IMPACT OF FREE SECONDARY EDUCATION ON INTERNAL EFFICIENCY OF PUBLIC SECONDARY SCHOOLS IN KISUMU EAST SUB-COUNTY, KENYA

BY

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ABSTRACT

Low enrolment and wastage in secondary schools are areas of great concern to educational administrators in Kisumu East Sub-county. The Sub-county recorded secondary Net Enrolment Rate (NER) of 22.2% and drop-out rate of 10.3%, in 2007, lower than the neighbouring Nyando and Kisumu West sub-counties with NERs of 30% and 30.5% respectively and drop-out rates of 8.4% and 6.7% respectively. Free Secondary Education (FSE) policy introduced in Kenya in the year 2008 was intended to mitigate a wide scope of these problems. Its impact after the implementation needs investigation. The purpose of this study was to determine the impact of FSE on internal efficiency of secondary education in Kisumu East Sub-county. The objectives of the study were to; establish the impact of FSE on enrolment; examine the impact of FSE on completion; determine the impact of FSE on repetition and drop-out rates and establish the impact of FSE on the number of years spent per graduate in public secondary schools in Kisumu East sub-county for four cohorts between the years 2003-2012. A conceptual framework showing the influence of FSE on internal efficiency of education was used. The study adopted ex-post facto and descriptive survey designs. The study population consisted of 37 head teachers, 3 ZQASOs and 1 SQASO. Stratified random sampling was used to select 18 public secondary schools and 18 head teachers. Saturated sampling was used to select 3 ZQASOs and 1 SQASO. Questionnaires, interview schedules and document analysis were employed to collect data. Face validity was determined by presenting the research instruments to lecturers in the Educational Management and Foundations department for expert advice. Reliability of the instruments was determined through a pilot study using test-retest method. A correlation coefficient of 0.85 was obtained. Data collected was analysed using Quantitative Cohort statistical analysis and descriptive statistics. Qualitative data were transcribed, coded and presented according to themes. The study found out that after the introduction of FSE policy, enrollment increased by 16.3%, completion rate increased by 12.3%, drop-out rate reduced by 3.4%, repetition rate reduced by 0.5% and average years spent per graduate reduced by 0.71 years. The study concluded that FSE had positive impact on internal efficiency of education and recommended that FSE capitation should be increased to allow for expansion of public secondary schools so as to create room for increased enrolment. This study suggested further research on; Challenges in the implementation of FSE policy and impact of FSE on transition rate to higher education. The findings are significant to educational policy formulators in developing other strategies or new policies meant to improve the quality of education and mitigate educational wastage.

CHAPTER ONE

INTRODUCTION

1.1. Background to the Study

The world over, education is viewed as the cornerstone of social, economic and political development, a key means of improving an individual's socio-economic status (UNESCO, 2010). It is everywhere a "merit good", a basic human right and a means to an end, an intrinsic element of the development process (World Bank, 2005). Investment in education is a key element in the development process in any country. Its importance is reflected in the growing recognition since the early 1960s that investing in formal education and training provides and enhances skills, necessary for social and economic development. Broad vision of education has been embraced by various countries world over. UK government has introduced a wide range of policies aimed at both increasing educational quality and access, narrowing socio-economic, gender and ethnic gaps in education achievement (OECD, 2010).

In US, the efforts to achieve U.P.E started way back in 1965 (World Bank, 2005). Public education is universal with control from the state, local and federal government. In 1965, Elementary and Secondary Education Act (ESEA) was passed. It provided funds for primary and secondary education (Gaddy, 2013). The 2002 " No Child Left Behind " Act passed by the Congress provided federal aid to the states and its goal was to level the playing field for students who are disadvantaged, including students in poverty, minority, students receiving special education and those who speak and understand limited or no English language. In Indonesia, compulsory education for ages ranging between 7-15 was made a national policy in 1985 through Presidential Decree No. 10. It provided funds for construction and maintenance of school facilities (Rodriguez, 2010). The world conference on education held in Jomtien in 1990

highlighted the need to provide equal opportunity in education. 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 (Lewin, 2006).

Maximization of returns on investment and achieving the best results are the concern of all stakeholders in education. The first ever EFA assessment in 2010 revealed that even though Sub-Saharan African countries have made significant progress towards the attainment of the goals during the first decade of the millennium, challenges related to quality and efficiency of education were still critical and needed concerted efforts between all education stakeholders (UNESCO, 2010). There is need for education system to be efficient. There are two types of efficiency in education; internal and external efficiency. The external efficiency measures the extent to which the education system generates the necessary skills for a smooth running of the economy and society at large (Psacharopoulos and Patrinos, 2004). Internal efficiency on the other hand is concerned with the relationship between inputs and out-put in education. Internal efficiency is measured by the relation between input and output and external efficiency is measured by the relation between out-put and outcome.

Internal efficiency is a question of whether more outputs could be achieved given the available inputs or alternatively, whether few inputs could be used in providing the same level and mix of outputs (Woodhall, 2004). More often than not, the term internal efficiency is associated with learners' cognitive achievement, which is usually measured through examinations results (Abagi and Odipo, 1997). In this connection, the definition has been limited to a closed system model of analysis which deals with matching inputs (for example, availability of textbooks) and outputs (examinations scores) in education. Models such as policy analysis and Production-function analysis (Psacharopoulos and Patrinos, 2004, Schultz, Woodhall, 2004) have not captured the

processes under which school inputs (learners) are processed in order to produce educational outputs. IPAR, (2007) noted that in Kenya with examination oriented education system, the public in general and teachers in particular, "in an internal efficient school" students get good points in the national examinations- KCSE. If achievement by students is low as manifested in a school's low test score in national examinations, the school is purported to be of low quality and therefore, inefficient. Furthermore, if a student's mean score in national examinations is grade A in schools X and Y, but is achieved at a higher cost in X than in Y, it is concluded that the latter is more efficient than the former school. This means that a student score in this examination is believed to be a clear measure of internal efficiency of education system.

However, since efficiency implies maximizing inputs in an endeavour to produce optimum goods and services, the process for which the available inputs are allocated and used are crucial. In a service sector like education, the processes themselves form part of the internal efficiency indicators (Abagi and Odipo, 1997). This study employed a process perspective of internal efficiency as opposed to outcome perspective that uses scores in national examinations as an index of internal efficiency. An efficient education system is one in which over 70% of a cohort of students that are enrolled in form 1 go on to complete the cycle in a timely fashion (World Bank, 2006). Lerotholi (2001) asserts that the higher the enrollment and completion rates in a timely fashion, the better the systems efficiency. When drop-out and repetition rates are higher before the end of education cycle, then the education system is said to have serious internal inefficiency.

However, the cost of education had been reflected as a major factor that exacerbates internal inefficiency of secondary education (World Bank, 2009). According to UNESCO (2005), access to secondary education is a problem the world over. The study noted that students dropped out

because of multiple reasons, the main one being cost burden in schools. Rose (2005) observed that school fee is the single most important obstacle to the accomplishment of EFA goals in Sub Saharan Africa and removing this obstacle may invariably leads to a dramatic increase in enrolment.

