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SELECTED EMERGING ISSUES IN EDUCATION AND THEIR EFFECTS  
ON SECONDARY SCHOOL AGRICULTURAL EDUCATION PROGRAMME  
IN KENYA: A CASE OF MERU SOUTH DISTRICT

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A Project Report Submitted to the graduate school in Partial Fulfillment of the  
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## DECLARATION AND RECOMMENDATION

### Declaration

I declare that this project report is my original work and it has not been presented for any award of degree in this or any other University.

Sign..... JCF .....

Date..... 20/01/2012 .....

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### Recommendation

This project report has been submitted with my approval as the University supervisor.

Sign..... NJK .....

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## **DEDICATION**

I dedicate this work to my dear daughter Grace Ntinyari

## ABSTRACT

The education sector in Kenya has been undergoing reforms since independence. The reforms have been trying to address the emerging issues in the education sector. These emerging issues have been influencing the secondary school agricultural education programme both negatively and positively. The purpose of this study was to explore the selected emerging issues in education and to describe their effects on the secondary school agricultural education programme in Kenya. Effects of the critical emerging issues in education were focused on; (1) performance of students in agriculture at the K.C.S.E. examinations level, (2) enrolment of students into agricultural education classes, and (3) coverage of the syllabus of secondary school agricultural education programme. The study was a qualitative research using *ex-post-facto design*. The respondents were drawn from secondary schools in Meru South District. All the agriculture education teachers in the district were involved in the study (N=29). The data was collected using questionnaire. The questionnaire was self administered. Data was analyzed using the statistical package for social sciences (SPSS) version 12.5. Descriptive statistics were used to describe the data including percentages for individual items. Tables and figures were used to summarize the data. The results revealed that the most critical emerging issues that are influencing the secondary school agricultural education programme are curriculum issues, examination issues and free primary education. Therefore, it was recommended that The Ministry of Education should lay more emphasis on how to mitigate the emerging issues that have influence on the secondary school agricultural education programme. The emerging education issues that are positively influencing agricultural education should be reinforced and made sustainable to ensure that agricultural education in the country meet the demands of its citizens in terms of food supply, provision of employment opportunities and eradication of poverty.

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## ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ASAL	Arid and Semi Arid Land
DEOs	District Education Officers
EFA	Education For All
FPE	Free Primary Education
GDP	Gross Domestic Product
HIV	Human Immunodeficiency Virus
ICT	Information and Communication Technology
IT	Information Technology
KESSP	Kenya Education Sector Support Programme
MDGS	Millennium Development Goals
MOES&T	Ministry of Education Science and Technology
RoK	Republic of Kenya
SRA	Strategy for Revitalizing Agriculture
SPSS	Statistical Package for Social Sciences
TIQET	Totally Integrated Quality Education and Training
TSC	Teachers Service Commission
UPE	Universal Primary Education

## CHAPTER ONE

### INTRODUCTION

#### 1.1 Background Information

The changes that are occurring in the education and the agriculture sectors in Kenya have created challenges on the agricultural education programme. Agricultural education is the intersection between the sectors of education and agriculture. Being able to adjust to changes occurring in agriculture and education is critical to the future growth and survival of the agricultural education (Ralsa & Gary, 2004). Education has been used as a bridge between the theoretical and the practical agriculture offered in our Kenyan secondary schools. Agriculture is the backbone of Kenya's economy and accounts directly for about 26% of Gross Domestic Product, and 27% indirectly through the linkages with manufacturing, distribution and service related sectors. Agricultural sector accounts for 68% of the total export earnings as indicated in the Ministry of Agriculture Strategic Plan, (R.o.K, 2005).

The small-scale farmers in the high potential areas mainly dominate agriculture in Kenya. Agriculture returns from the sub sector accounts for 75%, mainly carried out for subsistence and commercial purposes. The agricultural sector supports 80% of the Kenyan population in employment. It is the main tool this country can use in poverty reduction and in ensuring food security. To sustain productivity in the agricultural sector, there is need for enhanced efforts to encourage farmers to adopt the modern farming practices. These modern practices can be passed to the farmers through agricultural education. The integration of agricultural education into the secondary school curriculum is very crucial in developing and sustaining the backbone of the country's economy. The values of agricultural education should be made a reality in the lives of young citizens (R.o.K, 1995; R.o.K, 2002). This would make it less difficult for the young people to come to terms with the roles of agriculture in this country.

The Kenyan agricultural industry has been faced with enormous challenges. The increasing pressure to change from the traditional agricultural production practices to the modern agricultural production practices has been pushing the agricultural industry towards the achievement of its goals and potential in being the main support of the

country's economy. The modern agricultural production practices, if adopted and utilized, will enhance the production of agricultural commodities that meet the demands of the citizens in this country. This could be in both quality and quantity of the produce being presented to the markets, locally and at the global level.

Agricultural education being the intersection point between the sectors of agriculture and education forms the pivot that can be used to meet the demands of agriculture, as well as, direct the type of education offered to the citizens towards the achievement of educational goals in this country, as well as, the Millennium Development Goals (T.S.C, 2007). The stability of the agricultural education can be attained if the emerging issues in both sectors of agriculture and education are adequately addressed and solutions found towards them. In order to offer agricultural education for use by the citizens, these emerging issues should be addressed at the global perspective, as well as, at the national level (Ralsa & Gray, 2004).

The trends of the development of agricultural education in Kenya have been taking a slow pace. Since independence, agriculture as a subject has been associated with the nametag 'self-reliance' (Kiboss, 2002). It was expected to give enough incentives so that many students as possible can enroll in agricultural education classes. However, this has not been the case. Many students even those that have been enrolled in agricultural education classes have been opting to move to other fields, away from agriculture, to such areas as business education, computer studies and other arts based subjects. With this current trend, it is clear that agricultural education is at risk of being unsustainable, hence the need to investigate on the education emerging issues and the effects of the issues on secondary school agricultural education programme.

In the past, several studies have been done in agricultural education. These studies on agricultural education programme in Kenya. have been focusing on the curriculum of agricultural education (Kathuri, 1990), attitude towards rural life (Onyango, 1982), contribution of agriculture to rural development (Onyango, 1975), the importance and evaluation of principles and practices of agriculture (Kathuri, 1980), perception of administrators, agriculture teachers and students on the secondary school agriculture (Muchiri, 1996), effects of attitude, gender and previous agriculture experience on the performance of agriculture students (Lopokoiyot, 1995) and contribution of secondary

school agriculture knowledge to rural agriculture productivity (Kipkemei, 2001). Most of the previously done studies on agricultural education have therefore, investigated performance, attitude, perceptions and the methodology of teaching agriculture in Kenyan secondary schools.

### **1.2 Statement of the Problem**

The Kenyan education curriculum has incorporated the teaching and learning of agriculture at the secondary school level. Agriculture is treated as an elective subject. Previous studies on agriculture subject have left gaps on the following areas; first, establishing whether the agriculture teachers are aware of the critical emerging issues in the sector of education that have had effect on agriculture as a subject. The teachers can only address these issues if they are aware and understand them. The second concern is to find out the extent to which these issues influence secondary school curriculum implementation. Thirdly, it is important to find out the recommendations of the secondary school agriculture teachers on how the critical emerging issues can be addressed so as to ensure improvement on the secondary school agricultural education in Kenya.

### **1.3 Purpose of the Study**

This study was done with three concerns; first to identify the critical emerging issues in education sector that affect secondary school agriculture education. Secondly, to determine the effects of the selected emerging issues on secondary school agricultural education programmes. Thirdly, the results would assist in making recommendations in the sector of education as a means of improving the agricultural education programme in the country.

### **1.3 Objectives of the Study**

The study was guided by the following objectives.

- a) To identify the selected critical emerging education issues that have had significant effects on secondary school agricultural education programme in Kenya over the last two decades.
- b) To describe effects of the selected critical emerging education issues on the students' performance in agriculture in the K. C. S. E. examination level.

- c) To describe effects of the selected critical emerging education issues on the enrolment of students into the secondary school agricultural education programme in Kenya.
- d) To describe effects of the selected critical emerging education issues on the coverage of the secondary school agricultural education syllabus in Kenya.
- e) To determine the recommendations of the agriculture teachers on how the identified critical issues can be used to improve the secondary school agricultural education programme.

### **1.5 Research Questions.**

- a) What are the critical emerging education issues that have been affecting secondary school agricultural education in Kenya for the last two decades?
- b) How are the critical emerging education issues affecting the students' performance in agricultural education at the K.C.S.E. examination level?
- c) How are the critical emerging education issues affecting the enrolment of students into the secondary school agricultural education programme in Kenya?
- d) How are the critical emerging education issues affecting the coverage of secondary school agricultural education syllabus in Kenya?
- e) What are the recommendations of the agriculture teachers on how the identified critical issues in education can be used to improve the secondary school agricultural education programme.

### **1.6 Significance of the Study**

The results from the study may be used by the education curriculum developers to reinforce the emerging issues that are positively affecting agriculture as a subject at the secondary school level as well as identifying and mitigating the issues in education that have a negative influence on secondary school agricultural education programme. Secondly, the study will act as a platform for other researchers to build ideas on in order to carry out other researches that are relevant to teaching and learning of agriculture.

### **1.7 Scope of the Study**

This study involved all the secondary school teachers who are currently teaching agriculture in Meru South District. The respondents were provided with a list of

emerging issues in education. These emerging issues were limited to the past two decades. This ensured that most recent and relevant emerging issues in education sector were incorporated in the study.

The effects of the selected emerging issues on the secondary school agriculture were focused on three areas; the students' performance in agriculture at the K.C.S.E. examination level, enrollment of students into agriculture class and the coverage of the agriculture syllabus.

### **1.8 Limitations of the Study**

- a) This study was limited to education issues and how the issues influenced secondary school agricultural education. Consequently, other issues in other sectors of the country's economy that affect agricultural education were not included in the study.
- b) Generalization of the results should therefore, be limited to the secondary school agriculture education programme in Kenya.

### **1.9 Operational Definition of Terms**

The following terms assumed the meanings indicated with respect to this study.

**Agriculture-** The art and science of crop and livestock production. This includes all the activities involved in growing of crops and raising of livestock.

**Agriculture Education** -The teaching and learning of agriculture as an art and science of crop and livestock production in accordance with the secondary school education curriculum in Kenya.

**Agricultural Education-** it is the general learning of agriculture at any level of education at both formal and informal education.

**Agriculture Subject** –one of the subjects offered in the secondary school curriculum for examination purposes as an optional subject.

**Education** – This is the formal means of acquiring skills, knowledge and attitudes by the learners where teachers and students interact in a classroom as well as out of class environment.

**Emerging issues** – These are the mainstream factors that have been coming up in the education sector that have been affecting the education system in Kenya either negatively or positively.

## CHAPTER TWO

### REVIEW OF LITERATURE

#### 2.1 Introduction

The purpose of this study was to identify the critical emerging education issues in Kenya for the last two decades. These emerging issues were also examined on the extent to which they are affecting the secondary school agricultural education in the areas of students' performance in agriculture at the K.C.S.E. examination level, enrolment of students into agricultural education class and the coverage of the agricultural education syllabus. The literature reported in this chapter was used to identify the emerging issues in the sector of education and finally outline the theoretical framework that guided the study. The identified issues were also used to prepare questionnaire that was used to collect data from the respondents.

