WASTAGE RATES IN KENYAN SECONDARY SCHOOLS: A CASE OF KATHONZWENI DISTRICT, MAKUENI COUNTY (2005 – 2007 COHORTS)

BY

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DECLARATION

This research project is my original work and has not been presented for a degree in any other university.

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LIST OF ABBREVIATIONS AND ACRONYMS

AEO	-	Area Education Officer
ASA	-	American Sociological Association
ASALs	-	Arid and Semi – Arid Lands
CBF	-	Constituency Bursary Fund
EFA	-	Education for All
FPE	-	Free Primary Education
FSE	-	Free Secondary Education
GDP	-	Gross Domestic Product
KESSP	-	Kenya Education Sector Support Programme
LAFT	-	Local Authority Transfer Fund
MoE	-	Ministry of Education
MPET	-	Manpower Education and Training
NCEs	-	National Centre of Education Statistics
UNESCO	-	United Nations Education Science and Cultural Organization
USA	-	United States of America
ZQASO	-	Zonal Quality Assurance Standards Officer

ABSTRACT

The central problem to this study is that despite the governments' increased funding to education and its commitment to use education as the spring board to attain vision 2030, there is still wastage in the education system. Wastage rates have not been adequately investigated especially in the newly created districts. The purpose of this study was to determine the 2005, 2006 and 2007 cohort wastage rates of secondary schools in Kathonzweni District. The objectives of the study were to determine repetition rates and drop-out rates for the 2005 – 2007 cohorts in secondary schools of Kathonzweni District by gender and also to suggest policy recommendations on drop out and repetition rates to education policy formulators. The present study is significant in that it may yield empirical data and information on both drop-out & repetition rates that will guide educational policy formulators to develop strategies to mitigate educational wastage. The study will also add to a body of knowledge in the area of educational wastage by contributing on wastage rates in Secondary Education. The literature review covered, the concept of internal efficiency, global studies on school drop-out, school drop-out and repetition in Kenya. The study was conducted using a descriptive survey design. The sample size was 18 secondary Schools in the District, and since the study involved a complete enumeration of all schools in the District, it was a census inquiry. Data was collected from the DEO's office using a proforma. Quantitative data was analysed using the statistical package for social sciences. Findings indicated that cohort wastage rates were decreasing, from a high of 44% in the 2006 cohort to 19% in the 2007 cohort. The study recommended an introduction of affirmative action in the disbursement of free learning money in the ASAL region, involvement of the provincial administration to deal with parent who absent their children from school, introduction of lift-hour session to help the academically weak students cope with the rest, strengthening of guidance & counseling departments to enhance survival rates and the introduction of boarding facilities so as to reduce negative external influence to the students.

CHAPTER ONE: INTRODUCTION

This chapter presents the background to the study, purpose of the study, basic assumptions of the study, limitations, theoretical framework, conceptual framework and operational definition of terms.

1.0 Background to the Study.

Education is at the core of the knowledge economy and learning society. Improved secondary education is fundamental to the creation of effective human capital in any country (Migwi, 2009). The world conference on education held in Jomtien in 1990 highlighted the need to provide equal opportunity in education. However, the educations for all (EFA) goals have remained elusive in both developed and developing countries. Indeed, school completion rates have remained low. The question of provision of equal opportunities in education as well as ensuring the number of students who enroll at a cycle complete it has been the concern of many governments worldwide (Kimatu, 2007).

UNESCO (2004), notes that, worldwide 6.0% of primary students repeat a grade. In secondary schools, the highest repetition rates are observed in West and Central Africa (18.8%), the middle East and North Africa (12%), in Eastern and Southern Africa (12.3%) the survey also noted that repetition rates in developing countries are often quite high, the highest rate being in sub-Saharan African countries, where each year, about 22% of primary students and 21% at secondary students were repeating their grade, with the situation being worst in secondary schools of Congo (30.8%) and Algeria (27.2%).

In Kenya, education and training are an investment for national development and have been used to equip the youth with knowledge, skills, and expertise necessary to enable them to

play an effective role in society and to serve the needs of national development (Kamunge Report, 1988). In view of this, Real Gross Domestic product (GDP) was projected to grow from Kshs. 108.7 billion in 2004 to Kshs. 138.5 billion in 2008; with per capita GDP being expected to grow from us $ 303 to US$ 314 over the same period. Education and training sector was expected to play a key role in the projected growth through enhancing labour productivity by improving skills and knowledge of those in production, thus creating favorable conditions for innovations while in turn, spur economic growth (Republic of Kenya, 2005).

The government recognizes the strategic importance of improving the overall education level of Kenyans within the context of poverty reduction and economic growth. Education is an investment in human capital and empirical evidence, based on endogenous growth models, shows that human capital is a key determinant of economic growth. Indeed, sustainable development is only possible if there is a critical mass of skilled people. Studies on poverty in Kenya show that education is an important factor in poverty reduction. In addition, there is a strong positive relationship between human capital and earnings, as well as the overall productivity that is well captured by measures of human capital returns. Recent studies of human capital returns in Kenya show that capital returns increase as the level of education goes higher, also individuals benefit a great deal from the education of others (Republic of Kenya, 2005).

These findings highlight the importance of an educated population.

The Secondary school education cycle lasts for years and it is recognized as a spring board for tertiary and /or higher education and training. For this matter therefore, it is a significant juncture in the national and international development.

Some objectives of secondary education in Kenya are to;

a) Promote experience and growth of the whole person through integrated development of mental, physical, and emotive attributes and abilities.
b) Promote communication skills, numeracy, scientific concepts, and skills.
c) Promote social equity through the provision of education to all Kenyans including those from disadvantaged communities and households, girl child and the handicapped.
d) Build a foundation of technological and industrial development (Republic of Kenya, 2003, 1998 and 1980).

In an effort to bring the above expectations to fruitition the government has increased its spending in education and training from 7% of the GDP in 2004 to 20%, in 2010/11 financial year (Republic of Kenya, 2010) as a result, the country has witnessed considerable expansion of education opportunities during the decade for both boys and girls. Besides, the Government has initiated several programmes such as Free Primary Education (FPE), Free Secondary Education (FSE), Kenya Education Sector Support Programme (KESSP), Constituency Bursary Fund, (CBF) all this in a bid to improve education in Kenya.

To show the importance that it attaches to secondary school education, the government for instance bears an enormous cost burden through the tuition waiver arranged under the auspices of FSE, with the programme supporting 1.2 million children in more than 5,000 Secondary Schools each student getting Kshs. 10.625 annually.

The FSE programme alone consumed Kshs. 12.75 billion in 2008/2009 financial year, Kshs. 14.9 billion in 2009/2010 and it is estimated to consume Kshs. 16.9 billion in the 2010/11 financial year (Republic of Kenya, 2010). This is more than the budgetary allocation to the Ministry of Agriculture in the 2009/2010 national budget which stood at Kshs. 12.47 billion.

Even in light of the above government's commitment, the secondary school cycle in Kenya faces some challenges, among which are high cost of learning and teaching materials, school uniforms, transport and development levies, extra expenses for private tuition and rising repetition rates. All these compounded, have led to an estimated drop-out rate of 30% (Republic of Kenya, 2005).

The economic consequences of wastage in secondary school are myriad and severe because for instance, drop-outs don't get the government's fund allocation to the sector, again, in recent years; advances in technology have fuelled the demand for a highly skilled labour force therefore transforming high school education into a minimum entry into the labour market. Further, secondary school completion has become a basic prerequisite for higher education, meaning that a drop-out who joins the labour market will have low earning profiles because they are likely to work at unskilled jobs or at low-paying service occupations offering little opportunity for upward mobility. Dropping out also severely impairs a young person's job prospects and earning potentials and in turn causes other secondary indirect problems such as low self-esteem and reliance on public assistance (Goodland and Anderson, 1987). Repetition on the other hand, has the economic effect of adding a new student at that grade and subsequent grades which translates into larger class sizes and the need for additional desks and other supplies. In Kathonzweni Division of Makueni District, there lacks empirical information on the wastage rates of secondary schools hence the current study is necessary.

1.1 Statement of the Problem.

From the background of the current study it is clear that the government, households and development partners have increasingly continued to fund education in Kenya. These financiers would expect there to be no drop-outs & repeaters in the dispensation of education

and yet data from the Kenya National Examination Council shows that educational wastage is one of the key challenges facing secondary school education in Kenya today with drop-out rates standing at 10.3% and repetition rates at 6.7% .(Republic of Kenya, 2007). Again if wastage in secondary education is to continue unabated, it will be an impediment to the attainment of vision 2030 which places a lot of emphasis to education and training with Secondary Education being the spring board to manpower training. Also the EFA goal of education will continue to be a mirage if educational wastage is not mitigated. This study therefore set to determine drop-out rates and repetition rates in Secondary schools of Kathonzweni District in the 2005 – 2007 cohorts, with a view to suggesting policy recommendations to MOE officials to curb educational wastage.

1.2 Purpose of the study.

The purpose of the study was to determine the 2005 to 2007 Cohort Wastage Rates of Secondary Schools in Kathonzweni District.

1.3 Objectives of the Study.

The objectives of the study were to:

a) To determine the repetition rates for selected cohorts in Kathonzweni District secondary schools by gender (2005 -2007 cohort).
b) To establish the actual grade survival rates for selected cohorts in secondary schools in Kathonzweni district (2005 -2007 cohort).
c) To establish the drop-out rates for selected cohorts in secondary schools of Kathonzweni District by gender (2005 -2007 cohort).
d) To establish some of the reasons leading to drop-out and repetition in secondary schools in the district of study (2005 -2007 cohort).

e) To suggest policy recommendations on the magnitude of wastage rates to Education Policy Formulators.

1.4 Research Questions

a) What are the repetition rates in Kathonzweni District secondary School by gender (2005 -2007 cohort)?
b) What are the actual grade survival rates in Kathonzweni district secondary schools in the (2005 -2007 cohort)?
c) What are the drop-out rates in secondary schools of Kathonzweni District by gender (2005 -2007 cohort)?
d) What are some of the reasons that lead to drop-out and repetition in secondary school (2005 -2007 cohort)?
e) What policy recommendations can be suggested to Education Policy Formulators to help curb wastage in education (2005 -2007 cohort)?

