who grow up in large or single parent families and have low family incomes are pre-disposed to lower education chances. Mohd, Salleh and Mustapha (2010) also affirms that family members can provide information and guidance, directly or indirectly to influence a young person's choice of career. Family members' career choices influence students' career decision and form a strong belief in what kinds of career are the best for the students. Rayne (1982) observed that, there must be some credible role models in the community who imparted in the mind of individuals the benefits of self- employment as a career. Hardy (1984) also observed that, lack of role models was a limiting factor in the career choices of young people; and that business ownership emerges more readily in the presence of strong entrepreneurial role models. The abundance of successful independent businesses acted as role models in the community and a contributing factor in students' choice of technical subjects in schools.

According to Whitelaw, Milosevec and Daniels (2000) gender was probably the most important variable related to pupils' attitudes to science and technology subjects. Many studies, for instance, Francis and Greer (1999) reported that males had more positive attitudes toward science and technology subjects than females. Peer group effects on pupils' achievement in school had been widely reported (Hoxbynet al., 2003). These effects on achievement may have spillover effects on subject choice. In

addition, a student‘s choice of subject may be influenced by the aspirations of their peer group or through the expectations that schools had for that peer group. School managers believed that certain subjects were more appropriate for the type of pupils that attended their school (Davies, Adnett& Turnbull, 2003).Hoxbynet al., (2003) observed that the level of interest in students and the position of the parent in the society sometimes influenced student‘s interest in the study of vocational subjects. Students whose parents were educated did not want to study vocational or technical subjects. The study observed that the family into which a child was born exerted a profound influence on the child‘s career. Ozioma (2011) observed that shortage or absence of guidance counselors in some schools influenced the study of vocational subject in secondary schools. As a result most students, who were skilled and had the ability to study vocational or technical subjects, were not counseled to enroll in subjects that they would do better.

2.10 Subject Choice

Choice of agriculture was dependent variable in this study. Monica and Ciomos (2010) outline interest as one of the key motivational factors in the students’ choice to study a given subject and therefore influence learning and development. Interest will therefore go a long way in influencing even how students perform in the subjects they have chosen. When students score well in a subject, they are indeed motivated to learn. Performance as an independent variable is postulated to influence students in the choice of agriculture and it is through this opinion that the study was undertaken. Writing on school-based factors, Orodho, Waweru, Ndichu and Nthinguri (2013) contend that school context is depicted through certain avenues. These avenues can either lead to excellent performance or poor performance depending on how they are implemented (Powers, 2006).

In certain schools, the system may be too bureaucratic to the point that both teachers and students cannot do their jobs in the choice of agriculture subject. This eventually leads to poor performance in terms of subject selection campaign which leads to low enrolment for agriculture subject. (Bowen & Richman, 2000) In other situations, teachers lack the skills to impart knowledge and this may cause failures in the agriculture subject performance and also leads to low number of students choosing the subject. Likewise, some teachers may be disengaged with their students and this

brings about problems in the end (Broughton, 2003; Okumbe, 1999) and especially when it comes to the issue of agriculture subject choice.

Additionally, there are certain school environments that are influenced by the external world to such a large extent that the students cannot concentrate on learning the diversity of agricultural fields capable of leading them to make it a choice among the many vocational subjects. Such schools lack discipline, and effective management strategies employed by school managers, particularly the principals become extremely important (Orodho, 2014) in directing the students in the choice of agriculture subject. Hence, to reiterate, a lot of research has been done in the field of academic achievement and many authors have given their suggestions about the factors that influence students within the school environment in the choice of vocational subjects such as agriculture. Two of these factors include student attitudes and school context. Against this theoretical backdrop, it is necessary to look at how important these two factors are and exactly how those factors affect student outcomes. Thus, this study focused on secondary school student's perception towards agriculture subject in public secondary schools in Nakuru County, Kenya.

2.11 Theoretical Framework

The theoretical framework for the relationship between school-related factors and students' choice of agriculture subject in Secondary school of Nakuru County was based upon the Social Learning Approach to Career Decision Making. Specifically, the Social Learning Theory of Career Decision-Making (Krumboltz, Mitchell, & Jones, 1976) provides insight into the career choice process as well as factors that theoretically influence career choice. People learn through observing others' behavior, attitudes and outcomes of those behaviors (Bandura, 1986). Most human behavior is learned observationally through modeling: from observing others, one forms an idea of how new behaviors are performed, and on later occasions this coded information serves as a guide for action. Social learning theory explains how educational and occupational preferences and skills are acquired and how selection of courses, occupations, and fields of work are made. This study focused on agriculture performance, teaching and learning material and school category on whether or not contribute to the pull and push factors for students' choice of the subject as a career in this context.

2.12 Conceptual Framework

Theoretical basis of social learning approach to career decision making is conceptualized in Figure 1 and attempts to relate the theoretical framework to the objectives of the study, the hypotheses and how the procedures of data analyses relate to the problem of the study.