#### 2.2 Identification of Emerging Issues in Education

Various emerging issues that have been influencing education sector in Kenya have also been influencing the teaching and learning of the secondary school agricultural education programme. These issues include free primary education, curriculum development and implementation, examinations, gender considerations, HIV/AIDS, drug abuse and introduction of information and technology into the scene of education and development.

Since independence, the Government has addressed challenges facing the education sector through commissions, committees and taskforces. After independence the first commission, came up with the Kenya Education Commission Report (R .o. K, 1964). This commission recommended ways and means of reforming the education system that had been inherited from the colonial government. It was aimed at transforming the education system to be more relevant to the needs of independent Kenya. This commission proposed an education system that would foster national unity and the creation of sufficient human capital for national development. In 1976, the Kenya Government formed The National Committee on Educational Objectives and Policies (R.o.K, 1976). This commission focused on redefining Kenya's educational policies and objectives, giving considerations to national unity, economic, social and cultural aspirations of the people of Kenya. The Report of the Presidential Working Party on the

Second University in Kenya (R.o.K, 1980) led to the expansion of primary school level from seven years to eight years, removal of the Advanced level of secondary education and the expansion of other post secondary training institutions. This commission also led to the establishment of Moi University and recommended the establishment of the 8.4.4 system of education and the Commission for Higher Education. In 1988, Mr. Kamunge an education specialist came up with the Report on the Presidential Working Party on Education and Manpower Training for the Next Decade and Beyond. This report focused on improving education financing, quality and relevance. This was the time when the government scheme for the provision of instructional materials through the National Textbook Scheme was inefficient. This had adversely affected the quality of teaching and learning. Recommendations of this report, led to the policy of cost sharing between government, parents and communities. Two years later after another commission of inquiry to the quality of education system in Kenya under Dr. Koech was mandated to recommend ways and means of enabling the education system to facilitate national unity, mutual social responsibility, accelerated industrial and technological development, life long learning, and adaptation in response to changing circumstances. The Koech Report was titled Totally Integrated Quality Education and Training (TIQET). The government, due to the cost implications did not implement this report; however, some recommendations such as curriculum rationalization, were adopted and implemented.

Following these commission reports, the education sector has been faced by various emerging issues most of which have been challenges that have led to the government working hard to meet the demands of the citizens. There have been recent initiatives that have focused on the attainment of Education for All (EFA) and in particular the Universal Primary Education (U P E). There have been key concerns in the sector of education, these include; access, retention, equity, quality and relevance, and internal and external efficiencies within the education system (R.o.K, 2005)

The government is committed to the provision of quality education and training as a human right for all Kenyans in accordance with the Kenyan law and the international conventions such as the EFA goal, and is developing strategies for moving the country towards the attainment of these goals. The implementation of free primary education (FPE) is critical to the attainment of UPE as a key milestone towards the realization of

the EFA goal. This has been evidenced by the strategic plan of 2006-2011, where the plan proposes three major strategic thrusts. The first is to expand access to education opportunities at all levels, particularly the basic education. The second is to improve the quality of education and the third is to improve the institutional framework and expand capacities for effective delivery and management of education services as noted in the (R.o.K, 2004). The strategic plan will be used as a tool to address solutions to many issues that are emerging to challenge and direct the education sector in this nation towards the achievement of the required quality and relevance at both the national and the international level.

### **2.2.1 Free primary education**

The government policy in 2003 on primary education was to achieve UPE, which is a key strategy towards attaining the overall EFA by 2015. Attaining UPE will ensure that Kenyan children eligible for primary schooling have opportunity to enroll and remain in school. When the government introduced FPE in January 2003 there was an increase in enrollment of children, this was followed by an increased transition rate to secondary level (R.o.K, 2005; TSC, 2007). Despite this, performance in the primary; school level still continues to experience many challenges relating to access and equity. In the Sessional Paper number one of 2005 (R.o.K, 2005) the challenges facing primary education are outlined as overstretched facilities, overcrowding in schools, especially those in urban slums; high pupil- teacher ratio in densely populated areas; diminished community support; gender and regional disparities; increased number of orphans in and out of school as a result of HIV/AIDS and other reasons as well as internal inefficiencies. To address these challenges the government has been taking several measures, including, providing additional support to low cost boarding schools in Arid and Semi- Arid Lands (ASALs); providing financial support for special needs education; offering primary school curriculum in slum areas, improving school health and nutrition, mainstreaming HIV/AIDS education into the regular school curriculum, taking affirmative action in support of the girl child; providing funds to help meet water and sanitation needs in schools and mobilizing resources from development partners in support of FPE (R.o.K, 2004).

The FPE has significant effect in achievement of the objectives and goals of the Ministry of Agriculture; this is because with education, majority of the farmers will be

enlightened to carry out the advice from the extension officers effectively. The achievement of the set goals and strategies and the commitment by the Ministry to improve service delivery in line with National aspirations as articulated in the Economic Recovery Strategy for Wealth and Employment Creation 2003 (R.Ok, 2003). These expectations will be achieved with an educated population. This is because a literate population is an asset to the agricultural sector by providing qualified personnel and opportunities for reducing costs of extension by using print and electronic media (Brunner, 2001). In this respect the FPE is a channel to provide affordable and equitable access to education, this will help to facilitate easy implementation of the agricultural practices that are passed down to the farmers from the research centres as observed in the Strategy for Revitalizing Agriculture from the year 2004 to 2014 which presents strategic interventions which will transform agriculture into a competitive and commercially oriented enterprise (R.o.K, 2005). The achievements of the goals stipulated in the strategic plan of the Ministry of Education are being achieved by use of the Kenya Education Sector Support Programme (R.o.K, 2004).

Free Primary Education has been impacting on the secondary school education in various ways. There have been increases in enrolment of students in the secondary school education. This has also affected the teaching and learning resources in the secondary schools. The teaching and learning of secondary school agricultural education programme has registered higher enrolment with more students taking agriculture as an examination subject at the Kenya Certificate of Secondary Education (K.C.S.E) level.

### **2.2.2 Curriculum Issues**

Since independence, Kenyans are still at crossroads searching for the most relevant education system to meet the economic and social challenges they face (Ndirangu, 2004). Each decade, since independence, the government has been responding to emerging issues through appointment of commissions. Most of the changes that have occurred in education have been brought about by the education commissions and the cultural changes. In pursuit of relevance, the cultural changes have been reflected in the education systems that have raised several education demands as observed in UNESCO, (2001).

- Educating active, rigorous and flexible individuals rather than skilled workers for pre-established jobs.
- Counter balancing the increasing inequalities and their consequences in terms of poverty and marginalization.
- Treating diversity as a valuable resource, different from equality.
- Educating to recreate politics.
- Preparing to face an increasing broad spectrum of personal decisions.
- Preparing for both the introduction and prevention of the paradoxical effects of technical progress.

The curriculum offered in our Kenyan secondary schools has been mainly academic curriculum. This worked reasonably well into the first decade of independence because of manpower shortage that existed in the formal sector. However, there has been an imbalance between the academic curriculum and the demands of the job market (Ndirangu, 2004). The formal sector is becoming saturated with manpower. In spite of this, the school system has continued to process out graduates who are armed with certificates but cannot find employment and are ill equipped for self-employment.

Although the 8-4--4 system has been going on for the last 24 years, the problem of unemployment has persisted among the increasing populations. This has been fuelled by the fact that, the Kenyan schools have been preparing students for academic certifications and examination purposes at the expense of applied learning, acquisition of information, concept formation and development of analytical skills (Ndirangu, 2004; UNESCO, 1999).

The curriculum offered in Kenya must address five economic processes related to employment. First, the reduction in the volume of work available and even necessary to satisfy the societies basic needs. This means that the young people educated today are faced by the challenge of delayed entry into the labour market. They go through periods of unemployment or under-employment. Secondly, is the growth of jobs in the service sector compared with farming and industrial sectors. Third, is the growth in informal employment as opposed to formal employment Fourth, is an increasing change in the profile of occupation particularly with regard to specific skills and the fifth is the

change in the scales in which individual job opportunities are obtained. These economic processes present different challenges to education. The reduction in the volume of work available puts on the agenda issues of postponement of entry into the labour market and the extension of compulsory education, now definitely covering education provision for young people and adolescents (David, 1999). This increasingly renews the old teaching demands of teaching how to learn, making it into a social-economic and personal imperative. Macelli, (2001) observed that the failure to create jobs in the agricultural and the industrial economies leads to re-thinking of formulating the education system for work and to a demand for strong links with education for the service sector and white-collar jobs, even in connection with production of agricultural and industrial goods.

The increasing growth of the informal employment compared to the formal employment sector of the economy leads to the assumption that is very important for all the young people to learn entrepreneurial skills. This has not been the case in the past and the education sector is urgently faced by the challenge in making reforms in education to meet the needs of its citizens. Since the labour market appears to be unable to accommodate all the young people who graduate from the current system of education, there is a need to offer training for work. This is gradually gathering strength in the informal sector of education (Ministry of Education, Strategic Plan, 2005). The Economic Recovery of Wealth and Employment Creation, R.o.K, (2006) stipulates that the target of creating at least 500,000 jobs annually has remained a challenge. However, the government is still creating job opportunities for the young people. These opportunities are education related since only the educated are likely to have easy access to these jobs.

Curriculum related issues have been impacting on the secondary school agricultural education on the enrolment of students into the agricultural education class. This has been because of the changes in the curriculum in the secondary schools. Students have been opting to select other subjects instead of agriculture since agriculture is not a compulsory subject.

### **2.2.3 Examination Issues**

The education system in Kenya is examination oriented. Herring, (1995) observed that examinations are used to measure the performance of the school, students and the

teachers. The summative examinations, especially those of end of course, are more emphasized in our both secondary schools and the primary schools. These examination results are used to determine who would be enrolled into the secondary schools in case of primary schools and into tertiary institutions and the universities in case of secondary schools. The limited places in the tertiary institutions coupled with an increase in population of students graduating from the secondary schools has resulted to teaching and learning in the secondary school being compromised. Many students are getting involved in cheating during examinations. Consequently, many have failed to get their results after the four year course, while others, enrolling into difficult programmes which they are not able to complete because they had scored grades beyond their ability after copying the examinations.

The supervision of the secondary school K.C.S.E. examination has also affected the teaching and learning in the secondary schools. Teachers involved in examination supervision stop teaching from 21<sup>st</sup> October during the third term session. This has affected syllabus coverage because students are not taught in some subjects through out the period the teacher is supervising the K.C.S.E examination level. Most of the summative examinations test the cognitive domain of the students. This leaves out the affective domain as well as the psychomotor domain. The cognitive objectives cannot be used as the only way to measure how well the objectives of education have been achieved (Ndiragu, 2004).

The academic performance of the students is influenced by the social economic status of the family as observed by Ndirangu, (2004). The rural students from unstable economic backgrounds do not have access to the prestigious schools in the nation because of high expenses. The prestigious schools are always registering over 85% students passing K.C.S.E examinations required for the entry into the universities.