1.5 Significance of the Study

The study is significant in that;

a) It may yield empirical data and information on both drop-out and repetition rates that will guide Educational Policy Formulators in the Ministry of education (MOE) to develop strategies that may mitigate wastage rates.
b) It may form a platform for further studies that may seek to establish the causes of wastage in secondary schools of Kathonzweni District
c) It may add to the body of knowledge in the area of educational wastage by contributing literature on wastage rates in secondary education.

1.6. Assumptions of the Study

a) No students transfer to schools from Kathonzweni District to those of other districts.

b) Data on drop-outs in Kathonzweni District is accurate.

c) Data on repeaters in Kathonzweni District is accurate.

1.7 Limitations of the Study

The proforma was administered to the AEO's in the District and not to school administrators and teachers as this would require considerable time, resources and other logistics.

1.8 Delimitations of the Study

The study focused on only two parameters of wastage i.e. drop-out & repetition rates with the acknowledgement of other parameters such as enrollment, retention, survival and graduation rates.

1.9 Theoretical Framework

The study was based on the input-output model as advanced by Jencks (1972). This model states that schools have "inputs and outputs" and that one of their nominal purposes is to take human "raw materials" (i.e. children) and convert them into something more valuable (i.e. employable adults). The model suggests that the school's output depends purely on a single input, namely the entering children and that everything else like the school budget, its policies and teacher characteristics are either secondary or completely irrelevant (Jencks et, al 1972, p. 256). Jencks further notes that if children at the point of entry don't finish the cycle (drop-out) or delay before completing the cycle, (repeat a grade), then there is wastage in the education system. A report by a UNESCO enquiry in 1969, also notes that dropping out and

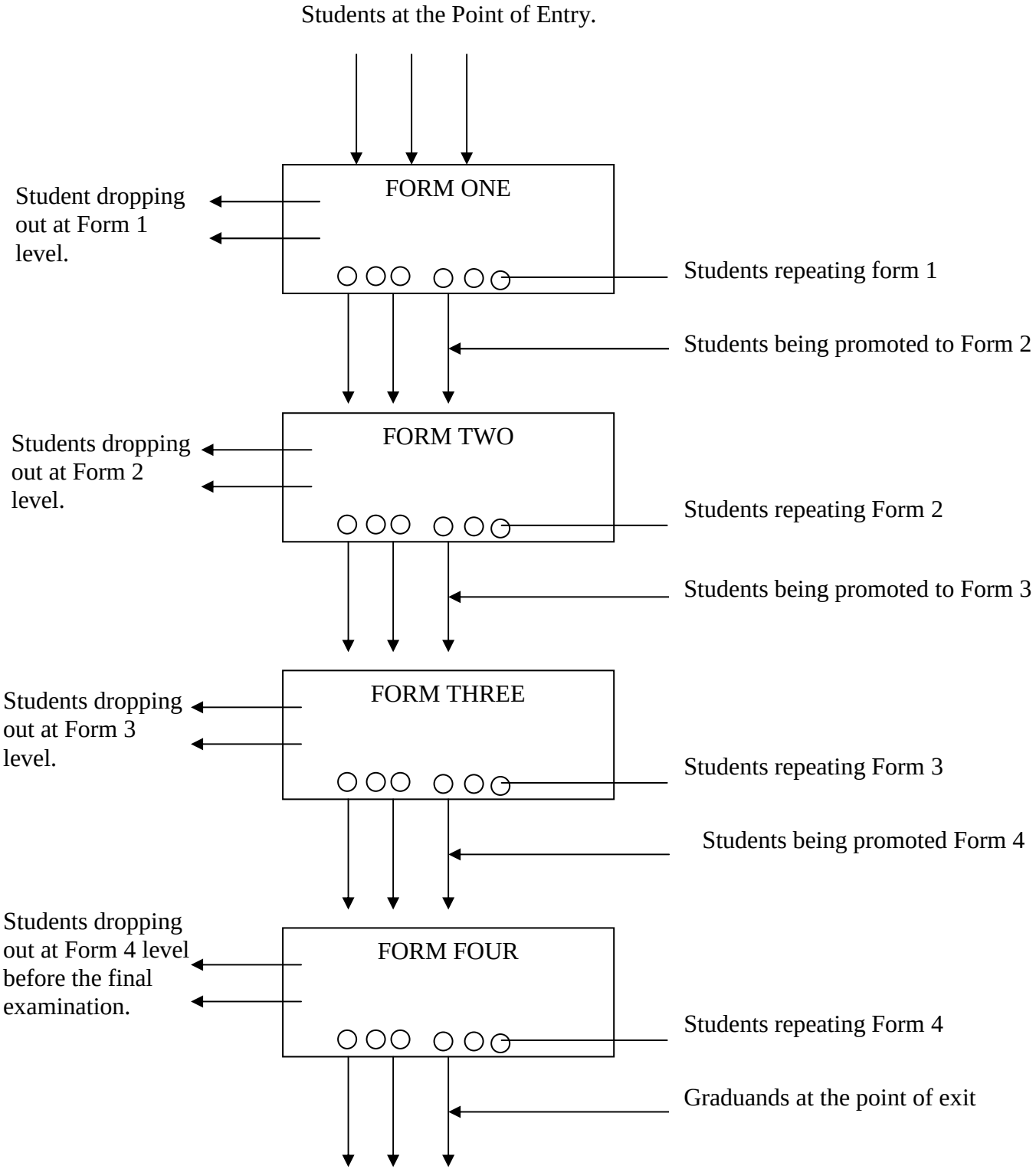
repeating are different aspects of educational wastage and that they are a common place in the third world.

From this model, it is clear that if a school system does not have the capacity to support a whole cohort from the point of entry, to the point of exit where each student enrolled graduates, then it has wastage in it.

1.10 Conceptual Framework

The conceptual Framework (figure 1.1) is derived from the theoretical framework discussed earlier and shows the flow of students from the point of entry (Form 1) to the point of exit (Form 4) the conceptual framework shows students being enrolled in form one, then after completing form one, some get promoted to form two while others repeat form one and some drop-out of school. Those promoted to form two undergo a one year schooling period and after successfully completing it, some get promoted to form three while others repeat form two whereas others drop-out of school at this level. This trend continues until only a few students complete the whole four year secondary education cycle. Those who go through the cycle at the stipulated time period (four years) are termed as graduands in this conceptual framework. Even though some of the repeated cases may eventually complete form four, they will have delayed and they are a contributor to wastage in the education system. Repetition and drop-out as observed in the theoretical framework are indicators of wastage in an education system.

Figure 1.1 Conceptual Framework.



Source: Researcher (2010).

1.11 Operational Definition of Terms

Grade : Refers to pupils' level of educational attainment. At times both words are used with a slash separation and other times just are of them is used.

Cohort Wastage Rate : This is the waste that as occurred in a particular cohort from the point of entry to the point of exit in form of drop-outs or repeaters.

Drop-out Rate : Refers to the ratio of student leaving the school cycle before a terminal point divided by the number of students in the grade from which they are withdrawn.

Education Cycle : Refers to the educational structure

Enrollment : Refers to the number of students who get admitted and registered in a school system.

Graduation Rate : Refers to the number of students who successfully pass the final examination divided by the total number enrolled in the final grade in the year.

Gross Domestic Product : Refers to a measure of National Income before property income from abroad and depreciation have been accounted for.

Per Capita Income : Average income per person in a given country.

Repetition Rate : Refers to pupils who repeat the same grade in a subsequent year divided by the number of pupils in the same grade in the previous year.

Survival Rate : Refers to the number of students enrolled in any subsequent grade in a subsequent year divided by the number enrolled in a previous grade.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

This chapter covers a review of literature related to the study. The chapter covers the following:

The concept of internal efficiency, global studies on drop-outs, school drop-out studies in Kenya, school repetition and summary.

2.1 The Concept of Internal Efficiency

As originally developed, and refined by economists, the concept of efficiency refers to the relationship between inputs into a system (be it agricultural, industrial or educational) and the output from that system (be they wheat, vehicles or educated individuals) an education system is said to be efficient if maximum output is obtained from a given input. Brimer and Pauli (1971) note that, the most common indicators used to assess the educational efficiency is the co-efficient of efficiency or its reciprocal referred to as input-output ratio. The co-efficient of efficiency is calculated by dividing the optimal (ideal) number of pupil-years in the absence of repetition and drop-out, by the number of pupil- year actually spent by a cohort of pupils. In a 'perfectly efficient' system, the co-efficient would equal 100% and inefficiency arises when it is lesser than 100%. If the input-output ratio is used, instead, the perfect state would be I and inefficiency arises from any point which is lesser than 1. Setal, (1972) notes that, if the sole objective of an education system was that pupils should have the satisfaction of attending school, the expenditure per pupil attending school may indicate the level of efficiency. Inefficiency therefore can be attained by cutting down unproductive expenditure like repetition and drop-out in the school system. Eshiwani (1980) suggests that, a school with a high drop-out and repetition rates reflects the systems internal inefficiency. A lower output per unit of time that the system is designed to achieve shows inefficiency of the

education system. If students admitted to the system fail to achieve the set objectives then inefficiency is manifested.

Simmons (1980) on the other hand suggests that, expenditure per pupil or per graduate is a measure of the efficiency of education institutions and students who stay longer receive significantly a greater share of public resources. High wastage rates make the unit cost of productive graduate many times higher than the cost per student at the outset or during the course of schooling. The extend to which a particular level of the school system is described as efficient and effective depends almost entirely on the uninhibited flow of students from initial enrollment to final grade and graduation, that is ability to contain the problems of non-completion of studies and retardation or repeating class (Gravenir, 1985). As noted by Brimer and Pauli (1971), grade repetitions are regarded as wastage of resources in that, a two-year grade places are being occupied where the system plans for only one grade. Wastage rates which include drop-outs and repeaters are important dimensions of internal efficiency (Simmons, 1980).

2.2 Global Studies on School Drop – Outs

Freeze (1982), Pallas (1984) and Hoffer (1987) as cited by the American Sociological Association (ASA) in 1988, noted that students 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. The factors influencing both early and late drop-out processes for retained and continuously promoted students differ. They urged that, lack of engagement with school contributes to the drop-out probability of both retained and continuously promoted students, but a lack of engagement particularly hurts retained students, they finally concluded that academic engagement but not social engagement, predicts drop-out for both retained and promoted students.