After independence in 1963, Kenyan education was guided by the agreement of the 1961 Addis-Ababa conference, the 1990 Jomtien conference and the 2000 Dakar conference declarations on Education for All (E.F.A) and Universal Primary Education (U.P.E). Once the international community adopted Education for All (E.F.A) goals at World Forum held in Dakar, Senegal in April 2000, Kenya fully embraced the goals as a critical vehicle for realizing vision 2030, the roadmap for development (UNESCO, 2005). The Government of Kenya adopted the Structural Adjustment Programs (SAPs) advocated by the World Bank and the International Monetary Fund (IMF) which among other things demanded Cost-sharing.

Cost-sharing policy, introduced in 1988 made many poor Kenyans withdraw children from school (Martin, 2008). As a result, secondary school enrollment reduced from 640,735 students in the year 1989 to 531,342 students by the year 1993. Transition rate to secondary schools also reduced from 47.2% in the year 1988 to 35.0% in 1993 (Kindiki, 2009). Under the policy, the parents were required to shoulder the development expenditure. This according to Achoka (2007) led to financial constraints on parents and resulted in large number of drop-outs of school children because parents would no longer afford school fees (Achoka, 2007). Waweru (2001) also noted that school attendance in Kenya was declining at a drastic rate. He observed that, due to lack of school fees by poor households in North Eastern province more than 60% of students had not reported to school two weeks after schools had opened in January 2001.

In an effort to enhance access and internal efficiency of secondary education after FPE, the government of Kenya officially launched FSE programme at the beginning of 2008. The policy was intended to make secondary education more affordable by reducing user fees. This reduction in user fees is quite significant in public secondary schools. Under the cost-sharing policy, public secondary schools were found to be internally inefficient (Achoka, 2007). It is hoped that FSE policy would address the inefficiency. Lower enrollment and completion as a result of repetition and drop-out are forms of internal inefficiency linked to cost of schooling and their extent under FSE policy require investigation. This was the concern of the study. The study investigated the impact of FSE Policy on internal efficiency of public secondary schools in Kisumu East Sub-county. Rates of internal efficiency indicators such as enrolment, completion, drop-out, repetition rates and average number of years required per graduate to complete secondary education before and after the introduction of FSE were determined and used to measure internal efficiency of education. The impact was established by determining the internal efficiency indicators rates for the two cohorts that did not benefit from FSE and two cohorts that benefitted from FSE policy. Stakeholder's opinions were also sought to corroborate the information obtained from the records. An improvement or decrease in the rates of the indicators shows positive or negative impact respectively. The study used student year as a unit measure to represent educational inputs. A student year is a non-monetary measure of educational inputs required to retain one student in the system for one year (UNESCO, 2003).

Kisumu East sub-county is one of the Sub-counties in Kenya that has had unsteady enrollment trends and although there has been increase in enrolment in secondary schools, the Sub-county on average has a lower percentage increase in enrolment compared to Nyanza Province as given in Table 1.1 below.

Table 1.1 shows enrolment trends in public secondary schools in Kisumu East Sub-county, Nyanza province and Kenya between the years 2003-2007.

Table 1.1: Enrolment in public secondary schools, Kisumu East Sub-county, Nyanza province and Kenya (2003-2007)

YEAR	Kisumu East Sub-county		Nyanza Province		Kenya	
	Enrolment	% Increase	Enrolment	% Increase	Enrolment	% Increase
2003	6980	-	169,260	-	882,513	-
2004	7538	8.0	185,022	9.3	926,149	4.9
2005	8000	6.1	194,388	5.1	934,149	0.9
2006	8800	10.0	215,481	10.9	1,030,080	10.3
2007	9530	8.30	239,516	11.2	1,180,267	14.58
Average		8.1		9.1		7.7

Source: Ministry of Education, 2009

Table 1.1 shows that there was an increase in enrolment in the year 2004. However, the percentage increase dropped in 2005. According to Okuoma (2012), the percentage increase in enrolment in 2004 could be attributed to the fact that some of the money which was saved from the fees in primary after the introduction of Free Primary Education in 2003 was now being used to educate those in secondary schools. In 2005 there was a drop in percentage increase in enrolment, this could have been due to the fact that soon parents realized that primary education was not entirely free and the money which was meant for secondary schooling was to be used to supplement primary education. However, according to Table 1.1, the sub-county registered an

average percentage increase in enrolment of 8.1%, lower than Nyanza province, 9.1% in which it is one of the larger sub-counties (Republic of Kenya, 2009).

Based on the experience on the implementation of Free Primary Education (FPE) it would be expected that the implementation of FSE will have a greater impact on internal efficiency of education. According to UNESCO's assessment report of FPE in Kenya after the introduction of FPE in 2003, an additional 1.5 million children were able to attend schools for the first time and a good number that had dropped out due to inability to afford school fees were re-admitted (UNESCO, 2005).

Koech (2012), found out that FSE policy had resulted in increased enrolment and that majority of secondary school aged children who would otherwise miss school due to lack of school fees were enrolled in secondary school. Koech (2012) used questionnaires for teachers only while this study used questionnaires for head-teachers and ZQASOs with same questions thus ensuring validation of the results and further interview schedule for SQASO which facilitates corroboration of the research findings through comparability. Furthermore, his study did not give the extent to which FSE policy increased the enrolment. The current study focused on the extent of increase or decrease in enrolment as a result of the introduction of FSE.

One of the aims of education sector as set out in MDGs was to attain completion rate of 100% in primary schools by 2015. This was to be achieved through reduction of cost burden to parents (Republic of Kenya, 2009). The same should be realized in secondary school level as transition rates would have been enhanced as a result of FSE policy. Apiyo (2012) observed that there was increase in the number of students who completed secondary education in Siaya County after the introduction of FSE policy. Her study was based on girl-child participation in mixed day

secondary schools. The current study was based on public secondary schools regardless of the categories of the schools. Persistent campaigns for awareness of girl's retention in school are bearing fruits. Takashi and Asankha (2012) concluded that girls seem to benefit more from FSE policy than boys. According to Koskey (2012) boy child is at a higher risk of dropping out of school than girls. A study that gives equal opportunity to both gender was therefore necessary to determine the impact of FSE on completion rate in public secondary schools. Furthermore, her study did not indicate the extent of the increase in the number of students completing the cycle, a gap in knowledge that the current study sought to fill.

Apparently, drop out and repetition as a phenomenon in Kenyan secondary school as a whole has significantly contributed not only to unequal access to education, decreased quality of education but also manifested an alarming aspect of wastage within the education system (Pontefract and Hardman, 2005). Very inefficient systems have substantial number of students dropping out and repeating, which produces much lower proportions of timely completion. Repetition and drop-outs are interrelated phenomena. Students who repeat grades because they fall behind their peers and face growing opportunity costs have greater tendency to drop-out and not to continue to subsequent education cycles (UNESCO, 2005). Students who either repeat or dropout before completing a school cycle constitute a waste of resources used on them since the school objective will not have been achieved.

Table 1.2 shows the repetition and drop-out rate in Kisumu East Sub-county and Kenya for the years 2004 to 2007. Repetition and drop-out rates have been higher in Kisumu East Sub-county than the national values.

Table 1.2: Repetition and drop-out rates for Kisumu-East and National (Kenya) between 2004-2007

Year	Repetition rate		Drop-out rate	
	Kisumu East Sub-county (%)	National (%)	**Kisumu East Sub-county (%)**	National (%)
2004	**2.4**	2.1	**10.3**	9.1
2005	**2.6**	2.4	**10.8**	9.3
2006	**2.4**	2.2	**10.4**	9.3
2007	**2.3**	2.2	**10.3**	9.1
Average	**2.4**	**2.2**	**10.5**	**9.2**

Source: Ministry of Education statistics section, 2009.

