

**FACTORS THAT INFLUENCE EDUCATIONAL WASTAGE IN  
PUBLIC SECONDARY SCHOOLS IN KATHIANI SUB-COUNTY,  
MACHAKOS COUNTY, KENYA**

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**DECLARATION**

I declare that this project is my original work and that it has never been presented in any other university.

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**DEDICATION**

This research project is dedicated to my husband Gerald Karanja and son Dylan Mutuhu for their support and encouragement throughout the study period. God bless you.

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## **ACRONYMS/ABBREVIATIONS**

EFA	:	Education For All
FAWE	:	Forum for Africa Women Educationist
FDSE	:	Free Day Secondary School Education
KCSE	:	Kenya Certificate of Secondary Education
KCPE	:	Kenya Certificate of Primary Education
KIPPRA	:	Kenya Institute of Public Policy Research
KNUT	:	Kenya National Union of Teachers
KUPPET	:	Kenya Union of Post Primary Education Teachers
MDGs	:	Millennium Development Goals
TSC	:	Teachers Service Commission
UNESCO	:	United Educational Scientific & Cultural Organizations
D.E.O	:	District Education Officer
SPSS	:	Statistical Package for Social Sciences
MDGs:		Millennium Development Goals
MOEST:		Ministry of Education Science and Technology
GER	:	Gross Enrolment Rate
UNFPA	:	United Nations Fund for Population Activities

CVI : Content Validity Index

NACOSTI : National Commission for Science, Technology and invention.

## **ABSTRACT**

Every year, the Government of Kenya invests heavily in public secondary education. In spite of this heavy investment, the delivery of quality secondary education faces various challenges. One of the biggest challenges is wastage: students repeat grades and the rate of dropout remain high. The central focus of this study was to determine the factors that influence educational wastage in Kathiani Sub-county. The study was guided by the following objectives; to establish the influence of school-based factors on educational wastage, to establish the influence of home-based factors on educational wastage and to determine the influence of student-related factors on wastage. Descriptive survey design was used in the study. The target population of the study was 31 principals, 59 form four class teachers, the Sub-county director of education, 10 drop outs and 10 repeaters of secondary level of education in Kathiani Sub-county. All 31 principals were purposefully selected and one class teacher in each school was randomly selected. The district education officer (D.E.O), 10 drop outs and 10 repeaters were also included in the study. Data was collected using interview schedules for drop outs and questionnaires for form four class teachers, repeaters, D.E.O and principals. Data was analysed using both descriptive and inferential methods. Quantitative data collected using questionnaires was analysed by the use of descriptive statistics and Chi-square statistical procedure using the Statistical Package for Social Sciences (SPSS version 20) and presented through frequencies and percentages. The hypotheses were tested using the chi-square test. From the findings, it was established that drop out, absenteeism and less than 100% cohort transition existed. The study established that school-based factors, home-based factors and student-related factors influence educational wastage in the sub-county. The study recommends that all stakeholders be involved in efforts to address the school based factors leading to wastage in the sub-county. It also recommends that parents should play a bigger role in the education of their children. Lastly, guidance and counselling services should be intensified in schools to address student-related factors that lead to wastage.

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.0 Introduction**

This chapter presents the background of the study, statement of the problem, objectives of the study, hypotheses, significance of the study, scope of the study, assumptions of the study and the definition of terms.

#### **1.1 Background to the study**

The term “wastage” is used within the field of education to describe various aspects of failure of an educational system to achieve its objectives (Yusuf M.A, 2014). Ojo (1985) viewed wastage as failure of students to attain the qualifications they had registered for in a given course. According to Ajayi & Mbah (2008), wastage arising from repetition and drop out is a sign of internal inefficiency in the education system. UNESCO (1970) defined wastage to include drop outs, repeaters, premature withdrawal from schools and non-employability of school leavers and listed three ways of measuring wastage. These include; apparent cohort method, reconstructed cohort method and true cohort method. Economists liken education to industry, with capital invested in plant, and raw materials being processed into finished products. What is being wasted is human learning, school buildings and equipment and the labour of teachers. Wastage occurs through the failure of countries to achieve their educational objectives, when children fail to reach target achievement levels, in repetition of grades, in premature school leaving, in unemployable school leavers (UNESCO, 1971).

Education plays a vital role in development. It empowers individuals to realize more productive lives and is also a primary driver of national economic development. Receiving a good education is the lifeline by which many youths can lift themselves out of poverty. It is also seen as a primary means of social mobility, national cohesion and social economic development (Woodhall & Psacharopoulos, 1985), and a pre-requisite for human capital development (Kiumi & Chiuri, 2005). In a study carried out by Freudenberg and Ruglis in 2007, it was observed that education is one of the strongest predictors of health: the more schooling people have, the better their health is likely to be. People will be in a position of making informed choices on diet and overall lifestyle. The importance of basic education is highlighted in the Constitution of Kenya (2010) and various international conventions and articles, for instance, Education for All (EFA) goals and Millennium Development Goals (MDGs) emphasize the contribution of education to social, political and economic development. They also emphasize that education is a basic human right.

Vision 2030 of Kenya is looking upon education to deliver the necessary skills, and build adequate human capital to achieve and sustain the country as middle income country. The fundamental aim of this vision is to have a globally competitive and prosperous country, with high quality life by 2030 and transform the country into a newly industrialized middle level income country providing quality life to all its citizens in a clean and secure environment. Kenya has to compete globally, have technological progress and have a knowledge-based economy. This therefore calls for provision of quality education and reduction of any form of wastage. Mutua and Namaswa (1992) argue that if few graduates of a particular terminal level of education are considered qualified for the labour market after an examination or

expenditure on education is not commensurate with the benefits whether these are social or economic, this is wastage in education. Educational wastage has serious implications to the attainment of Vision 2030. Indeed, to achieve the Vision 2030, a lot needs to be done to reduce all forms of education wastage. Measures should be put in place to reduce and eventually eradicate wastage. In addition, effort should be put into improving the grades of graduating students to ensure higher transition rates to tertiary education. Solving the problem of wastage is important in every part of the world. For any nation to solve this problem, there is need to understand the factors influencing wastage and the influence of each factor. Therefore, the concern of this study was to determine the factors that influence educational wastage in public secondary schools in Kathiani Sub-county.

## **1.2 Statement of the problem**

The Kenyan education system has been characterized by high dropout, repetition and poor academic performance (Muyanga, 2010), which leads to educational wastage. The government has tried to address the issue of quality education, retention and completion through Free Day Secondary Education (FDSE), but the wastage problem still persists. Despite many policies and strategies developed to ensure that students complete school smoothly, there are still some students who withdraw from school prematurely. Preliminary investigation by MOE (2010) shows that at the national level dropout rates among students in public secondary schools in 2010 registered 9.5%. Many students enrolled for the secondary school education do not graduate at the specified period which has huge social and private costs implication. Kathiani Sub-county Education Office (2014) stated that some of the students enrolled in secondary schools in Kathiani Sub-county repeat classes and others drop

out. All those students who repeat or drop out of school cause a huge public expenditure. Dropping out and repetition also affect the internal efficiency of schools. Studies have been conducted on factors influencing educational wastage in Kericho County, Baringo County and Nyeri County respectively (Orwasa, 2014; Kipkoech, 2012; Muriithi, 2011). However, there is no evidence that a study has been done on the factors influencing educational wastage in public secondary schools in Kathiani Sub-county. Therefore; Kathiani Sub-county makes a classic study on the factors influencing education wastage in public secondary schools.

### **1.3 Purpose of the study**

The purpose of the study was to determine the factors influencing educational wastage in public secondary schools in Kathiani Sub-county.

### **1.4 Objectives of the study**

The study was guided by the following objectives.

- i. To establish the influence of school-based factors on educational wastage in Kathiani Sub-county.
- ii. To establish the influence of household based factors on educational wastage in Kathiani Sub-county.
- iii. To determine the influence of student-related factors on educational wastage in Kathiani Sub-county.

### **1.5 Hypotheses of the study**

The study tested the following null hypotheses.



- H<sub>01</sub> There is no statistically significant association between school-based factors and educational wastage in Kathiani Sub-county.
- H<sub>02</sub> There is no statistically significant association between home-based factors and educational wastage in Kathiani Sub-county.
- H<sub>03</sub> There is no statistically significant association between student-related factors and educational wastage in Kathiani Sub-county.

### **1.6 Significance of the study**

Addressing the issue of educational wastage would reduce youth unemployment hence avoiding many social-economic evils that are caused by unemployment. The education sector would use the findings to formulate education policies. Parents and the community would also use these findings in counselling the students towards quality performance and retention and completion of education and underscore the benefit of graduating at all levels of education. Findings of the study would also offer lessons to all key stake holders in education, for instance, it would shed light on the factors influencing educational wastage as well as strategies that need to be taken to minimize and eventually eradicate educational wastage. School managers would also get insight on how to organize school structures and develop school culture that promotes academic achievement and retention of student in secondary schools. The findings would also inform MOEST on how best to formulate, communicate and implement policies which would help to eradicate educational wastage at all levels. These findings would also shed light to TSC, KNUT and KUPPET on how to resolve their issues without causing wastage. Last but not least the findings would add to the existing literature of educational wastage and help educational institutions

to function towards provision of quality education and increased enrolment, survival, retention and completion rates.

### **1.7 Limitations of the study**

There were some challenges in gathering adequate information. The researcher also faced difficulties in getting willing questionnaire respondents. Each step of the data collection process involved participation in the form of providing learned, truthful and accurate responses to the pertinent issue; therefore, the researcher was sensitive to the possibilities of negative perception of questions and comments during all interviews. The researcher also assured the respondents that the findings in this study were for educational purposes. Another challenge was the inaccessibility of some schools. The researcher used motor bikes to reach the schools.

### **1.8 Delimitations of the study**

The study focused on two indicators of wastage that is, drop out and repetition with acknowledgement of other parameters such as enrolment, retention, survival and graduation rates. It also limited itself to only three factors, that is, school-based, home-based and student-related factors. Last but not least, the study was only based on public secondary schools in Kathiani Sub-county and collected data from form four class teachers, principals, D.E.O, drop outs and repeaters.

### **1.9 Assumptions of the study**

The study was founded on the assumptions that: all the respondents would be willing to cooperate, all respondents would provide reliable responses, those affected would remember how each factor influenced wastage and reducing wastage among students

would improve quality of education, increase completion and survival rates of students in Kathiani Sub-county.

### **1.10 Operational definition of terms**

**Drop out:** A student who leaves school before completion of a prescribed cycle of education.

**Educational wastage:** A measure of internal efficiency which manifests itself through drop outs and repetition.

**Home-based factors:** Home aspects that can affect student's learning positively or negatively. They include parental involvement, family structure, family size and status, home lighting, parental education and parental income.

**Repetition:** Remaining in the same class for more than one year.

**School-based factors:** School aspects that can impact on student's learning positively or negatively. They include syllabus coverage, indiscipline, educational policies, and management style and teacher attitude.

**Student-based factors:** A host of individual student characteristics those are associated with poor academic performance, repetition and dropping out of school. They include self-esteem, age of the student, teenage pregnancies, drug abuse and peer influence.

**Secondary school:** An institution where students receive formal education as stipulated in the secondary school curriculum.

**Public school:** A type of school that is developed and maintained by public funds obtained from the government, parents and/ or community.

### **1.11 Organisation of the study**

This study is organised into five chapters. Chapter one presents the background of the study, statement of study problem, purpose of the study, study objectives, study hypothesis, significance of the study, limitations and delimitations of study, basic assumptions of the study, definition of terms and the organisation of study. Chapter two deals with the literature review which is organised into sub themes and has a conceptual and theoretical framework. Chapter three presents the research methodology. This describes the research design, the target population, sampling techniques, sample size, research instruments, piloting, instruments validity and reliability, data collection procedure and data analysis techniques. Chapter four present data obtained from field, its analysis, interpretations and discussion. Chapter five contains the summary of findings, conclusions and recommendations.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter presents a review of the existing literature on educational wastage and its indicators, that is, drop-out and repetition. It also focuses on factors influencing wastage in developing countries, theoretical frame work and conceptual framework.