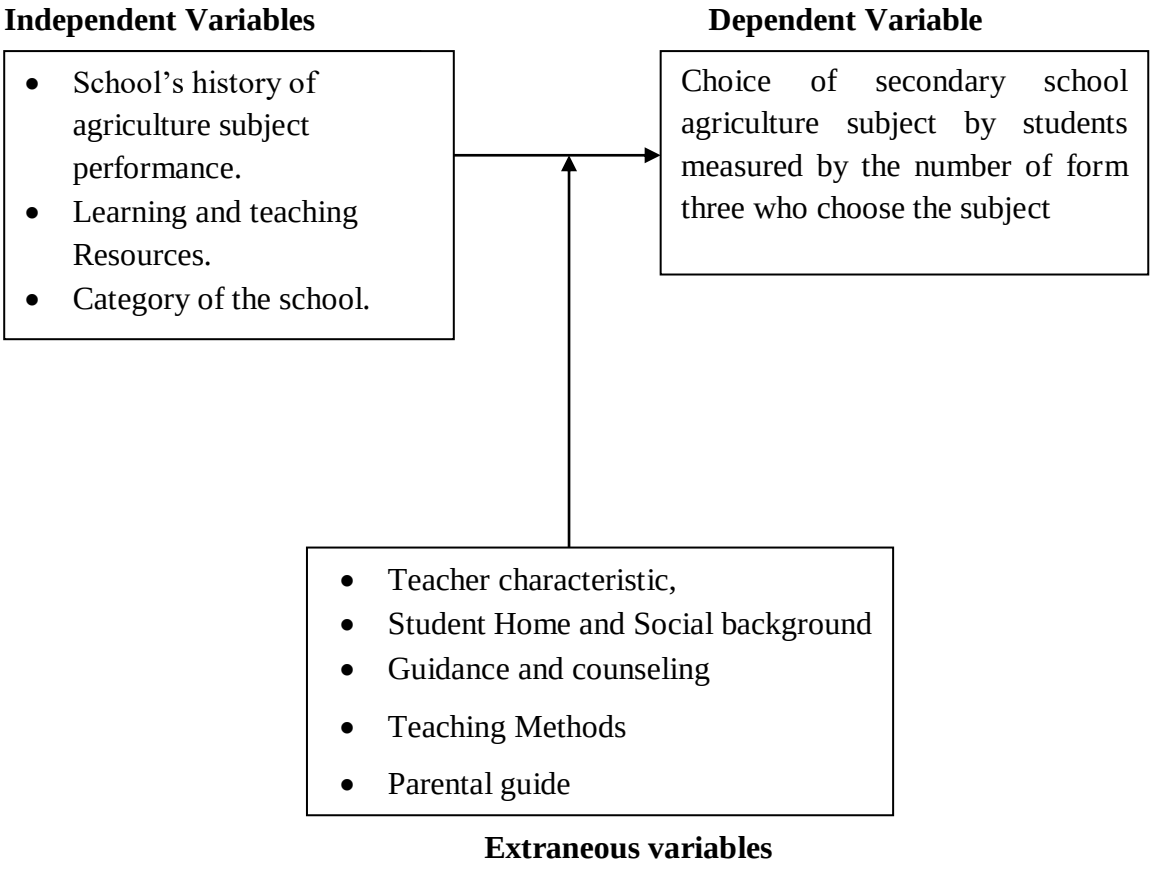

Figure 1: Conception framework of the relationship between independent

Extraneous and dependent variables

The conceptual representation shows the independent variables as the school related factors influencing students, namely; school's history of agriculture subject performance, school's available relevant learning and teaching resources, category and of the school. The dependent variables are the choice of secondary school agriculture subject which is measured by the number students who choose agriculture and also the number of students who didn't choose agriculture in form three classes, subject groupings and career prospect. Intervening (extraneous) variables include; teacher characteristics, career advice, lack of role models in the media and a lack of information about consequences of career decisions. Social learning theory provides

insight into the relationship between influences of school characteristics on subject choice process as well as factors that theoretically influence career choice.

It is through this concept, that the researcher investigates the characteristics of schools which influence the choice of agriculture subject being independent variables and choice of the agriculture as dependent variable, bearing in mind to isolate factors which are beyond his control such as teacher characteristics, career advice, and lack of role models in the media.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents a description of how the research was carried out. It was designed to meet the objectives and test the hypotheses of the study. It outlined the research design, location of the study, target population, sampling procedure and size, instrumentation, data collection and data analysis procedures used.

3.2 Research Design

The study used an *ex-post facto* research design. According to (Kothari, 2004)the main characteristic of this method is that the researcher has no control over the variables; he or she only reports what has happened or what is happening. The choice of agriculture subject by students has been undertaken in schools over the years and there could be school-related factors that influence their choice of the subject. The influence of school-related factors on the choice of agriculture by students of Nakuru County was collected and reported by the researcher without manipulating any variables.

3.3 Location of the Study

The study was carried out in the selected public secondary schools within Nakuru County. The County is characterized by varying agro-climate zones ranging from low lying areas to raised hilly parts, which represent low and high, agriculture potential areas common in the entire country. The County generally experiences a flourishing agricultural economy. Most public secondary schools located in the County offer agriculture subject though as an option from business study. Therefore a majority of secondary schools in the County have well established agriculture departments and trained agriculture teacher(s). Geographically, Nakuru County is located in the former Rift-valley Province of Kenya. It borders Nyandarua County to the East, Laikipia County to the North, Kericho to the West, and Narok County to the South.

3.4 Target Population

Nakuru County had 185 public secondary schools, out of this number four were national schools, seventeen are extra-county and one hundred and sixty four were district schools (County Director of Education [CDE], 2014). The schools had a total of 7955 Agriculture students and 200 teachers of the subject. The target population of

this study will be all the 200 agriculture teachers and the 7955 students taking agriculture in the county. The accessible population were all agriculture teachers and form three students taking agriculture in the all the public schools. Agriculture teachers were chosen because they were experienced in subject. The form three students have been targeted because selection of optional subjects is done in the third year.

3.5 Sample Size and Sampling Procedure

The population of the research comprises of all the elements (individuals, subjects, animals, things) that are likely to be affected in one way or another by the outcome of the investigation in a given environment (Gay & Airasian, 2000)A target population defines those units for which the findings of the study are meant to generalize (Dempsey, 2003). (Orodho, Waweru, Ndichu, & Nthinguri, 2013) recommends use of the largest sample possible because the main interest is learning about the population from which the sample is drawn. The number of schools which took part in the study was determined in line with what (Kasomo, 2006) recommends as 10% of the accessible population for a descriptive survey research design. Given that Nakuru County had 185 schools 18 schools were involved in the study. Purposive and simple random sampling techniques was used to select the 18 (one from each school) agriculture teachers.