During the years 2004-2007, the average repetition rate was 2.4% in Kisumu East Sub-county and 2.2% nationally. The average drop-out rate was 10.5% in the sub-county and 9.2% at national level as shown in Table 1.2. According to Maumie (2008), many children drop-out of school in Kisumu East Sub-county to engage in farming, mining and fishing on beaches along Lake Victoria.

Kisumu East, Kisumu West and Nyando are neighbouring Sub-counties and share many things in common which includes; same economic activities, both have heterogeneous geographical distributions for instance rural, semi-urban, and urban, experiencing similar calamities like drought, flooding during rainy season, same social-economic and cultural set-ups, similar conditions that have direct impact on internal efficiency (Maumie, 2008).

However, Kisumu East Sub-county lags behind Nyando and Kisumu West Sub-counties in terms of provision of quality and efficient education as in Table 1.3.

Table 1.3: Repetition and drop-out rates for Kisumu-East, Kisumu West and Nyando Sub-counties between 2004-2007

Year	Repetition rate			Drop-out rate		
	Kisumu East Sub-county (%)	Kisumu West Sub-county (%)	Nyando Sub-county (%)	Kisumu East Sub-county (%)	Kisumu West Sub-county (%)	Nyando Sub-county (%)
2004	**2.4**	2.1	2.2	**10.3**	9.0	9.3
2005	**2.6**	2.3	2.4	**10.8**	9.7	10.0
2006	**2.4**	2.1	2.2	**10.4**	9.1	9.4
2007	**2.3**	2.1	2.1	**10.3**	6.7	8.4
Average	**2.4**	**2.2**	**2.3**	**10.5**	**8.6**	**9.3**

Source: Ministry of Education statistics section, 2009.

Among these neighbouring sub-counties, Kisumu East had the highest average drop-out rate for the period, 2004-2007 at 10.5% with Nyando and Kisumu West Sub-counties at 9.3% and 8.6% respectively. This means that students in Kisumu East Sub-county are more likely to dropout than those in Nyando and Kisumu West Sub-county. Cost of education has been highlighted as the cause of drop-out and repetition in schools (Achoka, 2007; Martin, 2008, Rose, 2005 and UNESO, 2005). FSE Policy was introduced to reduce the cost of secondary education and little is known about its impact on repetition and drop-out in secondary schools. This was the concern of the study.

Repetition and dropout occur for a variety of reasons. Wanjiri (2007) conducted a descriptive study on factors contributing to school dropout in Mombasa public secondary schools. He found out that lack of school fees, influenced dropout most. His study as opposed to the current study was conducted before the introduction of FSE. With the removal of secondary school tuition fee, it was envisaged that drop-out and repetition rates would be reduced. This study sought to establish whether FSE policy has had an impact on drop-out rates in public secondary schools.

Mwangi (2012) found out that drop-out in public day secondary schools had declined under FSE policy. Before the introduction of FSE policy, drop-out rates were high with the leading cause being the parents' inability to afford cost of secondary education. The study, however, does not indicate whether the programme has led to significant change in drop-out rate in boarding schools. This study sought to verify whether FSE had an impact on drop-out rate in both boarding and day schools in Kisumu East Sub-county.

Macharia (2013), a study on the impact of FSE on internal efficiency of Day Schools in Gatanga district found out that the number of repeaters increased after FSE policy was introduced. Macharia (2013), however, focused on repetition in form four classes only. Her study did not investigate the impact of FSE on repetition rate in other classes, a gap in knowledge that the current study sought to fill since FSE policy was introduced for all students across all classes.

Under Cost sharing policy, secondary school students were taking more than 4 years to exit out of this level of education (Gogo 2002). His study found out that each student in the 1996-1999 cohort in Rachuonyo district took 4.503 years instead of 4 years to complete the cycle. The study indicated that cases of repetition and drop-out were many due to parent's inability to raise fees under the policy thereby making it difficult for the poor and the needy to afford secondary education. His study was carried out before the introduction of FSE. FSE policy was meant to reduce cost of secondary education. A study that investigates the number of years spent per graduate in public secondary schools after the introduction of FSE was necessary. This was the concern of this study.

Given this background, FSE policy is a significant source of financing education. However, to what extent does it impact on internal efficiency of secondary education?

1.2. Statement of the Problem

The delivery of secondary education in Kenya has been marked by numerous challenges, some of which have lead to internal inefficiency. The inefficiency has resulted from low enrolment, completion rates coupled with dropout and repetition in schools. Kisumu East Sub-county recorded secondary NER of 22.2%, with drop-out rate at 10.3% and repetition rate of 2.3% respectively in 2007, lower than the neighbouring Sub-counties Nyando and Kisumu West Sub-counties with NERs of 30% and 30.5% respectively and drop-out rates of 8.4% and 6.7% respectively. FSE policy was intended to make secondary education more affordable and to improve internal efficiency of education. These were to be achieved through reduced user fees and provision of textbooks and other learning materials. This reduction in user fees was quite significant in public secondary schools since under the cost-sharing policy, public secondary schools were found to be internally inefficient. The policy made many poor Kenyans withdraw children from school. As a result, secondary school enrollment in Kenya reduced from 640,735 students in the year 1989 to 531,342 students by the year 1993. Transition rate to secondary schools also reduced from 47.2% in the year 1988 to 35.0% in 1993. It is hoped that FSE policy has addressed this inefficiency. Under enrollment, lower completion as a result of repetition and drop-out are forms of inefficiency linked to cost of schooling and their extent under FSE policy require investigation. There was need to examine the impact of FSE on internal efficiency of secondary schools in Kisumu-East Sub-county with reference to determine enrolment, completion rates, dropout, repetition, and year input per graduate before and after the introduction of FSE.

1.3 Purpose of the Study

The purpose of the study was to examine the impact of FSE on internal efficiency of public secondary schools in Kisumu East Sub-county for the period 2003-2012.

1.3.1 Specific Objectives of the Study.

The specific objectives of the study were to;

i. Establish the impact of FSE on enrolment rate in public secondary schools in Kisumu East Sub-county;

ii. Determine the impact of FSE on completion rates in public secondary schools in Kisumu East Sub-county;

iii. Examine the impact of FSE on drop-out rates in public secondary schools in Kisumu East Sub-county;

iv. Establish the impact of FSE on repetition rates in public secondary schools in Kisumu East Sub-county;

v. Determine the impact of FSE on the number of years spent per graduate in public secondary schools in Kisumu East Sub-county.

1.4 Research Questions

The study was guided by the following research questions:

i. What is the impact of FSE on enrolment rate in public secondary school in Kisumu East Sub-county?

ii. What is the impact of FSE on completion rates in public secondary schools in Kisumu East Sub-county?

iii. What is the impact of FSE on drop-out rates in public secondary schools in Kisumu East Sub-county?

iv. What is the impact of FSE on repetition rates in public secondary schools in Kisumu East Sub-county?

v. What is the impact of FSE on the average year per graduate in public secondary schools in Kisumu East Sub-county?