#### **2.2 The concept of educational wastage**

Educational wastage has been a challenge in many countries. It is considered to emanate from failures, stagnation and drop-outs. It is defined as, if a child leaves school without completing a course or fails in class then the investment does not give commensurate returns as such as both money and human resources are wasted. Educational wastage has three components-failures, grade repetition and drop-out. It can be said to exist in the following forms; the failure of the system to provide universal education, failure of recruit child within the system, failure to hold children within the system, failure of the system to set appropriate objectives, inefficiency in the achievement of objectives. Kiumi and Chiuri (2005) define educational wastage as the dual problem of class repetition and drop-out. Repeaters deplete resources and causes wastage. Those who do not complete are not useful man power and constitute wastage as well.

The components of wastage according to Rajesh and Roy (2014) are failure or grade repetition and drop out which means premature withdrawal. The main burdens of wastage are; joblessness, less income earnings, increased criminality, public dependency and poor health. Further, the characteristics of wastage include the

failure of education system to provide universal education, failure to recruit child within the system, failure to hold children within the system, failure of the system to set appropriate objectives and inefficiency in the achievement of objectives. Other terms used to describe wastage are stagnation and inefficiency.

### **2.3 Global overview of educational wastage**

Educational wastage has been a global challenge that many countries of the world have been trying to curb. In the US, for instance, the high school dropout rate is alarming. In 2007-2008, the California Department of Education estimated that 98,420 public high school students dropped out of school (David & Jeffrey, 2010). These data suggest that about 19 percent of California high school students in any ninth-grade class will drop out over a four-year period. Further, the dropout rate is particularly acute among the state's largest minority student populations. An estimated 33 percent of African Americans and 24 percent of Hispanics will drop out over a four-year period (David & Jeffrey, 2010). This source further explains that the economic and social consequences of the dropout crisis are profound, particularly in those minority communities whose children drop out of high school at disproportionately higher rates. Research demonstrates that dropouts suffer more joblessness, earn less income, and tend more to criminality, public dependency, and poor health than high school graduates. The 2008 employment rate of the California's population of 16- to 24-year-old high school dropouts was 22 percentage points below that of peers with a high school diploma, 33 percentage points below that of peers with one to three years of post-secondary schooling, and 41 percentage points below that of peers with a four-year college degree. On average, these dropouts earned only \$8,358 per year, whereas high school graduates



with a four-year college degree earned approximately \$24,800, or three times the earnings of dropouts (David & Jeffrey, 2010).

Drop outs in California experience difficulty in the labour market. They are more likely to be unemployed or out of the labour force and twice as likely to be living in poverty. Based on data from the Census Bureau's Current Population Survey, the same source estimate that the average California high school dropout earns \$14,226 less per year than we would expect had they graduated high school. Over a lifetime, high school dropouts will earn \$412,000 less than a high school graduate (California Education department, 2007). The lower earnings of high school dropouts cost the state more than \$54 billion per year in lost taxable personal income. California high school dropouts on average contribute \$252 less per year in state taxes than they would have had they graduated from high school. This lost state tax revenue adds up to \$958 million annually. Dropouts report worse health than graduates and require more public health resources. Close to 20 percent of California high school dropouts report fair or poor health and close to half receive Medicaid. It is estimated that the average Medicaid costs to the state per high school dropout are \$283 per year, which results in over \$1 billion in added expenses for the state's 3.8 million high school dropouts (David and Jeffrey, 2010).

David and Jeffrey further argue that dropouts drive up the state's incarceration costs. Over a lifetime, a dropout costs the state \$8,484 because of higher incarceration rates than higher-educated peers. David & Jeffrey estimate the average annual incarceration costs of California's 3.8 million dropouts would decline by \$374 per person had those dropouts graduated from high school, representing potential cost

savings of more than \$1.4 billion. California's economy will benefit tremendously by reducing dropouts. It is estimated that each prevented dropout will result in a present value lifetime benefit of \$28,227.1 by permanently cutting the dropout rate in half; each new graduating class of high school students would yield more than \$1.4 billion in direct gross economic benefits to the state.

In Latin America, the educational flow wastage argument is manifested by unacceptably high dropout and repetition rates and low primary completion rates, when compared with similar indicators in more developed countries (Juan, 1992). For instance, Juan (1992) indicates that primary completion rate in the Mexican educational system in 1977 was 42%, with some poorer states, like Chiapas & Oaxaca registering less than 20%. A study by Desarrolo (2007) in Latin America noted that the number of repeaters increased with the expansion of schools in the region to accommodate for students.

A report published by the UNESCO regional office for education in Asia (1967) noted that in countries which have high wastage ratios, repetition contributes more to wastage than does drop out, and repetition is itself commonly followed by drop out. The report goes on to argue that the reduction of wastage cannot be brought by a single method, but involves the whole educational system. However, Japan has largely overcome such problems of wastage and is more concerned with problems of absenteeism (UNESCO, 1967). India has also suffered wastage and stagnation. Kothari commission Report noted that parents in India sent children to school based on their usefulness at home. The report further argues that poor parents find it almost impossible to lose the assistance of their children at home. Based on the Kothari

Report, wastage and stagnation causes are categorized into three namely, social causes which include caste distinctions, early marriages, and opposition to send grown up girls in mixed schools; educational causes which include ill-equipped schools, poorly housed and with dull and depressing enrolment, lack of adequate accommodation, too much overcrowding in schools, inefficient teachers, frequent transfer of teachers and poor quality of teachers; miscellaneous causes which include illness and/or death of parent. Hinnun & Park (2004) also found that in China repetition rates increased with increase in student numbers.

#### **2.4 Educational wastage in developing countries**

In developing countries, wastage is also very common. This creates a serious situation because the funds available for educational development are limited and their effective use is considerably reduced by wastage. Gatawa (1998) argues that while developing countries have done remarkably well in terms of expanding educational access to a large percentage of their school going population, school performance as measured by dropout rates, progression rates and examinations results has been quite discouraging. Most African countries are faced by the educational wastage problem and have come up with various initiatives to curb the problem. Nigeria, has adopted the education sector as one of the pillars of poverty reduction. It is argued that wastage is an unprofitable and uneconomical utilization of time and resources (Adamu, 2000; Samuel, 2004; Oyetakin, 2011). Adamu (2000) argues that repetition of classes may have negative effect on students and parents; therefore, the development of each child must be directed towards the ability of the child, bearing in mind the needs of society. Akindele (2015) stated that the analysis of efficiency in education is necessary in ensuring optimal uses of meagre resources

allocated to education in order to eliminate wastage. In Zambia, educational wastage is very old. For many reasons, wastage is rampant at the secondary level, while the non-formal sector is incapable of catering effectively for those adversely affected due to a variety of factors (Lawrence, 1995). Lawrence continues to argue that wastage in Zambia is caused by failing examinations, lack of space in grades 8 and 10, cultural factors, poverty, poor health, truancy and lack of interest in school. Ncube (2004) in a study in Zimbabwe found that the number of students repeating a grade increases with level of schooling. Ncube noted that, of the 2527 repeaters over a period of four years, 5.7% were in form one, 7.6% in form two, 30.2% in form three and 56.5% in form four. There is also a problem of high repetition and low progression rate. This could be affected by school size, school regime, school type, and inability to pay school fees, HIV/AIDS pandemic, violence and drug abuse (Achoka, 2007). It is clear there is an educational wastage problem in the African continent; hence, policies should be created and implemented to ensure that this wastage is reduced.

Developing countries are faced by many challenges such as poverty, unemployment, corruption and violence. These challenges are related to educational wastage because the cost of living in developing countries is high. There are sharp disparities between socio-economic classes, gender, geographical regions and generations, resulting to inequality, low access and non-participation of some individuals (UNESCO, 2005).

According to Psacharopolous and Woodhall (1985) “factors influencing school wastage are poverty, which may give rise to illness, malnutrition, absenteeism, high opportunity cost of schooling for poor families, cultural factors, which affect girls in

particular, inappropriate curriculum factors which is excessively academic and designed to prepare majority of pupils for upper secondary and higher education, and a shortage of secondary school places which lead to depletion at the primary level” (p.200). According to Forum for Africa Women Education (FAWE) 1997, poverty is the major cause of educational wastage and the girl child is the most affected. FAWE recommended that government, communities and families need to advocate more on the right to education for all and especially for the girl child. Opportunity cost of sending girls to school, according to King and Hill (1993), is a major issue in female participation in educational process for instance; girls are expected to work as house helps to provide for their family. This may lead to drop-out. Although FAWE was more concerned about girl, boy child is also at a big rise of being equally wasted.

## **2.5 Educational wastage in Kenya**

There has been increased demand for education (both private and social) in Kenya since 1963. This is as a result of various factors, including the impact of free primary education and hence the growth in numbers of those completing class 8, the policy of increasing the transition rate to 100% by 2015 and the implementation of Free Day Secondary School Education (Task Force, 2012) This has led to increased enrolment in both primary and secondary schools. For instance, the total enrolment in primary increased to 10.2m in 2013 and that of secondary school to 2.10m in 2013. This has led to increased number of schools. (Economic Survey, 2013). Unfortunately, even with this increase of the number of schools, wastage remains a big challenge of secondary school level education. The ministry of Education Science and Technology (MOEST) is always concerned with efficiency and feels that internal efficiency of education requires policy attention (MOEST, 2010). According to this

source, the drop-outs in primary schools has been as high as 37% and repetition rate at 14% between class one and seven, the survival rate has been low at 40%, although at the secondary level the survival rate has been better at 84% the overall performance remains low considering the Gross Enrolment Rate (GER) for secondary school is 31.7% for boys and 27.3% for girls.

In Kenya, secondary school dropout rate was 17.9% females and 6.1% males in 2002 (MOEST, 2002). The source further indicates that the repetition rate was 15.4%. In a study by Achoka (2007), it was observed that day schools record a higher repetition rate than boarding schools. This is attributable to the fact that day school students are affected by both home and school-based factors while Boarding school students are affected by school-based factors only. Education wastage is undesirable in any country and should be solved so as to improve a country's health, improve employability of populace, boost economic growth and aid in realisation of the country's development goals. Machakos County has a primary school enrolment rate of 81% for both boys and girls and secondary school enrolment rate of 32% (Republic of Kenya, 2012). This source further indicates that the secondary school dropout rate is 4.7% and that many children drop out of school due to inability to meet cost of education. Other problems mentioned are limited number of schools, low transition rate from primary to secondary school, teenage pregnancies, poverty and inadequate infrastructure. In Kathiani, there has been high wastage. The table below shows wastage in Kathiani Sub County between 2008 and 2012.

**Table 2.1 Enrolment in secondary schools in Kathiani Sub County**

<b>Form</b>	<b>Number of students</b>				
	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
1	529	555	679	799	1011
2	477	517	608	714	925
3	310	368	501	588	857
4	173	201	394	537	779
<b>Total</b>	<b>1489</b>	<b>1634</b>	<b>2182</b>	<b>2638</b>	<b>3572</b>

Source: Ministry of Education, Kathiani Sub County (2012)

From the table, it can be noted that there is a significant loss at every level of schooling. For instance, for those who enrolled in form 1, only slightly more than half proceed to form 4. The above information indicates that there has been wastage in all levels of schooling in Kathiani Sub County. This could be due to repetition or premature withdrawal from school.

## **2.6 Forms of educational wastage**

This refers to the forms in which wastage takes place in schools. They include repetition, non-enrolment and drop out.

Repetition means a year spent by pupil in the same grade and doing the same work as previous year. Musyimi (2011) deduced five major forms of repetition, depending on the source and reason of repetition. This decision may be initiated by the student themselves or by the school. This is voluntary and serves the student's best interest. He continues to explain that the second type of repetition reflects a firm belief that the student did not learn much the previous year and therefore ought to repeat the grade. It is most common in developing countries where attendance is poor due to poverty, illness and starvation. Third type of repetition is common in areas where the language used in school differs from the language that many students speak at home. Repeating early grade may enable their students to gain fully in the language of instruction. Fourth type of repetition occurs at higher levels in countries that require student to pass exams to qualify for secondary or post-secondary education. The fifth form is involuntary initiated by school rather than the student or their families. Grade repetition whether voluntary or forced, represents wastage of resources for society. However, it is not clear the extent to which repetition should be regarded as wastage. Nkinyangi (1980) argued that schooling is efficient if every student moves up a grade every year. Nkinyangi's study further notes that each student who repeats has the economic effect of increasing class size which means constructing more classes and employing more teachers. Ngau (1991) argued that pupils who repeat grades especially towards the end of a cycle believe that they will improve their chances of passing the examination for entry in the next level. However this has never been proved. Repetition rate is very high at the developing countries and especially in the sub-Saharan Africa (Eisenman, 1997). Gomes, Neto and Honushek (1994) found out



that repetition is frequent in rural areas. Simmons (1974) feels that wastage rates are an important dimension of school efficiency

Drop out as another form of wastage may be defined as premature leaving of education system. Audrey (2009) notes that student who repeat a grade prior to high school have a markedly higher risk of dropping out of high school than those who are continuously promoted through school. Leaving school after completion of compulsory cycle without going on the succeeding cycle does not constitute drop out.