A summary of the accessible population was given in table 3.1:

Table 3.1

Accessible population of the study

School category	Agriculture Teachers	Form 3 Agriculture students
National	4	154
Extra County	20	1026
District	161	6775
Total	**185**	**7955**

3.5.1 Sample size

The sample size for this study was determined using Krejei and Morgan's table of determining a sample of a given population (see appendix D) based on a target population of 7955 students. The equivalent sample was 365 as per the table. All the

30 teachers of agriculture were used in the study since they were less than 100. The sample size (n) of the students was determined using the table (appendix d) for determining a sample of a finite population developed by (Kathuri & Pals, 1993). The sample size of the students was 367given that their accessible population was 7955 Stratified sampling was used to ensure that all the school categories; National, County and district were included in the study. Proportionate sampling techniques were used to determine the number of students drawn from each school category. The students who took in the study from each school were selected using simple random sampling techniques. The sample size per school category is shown in Table 3.2

Table 3.2

The sample of the study

School category	Agriculture Teachers	Form 3 Agriculture students
National	2	32
Extra County	12	57
District	17	275
Total	**31**	**364**

3.5.2 Sampling procedures

Stratified, proportionate sampling technique was used to obtain a sample of 364 students. The school category formed the strata. All the teachers in the 18 schools were used in the study

3.6 Research Instruments

Two sets of questionnaires were used as instruments for the study. Questionnaires were used because they are considered economical and easy to formulate and analyze. In addition, questionnaires elicit a lot of data and gives greater depth of response. Items in the questionnaire were based on the three objectives of the study. The measurement instrument had two sections. Section I had statements that elicit responses from students on their take on secondary school agriculture. Section II had items for teachers' responses. The statements were on a five point Rating scale where: 1-Strongly Disagree, 2-Disagree, 3-Uncertain, 4-Agree and 5-Strongly Agree. Respondents were required to indicate on this scale the extent to which they agreed or disagreed with the given statements. The instrument was used to collect data from

teachers‟ and learners‟ on the influence the choice of Agriculture Subject in secondary schools in Nakuru County, Kenya.

3.6.1 Validity

According to (Kothari, 2004), validity indicates the degree to which an instrument measures what it is supposed to measure. Kothari further, argues that content validity, shows the extent to which a measuring instrument provides adequate coverage of the topic under the study and is determined by using a panel of persons to judge if the measuring Agriculture Teachers Questionnaire (ATQ) and Agriculture Student Questionnaires (SQ) meets the standard, though no numerical way to express it. In order to establish the degree to which the ATQ and ASQ would collect data pertinent to the problem and objectives of this study, it was subjected to scrutiny by four peers (course mates) and two experts (supervisors) in the department of agricultural education and extension for correction. The review focused on representativeness of the items in relation to the objectives and variables covered in the study. Appropriate adjustments were made on the content item construction and order of the items in the questionnaire based on the suggestions or recommendations for this initial review.

3.6.2 Reliability

According to (Kathuri & Pals, 1993), reliability is defined as the degree to which the test scores are free from measurement errors which cannot be predicted. Korb(2013), argues that to administer a Likert Scale or have another measure that does not have just one correct answer, the preferable statistic to calculate the reliability is coefficient alpha (otherwise called Cronbach's alpha), mostly by use of SPSS.To ensure the internal consistencies of the ATQ and ASQ, the questionnaires were pilot-tested using students and teachers from schools in Trans Mara East, Narok County. Teacher's questionnaire (ATQ) was also pilot- tested using 30 teachers. Student questionnaire (ASQ) was tested using 40 students. The reliability coefficients of ATQ and ASQ were 0.71 and 0.79 respectively. The results were considered reliable as their coefficients were above the recommended 0.7 threshold (Frankel and Wallen, 2000).

3.7 Data Collection Procedures

The researcher started the data collection process by first obtaining a clearance letter from the Board of Post-Graduate Studies, Egerton University. Using the letter, the

researcher was able to receive the needed research permit from the National Commission for Science, Technology and Innovation (NACOSTI), Nairobi Office. The researcher then received permission from the County Commissioner (C.C.), County Director of Education (C.D.E.), Deputy County Commissioners (D.D.Cs) and Sub- County Director of Education (SCDEs) to carry out the study in the Nakuru County. The research permit from (NACOSTI) and letters from the County Officers were used to get authority from public secondary school Principals to collect data from the sample schools. The researcher administered the questionnaire to the students and teachers of Agriculture following receiving permission from the Principals. Thereafter the researcher collected the questionnaires

3.8 Data Analysis

Data were analyzed using SPSS Version 21. Frequencies and percentages were generated. Data on the relationship between school-related factors and student Agriculture subject choice was measured as an index generated from respondents' rating of five statements, each with a maximum of 5. The data were analyzed using Pearson Moments Correlations (r) and Spearman's (Rho) at $\alpha=0.05$ significance level.