The teaching and learning of agricultural education has been negatively impacted on by the examinations. The syllabus coverage is examination – oriented, where the teachers are drilling the students on how to answer questions. Although there is emphasis on the practical activities that are suggested for the teacher and the students, most of these activities are not done in the course of teaching and learning of secondary school

agricultural education. Teachers engage themselves in preparing the students for the examinations more than in practical applications of the subject.

Most of the students enrolling into agricultural education classes have no intentions to continue with agriculture as a subject in higher education. This is because most students are enrolling in agriculture to boost their performance in terms of better grades, hence improving their mean score, which enable them to attain the minimum score to secure a place in the public universities and institutions without necessarily taking agricultural related courses.

Examination related issues have been impacting on secondary school agricultural education on the enrolment of students, performance of students and coverage of the syllabus. This is because examinations are used to place students into various careers and certificates mainly used in the job market (Ndirangu, 2004).

#### **2.2.4 Gender Related Issues**

The Ministry of Agriculture is currently promoting gender sensitive practices and cultures within its staff and the wider agricultural stakeholders as noted in the Agriculture Strategic Plan, 2005. Women and girls, who account for over 50% of Kenyan population, are significantly under-represented in the scientific and technological fields and are therefore, unable to contribute to economic development to an extent proportional to their number (Oywaya-Nkurumwa, 2004;). Kenya does not have a national gender policy and gender issues are addressed using variety of legal and policy provisions. Women contribute 60% -80% of labour force in the household reproductive activities and agricultural production (Emong'or, 2007). They work longer hours than men do and this often contributes to their poorer health and nutritional status and high maternal mortality rate. On the other hand, men who are traditionally considered as the heads of households, have greater access to land, credit and extension services.

In schools, girls' dropout makes them proportionally less educated than boys. Due to this, it is clear that traditional interventions for agricultural development are likely to affect men and women differently (UNESCO, 2001). Though women are the main agricultural producers, they rarely participate in decision-making that affect their participation in agriculture and food production. Matrimonial property, including land,

is mainly registered in the name of the man. Most communities' sons remain the legal heirs. The issue of gender requires coordination and collaboration with other sectors. The Ministry of Agriculture work plan (R.o.K, 2006) indicates that few women at professional level and even at farming level are involved in influencing the development of agriculture policy, research and management of livestock/agriculture resources and programmes. This situation has contributed to poor agricultural production and subsequent food insecurity among the households. The government has been making efforts to ensure improvement of women representation at job opportunities by advocating for 30% women representation in the new appointments made into the job markets. To achieve these, there is a need to educate more women and girls. This is because despite the expansion of the formal education and the exponential growth in enrollment of students into formal education in Kenya the number of female students in the higher institutions of learning has always been lower compared to that of males (Joe & James, 2003).

Even after the introduction of free primary education, the education of girls still remains behind that of boys. Gender continues to be a major concern in determining who goes to school among the rural poor, who are faced by issues of food security and poverty, especially in the ASAL areas. Being a female is negatively associated with enrolment, attainment and performance in the education system. Many still believe that women should grow up, marry and have babies and the boys need to be educated to get into better jobs.

Sustainable development of agriculture will be attained when the key role of women in production and marketing of agricultural products will be recognized. It has been observed that women perform over 70% of farming activities. UNESCO, (1998) has outlined several factors that have been determining the women education opportunities in Kenya. First, the cultural and attitudinal factors, which are pegged on the roles, responsibilities, power, relations, rights and entitlements accorded, access to resources, ownership and control of resources, needs and interests and the expected patterns of behaviours for men and women. The second, factor is based on the historical background of formal education. The colonial administration had little interest to invest in education and especially for women (Joe & James, 2003).

There are multiple socio-economic factors that hamper full participation of women in rural economic development as identified by the Ministry of Education (2006) during the internal impact assessment. These include, high level of illiteracy, low entrepreneurship skills, inadequate access to productive resources such as land, finance, research information, extension education, healthcare, nutrition and shouldering of a multiplicity of other roles emanating from socio-economic and cultural practices. The R.o.K, (2005), in the paper on the Ministry of Agriculture work plan, has been mainstreaming gender as a means of commitment to ensure that women's, as well as men's concerns and experiences, are integral to the design, implementation, monitoring and evaluation of the legislation policies and programme so that women and men, as well as boys and girls benefit equally and that inequality is not perpetuated.

There are five issues that need to be addressed on how gender issues influence agriculture. Firstly, there are rules and cultural practices that reinforce women's economic dependency on men by restricting property ownership and inheritance to men. They also limit women's ability to control income and property. This can be addressed by educating the young generation on the issues of equality towards building sustainable economic development starting at the household level. Secondly, migration of males to the urban centres in search of salaried employment leads to transfer of traditional male responsibilities in agriculture to women. Therefore, in absence of men, there is a delay in taking some simple farm management decisions and hence leading to family impoverishment. Thirdly, women and the youth are excluded from farm income control and decision-making. They are to wait for men to make decisions on usage of funds and other resources. Fourthly, the males who cannot provide for their families usually become drunkards and often divide or sell their land without consulting their wives or children. Fifthly, agricultural production and household food security are affected by the sale of produce by male heads of households due to patriarchal decision making structure, increased burden to health care placed upon women by HIV/AIDS, withdraw of labour from production due to illness and patriarchal livestock ownership patterns. Joe & James, (2003) have emphasized that for conservation of biodiversity in order to avoid environmental degradation, the role of women should be considered. Further, they observed that the many campaigns that have been generated from non-governmental organizations, government policies and international agencies to address

environmental concerns have failed because women are neither consulted nor empowered to that end.

Gender related issues are impacting on the secondary school agricultural education on the area of enrolment. The affirmative action has been promoting enrolment of more girls into secondary schools; this in turn has led to an increase of students' enrolment into the secondary school agricultural education class.

### **2.2.5 HIV/AIDS Related Issues**

The Human Immunodeficiency Virus /Acquired Immune Deficiency Syndrome (HIV/AIDS) prevalence in Kenya is high among the adults. Due to increased adult mortality rate, there has been a slow economic growth and an increased dependency ratio among the populations. This has continued to adversely affect all sectors of the Kenyan economy.

In the education sector the HIV/AIDS pandemic has the following effects;

- Children infected with HIV/AIDS at birth do not live to enroll in school.
- The number of orphans in schools will increase as parents die from HIV/AIDS. Without appropriate interventions the orphans will most likely drop out of school.
- Some children will stay at home to take care of the sick family members instead of attending school.
- There are teachers dying from HIV/AIDS while others are too sick to work and thus denying the education sector a vital skilled human resource.

HIV/AIDS pandemic therefore, is threatening to undermine the countries achievements in literacy, by increasing the number of dropouts, poorly educated children and of the working children. This undermines the achievements of the EFA goals (T.S.C, 2004).

The agricultural sector has also been affected by the HIV/AIDS both directly and indirectly at the household level, reducing the supplies of labour, patterns of farming and other activities, as well as affecting the whole communities and the wider economy.

Labour shortages in HIV/AIDS affected households rise through loss of labour when people are unable to work due to illness and they ultimately die. Labour is also shifted from agricultural activities into caring for the household members who are sick. The loss of labour mainly affects the prime-age, leaving only the elderly and the children to

replace the labour lost to agriculture (Jayne, Villarreal, Pingali, & Hemrich, 2004). The death of men from the HIV/AIDS- related illnesses increases the number of female-headed households. Women take most of caring roles and attempt to compensate for the missing labour of the sick husband.

Mather, (2004), further stipulates that labour shortage consequences for agriculture and other rural activities include; uncultivated lands shifting from crops which are labour intensive to crops which are less labour intensive, as a result, there is reduction in the range and diversity of crops grown. Less time is spent on land conservation and there is a shift from physically demanding jobs to petty trading. The sick are also unable to join and participate in co-operatives, which makes it difficult for them to access credits. The death of adults from the HIV/AIDS pandemic results into loss of knowledge and skills as the adults die before passing on their learning to their children (Desa, 2003). Mutangadula, (1999) found that, after the death of their husbands, the widows loose access to land. This results into conflict within the extended families over inheritance of land and property. In most cases the widows are left destitute, possibly having to result to commercial sex work (Jayne, Villarreal, Pingali, & Hemrich, 2004)

The HIV/AIDS is also affecting the trends of farming in the rural households. There has been diversity of enterprises that have emerged as a result of the pandemic as observed by Rachel and Steve, (2005), beekeeping is an option to labour intensive farming. It is an important income generating strategy for HIV/AIDS affected households and provides important food in combating opportunistic infections. Use of traditional vegetables such as pigweed and black nightshade, among others, has now been incorporated into agricultural production because of their higher nutritional value.

The Ministry of Agriculture has considered mainstreaming HIV/AIDS as a means of commitment to ensure that those who are infected and affected are included and their interests are integrated in the design, implementation, monitoring and evaluation of all legislation, policies and programmes. The effects of HIV/AIDS on the farmers in relation to agriculture are as follows:

- The infected farmers are likely to lose a lot of time and energy because of frequent illness which translates to low productivity.

- The farmers are likely to spend their income in seeking treatment. This depletes savings that could be used to expand farming activities and food security.
- Agricultural assets and livestock are likely to be sold off to meet hospital bills and special nutritional.
- Extension officers who are affected are less productive and spend a lot of resources on treatment.
- Loss of extension workers is a loss to the nation due to loss of skills.

HIV/AIDS pandemic is impacting on the secondary school agricultural education both directly and indirectly on the coverage of the syllabus, enrolment and the performance of students. Directly students have been dropping out of school due to sickness and this has led to reduced enrolment. Teachers who are infected spend much of their time seeking medical attention and at the same time they are weak, which leads to inadequate coverage of the syllabus. Indirectly many students have dropped out of school due to lack of school fees when their parents or guardians die and this has led to decline in enrolment.

### **2.2.6 Drug Abuse Issues**

Drugs and substances abused in Kenya include alcohol, tobacco, cannabis sativa, miraa, glue, petrol, medical drugs, valium, morphine, cocaine, heroin and madras (R.o.K, 2007). There is a widespread abuse of the drugs and substances, particularly among the youth fraternity. Working hours are lost when productive labour force spends time abusing and nursing effects of abuse. The abuse leads to antisocial behaviour, family resources are diverted to consumption of the drugs and substances. Due to continued use of these drugs there is deteriorating health and increasing mortality. Dependency on these drugs and substances among the young people increases social economic psychological health and other behavioural problems (Rono & Nyaga, 2004). These associated problems of drug abuse are emerging as major social problems in both urban and rural Africa affecting people of all ages and the youth in particular.

The most prevalent drugs abused are made from locally grown crops which include sugarcane, sorghum, millet used in local brews, honey, tobacco, miraa, and cannabis sativa. These are agricultural products; the farmers use them as a source of high returns. The farmers are opting to the production of these crops in preference to the other

conventional crops. The farmers use their young people in the production practices and therefore, the young people have grown up interacting freely with the drugs. Consequently, the youth find it normal to indulge into the drugs even at very tender ages.