Dropping out of school has various consequences as illustrated in the following studies. Studies conducted by Rumberger (1987) revealed that the major consequence of dropping out of school is low literacy and numeracy skills. He continued to state that school drop outs find it difficult to secure employment. The dropouts have fewer opportunities to obtain additional education and training needed to make one remain competitive in the job market. A study carried out by Levin (1972) on high school dropouts in the United States revealed several social consequences associated with dropping out of high school. These social consequences include: - foregone national income; increased demand for social services such as welfare, medical assistance and unemployment assistance by the dropouts; increased crime; poorer levels of health; reduced political participation and reduced intergenerational mobility. Levin (1972) estimated that the social costs of providing social services and fighting crime associated with dropping out was \$6 billion per year. A study by Belfield and Levin (2007) on the economic losses on school dropout in California reveals that there are substantial economic benefits in

raising the rate of high school graduation. The same study revealed that there were significant fiscal gains to the state and federal governments.

Non enrolment may be defined as failure to register to educational institution. In Sub Saharan Africa, enrolment rates have remained at about 30%, but it has been rising in some other Developing countries. For instance, in East Asia, it grew from 47% in 1990 to 68% in 2000. In the Middle East, it grew from 52% to 57% (UNESCO, 2004). In Kenya, the Gross Enrolment Rate (GER) increased from 53.3% in 2009 to 60.2% in 2012 (Economic Survey, 2013). The low GER in secondary school in secondary schools is compounded by declining transition rates leading to high wastage levels.

## **2.7 Factors influencing educational wastage**

The factors can be grouped into three perspectives namely; Individual perspective, school perspective and household perspectives. Individual factors that predict whether students drop out or graduate from high school fall into four areas: educational performance, behaviours, attitudes, and background (Rumberger, 2008).

A study by Deribe (2015) on factors contributing to educational wastage in primary school level in Lanfuro Woreda (Ethiopia) revealed that factors contributing to educational wastage are home based, student related and school based. In this study, descriptive survey design was employed and the data was collected using questionnaires. According to Deribe, one of the main components required to make an education system viable, functional and productive is the availability of qualified and satisfied teaching staff. In this study, the target population was teachers and pupils who were randomly selected. Data was analysed using both descriptive and

inferential statistics. However, this study was carried out in a different geographical area and it was done in primary schools.

Matage, Kyalo and Shadrack (2015) carried out a study on factors influencing educational wastage among girls in secondary schools in Kenya, a case study of Kisii. Some of the factors investigated in this study were; cultural factors, economic factors and social factors. Stratified random sampling was used to sample schools. The respondents in the study were elected purposively and data was analysed using both descriptive and inferential statistics. The study revealed that economic factors such as poverty at household level, cultural factors such as pregnancy and marriages were responsible for drop out. School related factors like school examination regulations and social factors such as provision of sanitary towels were found to affect education negatively. However, this study only focused on girls and it was also done in a different geographical region.

Orwasa (2014) undertook a study on assessment of factors contributing to wastage in secondary schools in Kericho County. The study revealed that school and home based factors contribute to poor performance, repetition and the likelihood of students to drop out. However, this study did not exhaust all the factors and a study on more factors should be done.

Mutwota (2013) undertook a study on socio-economic factors influencing wastage of pupils in public primary schools in Igembe south district. The purpose of the study was to investigate the socio economic factors influencing wastage of pupils in public secondary schools. Factors under study included family income, cost of education, family education and early marriage. The study revealed that family income cost of

education, family education and early marriage influence wastage of pupils. However, this study only focused on primary schools and on socio economic factors.

Mutahi (2014) did a study in Laikipia west district, which investigated educational wastage in public secondary schools. The purpose of the study was to assess the determinants of educational wastage in public secondary schools. The determinants assessed in the study were school-based, socio-cultural and students' personal determinants. The target population consisted of teachers, students and area D. E.O. Descriptive survey design was adopted and data was analysed using descriptive statistics

## **2.8 School-based factors influencing educational wastage**

School experiences serves as powerful precursors to the decision to formally leave school. For example, the most in school factor contributing to dropping out include; poor school performance, disruptive behaviours, poor attendance, negative attitudes toward school, and early school failure-particularly, repeating grades and corporal punishment (Muhammad & Muhammad, 2011).

Although student and family characteristics account for most of the variability in dropout rates, about 20 percent can be attributed to four characteristics of schools: the composition of the student body, resources, structural features, and policies and practices (Rumberger, 2008). Research conducted by Rumberger (2008) shows that the odds of dropping out are lower in schools with more advantaged students, but the effects appear to be indirect, through the association with other school characteristics. Research does not show that school size has a consistent effect on dropout and graduation rates. Attending a Catholic high school improves the odds of

graduating; yet studies have also found that Catholic and other private schools lose as many students as public schools because students attending private schools typically transfer to public schools instead of dropping out. Relatively few studies found significant effects of school resources on dropout and graduation rates, at least in high school. But there is strong evidence that small classes improve high school graduation rates (Rumberger, 2008).

Students are less likely to drop out if they attend schools with a stronger academic climate, as measured by more students taking academic courses and doing homework. On the other hand, students are more likely to drop out in schools with a poor disciplinary climate, as measured by student disruptions in class or in school (Mcmillen, 1997; Rosenthal, 1998). There does not appear to be a consistent effect of exit exams on dropout rates, although more recent high school exams appear to lower high school completion rates. Additionally, requiring students to attend school beyond age 16 leads to lower dropout and higher completion rates (Rumberger, 2008). Communities play a crucial role in adolescent development along with families, schools, and peers. Rumberger further argued that Population characteristics of communities are associated with dropping out, but not in a straightforward manner: living in a high poverty neighbourhood is not necessarily detrimental to completing high school, but rather living in an affluent neighbourhood is beneficial to school success. This suggests that affluent neighbourhoods provide more access to community resources and positive role models from affluent neighbours.

Other school-based factors leading to wastage in schools include teacher pupil conflicts, poor methods of teaching, excessive punishments; excessive homework, over-crowded schools, inaccessibility and costly school requirements. The girls and their parents are also discouraged by absence of female teachers who act as their role models (Kane, 2004). The distances to the nearest school in Kenya have been reduced as compared to other countries of similar income level, even though not in all the regions. Areas having low population have few schools, while highly populated areas have more schools which leads to difference in enrolment rates in these regions (Glennerster, Kremer, Mbiti, Takavarasha, 2011). It is therefore important to reduce the distance, which deters access to social services, to schools in low population areas in order to help boost educational access to pupils in these regions. The school environment, indiscipline, sexual harassment of girls by male counterparts and some teachers and unfavourable home environment were some causes of dropout in the area.

## **2.9 Home-based factors influencing educational wastage**

Research by Rumberger (2008) on dropouts has identified a number of factors within students' families, schools, and communities that predict dropping out and graduating. Three aspects of families predict whether students drop out or graduate: family structure, family resources, and family practices (Rumberger, 2008). Students living with both parents have lower dropout rates and higher graduation rates, compared to students living in other family arrangements. More important, changes in family structure, along with other potentially stressful events (such as a family move, illness, death, adults entering and leaving the households, and marital disruptions) increase the odds of dropping out. Students in homes with more family

resources—as measured by parental education, parents’ occupational status, and family income—are less likely to drop out of school (Bryk & Thum, 1989). A number of parenting practices—sometimes referred to as social resources or social capital—have been shown to reduce the odds of dropping out, including: having high educational aspirations for their children; monitoring their children’s school progress; communicating with the school; and, knowing the parents of their children’s friends. Finally, students are more likely to drop out if they have a sibling who dropped out Schools (McMillen, 1997; Rosenthal, 1998; Rumberger 2008).

The members of a household can have an influence over educational access and retention of their children in school, particularly in poorer communities. Children living with mothers generally are less likely to drop out. The number of children in a family dictates the poor families’ ability to retain their children in school. Older girls in poor households may be withdrawn from school to take care of their younger siblings. This therefore means that birth order and gender often influence who has access to school (Hunt, 2007).

### **2.10 Student-related factors influencing wastage**

Individual factors that predict whether students drop out or graduate from high school fall into four areas: educational performance, behaviours, attitudes, background and teenage pregnancy

Several aspects of educational performance have been widely identified in the research literature as strong predictors of dropping out or graduating: test scores and grades in high school; academic achievement in both middle and elementary school (with grades a more consistent predictor than test scores); non-promotional school

changes (student mobility) during middle and high school; and, retention (being held back one or more grades), in elementary, middle, and high school (Rumberger, 2008). Mcmillen (1997) argues that students who get poor grades are likely to leave school.

A wide range of behaviours both in and out of school have been shown to predict dropout and graduation. One of the most important is student engagement, which includes students' active involvement in academic work (e.g., coming to class, doing homework) and the social aspects of school (e.g., participating in sports or other extracurricular activities). Research consistently shows that high absenteeism—one specific indicator of engagement—is associated with higher dropout rates (Rosenthal, 1991). Rosenthal further argue that Misbehaviour in high school and delinquent behaviour outside of high school are both significantly associated with higher dropout and lower graduation rates. In addition, drug or alcohol use during high school is associated with higher dropout rates. Teenage parenting and childbearing increase the odds of dropping out. Having friends who engage in criminal behaviour or friends who have dropped out also increases the odds of dropping out, with such associations appearing as early as the seventh grade. Finally, a number of studies have found that students who work more than 20 hours a week are significantly more likely to drop out (Mcmillen, 1997; Rosenthal, 1989; Rumberger, 2008).

Although a substantial body of research has explored the association between student achievement and a wide range of student beliefs, values, and attitudes, far less research has explored the links between these factors and dropping out. The dropout



literature has generally focused on a single indicator - educational expectations (how far in school a student expects to go)—and has found that higher levels of educational expectations are associated with lower dropout rates (Rumberger, 2008). The beliefs and attitudes that students hold towards school are important predictors of drop out (Mcmillen, 1997).

A number of student background characteristics—including demographics and past experiences - are linked to whether students drop out or graduate (Rumberger, 2008). Rumberger further argued that dropout rates are generally higher for males than for females, and they are higher for Blacks, Hispanics, and Native Americans than for Asians and Whites; yet these differences may be related to other characteristics of students as well as characteristics of their families, schools, and communities. Some studies have found that second generation students (one parent foreign-born), especially Latino students, have higher graduation rates than either first generation (foreign-born) or third generation (native-born students and parents). Higher English language proficiency also lowers the odds of dropping out. One past experience—participation in preschool—has been the subject of extensive, rigorous research and has been shown to not only improve school readiness and early school success, but also to affect a wide range of adolescent and adult outcomes, including high school completion, crime, welfare, and teen parenting (Mcmillen et al., year). Rosenthal (1989) noted that dropouts are more likely to come from low- income family.

Access to good quality education is one of the most effective interventions to empower adolescents with the most basic skills to function and contribute to society. This is of greater relevance for girls to obtain comprehensive sexual education; to

know and recognize options; to be able to negotiate reproductive desires, including when and how many children to have; and to be able to demand access to good quality services for reproductive health. All of these faculties could be easily denied to adolescent girls who are out of school and unable to complete their secondary education as a minimum (UNFPA, 2012).

One major contemporary social problem confronting most countries in the world is teenage pregnancy. From the first world countries such as the United states to the third world countries, this problem has been a source of worry for policy makers, social workers and other human service providers due to its negative repercussions on the girl-child (Grunseit, 2007). It is alleged that teenage pregnancy and its associated motherhood are characterized with shame, disgrace, and school dropout and sometimes end of the individual's dreams of achieving higher pursuits. According to Yampolskaya, Brown, and Greenbaum (2002), "approximately 60% of adolescent mothers live in poverty at the time of the birth of their babies, and approximately 73% go on welfare within 5 years of giving birth."(p. 8). It is suggested that school drop-out is a "uniquely predictive factor" of teenage pregnancy and a precursor to, rather than a consequence of becoming pregnant (Bonell, Allen, Strange, Copas, Oakley, Stephenson, Johnson, 2004). Onyando and Omondi (2008) asserts that pregnancy acts as a catalyst to school dropout in poor families. O'Connor (1999) re-echoed this by stating that academically- oriented females are less likely to give birth while still in high school.