A report from the Educational Testing Service: One Third of a National Rising Drop-out Rates and Declining Opportunities (US Department of Education, 1998) warns that, little is being done to stem drop-out rates and their economic costs. It noted that in 10 states of America, school completion rates declined by 8%, further, the report enumerated some school based factors that precipitated the high drop-out rates in school as:

Ineffective discipline

Overburdened school counsellors – on average, only one certified counselor was available for each 500 students in all schools, and they had many assignments that left little time to spend with students at risk of dropping out.

Repetition and /or suspensions used to control discipline rather than addressing causes.

The above study does an analysis of drop-out causes among the study population due to a variety of reasons as shown in the summary. Drop out causes are relevant to the current study and it is also imperative to allude the wide range of reasons that may lead to students dropping out of school as this may form a basis for further studies on wastage.

A study conducted by Department of Education, National Centre of Education Statistics (2003) in USA and targeting inmates in 5 states, noted that stresses and frustration associated with dropping out have social implications a well; drop-outs make up a disapropriate percentage of the nations prisons and death row inmates, with 82% America's prisoners being high school drop-outs.

2.3 School Drop – Out Studies in Kenya

Onyango (2003) notes that drop-out rates, particularly for girls are still too high. Dropping out of school ensures a life of poverty for these girls, and many of them also end up being HIV positive because the male – female power dynamics become even more slanted against them. In 2003, the government of Kenya introduced a no-cost primary school education, but an estimated 1 million, school age children are still not attending school, in addition, up to

13,000 Kenyan girls drop out of school annually due to pregnancy (Kenyan Demographic and Health Survey of 2004) according to the survey, educated girls were less likely to marry early and more likely to practice family planning, in addition, their children had a high survival rate as compared to their counterparts who drop out of school.

Poverty has frequently been associated with primary school drop-outs because poor families cannot meet school expenses like the user charges that are levied in schools, and because children must sometimes work to help support the family, the opportunity cost of attending school borne by such pupils is high. Countries with high birth rates, like Kenya (4.1% annual growth rate), may have high drop-out rates. High birth rates are associated with large families and the need for school age children, especially in low income families to look after young siblings (Ngau, 1991).

At primary school, the drop-out rates for boys are higher than that of girls in the lower levels, but the arrangement changes as both reach puberty. Teenage pregnancy accounts for 10% of girl drop-outs. Some of the factors fuelling teenage pregnancy include the breakdown in traditional family systems, influence of the mass media, urbanization as well as lack of access of information on sexuality and poverty. This is according to a report based on the estimates of 10,000 girls leaving school every year, which further states that the Government losses an estimated Kshs. 60 million annually from these drop-out cases, there are also indirect costs associated with girl drop-out such as loss of lifetime earnings and increase in infant and under five mortality (all Africa. com. 8th May 2008). Mwabu, et al (2002)recalculated estimates of return to education and human capital externality and found out that they were higher in females than in males, the study concluded that there is need for an active government policy to encourage the education for girls, these studies about worrying trends of girl drop-outs

possibly had been prompted by earlier studies on the magnitude of the girl drop-out rates, for instance, Maundu and Mathu (1984), Ole Sana (1986, 1984, 1983 and 1981), in Kasembeli (2004), looked at education and regional disparities with particular reference to pastoral communities in Kenya and found out that the girls drop-outs were still high mainly due to retrogressive cultural practices that forced them to get married so as to get bride wealth for economic gains.

The Ministry of Health Division of the Family Health GTZ Support Unit (1998) conducted a study of school girls pregnancy at a large scale, 166 schools in the mainly populated areas of Kenya were sampled for the study, with 2,000 girls in secondary and 9,000 in primary schools monitored to establish the drop-out rates. From this comprehensive study, the results were as follows: Rift valley had the largest school girl population and consequently had the highest drop-out rates, further, it accounted for about 40% of the school girl pregnancies in Kenya. Nyanza, Central and Nairobi provinces posted below average drop-out rates. The overall drop-out rate in 1986 was 12.13% girls per thousand compared to 10.24% in 1985. Secondary school rates were higher than Primary school rates in 1985 and 1987. Nationally over 18000 girls dropped out of school because of pregnancy in 1987, over 13,000 in 1986 and over 9,000 in 1985. Drop –out rates were higher in day schools.

Levy (1971) notes that, in farming regions, poverty is closely associated with school drop-out. In his study, Raju (1973) concurred when he established a very close relationship between school attendance and the farming calendar and he concluded that:
Poor families, who cannot hire labour, withdraw their children pre-maturely from the school system to participate in farming occupation and looking after cattle.

Nderitu (1987), observes that drop-out rates in primary schools in Gichugu Division of Kirinyaga district are high because students leave school to earn income for the family or work on the family farm when they at the age which they are economically viable. This leads to frequent absenteeism from school which ultimately leads to permanent withdrawal from school.

Drop-outs are indeed a waste in the education system because each school cycle is often taken as a logical entity which should be attended in totality if the pupil is to reach a certain level of competence (Ngau, 1991).

During the years 1999 and 2003, the secondary dropout rate was 5.5 and 6.6 percent respectively as shown in Table 1. Nyanza Province recorded the highest rate (9.5%) while North Eastern registered the lowest (3.8%). Nyanza province further recorded a sharp increase from 4.6% in 1999 to 9.5% in 2003 with the girls' rate being 10.3%.

Table 2.1. Secondary Drop Out Rates by Gender and Province, 1999 and 2003.

Province						
	Boys	Girls	Total	Boys	Girls	Total
Coast	5.7	5	5.4	7.3	5.3	6.4
Central	4.4	3.6	4	6.1	4.4	5.2
Eastern	5	5.4	5.2	5.9	5	5.5
Nairobi	6.9	7.4	7.1	6.3	4.4	5.5
Rift valley	4.5	6	5.1	7.9	7.6	7.7
Western	4.2	5.2	4.6	8.3	9.2	8.8
Nyanza	4.1	5.2	4.6	9	10.3	9.5
North eastern	7.8	7.1	7.6	4	3.4	3.8
National	5.3	5.6	5.5	6.9	6.2	6.6

Source: Education Management Information Systems / MOE

2.4 Repetition

The second form of educational wastage to be considered in the present study is repetition. Grade repetition occurs when students begin a new school year in the same grade as the previous year instead of moving to a higher grade. It takes five major forms, depending on the source and reasons for the decision to repeat. This decision may be initiated by the students themselves (or their families acting on their behalf) or by the school. When repetition occurs because of decisions made by the students or their families, it is usually voluntarily undertaken because it is viewed as serving the students best interest.

One voluntary firm of grade repetition occurs when students want to continue schooling but do not have access to a school that offers the next grade. In remote areas in developing countries, schools sometimes only teach the first few grades.

A second type of repetition reflects family perceptions that the students did not learn much the previous years and therefore ought to repeat the grade. It is most common in developed countries in areas where attendance is sporadic because schooling itself is sporadic or because many children spend much of their time working rather than attending school.

The third form of repetition is common in areas where the language used in the school differs from the language that many students speak at home. Repeating early grades may enable these students to gain fluency in the language of instruction so that they can begin to learn efficiently. Grade repetition for this reason is family initiated in developing countries but school imposed in developed countries.

The fourth type occurs at higher grade levels in countries that require students to pass exams to qualify for secondary or post secondary education. Students who fail to qualify either drop out of school and enter the workforce, pursue vocational training or prepare to retake the examination. The latter students might work with tutors, take test preparation classes or voluntarily repeat the previous grade.

The fifth form is primarily involuntarily initiated by the school rather than the students or their families. It is most common in developed countries where school attendance is mandatory until some point in the adolescent years. Here schools sometimes require or at least strongly advise failing students to repeat a grade.

Grade repetition whether voluntary or imposed represents inefficiency and wastage of resources for society. Nevertheless, the extend to which repetition should be regarded as a waste is a controversial point. Proponents of repetition claim that, it is useful in that it remedies inadequate achievement and helps pupils who are emotionally and intellectually immature for the grade. Critics of repetition on the other hand claim that, from a societal economic perspective, schooling is most efficient if every student moves up a grade every year (Nkinyangi, 1980). Further the study notes that, each students who repeats has the economic effect of adding new students at that grade and subsequent grades. This translates in to larger class sizes and the need for additional desks and supplies. If many students repeat each year, the school system will need more teachers and classrooms, but since the society provides schools, teachers and other resources presumed sufficient to enable all students to make the expected advances in achievement, failure to do so, suggests that these resources were insufficient or that some students failed to take advantage of the opportunities provided.

They further argue that, school imposed grade repetition has negative effects on achievement and is associated with social adjustment problems and increased likelihood of school drop-out. 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 (Ngau, 1991). However, there is no proof that this will be the case. For instance, Sarah, et al (1987), conducted a longitudinal study on effects of repetition in which they found out that; first,

second and third grade repeaters significantly improved their relative class standing by the end of the repeated year. For some cases, the children maintained this advantage over a two-year period. After 3 years, there was no significant difference between the repeated and promoted pupils.

These findings have led some countries and school systems to adopt automatic promotion policies which mandate that all students who complete a given school year be promoted to the next grade regardless of their level.

Research on school wastage has shown that repetition and drop-out rates are related to educational, political and economic factors (Levy, 1971). Eisenman (1997), reported that repetition rates in developing countries are often quite high. The highest rate being in the sub-Saharan African countries where each year, about 22% of primary students and 21% of secondary students were repeating a grade.

Studies in countries as diverse as Brazil (Gomes, Neto and Honushek, 1994), Lebanon (El-Hassan, 1998) and Pakistan (King, Orazem and Paterno, 1999) have found that repetition is most frequent in rural areas. The low achievement patterns at grade repeaters tend to be associated with poverty indicators at both the school and family levels. Schools in poor remote rural areas often feature limitation; short school years, frequent teacher absence; limited supplies, poorly qualified teachers; large classes; multgrade classes and double shifts. Within any given school, students from the poorest families are more at risk of repetition because their home backgrounds leave them less prepared to succeed and because they are likely to miss more school days because of serious health or nutrition problems or because their families require them to assume child care or work responsibilities. Simmons (1974), suggests that wastage rates are an important dimension of school efficiency.