The school going children drop out of school to join their parents in the drug crop production and to earn income. The TSC, (2007) has noted that in miraa growing zones, boys as young as ten years have dropped out of school to earn money from the lucrative miraa business. Most of the boys drop out by the time they reach class five, leaving most of their classes filled with girls. Majority of the girls, on the other hand drop out of school due to lack of support from their parents who have placed little value on education. Although, the school curriculum for agricultural education has not incorporated these crops in the teaching, yet they are being produced in large quantities.

The challenge of drug abuse has caused a great problem on human resource development, which affects all sectors of social and economic development of the country (Rono, 2000). The drugs reduce the life expectancy of the people involved. Such people are likely to engage in irresponsible sexual behaviour and in the selling of personal assets to get more money to buy the drugs (Kelly & Kaplan, 1998; Rollnick, 1997). Among the working people in both sectors of agriculture and education, these drugs are associated with absenteeism and decreased efficiency and productivity. In schools, the involved students never complete their assignments, always cheat in their examinations and score lower grades as compared to those not involved in drug abuse (Rono and Nyaga, 2004). Drugs and substances have been contributing highly to the spread of HIV/AIDS.

The most prone section of the population is the youth on which the future of the country's agriculture, food, security, rural development and welfare heavily depends on. Drug abuse related issues have been impacting on the secondary school agricultural education by affecting the students' performance, enrolment of students into agricultural education, as well as the coverage of the syllabus. Due to drugs students drop out of school and the teachers have less time devoted to the coverage of the syllabus. This in turn affects the performance of the students in the agricultural education.

### 2.2.7 Information and Technology Issues ✓

If agriculture is the engine of economic development then information could be described as the fuel for economic development. Modern technologies now offer unprecedented potential to deliver information to the rural communities. This is contributing towards alleviating poverty and transforming social and economic conditions (T.S.C, 2004) where it has further been noted that, information technology, together with the ability to use it and adapt it, is the critical factor in generating and accessing wealth, power and knowledge

There are a number of questions that need to be answered for the potential to be realized.

- How can ICTs be more effectively used to deliver the information required by the rural farming communities?
- How can their benefits be made available to the more disadvantaged groups?
- What mechanisms or models for their use will prove sustainable?

Information and communication technologies are powerful resources for informing people and providing them with knowledge and skills they need to put agricultural science and technology to effective use. The communication infrastructure, newspapers, telephone, television and the radio, as well as the relevance of the information to the local people, have supported information technology; it has led to improved access to information as observed by Onguko, (2007)

Information and technology play four major roles in securing of food and sustainable development. Various technologies have emerged to enable Africa achieve food security and sustainable economies as observed in the R.o.K, (2004)

- Development of agricultural technology for meeting the increasing need for food at affordable prices.
- Development of sustainable land management technologies for rangeland, forests, grassland, swampland, and marginal land.
- Development of agricultural systems that conserve biodiversity within the system itself.

- Development of knowledge systems based on proper understanding of needs of households that depend on the ecosystem and indigenous knowledge of existing resources of their survival.

In agriculture, technological aspects play a major role in forming a basis for food security. These roles are; production to meet increasing consumption needs, poverty reduction through fostering economic growth and making more efficient use of world resources.

In education, the Ministry of Education Strategic Plan, (R.o.K, 2005) considers a vibrant information and communication technology (ICT) sector to be critical to the process of lowering the cost of business while increasing the competitiveness of the Kenyan products in international markets. At the local level information and technology is expected to provide a momentum to the sustainable economic growth and reduce poverty. Therefore, the IT is significant to the achievement of the Millennium Development Goals. To achieve these, the Ministry of Education is engaged in investing in adequate ICT education and training through streamlining education curriculum to incorporate IT related studies in a bid to sharpen ICT skills. Michael & Diane, (2000) noted that many institutions and schools are embracing IT to enhance their programmes and expand their horizons. Through the use of video-conferencing, computers and internet, schools are able to deliver courses to distant students without requiring them to set foot in a traditional classroom. With these developments the teaching and learning of agriculture is shifting towards virtual learning just like other subjects. The virtual environment, instant access to talking machines make the world seem more a nearby reality rather than fiction. Swan & Brehmer, (1994) observed that distance education is an emerging technology that is able to meet the quality and the quantity of education required. Swan & Jackman, (1996) termed communication technology as a teaching strategy, which can be used when dealing with issues of teacher and pupil ratio, as well as, learning to create and provide access to learning when the source of information and the learners are separated by time and distance.

Information and technology has affected the teaching and learning of secondary school agricultural education in various ways. First, the access to information related to agriculture from the Internet facilities that have been installed in most schools that have access to computers. The students can also seek for information from the cyber cafes

where there are no facilities in schools or in their homes. Pallof and Pratt,(1999) noted that to increase access to agricultural education, communities could build learning communities in the cyberspaces as an effective strategy for the online classroom.

The Ministry of Agriculture and the agricultural sector as a whole has been involved and affected by the various reforms and plans of the government over the years.

In conclusion, the emerging issues that are crosscutting both sectors of agriculture and education are affecting the teaching and learning of secondary school agricultural education. The crosscutting issues include; gender related issues, HIV/AIDS related issues, drug abuse related issues and information and technology issues. Their effects are far reaching into education and as a result the secondary school agricultural education has been equally affected.

### **2.3 Summary of Related Literature.**

The societal demands of food and economic development have been influencing changes in the education sector. This in turn has been affecting the type of agricultural education offered to the students in the secondary school level as well as in the tertiary institutions. Some of the emerging issues facing education sector include; free primary education, curriculum issues, examination issues, gender related issues, HIV/AIDS related issues, drug abuse and information and technology. These issues can be generalized at both national and global perspective. All these emerging issues are impacting on the secondary school agricultural education, either positively or negatively. The emerging issues that are having negative effects on the teaching and learning of secondary school agricultural education need to be addressed to mitigate these negative effects while those that have positive effects need to be reinforced to improve the standards of the secondary school agricultural education.

### **2.4 Theoretical Framework**

The theoretical basis of this study was taken from the work done by Hartfield and Karlen, (1994), who suggested that emphasis must be placed on education in order to effect behavioural changes. Their work suggests that for a change from the conventional agriculture, to sustainable agricultural systems, there is need for a shift in values and adjustments in institutional and organizational arrangements in agriculture and education. Herbert, (1962) further supports this by suggesting that for effective

agricultural education for the benefit of the society there is need to address the emerging demands of the education sector, agricultural education and the society.

The conceptual foundation of this research is an adaptation from Clarke's "Instrumental Futurism" (Clarke, 1997). Clarke developed the concept of instrumental futurism to advance the field of information technologies. This concept is intended to assist in the formulation of strategy or policy. This approach can help the policy makers in the sector of education in determining what actions to take and what forms of monitoring to institute in order to deal with the emerging issues in education so as to improve the teaching and learning of agriculture.

## 2.5 Conceptual Framework

The critical emerging issues that were identified by the respondents' in the study are the independent variables while the indicators of secondary school agricultural education, which are the students' performance in agriculture in K.C.S.E. examination, enrolment of students into agricultural education class and the coverage of syllabus of agricultural education, constitutes the dependent variable. The intervening variables in this study are likely to be human factors, which include the experience of agricultural education teachers, commitment of the teachers and the availability of the teaching and learning resources. Figure 1 shows the relationship between the variables.

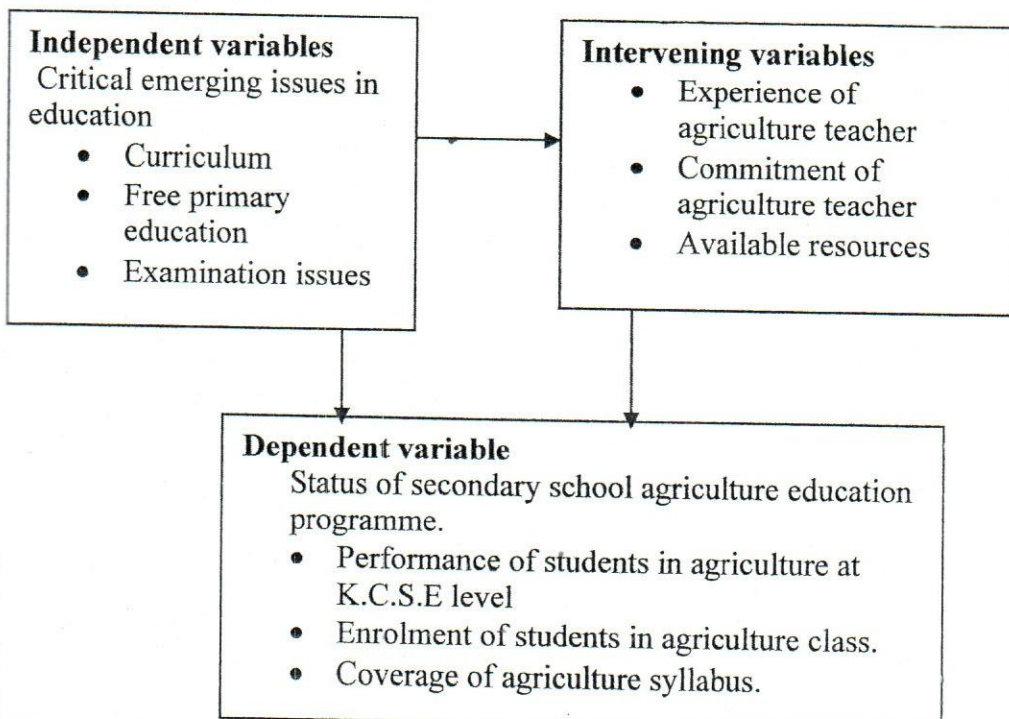


Figure 1: Conceptual framework of the study.

## CHAPTER THREE

### RESEARCH METHODOLOGY

#### 3.1 Introduction

The purpose of this study was to identify the critical emerging education issues in Kenya for the last two decades. The study also examined the extent to which the emerging issues are affecting the secondary school agricultural education in three areas that include; the students' performance in agriculture at the K.C.S.E. examination level, the enrolment of students into secondary school agricultural education programme and the coverage of the secondary school agricultural education syllabus.

This chapter is a description of the methodology employed to meet the objectives of the study. The chapter includes: research design used in the study, location of the study, target population, sampling procedure, instrumentation, data collection procedure and data analysis.

#### 3.2 Research Design

This was a qualitative study in which *ex-post facto* research design was used. This was the most appropriate design because the population studied was examined on the effects of naturalistically occurring treatment and after changes had taken place.

#### 3.3 Location of the Study

The study was located in Meru South District. The district is divided into three divisions, of which two of the divisions are in the high potential areas of the slopes of Mount Kenya and one is in the marginal areas. Most secondary schools are located in the rural areas of the District. However, the most academically outstanding ranked schools are found in the outskirts of the main urban areas in the district. The farmers are small-scale farmers who practice mixed farming with the majority being subsistence farmers. The main cash crops in the high potential areas are tea and coffee. The food crops are maize, beans, potatoes and bananas. In the marginal areas, the cash crops are cotton and tamarinds, while the food crops are millet, sorghum, cowpeas, green grams, maize and pigeon peas. There are several horticultural crops grown in the area which include: passion fruits, kales, capsicums, cucumbers, water melons, onions and pineapples. All these crops are grown at a small scale level. Meru South District has both day secondary schools and boarding secondary schools. The day secondary schools

are all mixed, providing opportunities for both girls and boys. The boarding secondary schools are in three categories - the mixed secondary schools, girls' only and the boys' only secondary schools.