**Table 2.2: Top 10 countries with greatest numbers of women with early pregnancies**

<b>Country</b>	<b>Numbers</b>
India	11875182
Bangladesh	2904220
Nigeria	1978365
Brazil	1354236
Indonesia	1078955
Pakistan	895449
Ethiopia	881168
DR. of the Congo	757596
Tanzania	585949
Kenya	535441

Source: United Nations Population Division (2013)

From the table, it can be noted that a significant number of teenagers get pregnant in developing countries.

Odaga and Heneveld (1995), note that parents worry about wasting money on the education of girls because there are most likely to get pregnant or married before completing their schooling and that once married, girls become part of another family and the parental investment in them is lost this therefore perpetuates parents discouraging the girl child from continuing with school. All those factors that influence educational wastage are assumptions and the researcher feels that a study

should be done on areas where educational wastage has been noted like in Kathiani Sub-county.

### **2.11 Theoretical framework: functionalism theory, 1938**

This study adopted functionalism theory, which is the work of Durheim (1938). The sociologist compared societies to organisms with structures that consist of interrelated parts that work together to achieve a goal. If one part is affected it affects all the other parts' performance. Education is vital in maintenance of society as a whole. It happens in acquisition of skills, knowledge, values and attitude hence an important agent of socialisation.

The functionalists Approach views specific component parts of the school systems as performing specific and complementary roles those are necessary if the school has to achieve its desired goals. One goal of education is to promote individual development and self-fulfilment. It should assist children to develop their potential interests and abilities. A vital aspect of individual development is character building. In this approach therefore, the component of the social system can be referred to as those that play their respective roles effectively to ensure the students participate in schooling and complete their secondary education successfully. These components include;

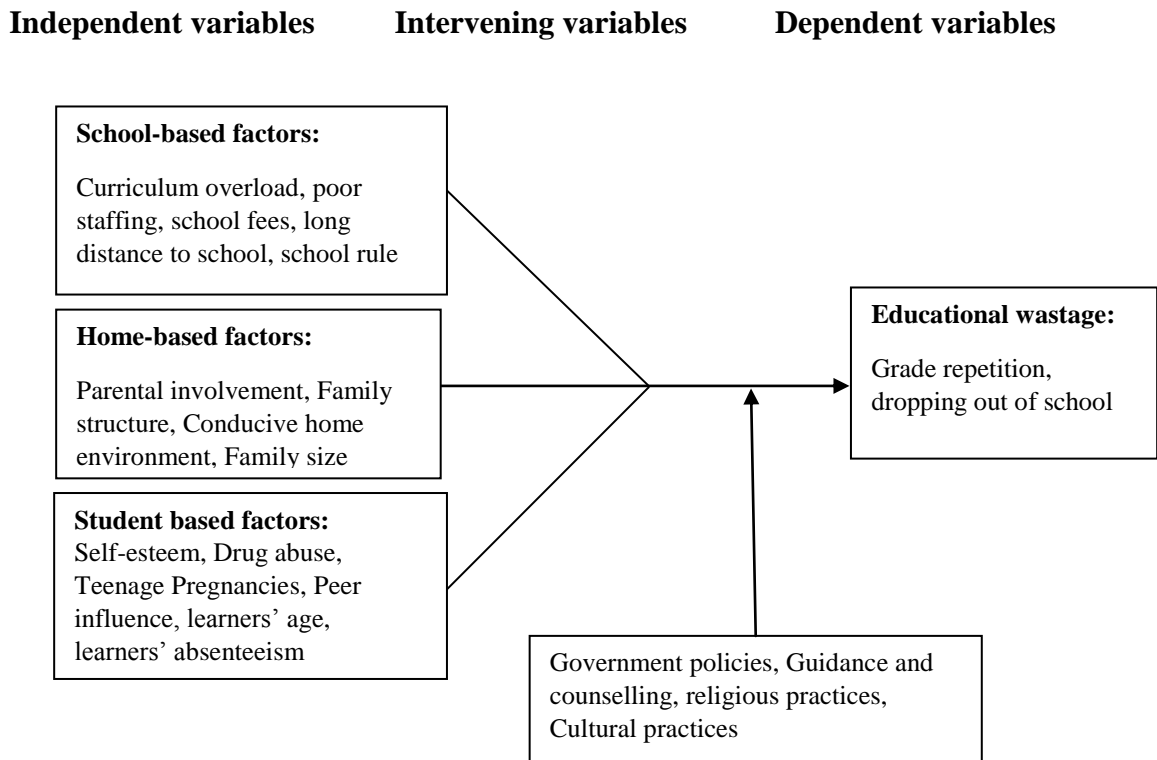
Parents, who play a crucial role in the early socialisation of the students by helping them to learn and adapt to the values and norms of the society. The parents are obliged to ensure that students attend and continue with learning without disturbance by paying school fees, creating a conducive environment at home and becoming good role models to their children. The students, who according to the functionalists,

must view themselves as instruments which the future of society depend upon. The students must be ready to be shaped by the teachers into responsible citizens by being guided to observe rules and regulations and core values at all cost. They are expected to make use of their abilities to fully harness their potential and get best out of education provided by the school curriculum. The school, which is viewed as a very vital component of the system. The school must have adequate facilities, enough teaching staff, and a conducive teaching and learning environment. The quality of the school management, its ability to motivate both students and staff as well as ability to create team spirit are all vital considerations if the school has to achieve its goals.

The roles played by the three components are complementary to each other and if one of them is faulty, the whole system will most likely not achieve the intended goals. A conflict may also arise if one of the components does not function well. The performance of these components of a school as social system will determine whether there is a smooth operation and continuation of the formal secondary education.

## 2.12 Conceptual framework

Figure 2.1 a conceptual framework showing an association between variables



*Fig 2.1 A conceptual framework for the study*

The dependent variable in this study will be education wastage in public secondary schools. Education wastage in public secondary schools is influenced by several factors that constitute the independent variables. Based on the literature review the factors that influence education wastage in public secondary schools includes schools based factors (teacher attitudes, syllabus coverage, general school discipline and class size), home-based factors (parental involvement, family structure, conducive home environment, opportunity cost of schooling and family size) and student-related factors (self-esteem, drug abuse, teenage pregnancies, peer influence, learners age and learners absenteeism). The intervening variables, which according

to Kothari (2004) are variables that intervene between cause and effect, includes guidance and counselling, government policies, religious and cultural practices.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 Introduction**

This chapter highlights research design, population, the sample, sampling procedure, research variables, instruments, data collection and data analysis.

#### **3.2 Research design**

The study adopted a descriptive survey research design as a method of collecting data by interviewing or administration of questionnaire to a sample of individuals, (Kombo & Tromp, 2007). Mugenda and Mugenda (2003) argue that survey research is a self-report study which requires the collection of quantifiable information from the sample. Survey was preferred because it involves gathering data that describes events and then organizes, tabulates, depicts and describes the data collection (Glass & Hopkins, 1984).

Further this research design was deemed by the researcher to be simple. Through this design the researcher would pose a series of questions to willing respondents; summarise their responses with percentages, frequency counts, and means, and draw conclusions. The design also saved time and money which were limited.

#### **3.3 The area of study**

This study was conducted within Kathiani Sub-county. Kathiani Sub-county is one of the sub counties in Machakos County created under the constitution of Kenya (2010). It is located within the Eastern region of Kenya. Kathiani Sub-county has been selected for the study because it has high education wastage in public



secondary schools in terms of poor performance in KCSE, drop out of students and repetition rates (Machakos County Education Office, 2014). This has raised great concern among parents, stakeholders, religious organizations and the sub-county's political leaders. Most economic activities in Kathiani Sub-county revolve around agriculture and trade. Agricultural activities include coffee production, fruit farming (avocado), dairy farming and maize farming. The Sub-county has several educational institutions. There are 71 primary schools and 33 secondary schools, 31 of which are public. The study sample was selected from the 30 public secondary schools within the Sub-county.

#### **3.4 Target population**

The target population for this study comprised of 31 principals, 59 form four class teachers, the D.E.O in charge of the Sub-county, 10 drop outs and 10 repeaters. This gave a total of 111 respondents. Form four class teachers were selected because they were likely to be the longest serving class teachers, principals were selected because they keep records of the students while in school, D.E.O was selected because he/she also keeps records of the entire Sub-county, the drop outs and repeaters were selected because they have first-hand information on the influence of each factor on their wastage.

#### **3.5 Sample size and sampling procedures**

A sample population comprised of 29 principals, 31 form four class teachers, the DEO, 10 drop outs, and 10 repeaters, making a total of 81 respondents (Table 3.1).

**Table 3.1: Sample size and sampling procedure**

<b>Category</b>	<b>Population</b>	<b>Sample</b>	<b>Percentage</b>	<b>Sampling technique</b>
Principals	31	29	94	Purposive
Class teachers	59	31	54	Simple random
D.E.O	1	1	100	Purposive
Drop out		10		Snow ball
Repeaters		10		Snow ball

The respondents were obtained as follows; 29 public school principals and D.E.O were purposively selected because their population is small, form four class teachers were selected randomly so that only one is picked from each school. The random sampling was done by writing numbers on pieces of papers for teachers in schools with more than one class teacher. The teachers were then asked to pick one paper each. Those who picked the paper corresponding to the number sought for by the researcher were selected. Class teachers in single stream schools were purposively selected. A sample of drop outs and repeaters were selected using snow ball sampling method. The initial drop outs and repeaters were purposively identified. The few identified were requested to name others they knew. This was done until the right number was obtained.

### **3.6 Data collection instruments**

The researcher used questionnaires and questionnaires as data collection tools. Interviews were used to collect information from repeaters, on factors influencing educational wastage in Kathiani Sub-county.

#### **3.6.1 Questionnaires**

Mugenda and Mugenda (2003) argue that a questionnaire permits a greater depth and they obtain important information about the population. The researcher used questionnaire because they ensured anonymity, they would give an insight into respondent perceptions and are simple to formulate. They are also easier to complete by respondents.

#### **Principals' questionnaire**

The questionnaire was divided into sections A-D. Section A gathered personal information and nature of wastage, Section B collected data on the influence of school-based factors on educational wastage in public secondary schools in Kathiani Sub-county, Section C collected data on the influence of home-based factors on educational wastage in public secondary schools in Kathiani Sub-county while section D gathered data on the influence of student-related factors on educational wastage in public secondary schools in Kathiani Sub-county (Appendix B).

#### **Teachers' questionnaire**

The class teachers' questionnaire collected information on the nature of wastage, absenteeism, teachers' motivation, students' attitude towards learning and parent involvement on matter that pertain to student welfare in school. The questionnaire was divided into sections A-D. Section A gathered personal information and nature

of wastage, Section B collected data on the influence of school-based factors on educational wastage in public secondary schools in Kathiani Sub-county, Section C collected data on the influence of home-based factors on educational wastage in public secondary schools in Kathiani Sub-county, Section D gathered data on the influence of student-related factors on educational wastage in public secondary schools in Kathiani Sub-county (Appendix C).

#### **D.E.O's questionnaire**

DEO's questionnaire was designed for the DEO to collect information on wastage in the Sub-county. The questionnaire collected data on some of the factors influencing wastage in public secondary schools in Kathiani Sub-county and how the problem could be curbed. It was divided into sections A-D. Section A collected data on; Name of the Sub-county, number of public secondary schools, number of teachers by gender, and current enrolment in schools by gender. Section B collected data on the influence of school-based factors on educational wastage in public secondary schools in Kathiani Sub-county, Section C collected data on the influence of home-based factors on educational wastage in public secondary schools in Kathiani Sub-county while Section D gathered data on the influence of student-related factors on educational wastage in public secondary schools in Kathiani Sub-County(Appendix D).

#### **3.6.2 Interview guide**

Kombo and tromp (2007) argue that structured interviews have a high reliability and give in-depth information about particular cases of interest. The researcher used

structured interviews because they gave a complete and detailed understanding of the issue.

### **Drop outs' interview guide**

Drop outs' interview guide was designed to collect information on the influence of school-based, home-based and student-related factors on educational wastage and suggestions on reducing wastage (Appendix E).