Table 3.3

Summary of Data Analysis

Hypotheses:	**Independent Variable:**	**Dependent Variable:**	**Statistical Test**
$H_0$1: There is no statistically significant influence of secondary school's agriculture performance on the choice of the subject by students in Nakuru County.	School's past performance in agriculture	Choice of agriculture	Pearsons correlations
$H_0$2: There is no statistically significant influence of learning resources on the choice of secondary agriculture subject by students	Learning resources	Choice of agriculture	Pearsons correlations
$H_0$3: There is no statistically significance influence of the category of secondary school on the choice of agriculture subject by students in Nakuru County.	Category of schools	Choice of agriculture	Spearman's (Rho)

CHAPTER FOUR
RESULTS AND DISCUSION

4.1 Introduction

This study investigated influence of selected school-related factors on student's choice of agriculture in public secondary schools in Nakuru. The objectives of the study were;

a) To determine the relationship between secondary school's performance in agriculture subject in KCSE and the choice of the subject by students in Nakuru County.
b) To determine the relationship between secondary school's availability of agriculture learning and teaching resources and the choice of the subject by students in Nakuru County.
c) To determine the relationship between the category of the secondary school and the choice of agriculture subject by students in Nakuru County.

The study tested the following hypotheses at 0.05 alpha levels:

$H_0$1: There is no statistically significant relationship between secondary school's agriculture performance in KCSE and the choice of the subject by students in Nakuru County.

$H_0$2**:** There is no statistically significant relationship between secondary school's availability of relevant learning and teaching resources and the choice of agriculture subject by students in Nakuru County.

$H_0$3**:** There is no statistically significant relationship between the category of secondary school and the choice of agriculture subject by students in Nakuru County.

Data were analyzed using frequencies, percentages, Pearsons moments correlation(r) and Spearman's (Rho). The results of the data analysis are displayed and discussed in this chapter. For ease of presentation, the results were presented in the order in which the objectives were stated in chapter one.

4.2 Characteristics of the Teachers

The teachers were asked to give their age. The data was summarized using frequencies and percentages. The results are as displayed in Table 4.1. The study summarized and described the characteristics of the subjects prior to presentation of

results of the hypothesis tests. Describing a sample gives a clear picture of its characteristics and provides evidence that it has attributes of the population (7955 form three students). The characteristics of the subjects examined were age of the teachers.

Table 4.1

Age of the Sampled Teachers

Age	Frequency	Percentage n = 33
Less than 25 years	2	6.1
25 – 40 years	17	51.5
41 – 50 years	11	33.3
Over 50 years	3	9.1

For successful schools and educational systems, teachers are very vital. In view of this, Omotayo (2007) agreed that teachers are very important to the success of the school system in achieving its goals and objectives. Rating score to on the extent the age of teachers influenced the choice of agriculture subject by students was done using the rating scale. Table 4.1 shows that the majority of teachers (51.5%) are between 25-40 years. The young teachers are between 18 -40 years while old teachers are between 41 -60 years of age. This is not unconnected with the fact that older teachers are given higher responsibilities and duty posts, such as registrars, house masters/mistress, form masters/coordinators, while younger teachers are not. This agrees with Ibukun (1997), that what is a source of inducement or motivation to one person may fail to influence the behavior of individuals differ in the value they attach to inducement but contrasts with Bichay (1996) who discovered that job satisfaction and motivation correlated significantly with responsibility levels, gender, age, years of teaching experience and activities.. This is one of the extraneous variables influencing the choice of agriculture by students in Nakuru County, Kenya. The quality and the relevancy of agricultural education is based on the competence of its teachers as opined by World Bank (2005) due to the fact that teachers are most important resource in curriculum implementation. This bulk of teachers is regarded as young and is actually expected to motivate learners to believe agriculture as a viable career.

4.3 Relationship between secondary schools' past performance in KCSE agriculture and students' choice of the subject

The first objective of the study sought to establish whether secondary schools' past performance in KCSE agriculture has influence on students' choice of the subject. The influence was determined by testing whether there was a significant relationship between secondary schools' past performance in KCSE agriculture and students' choice of the subject. The association between the two constructs was determined by running a bivariate correlation. Schools' academic performance was measured by their past performance in KCSE agriculture for the years 2009 - 2013. The schools' KCSE means grades out of a maximum of 12 for the 5 years and their standard deviations are summarized in Table 4.2;

Table 4.2

The schools mean scores and standard deviations in KCSE Agriculture for the years 2009 - 2013

Year	National n = 4		County n = 8		Sub-County n = 19	
	Mean	Std. Deviation	Mean	Std. Deviation	Mean	Std. Deviation
2009	7.50	0.97	7.76	0.41	5.56	0.99
2010	9.82	0.75	8.16	0.97	5.63	1.04
2011	8.38	0.63	7.59	0.46	5.62	1.15
2012	10.30	0.80	8.91	0.97	5.93	1.38
2013	10.30	0.79	9.13	0.93	5.66	1.47
Overall n = 31	9.26	0.81	8.31	0.64	5.60	1.18

The results in Table 4.2 reveals that national schools had the highest overall mean grade mean (M = 9.26, SD = 0.81) followed by county schools (M = 8.31, SD = 0.64) and district schools (M = 5.60, SD = 1.18) respectively. This shows that students in national schools generally perform well in agriculture than those from other category of schools. The academic performance of schools in agriculture was rated average given they had an overall mean score of 6.33 (SD = 1.66) out of a maximum of 12. The findings were expected show that the choice of the agriculture subject directly corresponds to the performance of the subject in KCSE.