### 3.4 Target Population

The population constituted all the secondary school agriculture education teachers in the district. The population was drawn from the three divisions in the district as shown on table 1.

Table 1  
Target Population by Division

Division	Number of secondary school agricultural education teachers
Igambang'ombe	3
Magumoni	18
Chuka	11
<b>Total</b>	<b>32</b>

### 3.5 Research Subjects

The researcher used all the agricultural education teachers teaching in the registered secondary schools in the District as reflected by the District Education Officer's (D.E.O'S) office records. The target population of the respondents was 32. All the secondary school agriculture education teachers were used in the study. This was with respect to the recommendations made by Kathuri & Pals (1993) in their book entitled "Introduction to Education Research" in which it is stated that for target population less than 30, the whole population should be included in the study.

### 3.6 Instrumentation

The data was collected using a questionnaire. The questionnaire was constructed using the information gathered from literature review. The questionnaire had two sections; section A contained items in relation to the emerging education issues and their effects on secondary school agricultural education with respect to performance in agriculture at the K.C.S.E examination level., enrolment of students into secondary school agricultural education and the secondary school agricultural education syllabus, section B consisted of the respondents' recommendations on how the emerging issues could be addressed to

improve agricultural education. The supervisor was given the first draft of the questionnaire to determine clarity and adequacy of the items.

### Validity

Agricultural education and extension lecturers in the Department of Agricultural Education and Extension at Egerton University assessed the validity of each item.

### Reliability

Pre-testing was done using selected agriculture subject teachers from Maara District. This was done to obtain the reliability of the instrument. Twenty of the agriculture education teachers were selected randomly and used in the pre- testing. Reliability coefficient was computed using the internal consistency technique. The internal consistency was determined from the scores obtained from a single test that was administered by the researcher to the sampled teachers. The score obtained from one item was correlated with scores obtained from one items in the instruments. Kuder Richardson 20 ( $KR_{20}$ ) was then computed to determine how items correlated among themselves. The formula used to compute the  $KR_{20}$  was

$$KR_{20} = \frac{(K) (S^2 - \sum s^2)}{(S^2) (K-1)}$$

Where

$KR_{20}$  = Reliability coefficient of internal consistency

$\bar{K}$  = number of items used to measure the concept

$S^2$  = variance of the scores

$s^2$  = variance of individual items

The computed reliability coefficient was 0.8; this indicated that the data collected was reliable as recommended by Mugenda and Mugenda, (1999) where they have recommended that a high coefficient implies that items correlate highly among themselves. A coefficient of 0.8 or above implies there is a high degree of reliability.

### 3.7 Data Collection Procedure

Authority to conduct the study was sought from the local provincial administration in Meru South District. This included the District Education Officer and the District Commissioner of Meru South District.

The questionnaire was self-administered. The researcher made the first visit to the institutions where the respondents were working. She made an introduction of the study as well as solicited permission and co-operation with the respondents. The respondents were given the questionnaire to fill in. The researcher requested the respondents to fill in the questionnaire within the time when the researcher was in the institution. This enabled the researcher to collect the questionnaire to ensure a high rate of return as well as to ensure that the responses given had no external influence from other respondents who may have been within the institution. In case the respondents were not at the work station at the time, the researcher made a second visit to the institution. Data was collected from 29 respondents; because three of the respondents were finally not available.

### **3.8 Data Analysis**

The data from individual items were analyzed by use of computer using the SPSS programme version 12.5. Descriptive statistics was used to analyze the data. This was a qualitative analysis of the data. It was used in the study because the data gathered was not quantifiable as observed by Mugenda & Mugenda, (1999). Descriptive statistics were therefore, used in order to analyze the information in a systematic way in order to come with conclusion and recommendations that are useful in the study. The following are some more details on how information pertaining to respective objectives were analyzed.

#### **OBJECTIVE 1**

**To identify critical emerging education issues that have had significant effects on secondary school agricultural education programme in Kenya over the last two decades.**

The researcher made a short narrative report summarizing the major impressions from the literature review as well as from the respondents' perspective on how critical the emerging issues had been on the agricultural education. The emerging education issues were prioritized depending on the subjects' responses.

## OBJECTIVE 2

**To describe the effects of the critical emerging education issues on the students' performance in agriculture in the K.C.S.E.examinations level for the last two decades.**

The dependent variable was the students performance in agriculture in the K.C.S.E.examinations level. The independent variable was the emerging issues in education. The data was presented using percentages and means of the respondents' responses. The researcher also made a descriptive summary on the effects of the emerging education issues on the students' performance in agriculture in the K.C.S.E. examinations.

## OBJECTIVE 3

**To describe the effects of the critical emerging education issues on the enrolment of students into secondary school agricultural education programme in Kenya**

The dependent variable was the students' enrolment into secondary school agricultural education and the independent variable was the critical emerging education issues.

The data was presented by use of percentages and means of the respondents' responses. The researcher also made a descriptive summary on the effects of the emerging education issues on the enrolment of students into secondary school agricultural education.

## OBJECTIVE 4

**To describe the effects of the critical emerging education issues on the coverage of secondary school agricultural education syllabus in Kenya.**

The dependent variable was the secondary school agricultural education syllabus coverage. The independent variable was the emerging issues in education.

The data was presented by use of percentages and means of the respondents' responses. The researcher also made a descriptive summary on the effects of the emerging education issues on the coverage of secondary school agricultural education syllabus.

## OBJECTIVE 5

To determine the recommendations of the agriculture teachers on how the identified critical issues can be used to improve the secondary school agricultural education programme.

This data was presented using percentages of the respondents who made the recommendations. The researcher also made a short narrative summary on the recommendations that are necessary towards improving secondary school agricultural education. Table 2 shows the summary of the analysis of the objectives.

Table 2  
Summary on the Analysis of the Objectives

Research objective	Method used for the analysis
a) To identify critical emerging education issues that have had significant effects on secondary school agricultural education programme in Kenya for the last two decades.	Description Percentages
b) To describe effects of the critical emerging education issues on the students performance in agriculture at the K.C.S.E. examinations level in Kenya for the last two decades.	Percentages Means Description
c) To describe effects of the critical emerging education issues on the enrolment of students into secondary school agricultural education programme in Kenya.	Percentages Means Description
d) To describe effects of the critical emerging education issues on the coverage of secondary school agricultural education syllabus in Kenya.	Percentages Means Description
e) To determine the recommendations of the agriculture teachers on how the identified critical issues can be used to improve the secondary school agricultural education programme.	Percentages Description Means

## CHAPTER FOUR

### RESULTS AND DISCUSSION

#### 4.1 Introduction

The results of the study are presented and discussed in this chapter. The results from the data are compared with the literature review from other researches done in the same domain. The results are summarized in form of tables and figures. The results of every objective have been analyzed using descriptive statistics. The study was conducted in Meru South District. All the agricultural education teachers were involved in the study (N=29)

#### 4.2 Identification of the Critical Emerging Issues in Education that Affect Secondary School Agricultural Education.

The respondents ranked the emerging education issues in three categories. The categories were based on the effects of the emerging issues on.

- a) Students performance in agriculture on the K.C.S.E level.
- b) Enrolment of students into secondary school agriculture subject class.
- c) The coverage of syllabus of secondary school agriculture subject.

The results are presented on the figures showing the emerging education issues that had the highest percentages of the respondents considering it to be the most critical emerging issue in education.

##### a) Students' performance in agriculture at K.C.S.E level.

Results from the data analysis show that the most critical emerging issues in education that have been affecting the performance of students in secondary school agricultural education at the K.C.S.E. examination level are curriculum issues and examination issues as shown on Figure 2

##### i) Curriculum issues.

Majority of the respondents (58.6%) considered curriculum issues to be the most critical emerging issues in education that has been affecting the performance of students in agricultural education at the K.C.S.E examination level. This high ranking is attributable to the fact that curriculum is the central issue in education as observed by Ralsa & Gary, (2004). They noted that since 1900s, there has been a push for more curriculum rigour and ways of measuring school results. Ndirangu,

(2004), further considered examination as a major means that has been used to check whether curriculum goals and objectives have been achieved. Hence, curriculum and examinations are closely linked, and therefore, the performance of students in agriculture is affected by the type of curriculum offered both at the secondary school education level and at the subject level. In Kenya, the secondary school education curriculum has been undergoing reforms over the past two decades, this has led to the numerous changes that have been made as recommended in various education commissions R.o.K. (1964); R.o.K (1976); Ro.K, (1980); R.o.K, (2000). These commissions were aimed at addressing the curriculum that was being offered to schools as well as shaping the education system in Kenya.

### ii) Examination issues

Examination issues were considered by 17.2 % (N=5) of the respondents to be the second most critical emerging issue in education that has been affecting the performance of students in agriculture at the K.C.S.E. examination level. This can be linked to the observation made by Ndirangu, (2004) when he noted that Kenyan education system is examination oriented. This is because of the weight that has been attached to examinations as a means of determining the entry into public and private universities as well as tertiary colleges. Examinations are also used in issuing of academic certificates which are valued in job placement for most young people in Kenya. The changes in the examination system in a country can affect the students performance as observed by Herring,(1995) where he noted that the type of an examination system that is adopted for a particular subject always affects the overall performance of the students in that particular subject.

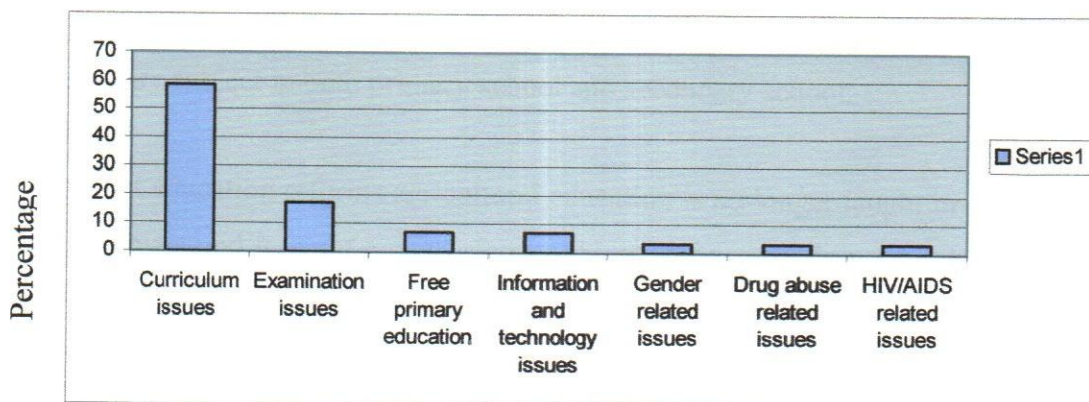


Figure 2: Respondents' ranking of the critical emerging issues in education that affect students' performance in agriculture at K.C.S.E level.