### **3.7 Piloting**

Piloting is defined as the process whereby the research design for a prospective survey is tested in order to find out if people can understand the wording (new dictionary of social work, 1995). The pilot of the study was conducted in three schools in Machakos Sub County. The pre-test questionnaires were issued to the respondents and filled under the supervision of the researcher. The piloting ensured that clear and suitable language was used.

#### **3.7.1 Validity of the research instruments**

Validity refers to an extent to which an instrument measures what it ought to measure. It refers to the extent in which an instrument asks the right questions in terms of accuracy (Fraenkal & Wallen, 2000). To establish content validity, the instruments were given to two experts to evaluate the relevance of each item in the instrument to the objectives and rate each item on the scale of very relevant (4), quite relevant (3), somewhat relevant (2), and not relevant (1). Validity was then determined using content validity index (CVI).  $CVI = \frac{\text{Items rated 3 or 4 by both judges}}{\text{total number of items in the questionnaire}}$ . Content analysis was used to determine the validity of interviews.

### **3.7.2 Reliability of the research instruments**

Patton, (2002) states that, the reliability of a test refers to the ability of that test to consistently yield the same results when repeated measurements are done under same conditions. To establish reliability, test retest method was used. The instruments were subjected to principals, class teachers, DEO and drop outs from Machakos Sub-county. The results were scored manually. The same instruments were re-administered to the same group after two weeks and results was again scored manually. Pearson's product moment method was then used to test the correlation of the two tests. A correlation of test retest gave a right measure, that is, a correlation of 0.72. The instruments were then said to be reliable.

### **3.8 Data collection procedures**

The researcher sought permission from the board of post graduate studies of the South Eastern Kenya University (SEKU) and the National Council of Science, Technology and innovation (NACOSTI) and County director of education in Machakos before collecting data from respondents. The researcher then took questionnaires to the respondents. The date and time for collection of filled questionnaires was agreed on in liaison with the respondents. The respondents were given the instruments to respond to without further instructions other than those stated in the questionnaire. The questionnaires were collected at the agreed date and time.

### **3.9 Data analysis techniques**

Data analysis may be defined as a statistical method for data analysis so that they can be interpreted (Kerlinger, 1973). The researcher perused the returned research instruments to sort them out. After which, the data was analyzed using the

quantitative and qualitative methods. Quantitative data was analyzed using chi-square. Chi-square was used to determine whether a significant association existed between the variables and to what extent the association existed. This method was selected because it will provide a rigorous and replicable procedure for understanding associations (Oso & Onen, 2000). The researcher was interested in finding out whether school-based, student-related, and home-based factors would be related to educational wastage (dependent variable). Data was analysed at a significance level of 0.05. This value was chosen at the discretion of the researcher and because it is the most commonly used. Data was presented using pie charts and tables. These techniques were selected because they are easy to understand, simple and give a good visual impression.

### **3.10 Ethical considerations**

Mugenda and Mugenda (2003) defines ethics as that branch of philosophy which deals with one's conduct and serves as a guide to one's behaviour.

The researcher ensured that ethical issues concerning research subjects were observed. In data collection, analysis and presentation, the researcher maintained integrity. For this reason, before data was collected, permission was sought to carry out research from the university, NACOSTI and Sub-County education office. During data collection, the researcher that the confidentiality of the respondents was protected by keeping information given confidential. The researcher also ensured that no physical harm was caused on respondents and that learning was not disrupted.

The researcher made it clear to the respondents that the process was an evaluation of the factors influencing educational wastage in Kathiani Sub-County. The respondents were assured that the outcome of the study was directly beneficial to them, as the findings were to be freely accessed at SEKU university library.



## **CHAPTER FOUR**

### **DATA ANALYSIS, INTEPRETATIONS AND DISCUSSION**

#### **4.1 Introduction**

The study investigated factors influencing educational wastage in public secondary schools in Kathiani Sub-County. This chapter presents findings and analysis of data collected by the study. The data was collected from a total of 23 principals, 23 class teachers, 10 drop outs, 10 repeaters and the D.E.O.

Educational wastage is not influenced by a single factor but a combination of several factors. However, it is worth mentioning that each factor influences education differently. The researcher is therefore interested to present and discuss the findings in their order on the objectives of the study. The findings are presented under themes: demographic information, nature of wastage, school-based factors, home-based factors, student-related factors and measures to curb wastage.

#### **Descriptive Statistics**

#### **4.2 Questionnaire Response Rate**

This section deals with the return rate of questionnaires from the respondents who constituted the principals, class teachers, repeaters, D.E.O and drop outs. A total of 73 questionnaires were issued. Table 4.1 represents the questionnaire response rate.

**Table 4.1 Questionnaire response rate**

<b>Category</b>	<b>No. issued</b>	<b>No. returned questionnaires</b>	<b>of Not respondent</b>	<b>Response rate</b>
Principals	31	23	8	74.19
D.E.O	1	1	0	100
Teachers	31	27	4	87.09
Repeaters	10	10	0	100
<b>Total</b>	<b>73</b>	<b>61</b>	<b>12</b>	<b>83.56</b>

The corresponding response rates for questionnaires were 74% principals, 100% D.E.O, 87% teachers and 100% repeaters. The overall response rate was 83.56%. The response rate was not 100% because there was a challenge of unwilling and uncooperative respondents. However, this response rate was sufficient and representative as it conforms to Mugenda and Mugenda (2003) stipulation that a response rate of 50% is adequate for analysis and reporting. The same source also stipulates that a response rate of 70% and over is excellent.

### **4.3 Demographic information of the respondents**

This section deals with demographic information of the respondents who took part in the study. Demographic information collected data on age, gender and level of education.

### 4.3.1 Gender of respondents

The study sought to determine the composition of gender in terms of sex and therefore frequency of counts of responses were done and respective percentages calculated as shown in table 4.2.

**Table 4.2 Gender of respondents**

<b>Gender</b>	<b>Frequency</b>	<b>Percentage</b>
Male	30	49.18
Female	31	50.82
<b>Total</b>	<b>61</b>	<b>100</b>

From the findings of table 4.2, the study found out that there was near equal representation of the gender of respondents. The males were 49.18% while females were 50.82%. This is an indication that both genders were involved in the study and the findings of the study did not suffer gender biasness.

### 4.3.2 Age of repeaters

The study sought to establish the age of repeaters and also find out whether their ages influenced wastage. Figure 4.1 presents the findings.

**Figure 4.1: Age of repeaters**

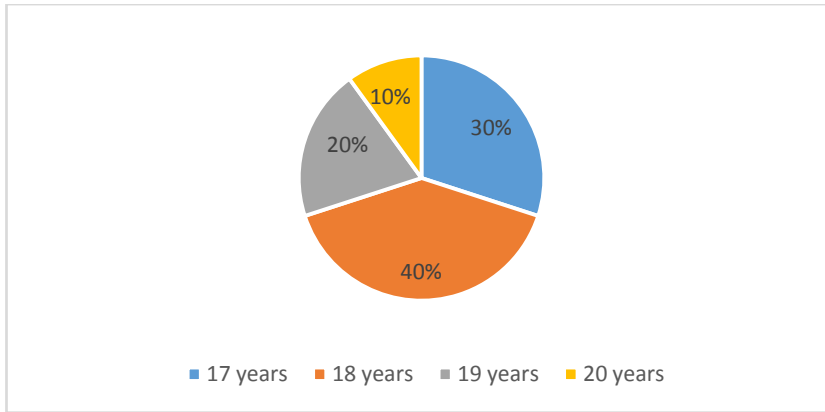


Table 4.1 shows that out of 10 repeaters who responded to the questionnaires, 40% were 18 years old, 30% 17 years old, 20% 19 years and 10% 20 years old. This implies that repetition increased with increase in age. The expected secondary school age is 14-17 years but 30% were above 18 years. This may indicate that students might have dropped out and re-joined or that students have repeated grades.

### 4.3.3 Age of principals

The age distribution of principals who responded to the questionnaires is presented in figure 4.2

**Figure 4.2: Principals by age**

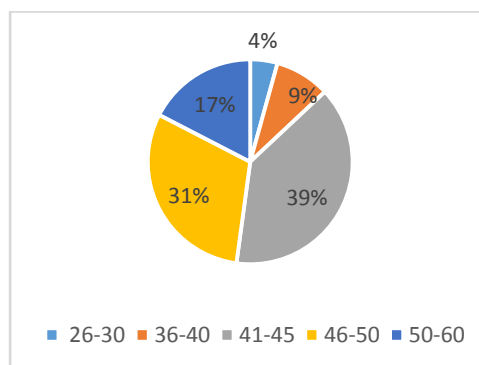


Figure 4.2 shows that one (4.3%) of the principals were aged 30-35 years, two (8.7%) 36-40 years, nine (39.1%) 41-45 years, seven (30.4%) 46-50 years, four (17.4%) 50-60 years. This shows that the majority of the principals are above 40 years of age. This may imply that all the principals have had adequate experience in the teaching profession hence had more exposure to human resource management necessary for carrying out their management roles.

#### 4.3.4 Age of teachers

The study sought information on form four class teachers' age and represented it on figure 4.3

**Figure 4.3: Age of teachers**

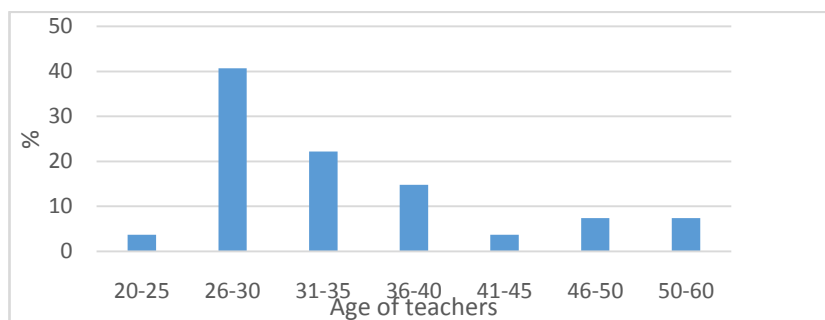


Figure 4.3 shows that 3.7% of the teachers indicated that they were between 20-25 years, 40.7% were between 26-30 years, 22.2% were 31-35 years, 14.8% 36-40 years, 3.7% 41-45 years, 7.4% 46-50 years and 7.4% above 50 years. This may imply that majority of class teachers are in their prime age and are energetic to serve as class teachers.

### 4.3.5 Level of education of teachers and principals

The study required principals and teachers to indicate their levels of education. The data is represented in figure 4.4.

**Figure 4.4: Level of education of teachers and principal**

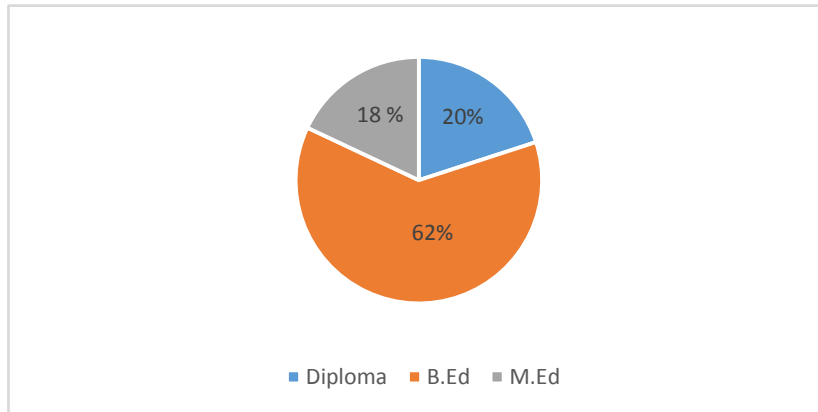


Figure 4.4 shows that 20% of principals and teachers had attained diploma level of education, 62% bachelors of education and 18% master's in education.

This implies that all principals and teachers had attained the minimum Teachers Service Commission (T.S.C) requirement (diploma) for recruiting secondary school teachers. It also implied that they had adequate education to enable them perform efficiently.

### 4.3.6 Form repeated

From the data collected and analysed on the form repeated, 61% of repeated in form four, 28% repeated in form three and repetition in the other forms was 11%. There were no repeaters in form one and two. This conforms to the study by Ncube (2004) which revealed that the number of students repeating a class increases with the level of schooling and many students repeat at higher forms.

#### 4.3.7 Nature of wastage

Data collected on the nature of wastage in Kathiani Sub-County was presented in table 4.4.