1.5 Significance of the Study

The focus of the research was directed towards determining the impact of FSE on internal efficiency (as measured by enrolment, completion, drop-out, repetition rates and the average number of years required per graduate to complete the cycle) in public secondary schools in Kisumu East Sub-county. The study sought to establish the gains on internal efficiency made through the FSE policy. The study was expected to provide important information about the levels of internal efficiency of public secondary schools. This was in the hope that the stakeholders in these schools would, where necessary, take appropriate measures to ensure that the resources allocated to their schools do not only achieve the intended objectives of improving access to secondary education, but that they also yield the maximum benefits possible to the students and the nation. The information could also be important to policy makers who may come up with policies to address areas/issues in schools and/or in the entire education system that may be a cause of inefficiencies.

1.6 Assumption of the Study

The study was carried out on the basis of the following assumptions:

i. Proper and updated school records for the period 2003-2012 are available.

ii. All students get the recommended book ratio in all schools.

iii. All public secondary schools have adequate learning and teaching resources.

iv. Financing of secondary education through FSE policy is the only variable that has changed in the years under study.

1.7 Scope of the Study

i. The study was confined to public secondary schools in Kisumu East Sub-county only

ii. The study covered the years 2003-2012 only for two cohorts before the introduction of FSE, 2003-2006 and 2004-2007 cohorts and two cohorts after the introduction of FSE, 2008-2011 and 2009-2012 cohorts.

1.8 Limitations of the Study

There were a number of limitations that were observed in the course of the study:

i. The study was limited to 37 public secondary schools in Kisumu East Sub-county since they were the ones that were inexistence before the year 2003.

ii. The data on repeaters was difficult to obtain since most head-teachers were reluctant to provide the data for fear of victimization since repetition is outlawed.

iii. Migration of students from one sub-county to another was not considered in the analysis of students enrolment since the relevant data could not be found.

1.9 Conceptual Frame Work

The conceptual frame work (Figure 1.1) was based on the concept that FSE policy has impact on internal efficiency of secondary education. FSE policy was intended to make secondary education more affordable and to improve internal efficiency of education. These were to be achieved through reduced user fees and provision of textbooks and other learning materials. This reduction in user fees was quite significant in public secondary schools because the parental obligations which were envisaged to be constraints affecting learner's participation would have been reduced.

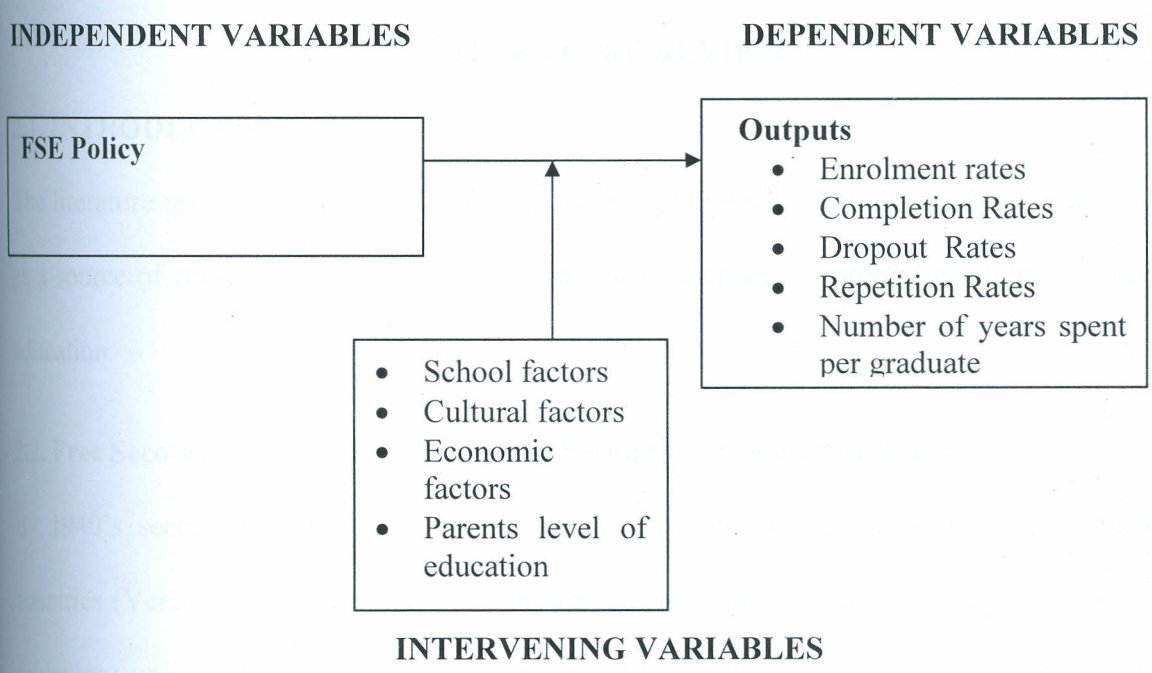


Figure 1.1: A Conceptual Framework showing the Influence of FSE Policy on Internal Efficiency of Education.

Source: Researcher

The dependent variables are the main determinants of internal efficiency. They include; enrolment, completion, drop-out, repetition rates and the number of years spent per graduate. Under enrollment, lower completion as a result of repetition and drop-out are forms of inefficiency linked to cost of schooling. It is hoped that FSE policy has addressed the inefficiency. It is noted however that various factors affect the success of FSE and are referred to as intervening variables in this study namely; School, social and economic factors as shown in Figure 1.1.

CHAPTER TWO

LITERATURE REVIEW

2.1. INTRODUCTION

The literature review focuses on various studies which describe Free Secondary Education (FSE) as a source of financing secondary education and its impact on internal efficiency of secondary education.

2.2. Free Secondary Education (FSE) and Secondary School Enrolment.

By 1940's secondary enrollment was largely a preserve for the elite in most industrialized countries (Verspoor, 2008). Today, the higher income countries have achieved (or are close to achieving) universal secondary education; thereby transforming secondary education from an elite system that offers opportunities for further learning for a few selected students to a mass system that aims to enroll most primary school graduates for several years beyond the typical six or so years of primary education (Global Monitoring Report, 2004). Achievement of universal secondary education has been possible through subsidies. As Dur and Teulings (2002) point out education is heavily subsidized throughout the Western world not only at primary level but also at secondary and higher education levels.

In an analysis of secondary education in industrialized countries, Lugaz & Murtin (2004) point out that in most OECD countries, no tuition fees are charged in state schools until the end of secondary education. According to Lugaz and Murtin (2004), this subsidy resulted to higher enrolment. By 1999 Gross Enrolment rate in Ireland and Australia were 137% and 142% respectively (UNESCO, 2001). According to Briseid et al (2004), making secondary school free of charge is one the measures OECD countries employed to keep students in education system for as long as possible.

Given the massive increase in enrollments after the introduction of Free Primary Education (FPE), governments in SSA are concerned that if secondary school continues to charge fees, the majority of those who successfully enter and complete FPE will be unable to continue to secondary education. In many cases these are children from poor households whose parents are unable to afford the costs of secondary education (SEIA, 2007). The denial of secondary education to children from poor households is likely to limit their chances of escaping poverty (World Bank, 2005). Because of social, political and economic benefits associated with secondary education, governments in SSA are looking for ways that enable the poor to gain access to secondary education. For these and other reasons, free secondary education is seen as a potential strategy to expanding access to education for the poor.