### **Enrolment of students into secondary school agricultural education class.**

Results from the data analysis show that the most critical emerging issues in education that have been affecting the enrolment of students into secondary school agricultural education class are; free primary education, examination issues and curriculum issues. Figure 3 shows the ranking of the emerging issues by the respondents.

#### **i) Free primary education**

Majority of the respondents (51.7%) ranked the free primary education as the most critical emerging issue in education that is affecting the enrolment of students into secondary school agriculture education class. These results may be an indicator that since the introduction of free primary education in the year 2003, there has been an increase in enrolment of pupils into primary schools. R.o.K, (2005) and T.S.C, (2007) further observe that the increase of students in primary schools has led to increase in transition rate to secondary school level. FPE programme has been used as a channel to provide affordable and equitable access to education to many students who would have missed a chance to join the secondary school education system as observed by R.o.K, (2003) and R.o.K, (2004); it was further noted that FPE has led to noticeable increase in the enrolment of students into secondary school agricultural education class.

#### **ii) Examination related issues**

Examination related issues were considered by 24.1% of the respondents to be the second most critical emerging education issue influencing enrolment of students into secondary school agricultural education class. The enrolment of students into the secondary school agriculture education class has been fluctuating since the beginning of the 8-4-4 system, when agriculture education was considered to be a core subject, hence was a compulsory subject in both primary school and secondary school.

With the current education reforms agricultural education is no longer taught in primary schools as a subject and it is not a compulsory subject at the secondary school level. It has been classified as one of the technical subjects. The enrolment of students has declined as observed by Tanui, Kiboss& Nassiuma, (2004) when they noted that when business education is taught using computer based programme it tended to have a higher enrolment than other technical subjects. This is because students preferred other subjects which are not labour demanding and at the same time appear to be more

competitive in the job market in the current times when entrepreneurship is being considered as one of the best fields one can find a job easily.

### iii) Curriculum issues

Curriculum issues were considered by 10.3% of the respondents as the third most critical emerging issue in education that is affecting enrolment of students into secondary school agricultural education class. Although a few respondents consider curriculum issues to have little effect on the enrolment of students into the secondary school agricultural education class, there has been changes on the type of the secondary school education curriculum that have been affecting the enrolment of students into the secondary school agricultural education. This is indicated on the careers guide book, (R.o.K, 2009) where agricultural education is placed in group IV. R.O .K, (2009) further stipulates that secondary school students require a minimum of seven subjects for registration and certification of the K.C.S.E. examination results. This limitation on the subject selection criteria as well as the required number of subjects has both negative and positive impact on the number of students that get enrolled into the studying of agriculture as a subject.

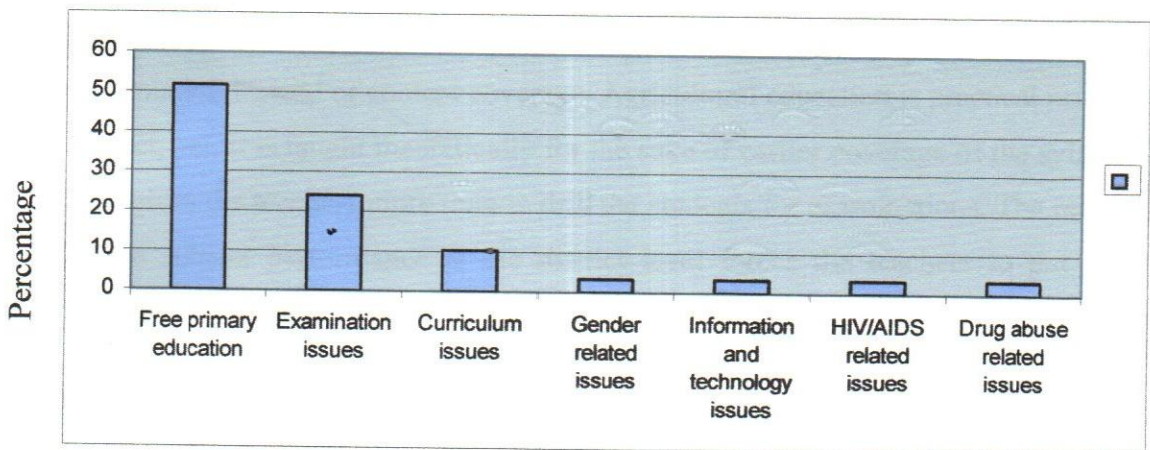


Figure 3: Respondents' ranking of the critical emerging issues in education that affect enrolment of students into secondary school agricultural education class.

### The coverage of syllabus of secondary school agricultural education

The results from the data analysis show that the most critical emerging issues in education that have been affecting the coverage of the syllabus of the secondary

school agricultural education are curriculum issues examination issues and the free primary education issues as shown on Figure 4

**i) Curriculum issues**

The results show that most of the respondents 48.2 % consider curriculum issues to be the most critical emerging issue that is affecting the coverage of the secondary school agricultural education syllabus. This is because the syllabus is drawn to meet the goals and objectives of the subject curriculum. The type of curriculum offered affects the effectiveness of syllabus coverage (R.o.K, 2009). The secondary school agriculture syllabus is characterized by a wide scope of topics that need a lot of practical applications for effective learning of agriculture .Macelli, (2001) observed that in most cases the agriculture subject requires a revised curriculum other than the stipulated balanced curriculum that accommodates all other subjects in order to have an effective coverage of the syllabus.

**ii) Examination issues**

Examination issues were considered by 24.1 % of the respondents to be the second most critical emerging issues in education that is affecting the coverage of the secondary school agricultural education syllabus. Ndirangu, (2004) observed that Kenyan education system is examination oriented with more emphasis being laid on examination instead of content coverage. Agricultural education is practical oriented subject, yet, it is taught theoretically for the sake of earlier coverage of the syllabus. This gives the teachers more time to drill the students for examinations. The ranking of the subject performance at the district level forces the teachers to put more emphasis on examinations revision work at the expense of covering the syllabus.

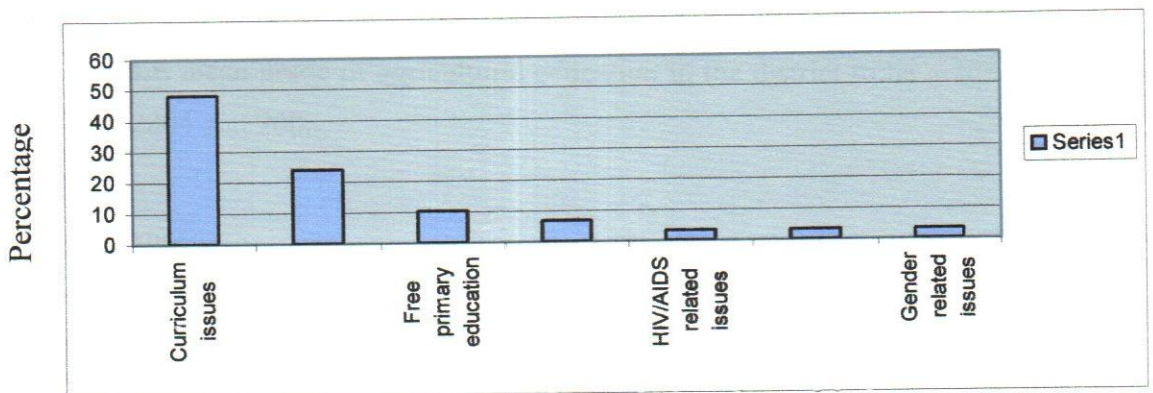


Figure 4: Respondents' ranking of the critical emerging issues in education that affect coverage of syllabus of secondary school agricultural education.

#### **4.3. Effects of the Critical Emerging Education Issues on the Students Performance in Agriculture at the K.C.S.E. Examination Level.**

Agricultural education teachers were asked to rate the statements on the effects of the emerging education issues on the students performance in agriculture at K.C.S.E level on the following scale. 5=strongly agree 4=agree; 3=undecided; 2=disagree; and 1=strongly disagree. The figures given on Table 3 were computed from the statements that were rated by the respondents. The responses were grouped into three categories; agree undecided and disagree.

##### **i) Free primary**

Free primary education was considered by 68.6 % of the respondents not to have led to improve students' performance in agriculture subject at the K.C.S.E. examination level. Figure 3 indicates free primary education as the third most critical emerging issue affecting the performance of students in agriculture at the K.C.S.E. examination level. The mean ranking was 2.62. this mean indicates a negative effect of the free primary education on the performance of the students.

##### **ii) Examination issues**

The results on Figure 2 indicates that examination issues are the second most critical issue that is affecting the performance of students in agriculture subject at the K.C.S.E. examination level with 62.1 % of the respondents agreeing to the statement. The mean ranking was 3.24 as indicated on Table 3. This indicates that there has been some positive effect of the examination related issues on the secondary school agriculture education, based on the performance of the students in agriculture as a subject. Table 4, indicates the K.C.S.E mean grade of agricultural education in the district to be grade C between the years 2004 and 2008.

##### **iii) Curriculum issues**

Curriculum issues were considered by 65.5% of the respondents not to have led to improved students performance in agriculture at K.C.S.E examinations level. Figure 2 indicates curriculum issues to be the most critical emerging issue in education that are affecting the performance of students in agricultural education at the K.C.S.E examination level. Curriculum issues have a mean ranking of 2.68 as indicated on

Table 3. This is an indication that there is a negative effect of the curriculum issues on the performance of the students in agriculture subject at the national examinations.

Table 3

Effects of the Emerging Education Issues on Students Performance in Agriculture at K.C.S.E Examination Level.

Item	Agree	undecided	disagree	Average ranking
Free primary education has led to improved performance of students' in agriculture at K.C.S.E. level.	9 (31.0%)*	0 (0)	20 (68.6%)	2.62
Examination related issues in Kenya have led to improved performance of students' in agriculture at K.C.S.E. level.	18 (62.1%)	2 (6.9%)	9 (31.0%)	3.24
Removal of external examiner in agriculture paper 3 (443/3) has led to improved students' performance in agriculture K.C.S.E. level.	14 (48.2%)	1 (3.4%)	14 (48.2%)	3.31
The type of secondary education curriculum in Kenya has led to improved students' performance in agriculture at K.C.S.E. level.	9 (31.0%)	1 (3.4%)	19 (65.5%)	2.68

NB. \* Percentages are in brackets

The performance of students in agriculture at the K.C.S.E examination level for the years 2004 to 2008 shows an average performance as indicated on table 4 .This performance can not be linked to only one critical emerging issue in education that is affecting secondary school agricultural education. All the three critical issues have played a significant role in the students' performance.

Table 4

Students' Performance in Agriculture at K.C.S.E. Examination Level Over the last Five Years in Meru South District.

Year	Mean score	Mean grade
2008	5.96	C
2007	7.34	C+
2006	6.24	C
2005	6.49	C
2004	5.37	C-
MEAN	6.28	C

#### 4.4. Effects of the Critical Emerging Education Issues on the Enrolment of Students into Secondary School Agricultural Education Class.