After determining the students past performance in KCSE agriculture, their choice of the subject was established. The students' choice of agriculture was expressed in terms of the ratio of the number of form three students who have selected agriculture over the total number of students in form three. The students' enrolment ratios are summarized in table 4.3 below

Table 4.3

Number of Form Three Agriculture Students

Year	Number of form three students	Number of form three agriculture students	Ratio of Agriculture students
2009	3306	1413	0.3141
2010	4055	1664	0.2166
2011	3943	1576	0.2240
2012	4632	1501	0.2193
2013	5102	1681	0.2184
Overall	**21038**	**7835**	**0.2289**

The results in Table 4.3 reveal that the number of form three students has steadily increased from 3306 in 2009 to 5102 in 2013. Data in the table also reveal that there were fluctuations in the number of students who selected agriculture. The number of agriculture students increased from 1413 in 2009 to 1664 in 2010. This was followed by a decline in the students' numbers from 1664 in 2010 to 1501 in 2012 and an increment (1681) in 2013. The results in the table further reveal that the ratio of agriculture students was fairly low as the ranges were between 0.2184 and 0.3141. This is an indicator that agriculture is selected by only a small fraction of form three students regardless of the positive performance of the subject in KCSE. The hypothesis $H_0$1: which state that there is no statistically significant influence of secondary school's agriculture performance in KCSE, on the choice of the subject by students in Nakuru County, was rejected.

Further analysis was done to show the ratio of students who had chosen agriculture by school category; national, county and district. The ratios are summarized in table 4.4

Table 4.4

Ratio of Form Three Agriculture Students by School category

Year	Ratio of Form Three Agriculture Students			
	National	**County**	**Sub-County**	**Overall**
2009	.0918	0.2356	0.4586	0.3141
2010	.0570	0.2706	0.4808	0.2166
2011	.0800	0.2872	0.5027	0.2240
2012	.0480	0.2004	0.5030	0.2193
2013	.0600	0.1679	0.5075	0.2184
Overall	**.0674**	**0.2323**	**0.4905**	**0.2289**

An examination of data in Table 11 reveal national schools had the lowest overall ratio (0.0674) of students who have chosen agriculture while Sub-County schools had the highest (0.4905) ratio. This means agriculture attracts the highest number of students in sub-county schools.

The relationship between secondary schools' past performance in KCSE agriculture and students' choice of the subject was established using the Pearson Moments Correlations (r). It is ideal for testing relationships when the study variables are at ratio or interval scale and are continuous (Mugenda & Mugenda, 2003). The relationship between the overall mean (M = 6.33, SD = 1.66) grade in KCSE agriculture and overall mean (0.2289) ratio of students' choice of the subject is given in table 4.5.

Table 4.5

Relationship between secondary schools students' past performance in KCSE agriculture and their choice of the subject

Scale	Students choice of the subject ratio	
Performance in KCSE agriculture	Pearson's correlation (r)	-0.763*
	p-value	0.000
	N	31

*Significant at the 0.05 level

The results in Table 4.5 show that there was a negative relationship between the KCSE mean grade and students' choice of agriculture ratio in a two tail test. The

results further reveal that relationship was significant at the 0.05 level, r (31) = -0.763, p = 0.000. This means that performance in KCSE agriculture influences students' choice of the subject. The negative association suggests that few students in schools that perform well in KCSE agriculture select the subject against the expectation of direct proportionality. The first hypothesis which stated that there is no significant relationship between the schools past performance KCSE agriculture and students' choice of the subject was rejected.

4.4 Relationship between Learning Facilities and Students' Choice of Agriculture

The Influence of learning facilities on students' choice of agriculture was determined by examining the relationship between the two variables. Data on learning facilities was collected using a set of 7 statements in the agriculture students' questionnaire. The statements measured students' perceptions of availability of the facilities on a 1 to 5 scale. An overall mean score of the students' responses to the items was computed as shown in table 4.6.

Table 4.6

Means and Standard Deviations on Learning Facilities

Learning facilities	N	Mean	Std. Deviation
I enrolled for agriculture subject because the school has a demonstration farm	334	2.95	1.50
I enrolled for agriculture because the school has a well equipped agricultural workshop	330	1.96	1.30
I enrolled for agriculture because the school is well stocked with agriculture text-books	329	2.96	1.50
I enrolled for agriculture because the school has library and laboratories	324	2.14	1.47
I enrolled for agriculture subject because the school has a well staffed agriculture department	332	3.20	1.47
I enrolled for agriculture subject because the school gave me adequate information on careers in agriculture	336	4.23	1.20
My selection of agriculture was informed by the availability of qualified and experienced teachers in the school	325	3.17	1.50
Learning facilities overall mean	339	2.87	0.84

The results in Table 4.6 show that mean scores of most of the items were below 3.00 with 1.96 (SD = 1.30) being the lowest and 4.23 (SD= 1.20) being the highest. The overall mean of the 7 items was 2.87 (SD = 0.84) out of a maximum of 5. This suggests that the students were of the view that schools did not have adequate agriculture learning facilities. Further analysis was done to find out the level of facilities by school category. The summary of the mean scores are in table 4.7.

Table 4.7

Learning Facilities Means and Standard Deviations by School Category

School category	N	Mean	Standard Deviations
National	31	3.06	0.85
County	64	2.85	0.80
District	244	2.70	0.85
Total	**339**	**2.87**	**0.84**

The results in table 4.7 show that national schools had the highest mean (M = 3.06, SD = 0.85) score while the sub-county schools had the lowest mean (M = 2.70, SD = 0.85). The results in the table show that the agriculture learning facilities in all the three school categories were low and comparable. This is an indicator that availability of agriculture facilities in schools is independent of the school category. The relationship between learning facilities and students' choice of agriculture was determined by running a multivariate test. The results of the test in given in table 4.8

Table 4.8

Relationship between Learning Facilities and Students choice of Agriculture

Scale	Students choice of the subject ratio	
Learning facilities	Pearson's correlation (r)	-0.232*
	p-value	0.000
	N	339

The results in Table 4.8 show that the relationship between agriculture leaning facilities and students choice of agriculture ratio was negative and significant at the 0.05 level, r (339) = -0.232, p = 0.000. This implies that agriculture learning facilities influence students' choice of the subject. The negative relationship is an indicator that a high number of students who chose agriculture are in schools with few facilities for learning the subject. The second hypothesis which stated that there is no significant relationship between agriculture leaning facilities and students choice of the subject was rejected. Therefore we accept there is a relationship between the availability of learning resources and students' choice of agriculture.