**Table 4.3: Nature of wastage**

Type of wastage	N	SA	A	N	D	SD	Mean	Std. Deviation
Low Cohort transition	57	10	14	14	5	3	3.50	1.150
Students absenteeism	57	14	22	6	3	1	3.98	.954
Repetition	57	4	3	11	12	16	2.28	1.259
Drop out	57	17	22	4	1	2	4.11	.971

Table 4.3 revealed that most respondents agreed that drop out, student absenteeism and less than 100% cohort transition were forms of wastage which exist in Kathiani Sub-County. All three had a mean of above 3.5(drop out 4.11, student absenteeism 3.98 and low cohort transition 3.50). Student absenteeism and drop out had a standard deviation of less than one. This means that the respondents may have had similar opinions on the prevalence of these two forms of wastage. This is in line with the findings of a study done by Rosenthal (1991) which revealed that student absenteeism is associated with higher drop out.

#### 4.4 Findings and discussions according to objectives

The study was guided by three objectives aimed at determining the influence of independent variables on dependent variables. The study was intended to establish

the extent at which school based, home based and student related factors influence educational wastage.

#### **4.4.1 The influence of school based factors on educational wastage**

The first objective of the study was to establish the influence of school-based factors on educational wastage in Kathiani Sub-County. To achieve this objective, the respondents were asked to indicate whether school-based factors influenced wastage. Majority of the respondents (87%) agreed that school based factors influenced wastage. This is in agreement with the views of Muhammad and Muhammad (2011) who argued that school-based factors contribute to dropping out of school. This is also in agreement with Sifuna (2006) who pointed out that school based factors were responsible for educational wastage. Schools are expected to provide conducive environment for teaching and learning. However, the study found out that there were inadequacies in schools. The respondents were asked to indicate whether school based factors influenced wastage.

The respondents were asked to identify the school based factors which influenced wastage in the schools, the findings were summarised in table 4.6. In the table, the responses to the given statements were summarised in a frequency distribution table using a 5-point likert scale. The responses were then awarded cumulative scores such that responses that indicated strongly agree were awarded 5 points, agree awarded 4 points, neutral awarded 3 points, disagree awarded 2 points and strongly disagree 1 point. The school based factors included availability of teaching and learning facilities, class sizes, overloaded curriculum, school management support, learners'



motivation by the school, general school discipline and teacher attitude towards the school. Data collected from respondents is presented in table 4.4

**Table 4.4: School-based factors influence ratings table**

<b>Factors</b>	<b>N</b>	<b>SA</b>	<b>A</b>	<b>N</b>	<b>D</b>	<b>SD</b>	<b>Mean</b>	<b>Std. Deviation</b>
Teaching and learning resources	57	15	23	13	3	3	4.22	.998
Schools' physical facilities	57	25	22	9	1	0	4.13	1.058
Staffing in schools	57	23	22	9	1	0	4.24	1.287
Distance to school	57	24	15	11	4	3	3.92	1.265
School rules	57	26	14	14	2	1	4.08	1.364
Curriculum overload	57	15	23	13	3	3	3.77	1.234
School management support	57	15	24	8	6	4	3.87	1.180
School fees	57	22	19	10	4	2	4.09	1.240

Table 4.4 shows means and frequency counts of school based factors that influence wastage. From the table, it is clear that staffing in schools rates high among the school based factors. It has a mean of 4.24.

Poor staffing is associated with wastage, especially in schools where one gender is missing. For instance, girls may be discouraged to attend schools where there are no female teachers. This is in concurrence with Kane (2004) who noted that girls and their parents are discouraged by absence of female teachers who act as their role models. This may contribute to wastage in schools. Schools where male teachers sexually harass girls also tend to have high cases of wastage. Proper staffing is associated with reduction of wastage. This finding agrees with findings of Deribe (2015) who pointed out that one of the components required to make an educational system viable, functional and productive is the availability of qualified and adequate teaching staff.

Teaching and learning resources rates second (4.22) among the school based factors. Availability of these resources would encourage students to attend school while unavailability would discourage students. Abagi (1997) noted that availability of scholastic materials retains pupils in school. Unavailability of school facilities or poor school facilities may reduce school retention. School facilities make teaching and learning smooth and enjoyable. In the absence of these facilities, parents are supposed to chip in and provide. According to cost sharing policy, the government and parents are supposed to share the costs of education. However, due to high poverty levels, parents are unable to step in and supplement the effort of the government. They cannot purchase all the equipment needed. This increases the cost of education and chances of wastage.

School fees are rated fourth among the school based factors with a mean of 4.09. Students are expected to pay school fees and other school levies to have schools

running. Respondents attributed wastage to school fees problems, which indicates that respondents agreed that fee problems lead to wastage. Parents have to meet part of the school fees regardless of their income level. This makes children from low income families to withdraw from school or even repeat a grade. The reason for this is that students whose parents do not pay all school levies on time are send home, which increases chances of absenteeism. According to the study findings, students are send home to collect school fees. This is in agreement with Mutwota (2013) who noted that students are ever sent home to collect development fees, tuition fee, and other school levies. This therefore indicates that levies charged on parents are too high for them to pay. This finding coincides with the finding of study done by Henry (2015) who concluded that cost of education influence wastage.

Long distance travelled to school had a mean of 3.92. This implies that students who walked for long distances to get school got discouraged and quit, especially girls. Those students whose homes were near schools had nothing to fear. Sifuna (2006) pointed out that long distance travelled to school leads to students' lateness to school. This makes students miss lessons as they get punished. The denied learning opportunities lead to poor performance which is a likely precursor of withdrawal and repetition.

Overloaded curriculum had a mean of 3.77. This can be an indication that a curriculum which has many subjects and is concerned with academic excellence could lead to wastage. World Bank (2009) noted that overloaded 8.4.4 curriculum affect completion rate of students. Many examinable subjects put students under pressure which reduces the motivation to learn and as a result lead to poor

performance. Some students end up giving up on education and consequently withdraw from school. This is in agreement to Mutahi (2014) who pointed out that heavy curriculum leads to wastage.

A drop out who was a student in one secondary school in Kathiani Sub County noted that he joined school with the aim of completing high school education and probably join tertiary institutions. Unfortunately, he did not complete studies as anticipated. He expected to get full support from his teachers. According to him, the school was supposed to be a second home for students where teachers motivated students to work towards achieving their goals. However, this was not the case. He told me that some teachers discouraged students with negative remarks and told students that they will never make it in life.

#### **4.4.1.1 Inferential Statistics**

The hypothesis of the first objective was tested using chi-square at 0.05 significance level. The purpose of the hypothesis test was to determine whether there was a significant association between school-based factors and educational wastage. The school-based factors included curriculum overload, staffing, distance to school, management support, availability of physical facilities, availability of teaching materials, school fees and school rules. The hypothesis was stated as follows:

$H_{01}$ : There is no statistically significant association between school-based factors and educational wastage

$H_{11}$ : There is a statistically significant association between school-based factors and educational wastage.

The chi-square test results are presented in table 4.5

**Table 4.5: Chi Square Test Statistics**

	Curriculum overload	Staffing	Availabil ity of physical facilities	Managemen t support	distanc e to school	availability of teaching and learning facilities	School fees	school rules
Chi- Square	25.544 <sup>a</sup>	26.579 <sup>b</sup>	27.140 <sup>b</sup>	23.263 <sup>a</sup>	26.070 <sup>a</sup>	27.123 <sup>a</sup>	27.649 <sup>a</sup>	37.123 <sup>a</sup>
Df	4	3	3	4	4	4	4	4
Asymp. Sig.	.000	.000	.000	.000	.000	.000	.000	.000

Table 4.5 Shows that the chi square test of independence between school based factors and educational wastage shows that there is a significant association between school based factors and educational wastage. Calculated statistic for curriculum overload is  $\chi^2 (4) = 25.544$  and significance level of 0.000. The results for staffing were  $\chi^2 (4) = 26.579$ ,  $df=4$  and p-value of 0.000 while school fees results were  $\chi^2 (4) = 27.649$  and p-value = 0.000. In all these cases the P-values are less than 0.05 significance level. This implies that the null hypothesis  $H_{01}$  (there is no significance association between school-based factors and educational wastage) can be rejected to adopt  $H_{11}$  (There is significant association between school-based factors and educational wastage).

From above results, it can be argued that school based factors influence wastage. This in line with Psacharopolous and Woodhall (1985) who argued that factors influencing school wastage are high opportunity cost of schooling for poor families, inappropriate curriculum factors which is excessively academic and designed to prepare majority of pupils for upper secondary and higher education, and a shortage of secondary school places which lead to depletion at the primary level.

Rumberger (2008) argued that school resources, structural features of school and policies and practices of the school influence wastage. According to Kane (2004), other school-based factors leading to wastage in schools include teacher pupil conflicts, poor methods of teaching, excessive punishments; excessive homework, over-crowded schools, inaccessibility and costly school requirements. The girls and their parents are also discouraged by absence of female teachers who act as their role models.

Muhammad and Muhammad, (2011) also claimed that poor attendance and negative attitudes towards school lead to wastage. These findings therefore mean that school based factors were significant influencers of educational wastage and should be looked into.

#### **4.4.2 The influence of home based factors on educational wastage.**

The second objective of the study was to establish the influence of home-based factors on educational wastage in Kathiani Sub-County. To achieve this objective, the respondents were asked to indicate whether home-based factors influenced wastage. Majority of the respondents (82%) agreed that home based factors influenced wastage. Home based factors were defined as home aspects that impact on students learning positively or negatively. The home based factors included parents' involvement in education, family structure, family size, parental education, parental income and food provision. This is in line with Mutinda (2013) who pointed out that school based factors influenced drop out.

The respondents were asked to identify the home based factors which influenced wastage in the schools, the findings were summarised in table 4.6. In the table, the responses to the given statements were summarised in a frequency distribution table using a 5-point likert scale. The responses were then awarded cumulative scores such that responses that indicated strongly agree were awarded 5 points, agree awarded 4 points, neutral awarded 3 points, disagree awarded 2 points and strongly disagree 1 point.

**Table 4.6: Mean scores and frequency counts of Home based factors influence on wastage.**

<b>Factor</b>	<b>N</b>	<b>SA</b>	<b>A</b>	<b>N</b>	<b>D</b>	<b>SD</b>	<b>Mean</b>	<b>Standard deviation</b>
Parental Income	57	28	17	6	3	3	4.12	0.998
Family Structure	57	16	21	14	3	3	3.78	1.176
Family Size	57	18	19	14	2	4	3.79	1.020
Sufficient Home Lighting	57	14	15	19	9	0	3.60	1.126
Parental Level of Education	57	21	15	13	6	2	3.82	1.363

Table 4.6 shows means and frequency counts of home based factors that influence wastage.

The table indicates that parental income rates high (4.12) among home based factors influencing wastage. This is because family with low income may hinder them from affording school needs of their children. This could force students to drop out of school to look for employment to fend for themselves. Children from households with high income are advantaged because their parents can afford school needs. One drop out reported that;

“My parents’ incapability to pay for my school fees was main reason for me to quit schooling”.

This is in line with Henry (2015) who concluded that family income influenced educational wastage.



Another factor which strongly influences educational wastage in this study is the family size (3.79). This is because when the number of children in a family is large, parents may not be in a position to fend for them and providing school requirements hence they are likely to withdraw from school. Family size is one of the home-based factors influencing student wastage. If the parent is not stable financially, the children could easily drop out of school. Members of a family have influence on educational wastage. This is in concurrence with Hunt (2007) who noted that older children in poor households may be withdrawn from school to take care of younger siblings and fend for them for them.

Parental level of education also influences wastage (3.82). It is expected that parents who are able to read and write be committed to the education of their children. This could help solve the problem of wastage. This study found out that parents in this Sub County were literate. However, despite this, wastage still persisted. This could possibly mean that the basic education attained by parents was not fully utilised to support the learning of their children. Parents were pre occupied with other duties at the expense of the education of their children. This may result to repeating or withdrawing from school. Parents who were committed to education of their children have been seen to reduce the odds of repeating and dropping out. This is because these parents had high aspirations for their children, monitored their children's progress and always communicated with the school.

#### **4.4.2.1 Inferential statistics**

The hypothesis of the second objective was to determine whether there was a significant between home-based factors and educational wastage. Home-based factors

included parental income, family structure, family size, home lighting and parental level of education. The hypothesis was tested using chi-square at 0.05 significant levels.

H<sub>02</sub>: There is no significant association between home-based factors and educational wastage.