From the Kenyan perspective, data available in the EMIS /MOE shows that the repetition rate reduce from 1.8% in 1999 to 1.3% in 2003. The highest repetition rate was recorded in2003 in Nyanza and North Eastern Provinces at 2.6% and 3.4% respectively while the lowest was registered in Central Province at 0.5%. Eastern Province ranked fourth. On average, boys recorded higher rate than girls over the period under review.

Table 2.2 Secondary Repetition Rates by Gender and Province, 1999 and 2003

Province						
	Boys	Girls	Total	Boys	Girls	Total
Coast	1.4	0.5	1.2	2.9	1.1	2.1
Central	1.3	0.7	1.0	0.6	0.4	0.5
Eastern	1.3	0.7	1.0	0.9	0.7	0.8
Nairobi	1.9	8.9	4.8	0.7	0.5	0.6
Rift valley	1.3	0.9	1.1	1.1	1.0	1.1
Western	1.4	1.3	1.4	1.5	1.2	1.4
Nyanza	1.9	2.0	1.9	2.8	2.2	2.6
North eastern	2.5	2.0	2.3	1.1	5.7	3.4
National	1.7	1.5	1.6	1.5	1.1	1.3

Source: Education Management Information System / MOE

Levy (1974), demonstrated that the only educational variable significantly related to drop-out was the average of repetition, proportionally, the higher the repetition rates, the higher the drop-out rate. Grade repetition has also been shown to have negative effects on school and

student performance, at least in some cases, for example, Castro et al (1978), examined the effects of grade repetition along three important dimensions;

The effects on academic achievement: Repetition brings about short-term gain and long term problems because grade repeaters eventually fall further behind.

The effects student's self-esteem: Peer – relationships and attitudes towards school skew to the negative leading to increased risks of dropping out and the effects on school operations: High levels of grade repetition can lead to increased class sizes and classroom management problems due to large age differences among students in the same classroom.

Holmes and Mathews (1984), found that repeated students performed 0.44 of a standard deviation below promoted counterparts on various measures of academic achievement. One of the reasons they cited for failure of repeated students to improve academic achievement is that, students are often repeated in programmes that were not beneficial to them in the first year. Reinhardt (1980), did research on Kindergarten pupils and found out that, low achieving pupils who were promoted to first grade, but were given special instructional program, performed at higher levels than pupils given convectional instruction or pupils who were placed in a transitional room with special instruction.

Those who consider repetition to be a waste implicitly assume that there is a normal rate of acquisition of knowledge and that school cycles have been build up so that the year programmes correspond to what can normally be assimilated, Kasembeli (2004). Advocates of this school of thought support their arguments by various research findings which through data analysis conclude that; first, repetition does not seem to increase significantly the level of school achievement or the amount of learning by repeaters. second, repetition seem to have a negative psychological effect because it tends to lower the pupils self esteem, makes their

attitudes towards learning less positive and damages peer relations (Holmes and Mathews, 1984, 142).

Conversely, an automatic promotion system does not mean that is free from waste; indeed, it is often opposed by people who believe that it lowers school expectation and achievement. They want to allow or even to require schools to retain in grade all students who fail to meet specific promotion criteria. Further, it has been shown empirically that all children do not acquire knowledge and skills at the same rate. Hence to promote slow learners automatically without devoting special attention to them during the school year may make them less able to understand and assimilate the curriculum as they reach higher grades (Reinhardt, 1980). Mentally gifted students may also have the feeling that they are wasting their time when placed in classes where the teaching schedule is geared towards the potential and below average pupils. Research evidence has shown that pupils learn more when placed in groups of similar ability or homogeneous groups (Goodland and Anderson, 1987).

Analyses typically conclude that, neither automatic promotion nor grade repetition addresses the problem of low achievers satisfactorily, so that potential solution lie in providing these students with more and better learning opportunities (Corman, 2003; Eisenmon, 1997).

2.5 Summary

The chapter has presented literature on previous studies on the concept of internal efficiency drop-out and repetition in the education system from a Global, African and the Kenyan perspectives. It has emerged from the literature review that education wastage comprising of drop-out and repetitions is a major concern of nations world over. This is due to the cost implications and the secondary problems associated with non-completion or overstaying before completing a school cycle. From the reviewed literature it is clear that most of the

research done on educational wastage is mainly on the cause and effects of educational wastage on the individual, society and the nation with a view of making recommendations to authorities to institute measure of improving efficiency in the educators system so as to mitigate such effects.

Ngau (1991), for instance emphasised on the factors influencing repetition and drop-out patterns, in Nairobi which is an Urban setting and Machakos which is a rather well to do rural area. Mwabu (2002) on the other hand emphasized only on drop-outs and did not tackle repetition which is widely viewed not only as the other aspect of wastage but also as a true recipe for dropping out.

It can be noted from the reviewed literature that, existing studies have not given recent educational wastage rates per region in Kenya. Data on wastage rates in the ASAL region is particularly scanty. Comparison of drop-out rates and repeater rates at micro-level based on cohorts of students has not been done. These are therefore the problems that the current study sets to investigate with specific focus on Kathonzweni District which is under the ASAL classification.

CHAPTER THREE: RESEARCH METHODOLOGY

3.0 Introduction

In this chapter, the research methodology of the study is described. The subsection in the chapter are geared towards; describing the research design, study location and population, sample and sampling procedures, research instrument, data collection and data analysis procedures.

3.1 Research Design

The study employed a description survey using quantitative research strategies. Borg and Gall (1989) note that, descriptive survey research is intended to produce statistical information about aspects of education that interest policy makers and educators. Similarly, Gay (1992) notes that, descriptive survey research method of study is used to investigate educational problems and to determine and report the way things are or were. Further, according to Lockesh (1984), descriptive survey studies are designed to obtain important and precise information concerning the current status of a phenomenon and if possible draw valid general conclusions from the facts obtained. According to Mugenda and Mugenda (1999), survey design is the best method available to social scientists who are interested in collecting data for the purposes of describing a population which is too large to observe directly. The study therefore employed the survey design since the researcher wanted to get clear information on the prevailing state of wastage rates in secondary school education.

3.2 Location of the Study

The study was carried out in Kathonzweni District, Eastern Province. Kathonzweni District borders Makueni, Machakos, Mbooni, Kitui and Makindu Districts. The District has a variety of school types such as Provincial, District, Schools, Boys and Girls Schools, Mixed Day and Boarding schools which ensure a representation of different school types in the study. This

area forms an ideal setting for the study first because no known study on wastage rates in secondary schools has been conducted in the area and secondly, as Singleton (1993) notes ,the ideal setting for any study should permit instant rapport with the informants. The researcher is well conversant with the area and as such, has a good rapport with the informants.

3.3 Target Population

A population is defined as a complete set of individual, cases or objects with some common observable characteristics (Mugenda, 1994).This study targeted all the 18 secondary schools in Kathonzweni District. These schools are four Provincial, one boys' and 13 District schools that are mixed day and boarding. All the four AEO's were targeted.

3.4 Sampling Techniques and Sample Size

Chandran (2003) described sample as a small proportion of an entire population; a selection from the population. The sample is therefore used to make a generalization of the characteristics being investigated within the entire population. "When one studies the characteristics of people, situation or items within a population one takes a sample" (Kane 1995). However, according to Orodho (2002) when target population is small one can include all the population in the study. Since the target population for this study was small all the schools in the division were involved in the study.

3.5 Research Instruments

For a study of this nature that involves a survey of a data that has already been documented, the use of a proforma is the most appropriate, Kombo (2006). Again a proforma for this study was chosen because its costs are relatively low, more convenient and its accessibility is high.

Therefore the researcher used a proforma for the study. The proforma was administered to the AEO's. Document analysis was done on KNEC and MOE reports to establish whether they are in harmony with that at the AEO's offices.

3.6 Pilot Study

Before administering the proforma to the AEO for data collection the researcher pre-tested the proforma using one Zone in the Division, but which was not be included in the final results. The purpose of the pilot study was to enable the researcher to improve the reliability and validity of the instrument, and to familiarize himself with its administration.

3.7 Validity of Research Instruments

According to Orodho (2002) validity is the degree to which the empirical measure or several measures of the concept, accurately measure the concept. Similarly Kombo and Tromp (2006) see validity as a measure of how well a test measures what it is supposed to measure. According to Wilkinson (1991), a pilot study helps to identify those items that could be misunderstood, and such items will be modified accordingly, thus increasing face validity. The researcher prepared the instruments in close consultation with his supervisors, to help improve content validity.

3.8 Reliability of Instruments

According to Mugenda and Mugenda (1999), reliability is a degree to which a research instrument yields consistent results or data after repeated trial. According to Orodho (2002), reliability of measurement concerns the degree to which a particular measuring procedure gives similar results over number of repeated trials. The pilot study besides helping the researcher to familiarize himself with administration of the instrument, it a enabled him to test the reliability of the instrument. Split – half technique of reliability testing was employed, whereby the pilot proforma divided into two equivalent halves and then a correlation

coefficient for the two halves calculated. To compute the correlation co-efficient of the instruments, Spearman's formula was used.

$$R = \frac{\sum XY - \left[\frac{\sum (X)\sum (Y)}{N}\right]}{\sqrt{\left[\sum X^2 - \frac{(\sum X)^2}{N}\right]\left[\sum Y^2 - \frac{(\sum Y)^2}{N}\right]}}$$

Where R = Correlation co-efficient.

N = Total number of scores

$\sum$ = Summation of scores

X = Scores in the first half

Y = Scores in the second half

A correlation co-efficient of about 0.81 was obtained which was considered high enough to judge the instrument as reliable. Through the use of the Spearman's formula, reliability co-efficient of at least 0.8 should be accepted as recommended by Orodho (2002).

3.9 Data Collection Procedure

The researcher obtained an introduction letter from Kenyatta University and a research permit from the Ministry of Higher Education, Science and Technology. After which, the researcher booked an appointment with the AEO to visit the Divisional Education Offices and administer the proforma. The AEO then filled the proforma and later it was triangulated with the KNEC results available in the website. The officer was assured confidentiality.