Agricultural education teachers were provided with statements based on the effects of the emerging education issues on the enrolment of the students into the secondary school agricultural education class. They rated the statements on a 5-point likert scale on the following bases; 5=strongly agree; 4=agree; 3=undecided; 2=disagree; and 1=strongly disagree. The percentages of the respondents on the bases of the extent to which the respondents agreed, undecided, disagreed with the statements are indicated on Table 5.

##### i) Free primary education

Free primary education had 58.6% of the respondents disagreed with the statement; therefore, FPE has not led to increased enrolment into secondary school agricultural education class. Free primary education has led to the general increase of students in the secondary schools as indicated by (R.o.k, (2005) and T.S.C, (2007) but has not led to an increase in enrolment of students into the secondary school agricultural education programme. Since agriculture is not taught at the primary school level, the students lack proper orientation towards agriculture and hence only a few students select agriculture as a subject. Therefore, there is low enrolment of student's into secondary school agricultural education in Meru South District.

## **ii) Examination issues**

Examination related issues are considered to have led to increased enrolment of students into agricultural education class the respondents who agreed with the statement were 86.2%. This is because agriculture is considered as a booster subject which help the students to attain the required mean score for entry to the university. Due to the fact that the external examiner has been removed in Paper 3 (44/3), more students enroll into agricultural education class because they have confidence in their teachers.

## **iii) Curriculum issues**

Curriculum related issues were considered by 86.2 % of the respondents not to have led to an increase in enrolment of students into secondary school agriculture class as shown on Table 5. The enrolment of students declined in the upper classes as indicated on Table 6. The decline in the enrolment of students into the agricultural education class in the upper classes may have been caused by the type of curriculum offered in Kenya, where the students are expected to select at least one of the technical subjects (R.o.K, 2005). Students have been having a wide field of selection, with majority going for business studies and home science as well as computer studies.

Table 5

Effects of the Emerging Education Issues on the Enrolment of Students into Agricultural Education Class.

Item	Agree	Undecided	Disagree	Average ranking
Free primary education has led to increased enrolment of students into secondary school agricultural education class.	9 (31.0%)*	3 (10.3%)	17 (58.6%)	2.52
Examination related issues in Kenya have led to increased enrolment of students into secondary school agricultural education class.	25 (86.2%)	0 (0%)	4 (13.8%)	3.66
Removal of eternal examiner in paper 3 (443/3) has led to increased enrolment of students into secondary school agricultural education class.	23 (79.3%)	1 (3.4%)	6 (20.6%)	3.79
The type of education curriculum in Kenya has led to increased enrolment of students into secondary school agricultural education class.	4 (13.7%)	0 (0%)	25 (86.2%)	2.24

NB. \* Percentages are in brackets

Table 6

Trends of Enrolment of Students into Agricultural Education Class between the Years 2005 and 2009.

year	Students enrolment into agricultural education class			
	Form 1	Form 2	Form 3	Form 4
2009	66	70	27	21
2008	50	55	22	29
2007	59	60	30	34
2006	53	50	27	31
2005	67	65	30	25
Mean	59	60	27	28

#### **4.5. Effects of Emerging Education Issues on the Coverage of Secondary School Agricultural Education Syllabus.**

Agriculture education teachers were asked to rate the statements on the effects of emerging education issues on the coverage of secondary school agricultural education syllabus on the following scale; 5=strongly agree; 4=agree; 3=undecided; 2= disagree; and 1= strongly disagree. . The percentages of the respondents on the bases of the extent to which the respondents agree, undecided, disagree with the statements are indicated.

As shown on Table 7.

##### **i) Curriculum issues**

The type of education curriculum is considered to have led to inadequate coverage of the syllabus of secondary school agricultural education, with 55.2 % of the respondents agreeing with the statement and an average ranking of 2.86. Curriculum related issues are considered to have led to inadequate coverage of the syllabus this is because of broad agriculture syllabus. The secondary school agricultural education syllabus has more content that can not be adequately covered within the three lessons in forms one and two and four lessons in forms three and four.

##### **ii) Examination issues**

Examination related issues have been considered to have led to earlier coverage of the syllabus with 69 % of the respondents agreeing with the statement and 72.4% of the respondents disagreeing with statement on the external examiner in agriculture paper 3 (443/3). Examination issues are considered to have led to early coverage of the syllabus which is mainly the theory part of the syllabus because teachers are drilling the students on passing the examination without putting into consideration the practical agricultural application part of the syllabus.

Table 7

Effects of the Critical Emerging Education Issues on the Coverage of Secondary school Agricultural Education Syllabus.

Item	Agree	undecided	disagree	Average ranking
Free primary education has led to early coverage of secondary school agricultural education syllabus.	24 (82.8 %)*	1 (3.4 %)	4 (13.8 %)	4.21
Examination related issues in Kenya have led to earlier coverage of the agricultural education syllabus	20 (69 %)	0 (0 %)	9 (31.0 %)	3.79
Removal of eternal examiner in paper 3(443/3) has encouraged detailed coverage of secondary school agricultural education syllabus	7 (24.1 %)	1 (3.4 %)	21 (72.4 %)	2.13
The type of education curriculum in Kenya has led to inadequate coverage of agricultural education syllabus	16 (55.2 %)	2 (6.9%)	11 (37.9%)	2.86

#### 4.6. Respondents Recommendations on how the Identified Emerging Issues can be used for Improvement of Agricultural Education in Secondary Schools in Kenya

The respondents were asked to make recommendations that would help to mitigate the negative emerging issues in education as well as reinforce the positive issues leading towards the improvement of the secondary school agricultural education. The recommendations considered in this study are those that are related to the critical emerging issues identified by the respondents. Agriculture teachers play a great role in the implementation of the agriculture education curriculum. They are considered by Sutphin, (1981) to be very crucial in directing the necessary changes which may be

required in agricultural education programme of a given country. Therefore, the respondents' recommendation in this study can be used to make the necessary modifications that would help improve agriculture education in Kenya.

### i) Free Primary Education

Due to increase in the student teacher ratio 82.8 % of the respondents recommended that there is a need to have more teachers employed to meet the demands of increased enrolment. This is because the demand of the agriculture teachers in the secondary schools can not be met by the current supply. Camp, Broyles and Skelton, (2002) noted that for effective teaching of agriculture there is need to have more teachers being employed. There is a need to re-introduce agricultural education in the primary schools as recommended by 86.2 % of the respondents. Agriculture is considered as the backbone of the country's economy. Therefore, all the citizens in this country should have foundation knowledge in agricultural production practices. This can be made possible if agriculture is reintroduced back to the primary school education system. McCalla (1998), noted that agriculture education is the major tool that should be solving the problems of global food resources in the 21<sup>st</sup> century. David, (1999) further supports the need for change in agricultural knowledge system. When he notes that the current agricultural systems are in need of fundamental reform to support improvement in the global food security and environmental sustainability. This can only be achieved if agriculture is incorporated into the primary school education system.

Table 8  
Respondents Recommendations on how Free Primary Education can be Addressed to Improve Secondary School Agricultural Education.

Recommendation	N	Percentage
More teachers should be employed to meet the demands of increased enrolment.	24	82.8 %
Agricultural education should be re-introduced and made compulsory for all the learners in primary schools	25	86.2 %
There should be age limit for the pupils and students enrolling into the formal education.	20	69 %

## ii) Examination issues

Examination issues were considered by the respondents as the second most critical emerging issue in education that is affecting the students' performance, enrollment of students into secondary school agricultural education and the coverage of secondary school agricultural education syllabus as shown on Figure 1, Figure 2 and Figure 3, respectively. The recommendations made on Table 9 show that 65.5 % of the respondents consider that the extra examination fee that is charged on agricultural education by the Kenya National Examination Council should be withdrawn. This fee could be affecting the enrollment of the students into the secondary school agriculture class. There is a need for better supervision of the examinations as indicated by 79.3 % of the respondents. The need for external assessors in project part of the examination was indicated by 91.4 % of the respondents. The results also indicate that there is a need for assessment of the project work in stages which should be done starting from form one. This would ensure continuity as well as a wide coverage of more projects. The aspect of supervision and assessment of teaching and learning of agriculture at the secondary school level can not be overlooked in order to achieve the objectives of teaching and learning of agriculture in Kenya as indicated by 79.3 % of the respondents. Modern education technology should be embraced in the teaching and learning of agricultural education as well as in the assessment of the subject as supported by Kiboss, (2005) where the findings of his study indicated that use of modern education media is a means to enhance conventional science instruction promoting better learning and boosting students' academic achievement and the performance.

Table 9

Respondents Recommendations on how Examination Issues can be Addressed to Improve Secondary School Agricultural Education

Recommendation	N	%
The Kenya National Examinations Council should stop charging extra examination fees for the students taking agricultural education examination.	19	65.5 %
National examinations should be well supervised and monitored to prevent leakage	23	79.3 %
Agriculture Paper 3 (443/3) should be incorporated into the continuous assessment from form one and supervised by external examiners.	18	91.4 %

### **iii) Curriculum issues**

The respondents indicated that secondary school agricultural education content should be reduced to enhance detailed coverage of the syllabus as indicated by 89.7 % of the respondents as indicated on Table 10. The agricultural education offered to the secondary school students should be made to meet the needs of the society as indicated by 79.3 % of the respondents. This response suggests the need for integration of the theoretical aspects of agriculture that is learnt in the secondary school into the practical application. This can only be achieved by making modifications to the current curriculum as observed by Ndirangu, (2004) when he noted that there is a need to review the education system in Kenya with a view to making education to be more relevant to the Kenyan pupil in the secondary school. Herbert (1962) further stipulates that education curriculum should be modified to enable agricultural education to have its place among the citizens who for a long period of time have considered it to be the backbone of the country. Majority of the respondents' recommended that there is a need to develop an in-service curriculum for the teachers (96.5%) as shown on Table 10. These in-service courses are important for professional development of the teacher to reach their goals of teaching as observed by Delnero & Montgomery (2001). The issue of lesson allocation was considered by 82.8 % of the respondents as supported by Sutphin,(1981) where the results from his study indicated that the teachers considered more time in contact with the students helped to improve the teaching and learning of agriculture. He further considered practical applications of agricultural practices to be more reliable way of covering the stipulated syllabus for the subject.

Table 10

Respondents Recommendations on how Curriculum Issues can be Addressed to Improve Secondary School Agricultural Education Programme in Kenya.

Recommendation	N	%
Agricultural education content should be reduced to enhance detailed coverage of the syllabus especially the forms one two and three work.	26	89.7 %
The agricultural education curriculum should be made to suit the needs of the society in terms of technology, social and the economic needs.	23	79.3 %
The curriculum should be revised to promote the achievement of the Vision 2030 in terms of food production and poverty reduction.	17	58.6 %
Agricultural engineering should include food processing which would promote value addition of the agricultural products.	16	55.2 %
A curriculum for agriculture teacher's in-service courses should be developed.	28	96.5 %
Agricultural education should be incorporated into national and international competitions, exhibitions and shows.	20	69 %
Form one and two lessons should be increased to provide more time for practical demonstrations as well as coverage of the syllabus.	24	82.8 %

## CHAPTER FIVE

### SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Summary

The emerging issues in education have been creating challenges to the agricultural education programme in Kenya despite the anticipated benefits of agricultural education. The study explored the emerging education issues and their effects on the secondary school agricultural education. The review of the related literature showed that the education emerging issues are influencing agricultural education both positively and negatively. The areas of concern in the study were; performance of students in agriculture at the K.C.S.E Examination level, enrolment of students into agricultural education class and the coverage of syllabus of the agricultural education class.