Despite their financial crisis and deficits, some governments in SSA recently extended free education from primary to include secondary schools. For instance Rwanda and Uganda abolished lower secondary education fees in 2006 and 2007 respectively (UNESCO, 2010). There seems to be a common underlying rationale for the abolition of secondary school fees. For instance, Rwanda introduced a Nine Year Basic Education Programme by extending free education from primary to lower secondary. One of the main reasons for this was because of high fees charged at secondary education. The government of Rwanda was concerned that high fees and fewer places in secondary education locked out those who completed primary education and qualified for secondary education (UNESCO, 2010). Uganda too had a similar concern that only one in five children who completed primary school had access to secondary education and the majority of those were from wealthy households. The introduction of Universal Secondary Education (USE) aims to shift access patterns from limited elites to the majority of the children in the country (Museveni, 2008).

An analysis of trends in secondary education by household wealth using 2003 Kenya demographic and health survey (KDHS) data, revealed that access to secondary education was highly skewed in favour of the rich (Ohba 2009). Improving access to education for poor households in developing countries may involve (i) extensive expansion of the school system (for example, by building more schools or new classrooms in existing schools), that is, supply-side expansion; and (ii) subsidizing investment in education by the poor (that is, demand-side subsidies) (Hunt, 2008). The Kenyan government has improved access to secondary education mainly through demand-side financing mechanisms; leaving building of schools (i.e., supply-side expansion) to communities and private partners, such as religious organizations. In the 1993/1994 financial year the government introduced the secondary schools bursary scheme with the intention of providing financial assistance to economically and socially needy students in all public secondary schools.

However, a study by Njeru and Orodho (2003) found that the scheme did not have a significant effect on enrolment by the poor because it targeted students who were already in secondary school. The scheme missed students who could not raise the initial school fees, despite their academic eligibility and it was therefore viewed as one that assisted the children who would successfully enter secondary school. According to Njeru and Orodho (2003), many parents in Kenya are not able to raise fees towards secondary education. They argued that there has been a considerable decline in secondary school GER with severe regional disparities in access to secondary education in Kenya. Studies have shown that school fees have a negative influence on access to secondary education (Njeru and Orodho, 2003; UNESCO, 2005). Njeru and Orodho (2003) indicate that school fees were the main reason why 33% of secondary school going age children were not in school. An education commission (Republic of Kenya, 2005) stressed that

over 50% of Kenyans live below the poverty line and that fees and other levies charged by educational institutions have had a negative impact on access and participation. It urged the government to emphasise the need for equitable distribution of resources to ensure that the disadvantaged communities are not discriminated against in the provision of education.

Introduction of free primary education in 2003 resulted in massive increase in enrolment. The gross enrollment rate increased from 88.2 percent to 102.8 percent in 2003, rising to 104.8 percent in 2004 (World Bank, 2007). The Kenyan government got concerned that the majority of those who enrolled and completed free primary education would be unable to continue to secondary education; particularly, the children from poor households whose parents could not afford to pay. According to Sessional Paper No.1 of 2005, the GER for secondary sub-sector has been low. Enrolment rate grew from 25.65% in 2001 to 38.0% in 2007 as given in Table 2.1 below. The margin of growth was however low.

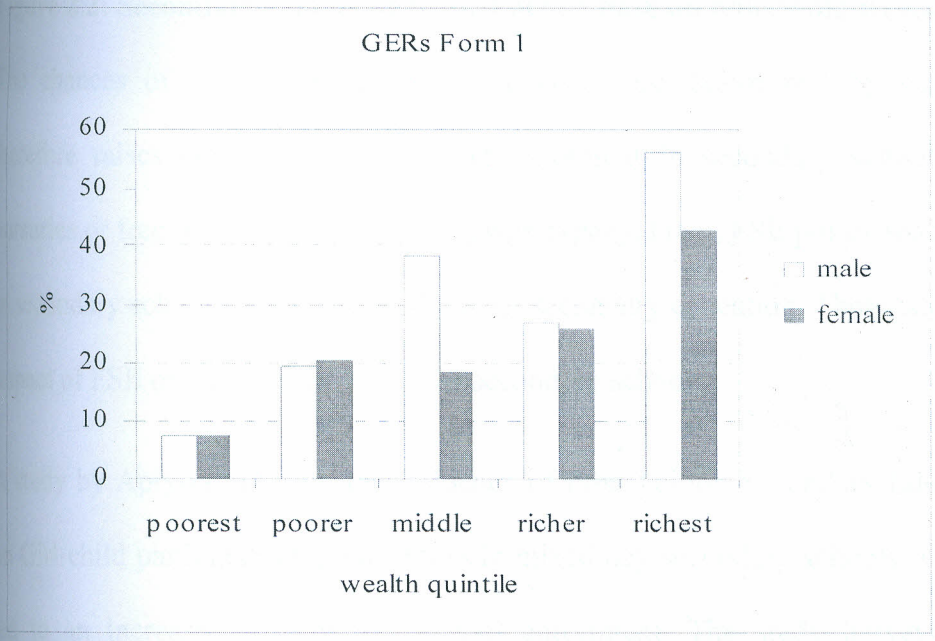
Table 2.1: Secondary Enrolment rate in Kenya, 2001-2007

Year	GER %	NER
2001	25.65	18.2
2002	25.7	18.6
2003	28.6	19.4
2004	29.8	20.5
2005	30.2	22.5
2006	32.2	24.2
2007	38.0	24.2

Source: Ministry of Education, 2009

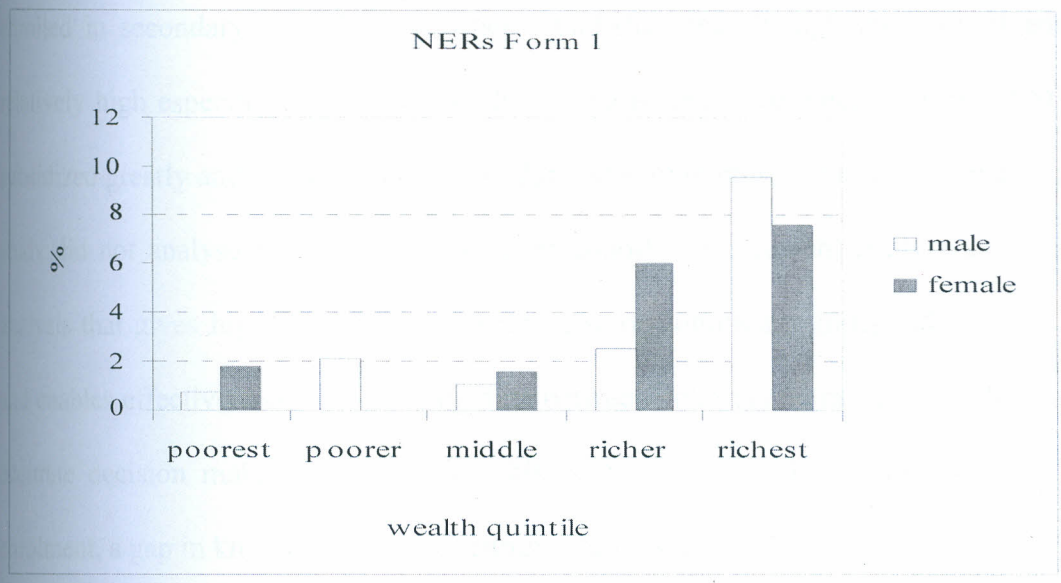
Table 2.1 shows that the highest increase in enrolment was realized in 2003 from 25.7% in 2002 to 28.6% in 2003. According to Okuoma (2012) this could be due to the fact that after the introduction of FPE, money that was meant to pay fee in primary could now be used to cater for school levies and other expenses for students in secondary schools.