3.10. Data Analysis

After data collection using the proforma, the information obtained was arranged and grouped according to the relevant research questions. The data was then organized, tabulated and

analyzed into frequency tables, ratios and percentages with the help of Statistical Packages for Social Sciences. In data analysis, percentages have a considerable advantage over more complex statistics (Piel, 1995). After this, then the finding were presented in tables, bar graphs and pie charts according to research questions and objectives.

Grade repetition rates were calculated using the following formula.

$$\text{G.R.R.} = \frac{R_{t+1}^{k}}{N_{t}^{k}}$$

Where R - Repeaters of the same grade (k), in the subsequent year, (t + 1).

N - Enrolment in the same grade in the previous year.

While grade drop-out rates will be calculated using the formula below:

$$G.D.R = \frac{N_{t}^{k} - \left[R_{t+1}^{k+1} - N_{t+2}^{k+1}\right] + R_{t+1}^{k}}{N_{t}^{k}}$$

Where N_{t}^{k} - Original enrolment in the previous grade in the previous year.

R_{t+1}^{k} - Repeater left in the same grade K, in the subsequent year

CHAPTER FOUR: FINDINGS AND DISCUSSIONS

4.0 Introduction

The purpose of this study was to assess wastage rates in Kenyan Secondary Schools in Kathonzweni District targeting 2005 – 2007 cohorts. The findings of the study are presented in this chapter based on the research objectives. These include, a) determining the repetition rates for the 2005 – 2007 cohorts in the said district by gender, b) establishing the drop-out rates for selected cohorts by gender and c) suggesting policy recommendations to curb wastage in secondary schools. The study further endeavoured to establish the various causes of repetition and drop-outs in secondary schools in Kathonzweni District. Four proformas were administered to the four AEO's in the district. Discussion of the results was done as per the objectives of the study.

4.1. Enrolment Trends in Secondary Schools of Kathonzweni District

This section covers the enrollment trends by gender and grade which is a prerequisite for the calculation in the current study.

Since calculation of repetition and drop-out rates is based on the enrolment, the respondents were asked to indicate the number of students enrolled in secondary schools from Form one to Form four for a period of six years from 2005 to 2010. The enrollment of students by gender is presented in Table 4.1.

Table 4.1 Enrollment by Grade & Gender in Kathonzweni District Secondary Schools.

Year	Form 1		Form 2		Form 3		Form 4		Totals	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
2005	280	274	301	261	390	352	263	255	1234	1142
2006	431	417	259	241	476	456	297	268	1463	1382
2007	499	487	375	345	233	221	376	311	1483	1364
2008	734	744	445	465	386	386	213	199	1778	1794
2009	550	541	690	688	482	482	323	317	2045	2028
2010	603	597	543	545	682	683	429	421	2257	2246
Total	3100	3060	2613	2545	2449	2580	1901	1789	10260	9956

Table 4.1 above shows that in all the years under the current study total enrollment for boys have always been higher than that of the girls. The total enrollment for boys is 10260 and that of girls was 9956, between 2005-2010 meaning that the number of boys is 3% higher than girls. This trend has only three exceptions in year 2008 where the number of girls enrolled in form 1 was 1.3% higher than that of boys and in year 2010 in form two and three where the number of girls was higher than that of boys by 2, or 0.3% and by 1, or 0.14% respectively. In which case we talk of gender parity in enrollment in the said year. The lowest gender disparity in enrollment was observed in form 1 where the boys were 1.2% more than the girls, in form 2 and 3, the percentage difference was the same in that in both grades the boys were more than the girls by 3%. The highest disparity was observed in form 4 where the boys were 6% more than the girls. The key informants felt that this trend could be due to the societal attitude which prefers boys education to girl education, in addition, the respondents were of the opinion that, as girls to go towards the end of the secondary school cycle, some dropout

due to teenage pregnancies and others get married altogether and this could be the reason for the increasing gender disparity in enrollment as girls progress from form one to form four. Over the same period under review, nationally, boys recorded a higher enrollment of 15% as compared to girls and in Eastern province where the district of study is situated the trend was also similar, with boys enrolment being 12% more than that of girls (EMIS unit, MOE).

Table 4.2 General Enrollment by Grade in Kathonzweni District Secondary Schools.

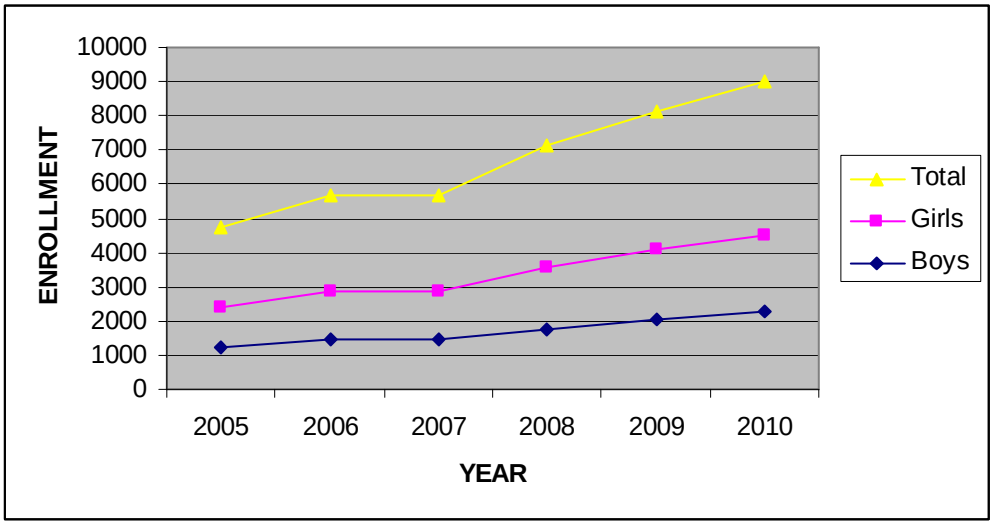
Year	Form 1	Form 2	Form 3	Form 4	TOTAL
2005	554	562	742	518	2376
2006	848	500	932	565	2845
2007	986	720	454	687	2847
2008	1478	910	772	412	3572
2009	1091	1378	964	640	4073
2010	1200	1088	1365	850	4503
TOTAL	6157	5158	5229	3672	20216

Table 4.2 shows that the general enrollment by grade has not been consistently increasing or decreasing in the period under review for instance enrollment in form two has been 16% less than form one, form three enrollment has been 1.3% more than form two and the sharpest decrease in enrollment was observed between form three and four where the form four's were 30% less than the form three's.

The highest total enrollment between 2005-2010 was 6157 in form one and the lowest was 3672 in form four representing a 40% difference. According to informants, this could be due to the inability of households to sustain their children in school due to school levies and opportunity cost of schooling coupled with girls who dropout of school due to pregnancies.

Across all the years under study, enrollment has been increasing annually, between 2005 and 2006. There was a 20% increase, between 2006 and 2005 the lowest increase of 0.07% was recorded, between 2007 and 2008 the highest increase of 25% was recorded, between 2008 and 2009 a 14% increase was observed and finally between 2009 and 2010, a 11% increase was recorded. Over the period under review there has been a 89% increase in enrollment from 2376 in 2005 to 4503 in 2010. Data from the EMIS unit, MOE shows an increase of 81% in enrollment over the same period in Eastern Province. Nationally, total enrollment increased by approximately 45% in the same period under review. This may be attributed to sustained reforms and bursary schemes; and expansion programme being undertaken by the government and also increased demand for secondary education. Further the education officials who were the key informants alluded that the high increase in enrollment recorded between 2007 and 2008 could have been due to the advent of free secondary education programme by the government. The above trends are represented in figure 4.1 below.

Figure 4.1 Enrollment Trends in Kathonzweni District Secondary Schools.



Further, the increasing enrollment in all the years according to the AEOs who were the respondents, could have been due to the establishment of CDF funded schools that were charging affordable fees and could also have the fees paid in kind through arrangements such

as availing firewood, water and manual labour by the households to the school, hence boosting access of education to the locals.

4.2 Actual grade to Grade Survival Trends in Secondary Schools of Kathonzweni District, by Gender.

In order to establish wastage in the schools system as students more across grades, the actual grade to grade survival rates were calculated. The actual grade survival rate is a definite index that shows the number of students who move in a subsequent grade in a subsequent year excluding repeaters. The following formula was employed.

$$\text{Actual survival rate} = \frac{N_{t+1}^{k+1} - R_{t+1}^{k+1}}{N_t^k}$$

Where N_{t+1}^{k+1} – Enrollment in the subsequent year (t+1) in the subsequent grade (k+1)

R_{t+1}^{k+1} - Repeaters in the subsequent year in the subsequent grade and

N_t^k - Enrollment in the previous year t, in the previous grade k.

Grade to grade survival rates by gender are shown in the tables below:

Table 4.3 Actual Grade Survival Rates for Boys in Kathonzweni District Secondary Schools

Year	Form 1-2 (%)	Form 2-3 (%)	Form 3-4 (%)	Average
2006	89.3	155.8	73.58	106.23
2007	86.07	83.78	77.10	82.32
2008	87.37	99.73	83.26	90.12
2009	91.96	105.61	77.72	91.76
2010	96.36	95.36	85.68	92.46
Average	90.21	108.05	79.47	92.0

Table 4.3 above shows in the year 2006 between form 2 and 3 and year 2009 between the same forms there were more than 100% survival rates of 156% and 106 respectively. This could be due to increase in enrollment in the subsequent grades as a result of students transferring from other districts to the district of study or students who had left school and opt to rejoin school in the grades in question. The lowest actual grade to grade survival rates were recorded in 2007 as students moved from form 3 to form 4 standing at 77% while the highest was 156% in year 2006 between form 2 and 3. On the overall, the highest actual grade survival rate was 108% observed between form two and three, followed by 90% between form 1 and 2 and the least was 79% recorded between form three and four.The overall actual grade survival rate for boys was approximately 93%, this was slightly less than the national grade survival rate for boys which stood at 95% over the same period.

Table 4.4 Actual grade to Grade Survival Rates for Girls in Kathonzweni District Secondary Schools.