The research design was ex-post-facto. The respondents were all the agricultural education teachers. Data analysis was by descriptive statistics. Every research objective was descriptively analyzed and interpretations on the data were made.

The study was guided by the following objectives.

- 1) To identify the selected critical emerging education issues that have had significant effects on secondary school agricultural education programme in Kenya over the last two decades.
- 2) To describe effects of the selected critical emerging education issues on the students' performance in agriculture in the K. C. S. E. examination level.
- 3) To describe effects of the selected critical emerging education issues on the enrolment of students into the secondary school agricultural education programme in Kenya.
- 4) To describe effects of the selected critical emerging education issues on the coverage of the Secondary School agricultural education syllabus in Kenya.
- 5) To determine the recommendations of the agriculture teachers on how the identified critical issues can be used to improve the secondary school agricultural education programme.

The study has shown that the students' performance in agriculture at K.C.S.E. examination level, the enrolment of students into secondary school agricultural education class and the coverage of the secondary school agricultural education syllabus has been affected by the emerging education issues both positively and negatively. The recommendations made by the agricultural education teachers indicate that there is need for urgent measures that should be taken to rescue this important subject from becoming extinct from the secondary school curriculum. There is need to consider all the recommendations on how to mitigate the negative effects of the emerging issues as well as on how to reinforce those that are positively affecting secondary school agricultural education teachers in order to improve the teaching and learning of secondary school agricultural education in Kenya.

## **5.2 Conclusions**

From the findings in the previous chapter several conclusions can be drawn based on the study objectives.

### **Objective 1**

The most critical emerging issues in education that affect secondary school agricultural education are; curriculum issues, free primary education and examination issues.

### **Objective 2**

Free primary education has not led to improvement of students' performance in agriculture subject at the K.C.S.E. examination level. The examination issues have had a positive impact on the students' performance. Curriculum issues have not led to improved students performance in agriculture at K.C.S.E examinations level.

### **Objective 3**

Free primary education has not led to increased enrolment into secondary school agricultural education classes. Examination related issues are considered to have led to increased enrolment of students into agricultural education class. Curriculum related issues have not led to an increase in enrolment of students into secondary school agriculture classes.

### **Objective 4**

Curriculum related issues are considered to have led to inadequate coverage of the syllabus this is because of broad syllabus. Examination issues have led to early coverage of the syllabus which is mainly the theory part of the syllabus because

teachers are drilling the students on passing the examination without putting into consideration the practical agricultural application part of the syllabus.

### **Objective 5**

The respondents recommended that there is a need to have more teachers employed to meet the demands of increased enrolment. There is a need to re-introduce agricultural education in the primary schools. There is a need for assessment of the project work in stages which should be done starting from form one. There is need for organized in service courses for the agriculture teachers. The secondary school agricultural education syllabus content should be reduced to enhance detailed coverage of the syllabus.

### **Recommendations**

From the findings and the conclusions of the study the following recommendations are made.

1. The Ministry of Education should lay more emphasis on how to mitigate the emerging issues that have influence on the secondary school agricultural education programme.
2. The emerging education issues that are positively influencing agricultural education should be reinforced and made sustainable to ensure that agricultural education in the country meet the demands of its citizens in terms of food supply, provision of employment opportunities and eradication of poverty.
3. More research studies should be done in the following areas.
  - a) The effects of the emerging issues in the agricultural sector on secondary school agricultural education programme.
  - b) This study should be replicated involving students. Such a study would give insight as to whether secondary school agricultural education is affected by the emerging education issues from the students' point of view.

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## APPENDICES

### APPENDIX I

#### INTRODUCTION LETTER TO RESPONDENTS

JANE. C. FRANCIS  
MAGUMONI GIRLS SECONDARY SCHOOL,  
P.O. BOX, 23,  
MAGUMONI.

Dear Sir/ madam,

RE: RESEARCH SURVEY ON SELECTED EMERGING ISSUES IN EDUCATION  
AND THEIR EFFECTS ON SECONDARY SCHOOL AGRICULTURAL  
EDUCATION PROGRAMME

I am a student at Egerton University undertaking a degree of Master of Science in agricultural education. I am carrying out a research on the selected emerging education issues and their effects on the secondary school agricultural education programme. The study will be used to make recommendations on the education sector regarding improvement on the agricultural education programme in our schools.

I hereby kindly request your participation in the study. All your responses will be treated in confidence and anonymity will be ensured.

Honesty in providing the answers will ensure accuracy in the study and therefore, lead to usefulness of the decisions made.

Thank you in advance for your participation.

Yours Faithfully,

Jane. C. Francis

## APPENDIX 11

### QUESTIONNAIRE FOR SECONDARY SCHOOL AGRICULTURAL EDUCATION TEACHERS

Do not write your name on the questionnaire. All the information will be held in strictest confidence.

Please read each question/ statement and answer it following the instructions given.

Respond to all the questions / statements.

#### SECTION A (i)

This section is made up of the emerging education issues. These issues have been affecting agricultural education in three main areas of reference that is

- (a) student's performance in agriculture at K.C.S.E examination level
- (b) Enrolment of students into agricultural education class.
- (c) The coverage of syllabus of Secondary School Agricultural Education.

If you have any additional significant issue, please add it to the list and respond to the items accordingly.

The emerging issues in the study are assumed to cover the following areas.

**Free primary education** – the government support on the public primary schools for the pupils from class one to class eight.

**Examination issues**-these are the national examination issues such as type of examination, certification, and supervision and copying of examinations.

**Curriculum issues**- these includes the subjects offered in the secondary school education programme, as well as the content, of agricultural education syllabus and its relevance to practical applications of agriculture.

**HIV/AIDS related issues**-these include the impacts of the HIV/AIDS on the teaching and learning of agriculture as a secondary school subject. e.g., school dropout, and absenteeism

**Drug abuse issues**- these include the effects of the drug abuse on the teaching and learning of agricultural education e.g. absenteeism of both the teachers and the students and school dropout.

**Gender related issues** – these include the effects of affirmative action on the number of female students that join secondary school in comparison to the male students that join

secondary school, and how this is affecting secondary school agricultural education in Kenya.

**Information and technology issues-** these include the effects of the modern information and technology on teaching and learning of agriculture as a subject. e.g. The duration of coverage of the syllabus, number of students using modern technology in the learning of agriculture in the secondary schools in Kenya.

1. You are provided with the emerging issues in the education sector

In your own opinion arrange the emerging education issues starting with the most critical issue that is affecting agricultural education in the following areas of reference.

(a) Student's performance in agriculture at K.C.S.E examinations level

(b) Enrolment of students into agricultural education class.

(c) The coverage of syllabus of Secondary School Agricultural Education.

Use numbers 1 to 7 to indicate the order in which the emerging issues are critical on the space provided. Number 1 should be used to indicate the most critical issue in each area of reference.

Emerging issue in education	Effects on Students performance in agriculture in K.C.S.E	Effects on enrollment of students into agricultural education class	Effects on coverage of syllabus of secondary school agricultural education
Free primary education			
Examination issues			
Curriculum issues			
HIV/AIDS related issues			
Drug abuse related issues			
Gender related issues			
Information and technology issues			
Others			

2. Fill the table below to indicate the enrolment of students into agricultural education class in your school for the last five years

Year	Class			
	Form 1	Form2	Form3	Form4
2009				
2008				
2007				
2006				
2005				

3. Fill in the table below to indicate the performance of agriculture in the K.C.S.E. examination in your school for the last five years.

Year	Agriculture mean score in the K.C.S.E
2008	
2007	
2006	
2005	
2004	

### SECTION A (ii)

To what extent do you agree with the following statements in regard to the effects of emerging education issues on secondary school agricultural education; on the students' performance in agriculture in the K.C.S.E examination level, students' enrolment into agricultural education class and the coverage of secondary school agricultural education syllabus? Tick (✓) appropriately.

**Key**

**5. Strongly agree; 4. Agree; 3. Not sure; 2. Disagree; 1. Strongly disagree**

	<b>Free primary education has</b>	<b>5</b>	<b>4</b>	<b>3</b>	<b>2</b>	<b>1</b>
<b>4</b>	Led to improved performance of students' in agriculture at K.C.S.E. examination level.					
<b>5</b>	Led to increased enrolment of students into secondary school agricultural education class.					
<b>6</b>	Led to earlier coverage of the syllabus of secondary school agricultural education.					
	<b>Examination related issues in Kenya have</b>					
<b>7</b>	Led to improved performance of students' in agriculture at K.C.S.E. examination level.					
<b>8</b>	Led to increased enrolment of students into secondary school agricultural education class.					
	<b>Removal of external examiner in paper 3(443/3)</b>					
<b>9</b>	Has led to improved performance of students in agriculture at K.C.S.E examination level.					
<b>10</b>	Has led to increased enrolment of students into agricultural education class.					
<b>11</b>	Has led to earlier coverage of the secondary school agricultural education syllabus					
<b>12</b>	Encouraged detailed coverage of secondary school agricultural education syllabus					
	<b>The type of education curriculum in Kenya has</b>					
<b>13</b>	Led to improved performance of students' in agriculture at K.C.S.E Examination level.					
<b>14</b>	Led to increased enrolment of students into secondary school agricultural education class.					
<b>15</b>	Encouraged detailed coverage of secondary school agricultural education syllabus.					
	<b>Due to HIV/AIDS related issues</b>					
<b>16</b>	The performance of students in agriculture in K.C.S.E has declined					

17	Fewer students have been enrolled into secondary school agricultural education class.					
18	There has been inadequate coverage of agricultural education syllabus.					
	<b>Due to drug abuse related issues</b>					
19	The performance of students in agriculture in K.C.S.E examination level has declined.					
20	Fewer students have been enrolled into secondary school agricultural education class.					
21	There has been inadequate coverage of agricultural education syllabus.					
	<b>Due to gender related issues</b>					
22	The performance of students in agriculture in K.C.S.E examination level has improved.					
23	There has been increased enrolment of students into agricultural education class.					
24	There are equal number of girls and boys enrolling into agricultural education class.					
25	Both girls and boys are performing equally in agricultural education in K.C.S.E examination level.					
26	It is easier to cover the agricultural education syllabus when teaching boys than when teaching girls.					
	<b>Information and technology issues have</b>					
27	Led to improved performance of students' in agriculture at K.C.S.E Examination level.					
28	Fewer students have been enrolled into secondary school agricultural education class					
29	Encouraged detailed coverage of secondary school agricultural education syllabus					

## SECTION B

30. In your own opinion what recommendations would you make to improve agricultural education in Kenya? The recommendations should be aimed at addressing the emerging issues in education listed below.

(Add any other issue that you feel need to be included in this study.)

a) Free primary education.

b) Examination issues

c) Curriculum issues

d) HIV/AIDS related issues.

e) Drug abuse related issues

f) Gender related issues

g) Information and technology issues

Any other issues-----  
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