Figures 2.1 and 2.2 show that there is a clear pattern of access to secondary school related to household wealth. The GERs and NERs in the first year of secondary school show that children from the top wealth quintiles have a better chance of enrolling in secondary school than those from the bottom wealth quintiles. Access to secondary education is highly skewed in favour of the rich.



Source:IPAR,2007

Figure 2.1: Secondary school GER for Form 1 base on household wealth, 2007, Kenya



Source:IPAR,2007

Figure 2.2: Secondary school NER for Form 1 base on household wealth, 2003, Kenya.

The chances of a child getting into secondary are determined by household wealth. This therefore raises concern about whether enrolment in secondary schools can be helped via bursaries or free secondary education. It was expected that, FSE policy would increase enrolment in secondary schools due to reduced cost of secondary education. There was need to examine the impact of FSE on internal efficiency of secondary schools.

A study by Apiyo (2012) on the influence of Free Tuition Secondary Education (FTSE) policy on Girl-child participation in education in mixed day secondary schools revealed that FTSE had led to an increase in secondary school enrollment. The study however, does not indicate influence of the policy on enrollment of boys. This study sought to establish whether FSE has had significant impact on enrolment of both boys and girls in public secondary schools in Kisumu East Sub-county. Koech (2012) observed that FSE policy had resulted in increased access and that majority of students who would otherwise miss school due to lack of fees were

enrolled in secondary school. He further established that though the cost of education was relatively high especially in public boarding schools, the government, through FSE policy had subsidized greatly and this had made secondary education more affordable to many children. His study did not analyse the enrolment trend of cohorts. The current study was based on cohort analysis that gives high accuracy as it keeps groups completely independent from one another and enables effectiveness in comparing data between cohorts and more so facilitates speedy and accurate decision making. Furthermore, his study does not show the extent of increase in enrolment, a gap in knowledge that the current study sought to fill.

2.3. Free Secondary Education and Completion Rates

There is a growing consensus that high school completion is the prerequisite stepping stone to post-secondary education, which is deemed essential to success in the labour market (World Bank, 2006). According to World Bank (2006), well educated citizens are more actively engaged in society; they tend to make better choices about factors that affect their quality of life and they earn higher income than those who are less educated. Education reform efforts in all countries worldwide have aimed at making education an effective vehicle for national development. Governments, policy makers and civil societies have emphasized that, countries need to invest more in education and ensure that systems of education are efficiently managed, that limited funds allocated to sector have maximum impact and that nearly all students of a particular cohort enrolled in form one completes education cycle in a timely fashion (Ohba, 2009). Failure to complete a secondary education not only limits future opportunities for children but also represents a significant drain on the limited resources that countries have for the provision of secondary education.

Access to secondary education in SSA countries is limited to a few. According to Verspoor (2008), on average only about 30% of each age cohort completes junior secondary education and 12% senior secondary education. Nevertheless, following World Education Forum and the adoption of EFA initiative and MDGs, there is increasing demand for secondary education in most SSA countries due to the rapidly increasing primary school enrollment (Verspoor, 2008). One of the greatest challenges to access to secondary education in most African countries is affordability, since in most of these countries this level of education was not entirely free (Kattan, 2006). High level of costs borne by households become a barrier to enrollment and grade completion by students from poor families.

Despite the steady growth in enrollment rate in both primary and secondary schools in Kenya, there are still a high number of students failing to complete secondary schools. According to Achoka (2007), the issues of completion and retention rates in secondary schools remain some of the major challenges facing education sector in Kenya. For instance Table 2.2 (showing the number of students enrolled in form four and those who completed form four between the years 2000-2004), indicates that some students who were enrolled in form four did not compete the class due to repetition and drop-out.

Table 2.2: Form four graduation rates between 2000-2004, Kenya.

Year	No. enrolled in form 4	No. graduated	Graduation rate (%)
2000	170,071	154,595	90.9
2001	185,907	176,984	95.2
2002	185,184	170,555	92.1
2003	183,662	164,378	89.5
2004	193,087	173,006	89.6
Average	183,582	167,904	91.46

Source; Republic of Kenya, 2005

Table 2.2 shows that the number of students who graduated from secondary education increased from 90.9% from 2000 to 95.2% in 2001. This according to Achoka (2007) could have been due to repeaters in form 3 and form 4 who requested to repeat so as to increase their chances of excelling in the final examination for direct entry into the university. There was a decline in the graduation rate from the year 2001 to 2004 as given in Table 2.2. This could be attributed to the higher number of drop-outs realized during this period. According to Education Sector Report (2008), most of these drop-outs were orphans who left school due to lack of school fees and that the ministry of education and that of Home Affairs were in collaboration to put in measures to assist them to ensure that they remain in school. The reasons given for the increased number of orphans in educational institutions was that most of them had lost their parents through HIV/AIDS scourge (Education Sector Report, 2008). It was also observed that most of the students who were enrolled in form four but did not complete (about 8.54% on average) during this period dropped out. It was pointed that the cost of secondary education contributes to 30% of drop-out (Education Sector Report, 2008).

One of the aims of education sector as set out in MDGs was to attain completion rate of 100% in primary school by 2010. This was to be achieved through reduction of cost burden to parents (Republic of Kenya, 2008). Lucas (2010) indicated that even though there are still other factors such as child labour due to poverty, early pregnancy, early marriages, orphanhood that affect retention of pupils in school, the number of pupils completing primary school has increased gradually after the introduction of FPE and stood at 92.6% in 2010. The same should be realized in secondary school level as transition rates would have been enhanced as a result of implementation of FPE policy. With the introduction of FSE policy, higher completion rate close to 90% would be ensured. In this policy, every Kenyan child was entitled to subsidized secondary education fees from the government (Kibaki, 2008). From the foregoing discussion it was noted that cost of education contributed significantly to low completion rate and this needed to be addressed by the government. FSE policy was aimed at addressing this challenge. However, little was known whether and to the extent this policy had led to achievement of this goal. This was the concern of this study.

Onduru (2011) in his study noted that completion rates improved since the inception of CDF policy in financing education in Nyando sub-county. Correlation method of data analysis was used in his study. A correlation coefficient is an index and therefore any two variables will always show relationship even when it is common knowledge that they are not related. The current study employed Quantitative Cohort Statistical analysis that gives high accuracy as it keeps groups completely independent from one another, it gives clear distinctions which enhance easy identification of issues in question and effectiveness in dealing with them, it enables effectiveness in comparing data between cohorts and more so facilitates speedy decision making. Apiyo (2012) observed that there was increase in the number of students who completed

secondary education after the introduction of FSE policy. In her study, she established that completion rates based on grades in Siaya district was relatively high at 98.11% in 2008. Her study was based on girl child participation in mixed day secondary schools and did not give the status of the impact on completion rates of boys. The current study was based on public secondary schools, regardless of the category of schools and gender of the students so as to give a clear general picture of the impact of FSE on secondary completion rates in Kisumu East sub-county. Furthermore, unlike her study, that used only one cohort, the current study was based on two cohorts before the introduction of FSE and two cohorts after the introduction of FSE, good enough to make a convincing decision on the impact of FSE Policy on enrollment.