4.5 Relationship between School category and students' choice of agriculture

The last (third) objective of the study sought to find out the influence of school category on students' choice of agriculture. Data on school category was captured using the agriculture teachers' questionnaire. The categories of school which participated in the study are summarized in table 4.9.

Table 4.9
Categories of the Schools involved in the Study

School category	N	Percentage
National	3	9.7
County	5	16.1
Sub-county	23	74.2
Total	**31**	**100.0**

The results in Table 4.9 reveal that majority (74.2%) of schools which participated in the study were sub-county schools while minority (9.7%) were national schools. The distribution by school category is consistent with those of Nakuru County Education Office (2014).

The relationship between school category and students' choice of agriculture was determined by running the Spearman's Rank correlation test as shown in table 4.10.

Table 4.10
Spearman's Rank correlation test of the relationship between school category and students' choice of agriculture

Scale	Students choice of the subject ratio	
School category	Spearman's correlation (r)	-0.5913*
	p-value	0.000
	N	31

The results in Table 4.10 show that the relationship between school category and students choice of the agriculture ratio was negative and significant at the 0.05 level, r (31) = -0.5913, p = 0.000. This implies that school category influences students' choice of the subject. The third hypothesis which stated that there is no significant relationship between school category and student's choice of agriculture was rejected

CHAPTER FIVE
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.1 Introduction

This chapter presents a summary of the major findings of the study, conclusions and their implications on the students' choice of agriculture. It also presents the recommendations and makes suggestions on areas that require further research.

5.2 Summary

Subject choice leading to post secondary school career choice for school leavers in Kenya has become more challenging in the light of competition for admissions to relevant University, tertiary institutions' courses and access to job opportunities. Many students miss relevant placement for agricultural courses and employment opportunities due to wrong subject combinations in secondary school. The study was guided by three objectives; to determine the history of secondary school's performance in agriculture subject in KCSE and its 'influence on choice of the subject by students, to determine the influence of secondary school's availability of agriculture learning and teaching resources on the choice of the subject by students and to determine the influence of the category of the secondary school on the choice of agriculture subject by students in Nakuru County. The following hypotheses were tested at 0.05 alpha levels:

$H_0$1: There is no statistically significant influence of secondary school's agriculture performance in KCSE, on the choice of the subject by students in Nakuru County.

$H_0$2**:** There is no statistically significant influence of secondary school's availability of relevant learning and teaching resources on the choice of agriculture subject by students in Nakuru County.

$H_0$3**:** There is no statistically significance influence of the category of secondary school on the choice of agriculture subject by students in Nakuru County.

Although the employment opportunities available in the sector continue to increase for graduates in agriculture, in many countries, too few youth have embraced food production as a career field (FAO, et al, 2014) a reflection of the study, where the the ratio of students gravitating towards agriculture subject declines. The study used the

ex-post facto research design, as the researcher only reported on the influences of school-related factors on the choice of agriculture subject among secondary students. Stratified sampling was used to ensure that all the school categories; National, County and sub-county were initially included in the study. A sample of 18 schools was employed using purposive and simple random sampling technique. The sample size of 367 students was derived using a table of random numbers to determine a finite population out of an accessible population of 7955. Proportionate sampling techniques were used to determine the number of students drawn from each school category. Two sets of questionnaires were used; one for teachers of agriculture and another set for agriculture students. The questionnaires had both closed and open ended items and comprised likert scale rating items, where the respondents would tick their points of concurrence. The questionnaires were completed by 367 Form three students and 18 agriculture teachers in the public secondary school of Nakuru County. Data was analyzed using Statistical Package for Social Sciences (SPSS). Pearson Moments Correlations (r) and Spearman's (Rho) tests were used to examine and analyze relationships among study factors. Hypotheses were tested at 0.05 alpha levels. The study revealed that agriculture learning facilities and school category influence students' choice of agriculture subject. However, performance in KCSE results did not influence student's choice of agriculture subject. This finding is based on the view that technical and vocational education is considered as an important measure for development of workforce (Syeda, 2011). The study recommended that the subject should have relevant resources and facilities to reflect its practical nature and promote subject choice regardless of school category. The findings of the study may be useful to curriculum developers and policy planners in developing policies and strategies that will increase and sustain secondary school students' interest and participation in agriculture subject in Nakuru County and the entire country, Kenya.

5.3 Conclusions

The following conclusions were made;

- As for the hypothesis that there was a significant relationship between secondary schools' past performance in KCSE agriculture and students' choice of the subject, this first hypothesis which stated that there is no significant relationship between relationship between the schools past performance KCSE agriculture and students' choice of the subject was rejected and the alternative hypothesis that there is a relationship was accepted

- As for the hypothesis that there is no statistically significant relationship between secondary school's availability of relevant learning and teaching resources and the choice of agriculture subject by students in secondary school, this second hypothesis was rejected and the alternative hypothesis that there is a relationship was adopted

- The results indicated that the relationship between school category and students choice of the agriculture ratio was negative and significant. This implies that school category influences students' choice of the subject. The third hypothesis which stated that there is no significant relationship between school category and student's choice of agriculture was rejected and the alternative hypothesis that there is a relationship was adopted.