The chi-square test results are presented in table 4.8

**Table 4.7: Chi Square Test Statistics**

	Parental income	Family structure	Family size	Home lighting	Parental level of education
Chi-Square	41.860 <sup>a</sup>	22.912 <sup>a</sup>	22.035 <sup>a</sup>	3.561 <sup>b</sup>	19.754 <sup>a</sup>
Df	4	4	4	3	4
Asymp. Sig.	.000	.000	.000	.313	.001

Table 4.7 shows that the results for parental income were  $\chi^2 (4) = 41.860$ . The results for family structure were  $\chi^2 (4) = 22.912$ . The results for parental level of education were  $\chi^2 (4) = 19.754$ . In all these cases, p-value is 0.000 which is less than 0.05 significant level. This suggests that the null hypothesis H<sub>0</sub> (There is no significant association between home-based factors and educational wastage) can be rejected and alternative H<sub>1</sub> (there is a significant association between home-based factors and educational wastage) can be accepted. The results for home lighting were  $\chi^2 (3) = 3.561$  and p-value 0.313. Since p-value is greater than the significant level, then this suggests that there is no significant association between home lighting and educational wastage.

The overall results above indicate that home based factors influence wastage. This is in line with the study of Hunt (2007) who noted that the members of a household can have an influence over educational access and retention of their children in school, particularly in poorer communities. Children living with mothers generally are less likely to drop out. The number of children in a family dictates the poor families' ability to retain their children in school. Older girls in poor households may be withdrawn from school to take care of their younger siblings. This therefore means that birth order and gender often influence who has access to school. This therefore means that home based factors influence wastage and there is need to look in to them while curbing wastage.

#### **4.4.3 Student related factors that influence wastage**

The third objective of the study was to establish the influence of student related factors on educational wastage in Kathiani Sub County. To achieve this objective, the respondents were asked to indicate whether student related factors influenced wastage. Majority of the respondents (84%) agreed to the statement that student related factors influenced wastage. Student related factors were defined as a host of individual student characteristics those which are associated with poor academic performance, repetition and drop out. The factors included student self-esteem, age of the student, teenage pregnancies, drug abuse involvement and peer influence.

Respondents were asked to identify the student related factors which influenced wastage in the schools, the findings were summarised in table 4.8. In the table, the responses to the given statements were summarised in a frequency distribution table using a 5-point likert scale. The responses were then awarded cumulative scores such

that responses that indicated strongly agree were awarded 5 points, agree awarded 4 points, neutral awarded 3 points, disagree awarded 2 points and strongly disagree 1 point.

**Table 4.8: Mean scores and frequency counts of Student-related factors that influence wastage**

<b>Factors</b>	<b>N</b>	<b>SA</b>	<b>A</b>	<b>N</b>	<b>D</b>	<b>SD</b>	<b>Mean</b>	<b>Std. Deviation</b>
Learners self esteem	57	17	19	13	6	2	3.75	1.096
Drug involvement	57	15	22	14	4	2	3.77	.947
Teenage pregnancies	57	19	19	9	6	5	3.77	1.504
Peer influence	57	22	24	5	4	1	4.09	1.164
Learners absenteeism	57	24	19	12	4	1	4.22	.998
Learners attitude towards learning	57	24	19	8	9	1	4.26	.915

Table 4.8 shows means and frequency of selected student related factors that influence wastage. From the table, it can be concluded that most respondents agreed that most of the student related factors influence wastage. This is because most of these factors had a mean of more than 3.5. Learners' absenteeism rates second with a mean of 4.22. This implies that increased absenteeism contributes to wastage while reduced absenteeism reduces wastage. Students' absenteeism due to lack of school fees, engaging in casual work, helping at home, sickness, caring for sick relatives, caring for younger siblings and helping in the school. Absenteeism is a precursor of

educational wastage as it leads to poor academic performance which consequently instigates school dropout.

Learners' attitude towards learning rates highest with a mean of 4.26. This implies that positive attitude reduces wastage while negative attitude leads to wastage. Negative attitude on the other hand discourages students from school work. This leads to lack of commitment to attending school, doing homework and working hard in school. When one is discouraged in school matters, he is likely to lose interest in schooling and drop out of school. This influences beliefs and attitudes that one holds towards school. In other situations, teachers have negative attitude towards learners. Lose of interest in schooling is a precursor to wastage. One drop out said that;

“I left school because I hated school work. I never liked doing homework and anything to do with schooling. I preferred working to schooling.”

Teenage pregnancy as a precursor to wastage had a mean of 3.77. This implies that Teenage pregnancy and its associated motherhood are characterised with shame, disgrace and school dropout. Although the policy of re admission is operating, sometimes pregnancy ends the dreams of a student to achieve higher pursuits. Female educationists (FAWE) indicate that girls drop out of school due to pregnancy. This discourages parents from sending their mature daughters to school or even pull them out of school. One drop out said;

“Most of the girls drop out of school due to pregnancy. I also dropped because of pregnancy and if it were not for pregnancy, I would have completed my high school education”.

#### 4.4.3.1 Inferential statistics

The hypothesis of the third objective was tested using chi-square at 0.05 significant levels. The hypothesis was to determine whether there existed any significant association between student's related factors and educational wastage. Student-related factors include learners' self-esteem, drug abuse involvement, teenage pregnancies, peer pressure, learner's self-esteem and attitude towards learning.

H<sub>03</sub>: There is no significant association between student-related factors and educational wastage.

H<sub>13</sub>: There is a significant association between student-related factors and educational wastage.

The chi-square test results are presented in table 4.9

**Table 4.9 Chi square Test Statistics**

	learners self esteem	Drug abuse involvement	Teenage pregnancies	peer pressure	learners absenteeism	learners attitude towards learning
Chi-Square	18.351 <sup>a</sup>	24.140 <sup>a</sup>	43.614 <sup>a</sup>	39.930 <sup>a</sup>	23.632 <sup>b</sup>	32.386 <sup>a</sup>
df	4	4	4	4	3	4
Asymp. Sig.	.001	.000	.000	.000	.000	.000

Table 4.9 Indicates that the calculated  $\chi^2$  statistic for learner's self-esteem were  $\chi^2(4) = 18.351$ . The results for drug abuse involvement were  $\chi^2(4) = 24.140$ . The results of teenage pregnancies were  $\chi^2$  is 43.614 with 4 degrees of freedom and P value of 0.000 in all cases p values were less than 0.05 level of significance. This suggests that the null hypothesis  $H_{03}$  (there is no significant association between student-related factors and educational wastage) can be rejected in favour of  $H_{13}$  (There is significant association between student-related factors and educational wastage). Therefore,  $H_{13}$  can be accepted.

From above results, it can be argued that student related factors influence wastage. This is in line with studies done by Mcmillen, (1997); Rosenthal, (1989) and Rumberger, (2008) who argued that drug or alcohol use during high school is associated with higher dropout rates. Teenage parenting and childbearing increase the odds of dropping out. Having friends who engage in criminal behaviour or friends who have dropped out due to peer pressure also increases the odds of dropping out. Onyando and Omondi (2008) also asserted that pregnancy acts as a catalyst to school dropout in poor families. This means that student related factors are strong influencers of educational wastage and needs to be checked.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter provides the summary of the study, conclusion and recommendations of the study.

#### **5.2 Summary of the study**

Educational wastage is viewed as failure of students to attain the qualification they had registered for in a course. It is a measure of internal efficiency and it manifests itself in poor performance, non-enrolment, repetition and drop out. Wastage leads to joblessness, low income earnings, social delinquency, high public dependency, poor health choices, poverty and slow economic growth. Education plays a vital role in empowering individuals realize productive lives. It is seen as a primary means of social mobility, national cohesion and social economic development. Education is also a basic human right and a means of alleviating poverty. The purpose of the study was to determine the factors influencing wastage in public secondary schools. . The study was guided by the following objectives; to establish the influence of school-based factors on educational wastage, to establish the influence of home-based factors on educational wastage and to determine the influence of student-related factors on wastage. Descriptive survey design was used in the study.

The study adopted descriptive survey research design. Data was collected using interview schedules and questionnaires. The area of study was Kathiani Sub-county in Machakos County. The target population for the study comprised of 31 principals, 59 form four class teachers, the sub-county D.E.O, drop outs and repeaters. In total,



there were 111 respondents. Data was analysed using both descriptive and inferential statistics: means, standard deviations, frequencies and chi-square test. Data presentation was done using tables and charts.

The study revealed that school-based, home-based and student-related factors influence wastage in public secondary schools. The results of the study show that the main school-based factors that influence educational wastage are staffing in schools, availability of teaching and learning materials, schools' physical facilities and school fees. The main home-based factors that influence wastage were found to be parental income, parental level of education, family size then family structure. The study identified, learners' attitude towards learning, learner absenteeism, peer influence, drug abuse and teenage pregnancies as student-related factors that influence educational wastage.

Addressing the issue of educational wastage would reduce youth unemployment hence avoiding many social-economic evils that are caused by unemployment. The education sector would use the findings to formulate education policies. Parents and the community would also use these findings in counselling the students towards quality performance, retention and completion of education and underscore the benefit of graduating at all levels of education. Findings of the study would also offer lessons to all key stake holders in education, for instance, it would shed light on the factors influencing educational wastage as well as strategies that need to be taken to minimize and eventually eradicate educational wastage. School managers would also get insight on how to organize school structures and develop school culture that promotes academic achievement and retention of student in secondary schools. The

findings would also inform MOEST on how best to formulate, communicate and implement policies which would help to eradicate educational wastage at all levels. These findings would also shed light to TSC, KNUT and KUPPET on how to resolve their issues without causing wastage. Last but not least the findings would add to the existing literature of educational wastage and help educational institutions to function towards provision of quality education and increased enrolment, survival, retention and completion rates.

### **5.3 Conclusion**

From the study findings it can be concluded that the school-based factors are significant influencers of educational wastage and should be put into account while dealing with wastage. Its place in educational wastage had long been established by Durkheim (1934) who pointed out that schools must have adequate teaching and learning facilities, enough teaching staff, and a conducive learning environment. Emily further argues that the quality of the school management, its ability to motivate both students and staff as well as ability to create team spirit are all vital considerations if the school is to be efficient.

Findings of the study also revealed that home-based factors influence wastage. For example, most respondents indicated that parents' involvement in education and parental income contributes to wastage. These findings point out home-based factors are significant factors of educational wastage. Its place in educational wastage had also been established by Emily Durkheim who pointed out that parents play a critical role in early socialisation of the students by helping them to learn and adapt to norms and values of the society. The parents are obligated to ensure that students attend and

continue with learning without disturbance by paying school fees, creating a conducive environment at home and becoming good role models for their children.

It can also be concluded that student-related factors influence educational wastage in public secondary schools in Kathiani Sub-county. For example, one dropout pointed out that pregnancy was a major contributor to educational wastage. The D.E.O also indicated that student-related factors contributed to wastage and that drug abuse involvement and negative attitude towards learning were the strongest student-related factors contributing to wastage. These findings indicate that student-related factors are important factors of educational wastage. It therefore must be considered when dealing with educational wastage.

#### **5.4 Recommendations of the study**

Based on the study findings, the study recommends that;

- 1.) Schools should provide conducive teaching and learning environment. This should include adequate teaching and learning equipment, proper staffing that ensures gender balance and consultative decision making which incorporates all stake holders. Schools should have adequate and quality learning materials at all times. A lot of investment should go towards developing curricula materials necessary for effective teaching and learning. Schools should therefore invest in durable teaching and learning materials. The curriculum should also be diversified. This calls for broadening and vocalisation of the curriculum to make it more accommodative and interesting to the talented students. This will improve the attractiveness of the curriculum. Relevant and workable policies should be formulated. These

policies should be used to address real time challenges on the ground. Policies which are not working should be revised or done away with. There is need to re-introduce corporal punishment in schools to help in management of the discipline in schools.

2.) The parents should be sensitized on the need of finding various ways of raising money to pay school fees so as to avoid absenteeism hence curb drop out and repetition. Mechanisms to fund education should be strengthened. This can be done through introduction of other sources of finance, other than the government. For instance, development of partnerships with the private sector, NGOs, households, communities and religious organisations can help bridge the funding shortfall in the education sector.

3.) The parents should also be sensitized on the need of becoming committed to the education of their children and also on the need of having manageable families. Parents should get involved in the education of their children. They should encourage their children, check their assignments, provide a suitable environment, pay school fees for their children and provide necessary learning materials.