2.4. Free Secondary Education and Drop-out rate

Apparently, drop out as a phenomenon in Kenyan secondary school as a whole has significantly contributed not only to unequal access to education, decreased quality of education but also manifested an alarming aspect of wastage within the education system (Pontefract and Hardman, 2005). Very inefficient systems have substantial number of students dropping out which produces much lower proportions of timely completion. Drop-out negates any efficiency gain in the education system. Juma (2003) in his study on the nature, trend and factors causing wastage in secondary education in Vihiga district revealed that wastage in the form of drop out was considerably higher in mixed day schools than in single sex secondary boarding schools. The study also revealed that the major factor leading to students dropping out of school was lack of school fees among the poor households. FSE policy was introduced to reduce drop-out rates caused by inability of parents to pay school fees. The study was done before the introduction of FSE thus could not reveal whether drop-out can be mitigated through cost cutting strategy like

FSE. There was need to examine the extent of impact of the policy on drop-out rates in secondary schools. The current study investigated the impact of FSE policy on drop-out rate by determining the level of drop-out rate before and after the introduction of FSE.

Waweru (2001) observed that school attendance in Kenya was declining at a drastic rate. He observed that in North Eastern region more than 60% of students had not reported to school two weeks after schools had opened in January 2001. This was attributed to lack of fees. Onduru (2011) in his study on contribution of Constituency Development Fund (CDF) to access and equity in financing secondary education noted that drop-out in secondary schools in Nyando district had reduced considerably since the inception of CDF. CDF fund assisted in the construction and expansion of schools thus reduced cost burden to parents. These studies identified cost of education as a major cause of drop-out in secondary education. The studies however, were conducted before the introduction of FSE. With the introduction of FSE policy it was envisaged that drop-out rate at secondary education would be reduced (Achoka, 2007). Therefore, there was need to conduct a study after the introduction of the policy in order to investigate the impact of the policy on repetition and drop-out rate in secondary schools. This was the concern of the current study.

2.5. Free Secondary Education and Repetition Rate

Repetition is a major challenge in developing countries as it occurs against a background of constrained resources. Grade repetition occurs when a student begins a new school year in the same grade as the previous year instead of moving to a higher grade (UNESCO, 2010). According to World Bank (2008), repetition affects internal efficiency of an education system by (i) increasing the total costs (that is, the number of pupil-years) needed to graduate a cohort of students; (ii) taking up student-places in the first grade that can be used to accommodate new

students, or increasing class size; (iii) reducing the number of graduates; and (iv) increasing the required input per graduate. Repetition increases the time that a student spends in school. The longer a student is enrolled beyond the minimum time required, the more the resources (in terms of teacher time, classroom space, textbooks and other teaching materials and educational services) needed and the more it will cost the family and the government to keep the student at school. However, there are proponents of repetition who argue that repeating a class helps slow learners to attain instructional objectives and prevents students from dropping out prematurely. According to proponents of repetition, students who proceed to upper grades before they acquire the necessary knowledge and skills may not catch up and this may lead to continued poor performance and even to drop out (Briseid, 2004). Nishimura and Sasaoka (2007) carried out a study that sought to establish the status of dropout and repetition under the UPE policy in rural Uganda. They found that the probability of repetition was higher in public schools than in private schools. To them, there was a possibility that the capitation grant might make schools want to have as many pupils as possible to the extent of increasing repeaters. Repetition is found to be linked to school leaving exams. Achoka (2007) found that in Kenya repetition was high in the final year of a schooling level due to emphasis on examinations as a device to select pupils from one level of schooling to another and the inability of poor households to afford examination fees and other school levies.

The highest repetition rates was recorded in 2003 in Nyanza and North Eastern provinces at 2.6% and 3.4% respectively, while the lowest was registered in Central Province at 0.5% (Republic of Kenya, 2005). During the year 2003, Nyanza Province recorded the highest dropout rate of 9.5% while North Eastern Province recorded the lowest 3.8% (as in Table 2.3). According to Maumie (2008), higher drop-out rates in Nyanza Province could be due to many boys and

girls leaving school prematurely to join agriculture, mining and fishing sectors, common in the province. It is widely acknowledged that poverty is one of the main contemporary causes of child labour. Child labour is one of the threats faced by youth in Nyanza Province (Maumie, 2008).

Table 2.3: Secondary repetition and drop-out rates by province for 1999 and 2003 cohorts.

Province	1999		2003	
	Repetition	Dropout	Repetition	Dropout
Coast	1.2	5.4	2.1	6.4
Central	1.0	4.0	0.5	5.2
Eastern	1.0	5.2	0.8	5.5
Nairobi	4.8	7.1	0.6	5.5
Rift Valley	1.1	5.1	1.1	7.7
Western	1.4	4.6	1.4	8.8
Nyanza	1.9	4.6	2.6	9.5
North Eastern	2.3	7.6	3.4	3.8
Nationally	1.6	5.5	1.3	6.6

Source: Ministry of Education, 2005

Repeating forces students to take too long to go through the system and the facilities used will have been put into waste. Where many students are forced to repeat, both the quantitative and qualitative goals will not be achieved. Drop out is perceived as a multiple tragedy – leaving school prematurely can be considered as a phenomenon that increases educational costs thus, leading to internal inefficiency of the education system, it also leads to a waste of human resources, teachers and students time (World Bank, 2005).

Owiye (2005) and Onditi (2007) conducted studies on factors influencing primary school pupil wastage in Siaya and Kisii Central districts respectively. Both studies cited and ranked the factors in their order of gravity as; Inability to pay school fees, child labour, long distance to school and low academic ability. It should be noted that in these studies, inability to pay school fees is pointed out prominently to be a major contributor to wastages, reducing internal efficiency of education. These studies were carried out in primary schools unlike the current study which was carried out in secondary schools. These two levels of education differ in the systems they operate and therefore the magnitude of the factors influencing wastage in the levels may not be the same. Nyamesa (2008) confirmed that lack of mastery of content and poor performance was largely occasioned by absenteeism and lack of exams fees resulting to either repetition or drop-out. The study further revealed that many of secondary school age going children from poor households are not enrolled and experience high rate of repetition. Reducing cost of secondary education through FSE was meant to reduce parent's burden on school fee. There was need to investigate its impact on repetition.

A study by Macharia (2013) on the impact of Free Secondary Education policy on internal efficiency of schools revealed that the policy had contributed both positively and negatively; positive through increased performance and negative through increased repeater rates. Her study focused on the trends in repetition in form four classes only, her finding could be attributed to reduced cost of schooling under FSE policy and therefore students from poor households who could not afford fees for the next level of education opt to repeat so as to increase their chances of getting grades for direct entry into the university. Findings by Kiveu and Mayio (2010) indicated that repetition was common among children from well-to-do families as cost of schooling under the cost sharing policy dettered students from poor households from repeating.

The current study focused on repetition in all classes (form 1 to form 4), providing fair representative of the population thus limiting the influence of outliers or extreme observations.

2.5. Free Secondary Education and Year Input per Graduate

Year input per graduate measures internal efficiency of education by determining the number of years the education system is taking to produce a secondary school graduate. A graduate is a student who successfully completes a secondary school level. The years input per graduate were obtained by dividing the total number of student years spent by the cohort by the total number of graduates. The study used student year as a unit measure to represent educational inputs. A student year is a non-monetary measure of educational inputs required to retain one student in the system for one year (UNESCO, 2003). If a student completes secondary education cycle without repeating or dropping out, the number of student-years invested in that student is 4 years. Every time a student repeats a form, twice the expenditure is required for the student to achieve one year worth of education. By the same token, one or more years of educational expenditure will have been spent in vain if a student drops out before completing. Very inefficient systems have substantial number of students' dropping out and repeating which produces much lower proportions of timely completion (UNESCO, 2003).