5.4 Recommendations

Based on the findings made in the course of this study, the following recommendations are

Hereby suggested:

i. Students who perform well in agriculture subject should be rewarded well to motivate others to pursue agriculture career by the school management through waiver of school fees from school farm proceeds
ii. The Ministry of Education should ensure schools taking agriculture has adequate relevant resources and facilities for teaching agriculture subject as a requirement to reflect its practical nature and promote subject choice.
iii. Categorization of schools by the Ministry of Education should be done in a manner that does not desegregate students in terms of the students performance in KCPE as the only assessment tool, but through a Continuous Assessment Exams

5.5 Further Research

i. There is need to research on challenges facing grouping of subjects with reference to career choice.

ii. The study focused on Nakuru County only, thus the same study should be done in the rest of 47 counties to enable establishment of the status of School agriculture in the country.

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APPENDICES

APPENDIX A: Letter of Introduction

EGERTON UNIVERSITY,
P.O Box 536,
NJORO, KENYA

20th NOV. 2013.

THE COUNTY DIRECTOR,
MINISRTY OF EDUCATION,
NAKURU COUNTY,
P.O.BOX 259- 20100,
NAKURU, KENYA.

Dear sir/Madam,

RE: REQUEST FOR RESEARCH AUTHORIZATION.

I hereby humbly request for your authority and cooperation regarding provision of information on the questionnaires administered in selected schools of Nakuru County. This will enable me to carry out an academic research on **The Relationship between School factors and Students' Choice of Agriculture Subject in Secondary Schools of Nakuru County.** I am a student at Egerton University pursuing a Master of Science Degree in Agricultural Education.

The information you supply in this questionnaire will be handled confidentially and only used for the research purposes.

Your assistance will be highly appreciated.
Thanks you in advance.

Yours sincerely,

Joshua Kipkorir Cheruiyot

APPENDIX B: Agriculture Students' Questionnaire

SECTION A: Instructions

The purpose of this questionnaire is to gather information on whether **there is Relationship between School factors and Students' Choice of Agriculture Subject in Secondary Schools of Nakuru County**. You are kindly requested to answer all the questions in this questionnaire as honestly as possible for your contribution may be of great value to document the number of students choosing agriculture subject in secondary schools in Kenya. Your identity will remain confidential. Your assistance will be highly appreciated.

SECTION B

School category ……

SECTION C

In your opinion, indicate by ticking (√) in the blank spaces provided in the table below, your rating score show to what extent will the following **teaching and learning resources** influences your choice of agriculture subject using the following rating scale: V.L=Very Large; F. L=Fairly Large; F.S=Fairly Small ;V.S=Very Small & N.A=Not at All

Relationship between Secondary School's Learning Resources and choice of Agriculture		**Rating scale**			
	V.L 5	**F.L 4**	**F.S 3**	**V.S 2**	**N.A 1**
I enrolled for agriculture subject because the school has an active demonstration farm					
I enrolled for agriculture subject because the school has an active agricultural workshop					
I enrolled for agriculture subject because the school has variety of agriculture text-books					
I enrolled for agriculture subject because the school has role model media clips					
I enrolled for agriculture subject because the school has well staffed agriculture department					

I enrolled for agriculture subject because the school gave me information on career decision					
The more the years of experience teachers of agriculture have the more students enroll for the subject					

SECTION D

In your opinion, indicate by ticking (√) in the blank spaces provided in the table below, your rating score to what extent will the following teacher characteristics influences your choice of agriculture subject using the following rating scale: V.L=Very Large; F. L=Fairly Large; F.S=Fairly Small ;V.S=Very Small & N.A=Not at All

Relationship between Teacher characteristics and the choice of agriculture by students	**Rating scale**				
	V.L 5	**F.L 4**	**F.S 3**	**V.S 2**	**N.A 1**
Untrained					
Trained certificate					
Trained diploma teacher					
Trained degree teacher					
Trained masters degree teacher					
Trained PHD teacher					
Others (specified)					

Thank you for your co-operation

APPENDIX C: Agriculture Teachers Questionnaire

SECTION A: Instructions

The purpose of this questionnaire is to gather information on **The Relationship between School factor sand Students' Choices of Agriculture Subject in Secondary Schools of Nakuru County**. You are kindly requested to answer all the questions in this questionnaire as honestly as possible for your contribution may be of great value to document the number of students choosing agriculture subject in secondary schools in Kenya. Your identity will remain confidential. Your assistance will be highly appreciated.

SECTION B. Choice of Agriculture

Q.1 Age of Teacher……

Q.2 How many students are in form three?…….

Q.3How many students are enrolled in agriculture in form three? …….

Q.4 In your opinion, indicate by ticking (√) in the blank spaces provided in the table below, your rating score to what extent will the following.

SECTION C

History of school performance in agriculture and the relationship with the category of school on the choice of agriculture by students using the following rating scale: V.P=Very Positive; P= Positive; S.P=Somehow Positive; N.P=Not Positive & N.P.A=Not Positive at All

Relationship between Secondary School's mean performance and choice of Agriculture	**Rating scale**				
	V.P 5	**P 4**	**S.P 3**	**N.P 2**	**N.P.A 1**
Year 2009 mean grade……					
Year 2010 mean grade ……..					
Year 2011 mean grade ……..					
Year 2012 mean grade ……..					
Year 2013 mean grade ……..					