Year	1-2(%)	2-3 (%)	3-4 (%)	Average
2006	85.03	171.2	72.15	109.46
2007	80.81	85.06	65.57	77.15
2008	94.25	107.24	80.09	93.86
2009	89.91	101.28	75.38	88.86
2010	88.61	95.06	84.02	89.23
Average	87.72	111.97	75.44	92

Table 4.4 above shows that a more than 100% survival rate was recorded between form 2 and 3 i.e. 171% for 2006, 107% for 2008 and 101% for 2009. The same reasons for boys for such an occurrence can also be applicable for girls. Additionally the higher percentages for girls (more than 100%) could be due to those girls enrolling back after being away due to

pregnancies, this was a view shared by all the key informants. The lowest actual grade to grade survival rate was 66% recorded between form 3 and 4 in 2007 while the highest was 171% between form 2 and 3 in 2006. The overall actual grade survival rate for girls was approximately 92% which was 4% less than the national rate of 96% over the same period. Generally the boys had a marginally higher grade to grade survival rate of 93% compared to 92% for the girls, a difference of approximately 1%.

4.3 Grade Repeater Rate in Kathonzweni District Secondary Schools.

Grade repeater rate compares the number of repeaters of the same grade, of a subsequent year with the total number of students in the previous year. It is not only an important part in the quality puzzle but also an indicator of internal efficiency of education. When students repeat a grade, they occupy space that would have been occupied by a new entrant and the students take longer to complete a particular course thus making it expensive. The general grade repeaters were thus investigated and the results tabulated in table 4.5 below.

Table 4.5 Enrollment and Repetition by Gender in Kathonzweni District Secondary Schools.

Year	Form 1		Form 2		Form 3		Form 4	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
2005	280 5	274 8	301 9	261 6	390 12	352 8	263 18	255 11
2006	431 4	417 5	259 9	241 8	476 7	456 9	297 10	268 14
2007	499 4	487 7	375 4	345 8	233 16	221 16	376 9	311 12
2008	734 9	744 16	445 9	465 6	386 12	386 16	213 19	199 22
2009	550 8	541 12	690 15	688 19	482 12	482 11	323 23	317 26
2010	603 10	597 13	543 13	545 16	682 24	683 29	429 16	421 16

Source: DEO'S Office.

In order to get Grade Repetition Rates the following formulae was used

$$\text{G.R.R.} = \frac{R^{k}_{t+1}}{N^{k}_{t}}$$

Where R - Repeaters of the same grade (k), in the subsequent year, ($t+1$).

N - Enrolment in the same grade in the previous year.

Upon the application of the above formulae on the data in table 4.5, the general repetition rates (combined for both boys and girls) were established and presented in table 4.6 below.

Table 4.6 General Repetition Rates for Kathonzweni Secondary Schools.

Year	**Form 1 (%)**	**Form 2 (%)**	**Form 3 (%)**	**Form 4 (%)**	**Average (%)**
2006	1.8	3.0	2.8	6.2	3.45
2007	1.3	3.4	2.5	3.9	2.78
2008	2.5	2.1	6.2	6.1	4.23
2009	1.4	3.7	3.0	11.9	5.0
2010	2.1	2.1	5.5	5.0	3.68
Average	1.82	2.86	4.0	6.62	3.83

From table 4.6 above, it can be noted that the highest repetition rate of 12% was recorded in form four in the year 2009 followed by 6% in the same grade in 2006, while the lowest repetition rate of 1.3% was observed in form 1 in 2007 followed by 1.4% in the same grade in 2009. Repetition rates have been increasing steadily across grades with the general repetition rate being 1.82% in form 1, 2.86% in form 2, 4.0% in form 4 and highest in form four at 6.62%. There is a considerable difference of 4.8% between the repetition rate in form one and form four. Key informants felt that, this could be due to form fours who repeat after their KCSE with a desire to do better in the second attempt of the National Examination so as

to get placements in universities or in good mid-level colleges, again students who have their examination results canceled, quite often repeat in form four so as to get valid results in the subsequent year. Across the years there is no definite pattern in terms of changes in repetition rates, however the highest increase of repetition rates of 1.45% was recorded between year 2007 and 2008. Possibly this could have been due to the announcement of free secondary education programme by the government in 2008. There was a remarkable drop in repetition rate of 1.32% from 5.0% in 2009 to 3.68% in 2010. Generally the overall average repetition rate for 2006-2010 was approximately 4% which was higher than the national repetition rate of 1.3% over the same period of 0.8% in Eastern province (Emis Unit, MOE). For comparison purposes in relation to gender, the same formula was applied to establish repetition rates for boys and girls separately. This aimed at establishing the gender differences in repetition practices and by what magnitude with a view to making policy recommendations to education policy formulators according to the objectives of the current study. The results are presented in tables 4.7 and 4.8 in the ensuing presentation.

Table 4.7 Repetition Rates for Boys in Kathonzweni District Secondary Schools.

Year	Form 1 (%)	Form 2 (%)	Form 3 (%)	Form 4 (%)	Average (%)
2006	1.4	3.0	1.8	3.8	2.5
2007	0.9	1.5	3.4	3.0	2.2
2008	1.8	2.4	5.2	5.1	3.63
2009	1.1	3.3	3.1	10.8	4.58
2010	1.8	1.9	5.0	5.0	3.43
Average	1.4	2.42	3.7	5.54	3.3

From Table 4.7, just like in the general trend for both gender, the highest repetition rate of 6% for boys was recorded in form four and the lowest 1% was recorded in form one. Form four recorded the highest repetition rate of 11% in 2009 and the lowest rate of 1% was recorded in form one in the year 2007. Across all the grades it can be noted that repetition rates have been increasing steadily from 1.4% in form one, 2% in form 2, 4% in form three and an high of 6% in form four. The reason for this trend could be similar to the one raised in the general trends in the preceeding section. As it pertains to the trend across the years, 2007 recorded the lowest repetition rate of 2% while 2009 had the highest rate of repetition of 5%, the highest increase in repetition rate was 1% between 2007 and 2008 possibly due to the introduction of free learning in secondary schools by the government in 2008. The overall repetition rate for boys for the period under review as approximately 3%. This was 1% more than the national rate which according to data available at the EMIS unit, MOE, stood at 2% under the same period.

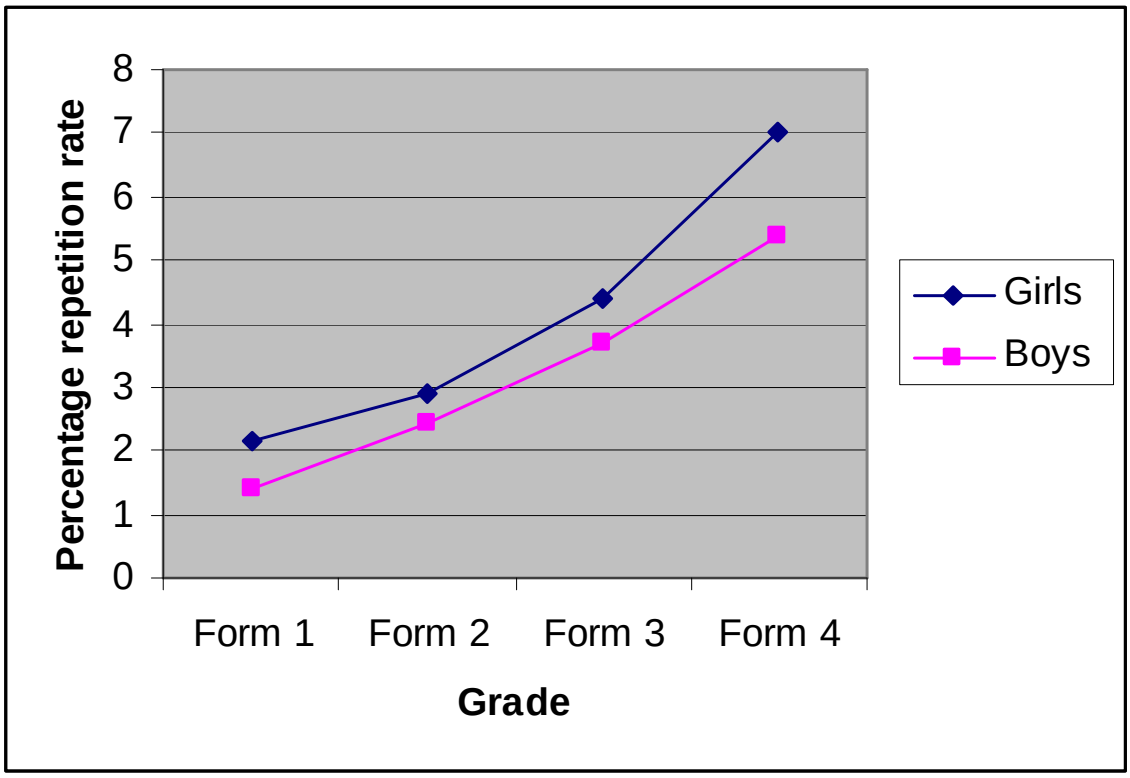
Table 4.8 Repetition Rates for Girls in Kathonzweni District Secondary Schools.