Finally, the study recommends that guidance and counselling be strengthened in schools to curb the influence of student related factors. All the stake holders must take up the responsibility of encouraging the students to graduate at all levels. They should also underscore the importance of bearing children at the right ages, once the students are through with their education.

### **5.5 Suggestions for further research**

The study suggests that further research be carried out on the other factors influencing educational wastage in Kathiani Sub County. The study also suggests that a similar study be done in other sub counties which experience wastage.

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## **APPENDICES**

### **APPENDIX A: LETTER OF INTRODUCTION**

Sylvia Musangi Samuel  
Department of Educational Administration and Planning  
South Eastern Kenya University  
P.O. BOX 170-90200  
Kitui.

Dear Sir/Madam

Re: Permission to collect data

I am a post-graduate student at South Eastern Kenya University pursuing a master's Degree in Economics of Education. I am carrying out a research on '**A study of factors influencing educational wastage in public secondary schools in Kathiani Sub-county, Machakos County**'. Educational wastage refers to the inefficient utilization of both human and economic resources in education system. It manifests itself in form of drop out, repetition and non-enrolment. The findings in this study are purely for academic purposes in education and possibly put measures in place to improve the current situation. I therefore kindly request you to participate in the study by filling the questionnaires as honestly as possible and to the best of your knowledge. You are therefore asked not to indicate your name or any other form of identification. Confidentiality of respondents is highly respected. Your cooperation will be highly appreciated.

Yours sincerely,

Sylvia Musangi Samuel

## **APPENDIX B: PRINCIPALS' QUESTIONNAIRE**

### **Introduction**

The study seeks to determine the factors of educational wastage in public secondary schools in Kathiani Sub-county. Your responses will provide an insight that might help in the development of locally based strategies for solving wastage challenges.

N.B: It is your decision to take part in this study. You do not have to answer questions you do not wish to.

Briefly state the responses in the spaces provided or tick where appropriate.

### **Section A: Personal information**

Please indicate your;

Gender

Male

Female

Age

Below 30years

31-35years

36-40 years

41-45 years

46-50 years

Over 50 years

Academic qualification

PhD

M.Ed

B.Ed

S1 diploma

Please indicate the nature of wastage in your school on a scale of 1-5 where; 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree.

<b>Nature of wastage</b>	5	4	3	2	1
Cohort transition is less than 100% every year					
Students absenteeism					
Repetition					
Drop out					

**Section B: Influence of school-based factors**

1. Have school-based factors influenced wastage in your school.

Yes [ ]

No [ ]

2. Indicate the extent to which the following school-based factors influence wastage on a scale of 1-5, where; 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree.

Factor	5	4	3	2	1
Teaching and learning resources					
Schools physical facilities					
Staffing in schools					
Curriculum overload					
School management support					
Distance to school					
School rules					
School fees					

### **Section C: Influence of home-based factors**

1. Have home-based factors influenced wastage in your school.

Yes [   ]

No [   ]

2. Indicate the extent to which the following home-based factors influence wastage on a scale of 1-5, where; 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree.

Factor	5	4	3	2	1
Parental income					
Family structure					
Family size					
Sufficient home lighting					
Parental level of education					

**Section D: Influence of student-related factors**

1. Have student-related factors influenced wastage in your school.

Yes [      ]

No [      ]

2. Indicate the extent to which the following student-related factors influence wastage on a scale of 1-5, where; 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree.

Factor	5	4	3	2	1
Learner's self esteem					
Drug abuse involvement					
Teenage pregnancies					



Peer influence					
Learner's absenteeism					
Learners' attitude to learning					

**3. What should be done to manage educational wastage?**

In your opinion, what should be done to manage wastage?

Thank you.

## **APPENDIX C: QUESTIONNAIRE FOR TEACHERS**

### **Introduction**

The purpose of this questionnaire is to collect data pertaining the nature and factors<sup>47</sup> of educational wastage in Kathiani sub- County. Data collected will be treated with ultimate confidentiality.

NB: state responses in the spaces provided and do not write your name or TSC number.

### **Section A: Personal information**

Kindly indicate your;

Gender      Male [    ]                  Female [    ]

Age

Below 25 [    ]

26-30    [    ]

31-35    [    ]

36-40    [    ]

41-45    [    ]

46-50    [    ]

Over 50 [    ]

### Nature of Educational Wastage

Please indicate the nature of wastage in your school on a scale of 1-5 where; 1- strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree.

Nature of wastage	5	4	3	2	1
Cohort transition is less than 100% every year					
Students absenteeism					
Repetition					
Drop out					

### Section B: Influence of school-based factors

1. Have school-based influenced wastage in your school.

Yes [       ]

No [       ]

2. Indicate the extent to which the following school-based factors influence wastage on a scale of 1-5, where; 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree.

Factor	5	4	3	2	1
Teaching and learning resources					
School's Physical facilities					
Staffing in schools					
Distance to school					
School rules					

Curriculum overload					
School management support					
Fee problems					

**Section C: Influence of home-based factors**

1. Have home-based influenced wastage in your school.

Yes [      ]

No [      ]

2. Indicate the extent to which the following home-based factors influence wastage on a scale of 1-5, where; 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree.

Factor	5	4	3	2	1
Parental involvement in education					
Family size					
Parental income					
Parental income					
Parental level of education					

**Section D: Influence of student-related factors**

1. Have student-related factors influenced wastage in your school.

Yes [      ]

No [      ]

2. Indicate the extent to which the following student-related factors influence wastage on a scale of 1-5, where; 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree.

Factor	5	4	3	2	1
Learner's self esteem					
Drug abuse involvement					
Teenage pregnancies					
Peer influence					
Learner's absenteeism					
Attitude towards learning					

**Section D: what should be done to manage educational wastage?**

In your opinion, what should be done to manage wastage?

THANK YOU.

## APPENDIX D: QUESTIONNAIRE FOR THE D.E.O

The study seeks to establish the factors influencing educational wastage in public secondary schools in Kathiani Sub-county. Your responses will provide an insight that might help in the development of locally based strategies for solving wastage challenges.

N.B: You have been identified as someone with insight to educational management and leadership. It is your decision to take part in this study. You do not have to answer questions you do not wish to.

### Section A

1. Name of Sub-county\_\_\_\_\_

2. Name of public secondary school\_\_\_\_\_

3. Number of public school teachers: male \_\_\_\_\_female \_\_\_\_\_total  
\_\_\_\_\_

4. Current enrolment in public secondary schools: Boys\_\_\_\_\_ Girls\_\_\_\_\_ Total\_\_\_\_\_

5. From available records are there schools in the sub-County that experience wastage cases?

Yes [      ]

No [      ]

## 6. Nature of Educational Wastage

Please indicate the nature of wastage in your school on a scale of 1-5 where; 1- strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree.

Nature of wastage	5	4	3	2	1
Cohort transition is less than 100% every year					
Students absenteeism					
Repetition					
Drop out					

## Section B: Influence of school-based factors

1. Have school-based influenced wastage in your school.

Yes [     ]

No [     ]

2. Indicate the extent to which the following school-based factors influence wastage on a scale of 1-5, where; 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree.

Factor	5	4	3	2	1
Teaching and learning resources					
Schools physical facilities					
Staffing in schools					
Distance to school					
curriculum overload					
school management support					

School fees					
School rules					

**Section C: Influence of home-based factors**

1. Have home-based influenced wastage in your school.

Yes [      ]

No [      ]

2. Indicate the extent to which the following home-based factors influence wastage on a scale of 1-5, where; 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree.

Factor	5	4	3	2	1
Parental income					
Family structure					
Family size					
Sufficient home lighting					
Parental level of education					

**Section D: Influence of student-related factors**

1. Have student-related influenced wastage in your school.

Yes [      ]

No [      ]



2. Indicate the extent to which the following student-related factors influence wastage on a scale of 1-5, where; 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree.

Factor	5	4	3	2	1
Learner's self esteem					
Drug abuse involvement					
Teenage pregnancies					
Peer influence					
Learner's absenteeism					
Attitude towards learning					

2. Please give suggestions on what you think should be done to reduce cases of wastage in schools.

Thank you.

## **APPENDIX E: INTERVIEW GUIDE FOR DROP OUTS**

The study seeks to establish the factors of educational wastage in public secondary schools in Kathiani Sub-county. Your responses will provide an insight that might help in the development of locally based strategies for solving wastage challenges.

N.B: It is your decision to take part in this study. You do not have to answer questions you do not wish to.

### **Bio-Data**

Name of the secondary school attended \_\_\_\_\_

Time and date you left school (e.g. January, 2010) \_\_\_\_\_

What classes were you in when you left school? \_\_\_\_\_

How old were you when you left school? \_\_\_\_\_ Years

1. Do school-based factors influence educational wastage in Kathiani Sub-county?
2. Do home-based factors influence educational wastage in Kathiani Sub-county?
3. Do home-based factors influence educational wastage in Kathiani Sub-county?

## APPENDIX F: QUESTIONNAIRE FOR REPEATERS

The study seeks to establish the factors of educational wastage in public secondary schools in Kathiani Sub-county. Your responses will provide an insight that might help in the development of locally based strategies for solving wastage challenges.

N.B: It is your decision to take part in this study. You do not have to answer questions you do not wish to.

### Section A: Bio-Data

1. Name of the secondary school attended \_\_\_\_\_
2. Grade repeated \_\_\_\_\_
3. How old were you when you repeated? \_\_\_\_\_ Years

### Section B: Influence of school-based factors

1. Have school-based influenced wastage in your school.

Yes [     ] ]

No [     ] ]

2. Indicate the extent to which the following school-based factors influence wastage on a scale of 1-5, where; 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree.

Factor	5	4	3	2	1
Teaching and learning resources					
Schools physical facilities					

Staffing in schools					
Distance to school					
Curriculum overload					
School management support					
School rules					
School rules					

**Section C: influence of home-based factors**

1. Have home-based influenced wastage in your school.

Yes [      ]

No [      ]

2. Indicate the extent to which the following home-based factors influence wastage on a scale of 1-5, where; 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree.

Factor	5	4	3	2	1
Parental level of education					
Family structure					
Family size					
Sufficient home lighting					
Parental income					

**Section D: influence of student-related factors**

2. Have student-related influenced wastage in your school.

Yes [     ]

No [     ]

2. Indicate the extent to which the following student-related factors influence wastage on a scale of 1-5, where; 1-strongly disagree, 2-disagree, 3-neutral, 4-agree, 5-strongly agree.

Factor	5	4	3	2	1
Learner's self esteem					
Drug abuse involvement					
Teenage pregnancies					
Peer influence					
Learner's absenteeism					
Attitude towards learning					

3. Do you have friends who have repeated a grade?

Yes [   ]

No [   ]

If yes, what reasons do they give for repeating?

1. Please give suggestions on what you think should be done to reduce cases of grade repetition.

Thank you.

## APPENDIX G: NACOSTI RESEARCH PERMIT



### NATIONAL COMMISSION FOR SCIENCE, TECHNOLOGY AND INNOVATION

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Date:  
**16<sup>th</sup> December, 2015**

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South Eastern Kenya University  
P.O. BOX 170-90200  
**KITUL.**

#### RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on "*Factors influencing educational wastage in public secondary schools in Kathiani Sub-County,*" I am pleased to inform you that you have been authorized to undertake research in **Machakos County** for a period ending **15<sup>th</sup> December, 2016.**

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

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

  
**DR. M. K. RUGUTLA, PhD, HSC.**  
**DIRECTOR-GENERAL/CEO**

Copy to:

The County Commissioner  
Machakos County.

The County Director of Education  
Machakos County.



THIS IS TO CERTIFY THAT:  
MS. SYLVIA MUSANGI SAMUEL  
of SOUTH EASTERN KENYA UNIVERSITY,  
0-90100 MACHAKOS, has been permitted  
to conduct research in Machakos  
County

Permit No : NACOSTI/P/15/06203/0440  
Date Of Issue : 16th December, 2015  
Fee Received :Ksh 1,000

on the topic: **FACTORS INFLUENCING  
EDUCATIONAL WASTAGE IN PUBLIC  
SECONDARY SCHOOLS IN KATHIANI  
SUB-COUNTY**

for the period ending:  
15th December, 2016

  
Applicant's  
Signature



  
Director General  
National Commission for Science,  
Technology & Innovation