SECTION D

In your opinion, indicate by ticking (√) in the blank spaces provided in the table below, your rating score to what extent will the **category of school** influences the choice of agriculture subject by students using the following rating scale: V.L=Very Large; F. L=Fairly Large; F.S=Fairly Small ;V.S=Very Small & N.A=Not at All

Relationship between the category of Secondary School and choice of Agriculture	**Rating scale**				
	V.P 5	**P 4**	**S.P 3**	**N.P 2**	**N.P.A 1**
The school category influences the choice of agriculture subject					
National					
Extra-county					
County					
District					

SECTION E

In your opinion, indicate by ticking (√) in the blank spaces provided in the table below, your rating score to what extent will the **age of teacher** influences the choice of agriculture subject by students using the following rating scale: V.L=Very Large; F. L=Fairly Large; F.S=Fairly Small ;V.S=Very Small & N.A=Not at All

Relationship between the age of teacher and the choice of Agriculture	**Rating scale**				
	V.P 5	**P 4**	**S.P 3**	**N.P 2**	**N.P.A 1**
Bellow 26 years					
20- 29 years					
30-39 years					
40-49 years					
50-59 years					
Above 60					

Thank you for your co-operation

APPENDIX D: Table for Determining the Sample Size of a Finite Population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	246
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	181	1200	291	6000	361
45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	373
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	100000	384

Key: "N" is population size

"S" is sample size.

Source; Krejcie & Morgan (1970)

APPENDIX E: Research Authorization

NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

Telephone: +254-20-2213471,
2241349, 310571, 2219420
Fax: +254-20-318245, 318249
Email: secretary@nacosti.go.ke
Website: www.nacosti.go.ke
When replying please quote

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

Ref: No.

Date: **23rd March, 2015**

NACOSTI/P/15/1784/5181

Cheruiyot Joshua Kipkorir
Egerton University
P.O. Box 536-20115
EGERTON.

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on ***"Influence of selected school characteristics on students choice of agriculture subject in secondary schools of Nakuru County,"*** I am pleased to inform you that you have been authorized to undertake research in **Nakuru County** for a period ending **31st August, 2015.**

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 required to submit **two hard copies and one soft copy in pdf** of the research report/thesis to our office.

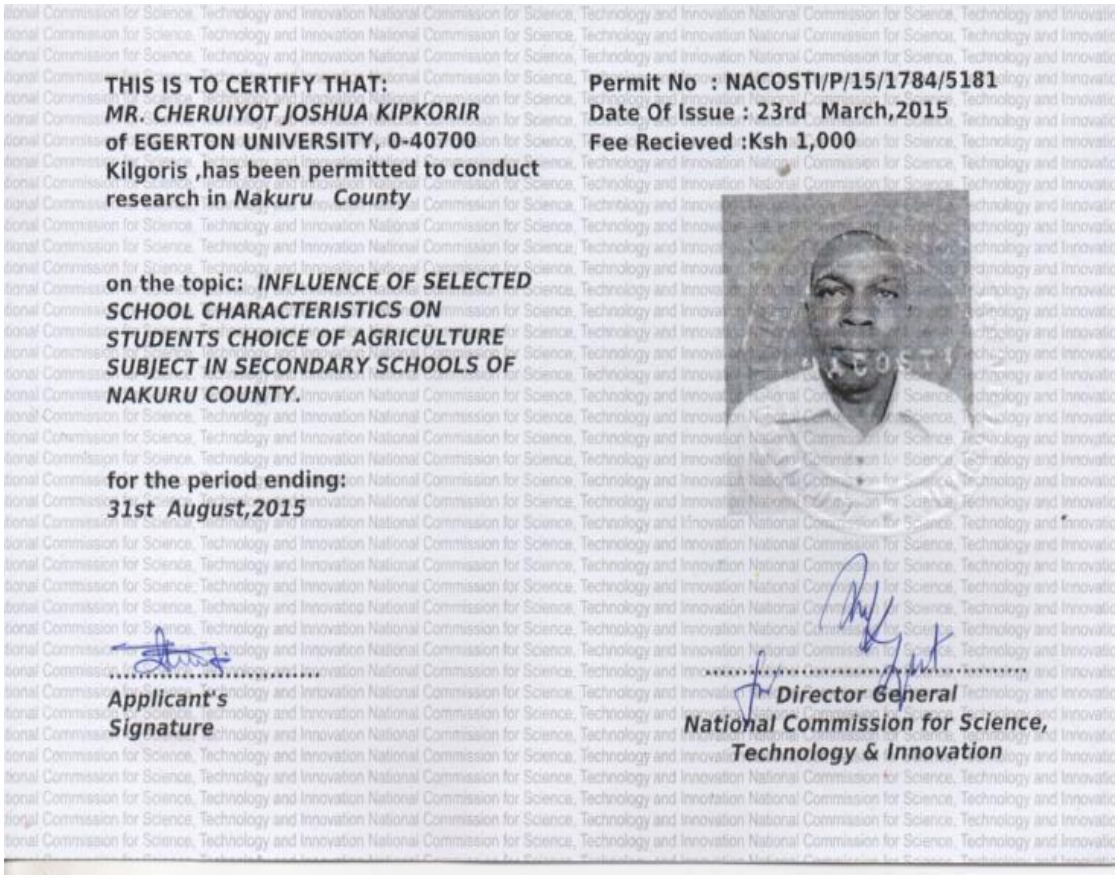
DR. S. K. LANGAT, OGW
FOR: DIRECTOR GENERAL/CEO

Copy to:

The County Commissioner
Nakuru County.

The County Director of Education
Nakuru County.

APPENDIX F: Research Permit



THIS IS TO CERTIFY THAT:
MR. CHERUIYOT JOSHUA KIPKORIR
of EGERTON UNIVERSITY, 0-40700
Kilgoris ,has been permitted to conduct
research in *Nakuru County*

on the topic: *INFLUENCE OF SELECTED SCHOOL CHARACTERISTICS ON STUDENTS CHOICE OF AGRICULTURE SUBJECT IN SECONDARY SCHOOLS OF NAKURU COUNTY.*

for the period ending:
31st August,2015

Permit No : NACOSTI/P/15/1784/5181
Date Of Issue : 23rd March,2015
Fee Recieved :Ksh 1,000

.....
Applicant's Signature

.....
Director General
National Commission for Science, Technology & Innovation