Year	Form 1 (%)	Form 2 (%)	Form 3 (%)	Form 4 (%)	Average
2006	1.8	3.0	2.6	5.5	3.225
2007	1.7	3.3	3.5	4.5	3.25
2008	3.3	1.7	7.2	7.1	4.825
2009	1.6	4.1	2.8	13.1	5.4
2010	2.4	2.3	6.0	5.0	3.925
AVERAGE	2.16	2.88	4.42	7.04	4.1

Table 4.8 shows that across the grades, repetition rates for girls have been increasing steadily from 2% in form 1, to 3% in form 2, to 4 % in form 3 and the highest repetition rate of 7%

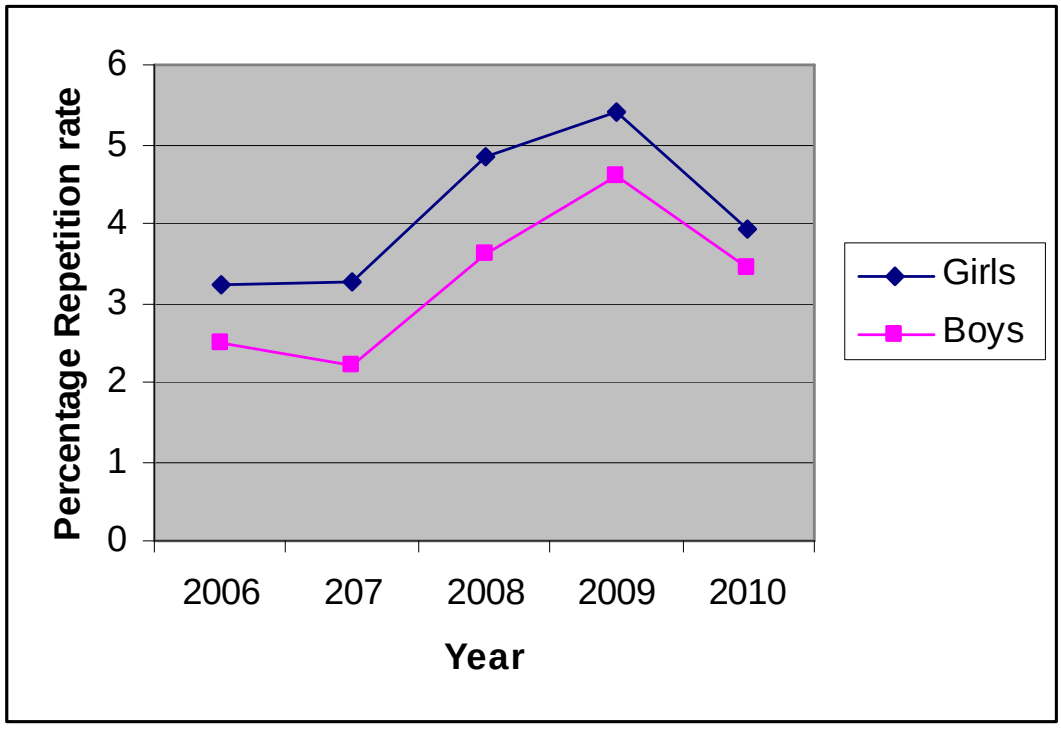
was recorded in form 4. The repetition rate in form 4 is 1.5% higher than that of the boys and 0.4% higher than the general repetition rate in form four which stands at 4%. Repetition rates for girls across all the grades and in all the years under study has been higher than that of the boys as shown in figure 4.2 and 4.3 below. On average, the overall repetitionr ate for boys was 3% and that of girls was 4% representing a 1% differences nationally, over the same period under review, the difference stood at 0.5% with that of the boys being 2.3% and that of girls being 1.7%. The lower repetition rate by grade was recorded as 2% in form one which was 1% higher than that of the boys in the same grade. The year 2009 just like for the case of boys recorded the highest repetition rate for girls standing at 5.4% which was approximately 1% higher than that of boys in the same year, followed by 5% in 2008, a trend similar to that of the boys were around 1% more than the boys' rate. The lowest repetition rate for girls was 3 % in 2006 which was 0.7% higher than that of the boys in the same year (for boys it was 3% in 2006).

Figure 4.2 Repetition Trends by Gender per Grade.



Source: Table 4.7 and 4.8

Figure 4.3 Repetition Trends By Gender By Year.



Source: Table 4.7 and 4.8

4.4. Causes of Repetition in Kathonzweni District Secondary Schools

The key informants were asked to comment on the causes of repetition in secondary schools. This was in a bid to make policy recommendations on ways of curbing wastage in the secondary education cycle which goes along way it increasing internal efficiency in secondary schools. According to the respondents, the following factors contributed to repetition in secondary schools in Kathonzweni District. The factors are as in table 4.6 ranked from the most critical to the least.

Table 4 .9: Factors Leading to Students Repetition in Schools

Causes of Repetition	Rank
Poor performance in exams	1
Forceful repetition	2
Chronic absenteeism	3
Teenage pregnancies	4
Lack of school fees	5
Effects of drugs	6
Students missing exams	7

Table 4.9 shows that the main causes of repetition in secondary schools is poor performance in academics and the forceful repetition, these factors make the students repeat a grade because they feel that once they repeat they can grasp concepts that were hitherto hard for them. Others repeated a grade because of chronic absenteeism. When students miss classes consecutively, chances of passing examinations become minimal and thus they repeat the affected grade so as to boost their chances of passing in examinations. Another factor that was cited as contributing to students repeating a grade was teenage pregnancies, whereby the affected students would feel inadequate to proceed to next grade having been away due to pregnancy, in which case they would prefer to repeat the grade so as to learn what they missed while away. Lack of school fees was also cited as a cause for repetition but due to the introduction of subsidies to secondary school education it ranked lower. In cases where lack of school fees was acute, the students dropped out altogether. Effects of drugs and students missing exams were other contributing factors to repetition in secondary schools in Kathonzweni district.

4.5 Drop Out Rates in Kathonzweni District Secondary Schools.

Grade drop out rate is the percentage of students dropping out from a given grade in a given school year. It is the unaccounted for figure after the number of students promoted and those repeating have been deducted from the original enrollment in the previous year in the previous grade divided by the same original enrollment as shown in the formula below which was used to calculated grade drop our rates in the current study.

$$G.D.R = \frac{N_t^k - \left[\left(N_{t+1}^{k+1} - R_{t+2}^{k+1}\right) + R_{t+1}^k\right]}{N_t^k}$$

Where N_t^k - Original enrollment in the previous grade (k) in the previous year t.

N_{t+1}^{k+1} – Enrollment in the subsequent grade ($k+1$) in the subsequent year (t+1)

R_{t+1}^k – Repeaters left in the same grade (k) in the subsequent year.

Drop out rates being one of the measures of wastage in an education system, the study sought to establish the drop out rates as the result tabulated in table 4.10 below.

Table 4.10 Grade Drop Out Rates in Kathonzweni District Secondary Schools.

Year	Form 1-2 (%)	Form 2-3 (%)	Form 3-4 (%)	Average
2006	11.19	-66.01	24.93	-9.96
2007	15.2	13.2	30.47	18.62
2008	6.69	8.4	8.6	7.89
2009	7.71	3.9	17.71	9.77
2010	0.82	2.83	0	1.22
AVERAGE	8.322	-7.536	16.342	5.4

Table 4.10 above shows that the drop out rate in 2006 between form 2 and 3 recorded a negative index of -0.67% or -67%, this could have been due to students from other districts seeking re-admission in form 2 and 3 in the district of study, or inaccurate data obtained on repeaters. The highest drop out rate of 30% was recorded in year 2007 between form 3 and 4. Across the years, 2007 had the highest dropout rate of 20%, a negative index of -10% drop out rate was observed in year 2006 while the least positive index was 1.2% in year 2010. As per grades, the highest drop out rate on average was 16% observed between form 3 and 4, between form 2 and 3, there was a negative index of -8% while the least drop out rate was 8% between form 1 and 2.

Table 4.11 Dropout Rates For Boys In Secondary Schools In Kathonzweni District

Year	Form 1-2	Form 2-3	Form 3-4	Average
	%	%	%	
2006	9.3	-54.1	24.1	-6.9
2007	12.9	14.6	19.5	15.67
2008	10.8	-2.13	11.58	6.75
2009	12.9	-8.9	19.1	7.7
2010	1.8	2.7	9.3	4.6
Average	9.54	-9.566	16.71	

In a bid to do a comparison on drop out rates between boy and girls in Kathonzweni district, they were calculated separately using the aforementioned formula. Table 4.6 above shows the dropout rates for boys. From the table, it can be noted that negative indices were recorded between forms 2 and 3, as follows; - 54.1% in 2006, - 2.13% in 2008 and -8.9% in 2009, this could have been due to transfers of students from other districts or boys who wished to rejoin

school after having dropped out earlier. The highest drop out rate was 24.1% recorded in 2006 between form 3 and 4, again, on average the highest dropout rate across the grades was recorded between form 3 and 4 standing at 16.71% while the lowest was -9.57% recorded between form 2 & 3. Pertaining to the years under study, the highest dropout rate was 15.67% in year 2007 followed by 7.7% in 2009, and the lowest being -6.9 in 2006. The key informants felt that the high drop out rates recorded between form 3 and 4 across all the years could have been as a result of households who were not able to pay examination fees alongside other school levies hence facility their children to drop out of the schools system altogether. The overall average for boys drop out rate was approximately 6% which was approximately 1% less than the national rate which stood at 6.9% in the same period and par with that of Eastern province which was 6%, this was according to data available at the EMIS unit, MOE.

Table 4.12 Drop Out Rates For Girls In Kathonzweni District Secondary Schools.

Year	Form 1- 2	Form 2-3	Form 3-4	Average
2006	13.1	-7.4	-4.3	0.47
2007	17.5	11.6	2.87	10.66
2008	2.5	-0.3	8.1	3.43
2009	8.4	-5.3	21.7	8.3
2010	-0.1	2.6	7.8	3.43
Average	8.28	0.24	7.23	5.26

From table 4.12 above, it can be observed that there were negative indices in drop out rates between form 3 and 4 of -7.4%, -0.3% and -5.3% in years 2006,2008 and 2009 respectively and between form 3 and 4 a negative index of -4.3% was recorded in 2006. The reasons cited for the negative indices for boys could be the same for girls only that, the informants felt that

the many negative indices for girls could be because of those girls seeking re-admission after having dropped out of school due to pregnancies.

The highest drop out rate for girls of 22% was recorded between form 3 and 4 in 2009 as compared to 19% for boys the same year registering a difference of 3%. Across the grades, the highest drop out rate for girls was 8 % between form 1 and 2 as compared to 10% for boys in the same grades while the lowest for girls was 0.24% between form 2 and 3 compared to - 9.6% for boys in the same grade. Concerning the dropout rates across the years, boys in 2007 recorded the highest drop out rate of 15.7% compared to 10.7% for girls in the same year while the lowest drop out rate for boys was approximately -7% in 2006 compared to 0.5% for girls in the same year. The overall drop out rate for girls was approximately 5% which was around 1% lesser than the national girls drop out rate which stood at 6.2% in the same period and which was at par with the dropout rte for Eastern province (5%). Generally the overall drop out rate for boys is 5.6% compared to 5.3% for girls which represent a difference of 0.3% .

4.6 Reasons that Contribute to Drop-outs in Kathonzweni District Secondary Schools

In line with the research questions and objectives, the study further sought to establish reasons for drop-out in Kathonzweni District Secondary schools. The respondents were asked to comment on the causes of drop-out, which was with a view to suggesting policy recommendations to reverse the trend in a bid to curb wastage in the secondary education cycle.

Table 4.13 Causes of Drop Out by Rank

Cause of drop-out	Rank
Lack of school fees	1
Lack of support from family members	2
Family problems	3
Lack of interest in schooling	4
Poor performance	5
Indiscipline	6
Health problems	7
Peer pressure	8
Distance from school	9
Effect of drugs	10
Teenage pregnancy	11
Early marriages	12

Table 4.13 shows that lack of school fees is the main cause of drop-out in secondary schools in Kathonzweni District. This indicates that, despite the government of Kenya making secondary education affordable, there are still other costs related to schooling that make students drop-out of schools because the households cannot afford them, particularly owing to the fact that the setting of the study is in the ASAL region. These costs include; cost of uniform, money paid for lunch programmes, development fund levies and the opportunity cost. Lack of support from family members is the other cause of school drop out. The respondents were of the opinion that households do not sensitize students on the importance of education and this makes them lack interest in schooling. Once interest in schooling is eroded, poor performance in academics sets in. The respondents further alluded that, some

schools in the district had policies of reprimanding those students who perennially perform poorly in school and such students had very high chances of dropping –out of the school cycle. Even though this is against the Government policy which has since outlawed corporal punishment.

Students with chronic illness which made them to be absent from school most of the times eventually lacked interest in school. Indiscipline due to peer pressure also contributed immensely to school drop-out. It emerged that due to the ban of corporal punishment in schools, many schools in the district had introduced policies whereby errant students were suspended from school, after suspension they are also given manual work to do in the school. Some students view the whole process very cumbersome and they opt to just drop-out of school altogether and given the fact that the family members are not keen on the schooling process, dropping out of school for these students becomes easy. Long distances also contributed to school drop-out owing to the fact that many schools in the district are day, and students are thus expected to cover long distances on foot to and from school everyday, resulting to apathy on the side of the students which eventually leads to dropping out of school. This is owing to the fact that free secondary learning funds don't cover boarding. Teenage pregnancies and early marriages are the least causes of drop-out cases in secondary schools in the district. This can be attributed to the introduction of the education policy which allows girls to get re-admission after giving birth. Retrogressive cultural practices whereby girls are married off is not prevalent in Kathonzweni District.

4.7 Cohort Wastage Rates in Kathonzweni District Secondary Schools

Cohort wastage rate is the waste that has occurred in a particular cohort from the point of entry to exit. The main objective of the study was to establish wastage rates in secondary schools in Kathonzweni District in the 2005 – 2007 cohorts. From the data collected on enrollment, repetition and drop-outs, a cohort wastage rate was calculated. The wastage rates

are used to determine if an education system is internally efficient or not. A perfectly efficient system has a co-efficient of efficiency equal to 100%. As inefficiency arises, the co-efficient of efficiency is lesser than 100%.

When a student enrolls in a particular education cycle at the grade of entry and drops out without completing the cycle that is considered to be wastage because the student does not attain the skills required after the completion of the cycle. On the other hand, if a student repeats a grade, this has the economic effect of adding a new student at that grade and subsequent grades or even blocking a chance of another student to enroll; this increases the unit cost of education therefore leading to wastage and hence internal inefficiency.

The results of cohorts' wastage rate are as indicated in table 4.14 below

Table 4.14 Cohort Wastage Rates in Secondary Schools in Kathonzweni District

Cohort (Year)	Wastage rate (%)
2005	37
2006	44
2007	19

Table 4.14 shows clearly that there were wastages in every cohort. The highest cohort wastage rate was recorded in the 2006 cohort which stood at 44% meaning that in the said cohort drop-out and repetition rates were the highest, this can be attributed to the drought that was acute in the district in the said period which saw households unable to pay school levies hence withdrawing their children from school. The 2007 cohort recorded the least wastage rate at 19% this is due to the government's intervention to subsidize secondary school education under the auspices of Free Secondary School Education. This programme saw parents take and sustain their children in secondary schools hence the decline in wastage rates.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction.

This chapter gives a summary of the study, conclusion and recommendations which can be made to help in curbing repetition and drop-out (wastage) in the area.

5.1 Summary

The purpose of the study was to determine the 2005 – 2007 cohort wastage rates of secondary schools in Kathonzweni District. The study was conducted using descriptive survey research design. Data was collected using proformas.

Findings indicated that general enrollment has significantly increased over the period of study from 2376 in 2005 to 4503 in 2009 representing a 89% increase, this was in lien with the national increase in enrollment which stood at 81% over the same period under review. Boys enrollment was 12% more than that of girls in the district of study and nationally, the boys were 15% more compared to girls.

It emerged from the study that the actual grade survival rates for boys were 93% which was almost at par with the national rate of 95% over the same period. For girls, in the district of study the survival rates for girls was insignificantly less by 1% compared to that of boys, standing at 92%, this was 4% lesser than the national grade survival rates for girls which was at 96% over the period under review.

On repeaters, the general repeater rate in Kathonzweni District was approximately 4%, this was higher than the national repetition rate in the same period which stood at 1.3%. The repetition rate for boys was 3%, almost the same as the national rate which was 2%. Girls in the district of study recorded a repetition rate of 4%, this was 2% higher than the national rate which stood at around 2% over the same period. Boys' repetition rate was approximately 3%

which was almost at par with the national rate of 2% in the same period under the current study. On the causes of repetition in Kathonzweni District secondary schools, it emerged that poor performance and forced repetition were the leading factors contributing to this form of wastage while effect of drugs and students missing exams ranked lowest.

Pertaining to dropout rates, Kathonzweni district secondary schools recorded an overall drop out rate of around 6% compared to a national drop out rate of 7%. Drop out rate for boys was slightly higher than that of girls by 1% in the district of study and nationally that of boys was 0.7% higher than that of girls (national rate for boys was 6.9% and that of girls was 6.2%). Both the drop out rates for boys and girls were at par with those of Eastern province in which the district of study belongs. On the causes of drop out in secondary schools in Kathonzweni district, lack of school fees and lack of support from family members ranked highest whereas teenage pregnancy and early marriages ranked as the least causes of school drop out. Cohort wastage rates were highest in the 2006 cohort, standing out 44%, followed by 37% in the 2005 cohort and the 2007 cohort recorded the least wastage rate of 19%.

5.2 Conclusions.

Overall, the study concludes that there was high enrollment of boys than girls in the District. Girls repeated grades more than boys across all the grades. Boys dropped out of school more oftenly than girls in the district. There was a sharp decrease in the wastage rates in the district. While the government is fully committed to ensuring that the education system is internally efficient by curbing wastage in the schools, the households in the district of study did not accord education the priority it deserved and that is seen by their inability to pay the required user charges required to keep their children in school resulting to either the students repeating a grade or dropping out of school altogether.

5.3 Recommendations.

The following recommendations are made from the study:

The study indicated poverty as the cause of the inability of the household to pay levies associated with schooling. In light of this, it would be critical for the government to introduce affirmative action while disbursing the money for free learning so that those schools located in the ASAL regions and other pockets of poverty can get equalization funding so as to be in tandem with regions that are well to do.

The study recommends the active involvement of the provincial administration to deal with those parents who retain students at home to help them in domestic chores instead of urging them to attend school every day.

The study recommends the introduction of the lift – hour session to help the academically weak students so that they can cope with the rest of the students.

The study recommends the strengthening of the guidance and counseling departments in the secondary schools to deal with students who get sucked in peer pressure and are engaging in teenage sex and drugs, this further call for in servicing of the guidance and counseling department teachers on the best practices in guidance and counseling today.

The study further recommends the introduction of boarding facilities in all day schools so as to deal with the long distances that students have to travel to and from school every day, this will also go along way in reducing the negative external influence that the students may get in the villages.

5.4. Recommendations for Further Research.

Further research is recommended in the following areas.

Similar study be done in other districts where no such studies have been undertaken.

It is necessary to carry out a similar study in the Primary institutions.

A study on how to peg disbursement of free learning funds on regional poverty index could also add to this body of knowledge and mitigate educational wastage due to poverty.

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APPENDICES

APPENDIX 1: AEO's Proforma

Introduction.

This proforma is designed to gather information about the magnitude of educational wastage in secondary schools. Kindly respond to all questions by filling in the appropriate responses in the spaces provided. All your responses and information in the proforma will be confidential and will be used by the researcher for the purposes of this study only. Please give as truthful information as possible, and respond to all the items.

PART A : i) Indicate the number of students enrolled in your division between 2005 – 2009 by sex.

Year	**GRADE**											
	FORM 1			**FORM 2**			**FORM 3**			**FORM 4**		
	B	**G**	**TOTAL**	**B**	**G**	**TOTAL**	**B**	**G**	**TOTAL**	**B**	**G**	**TOTAL**
2005												
2006												
2007												
2008												
2009												
2010												

ii) Comment on the enrolment trend …….

……

iii) Suggest policy recommendations …….

…….

PART B: i) Indicate the number of repeaters in your division by sex between 2005 – 2009

Year	GRADE											
	FORM 1			FORM 2			FORM 3			FORM 4		
	B	G	TOTAL	B	G	TOTAL	B	G	TOTAL	B	G	TOTAL
2005												
2006												
2007												
2008												
2009												
2010												

Comment on the repetition trend……

……

Suggest policy recommendations ……

……..

PART C. i) Indicate the number of students who dropped-out from the secondary school in your division in each class by sex between 2005 and 2009.

Year	GRADE											
	FORM 1			FORM 2			FORM 3			FORM 4		
	B	G	TOTAL	B	G	TOTAL	B	G	TOTAL	B	G	TOTAL
2005												
2006												
2007												
2008												
2009												
2010												

Comment on the drop-out trend…….

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Suggest policy recommendations ……

…….

THANK YOU FOR YOUR PARTICIPATION.