Kerei (2005) established that the average years spent per graduate for the 1996 cohort was 10.15 years in public primary schools in Kuresoi district. This was an indication that, ordinarily most pupils were spending an extra two years in primary school. Gogo (2002) observed that, due to wastage inform of drop-out and repetition secondary school students do not take four years to exit out of this level of education. His study established that each student in the 1996-1999 cohort in Rachuonyo district took 4.503 years instead of 4 years to complete the secondary cycle. His study was carried out when Cost sharing policy was in place, an act that made many poor

Kenyans withdraw children from school (Martin, 2008). Under Cost sharing policy, secondary school enrollment reduced from 640,735 students in the year 1989 to 531,342 students by the year 1993. Transition rate to secondary schools also reduced from 47.2% in the year 1988 to 35.0% in 1993 (Kindiki, 2009). FSE was meant to mitigate wastage of resources in terms of finance as well as time in producing an average graduate. Very little knowledge was known whether this goal had been achieved, therefore there was need to investigate its impact on the average number of years required to produce a graduate. This was the concern of the study

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section deals with the description of the methods that was applied in obtaining data required for the study. It involves the research design, description of the study area, the study population, sample size, sampling technique, instrument of data collection and data analysis.

3.1. Research Design

The research adopted ex-post facto and descriptive survey research designs, concentrating on data covering the period 2003-2012. Kothari (2004) noted that Ex-post facto research is ideal for conducting research when it is not possible to manipulate the characteristics of human participants. Orodho (2004) also noted that instead of taking groups that are equivalent and subjecting them to different treatments to determine differences in the dependent variables, an ex post facto begins with groups that are already different in some respect and searches in retrospect for factors that brought about those differences. The design was found appropriate as phenomenon in this study had already occurred. In this study, the number of students enrolled, repeaters, drop-outs and graduates could not be manipulated as they had already occurred. Therefore the researcher examined retrospectively these internal efficiency indicators before and after the introduction of FSE. Descriptive survey was used to collect data from the respondents. According to Kothari (2004), descriptive survey design is concerned with describing, recording, analyzing and reporting conditions that exist or existed. This design was appropriate for this study since the researcher sought to obtain information from a large group of people that could be used to explain the observed levels of internal efficiency of schools in the district under FSE.

3.2. Area of Study

The study covered public secondary schools in Kisumu East Sub-county found in Kisumu County of Kenya. The Sub-county is bordered by Kisumu West Sub-county to the west and Nyando Sub-county to the east and Nandi Sub-county to the north. It lies within latitude $0^0\ 20^1$S and $0^0\ 50^1$S and longitude $35^0\ 10^1$ E and $35^0\ 20^1$ E. It covers an area of about 3,660 km^2. The Sub-county has three educational zones; Nyang'ande, Rabuor and Nyangeta. It is estimated that in 2006, about 55.5% of the population were poor, 16.2% were HIV positive and over 60% lived in peri–urban and informal settlements (UN-HABITAT, 2006). The impact of HIV/AIDS in Kisumu East Sub-county is extreme with a total of about 4,500 orphans in secondary schools (Republic of Kenya, 2009). Economically, the sub-county relies heavily on agricultural related activities such as growing rice, sugarcane, cotton and fishing. However, due to lack of market and dilapidated infrastructure no sufficient income is realized from these activities. Almost all factories in the region such as textile, sugarcane have been closed down rendering many of their employees redundant. This spells low economic power which impact negatively on finances affecting all the other aspects of school operations (UN- HABITAT, 2006).

3.3. Study Population

According to Oso & Onen (2005) a study population refers to the entire group of individuals or objects to which researchers are interested in generalizing the conclusions. The study focused on 37 public secondary schools in Kisumu East Sub-county that were in existence before the year 2003. FSE policy benefits only students in public secondary schools. The study population consisted of 37 head teachers, 3 ZQASOs and 1 SQASO.

3.4 Sample and Sampling Technique

A sample refers to a part of the target population that has been procedurally selected to represent it (Oso and Onen, 2005). Stratified random sampling was used to select 18 public secondary schools and 18 head teachers (48.6%) from the 37 schools in the Sub-county. This was in agreement with Mugenda and Mugenda's (2003) recommendation of 20-50% of the study population to be sample size. Orodho (2004) noted that stratified random sampling technique is necessary when members of a population share certain attributes or characteristics. The schools were stratified as day schools and boarding schools. 12 out of 25 day schools and 6 out of 12 boarding schools were sampled for the study. Saturated sample technique was used to select 3 Zonal Quality Assurance and Standard Officers and 1 SQASO in the Sub-county.

3.5. Instruments for Data Collection

3.5.1 Head Teacher's Questionnaire

The study used structured questionnaire with closed form and open form questions to seek information on; background information of the school, enrollment per form for the period 2003-2012, impact of FSE on enrollment, completion, repetition, drop-outs and average number of years spent per graduate to complete secondary education.

3.5.2 Head-teacher's Interview Schedule.

Face to face interview with the head-teachers were conducted to solicit views on the status of internal efficiency indicators before and after the introduction of FSE. Furthermore the interview schedule enabled the researcher to seek Head-teacher's opinion on the impact of FSE on internal efficiency of education as well as getting clarity on issues that were not clear from the questionnaires.

ZQASOs' Questionnaire

The study used structured questionnaire with closed form and open form questions to seek information on; background information of the school, enrollment per form for the period 2003-2012, impact of FSE on enrollment, completion, repetition, drop-outs and average number of years spent per graduate to complete secondary education.

3.5.3 Interview Schedule for SQASO

Face to face interview with district quality assurance officer was conducted to solicit views on the status of internal efficiency indicators before and after the introduction of FSE. Furthermore the interview schedule enabled the researcher to seek SQASO's opinion on the impact of FSE on internal efficiency of education and other ways to improve internal efficiency of education.

3.5.4 Document Analysis

The researcher examined class registers, KNEC reports and the statistical returns sent to schools by the Ministry of Education office to cross-validate and corroborate the information given in questionnaires.

3.6 Validity and Reliability of Instruments

3.6.1 Validity

Validity of an instrument is the extent to which an instrument measures what it is supposed to measure (Johnson and Christenson, 2005). Content validity of the instruments was obtained by presenting the instrument to lecturers in the department of Educational Management and Foundations. The lecturers assessed what concept the instrument was trying to measure and determine whether the set of items accurately represented the concept under study. The researcher sought suggestions to help improve the questionnaire and interview schedules.

3.6.2 Reliability

Kothari (2004) defines reliability as the degree to which a research instrument gives a consistent results or data after repeated trials. Test-retest method was used to establish the reliability of the research instruments. The developed questionnaire was given to three schools in the pilot study. The answered questionnaires were scored. The same questionnaires were administered to the same group of respondents after a period of two weeks. The questionnaire responses were scored. The two sets of questionnaires were compared to see consistency in answering the questions. Scores were correlated using the Pearson's Product Moment formula. The correlation coefficient helps in establishing the extent to which the contents of the instrument were consistent in eliciting the same response every time the instrument was administered (Orodho, 2004). A correlation coefficient of 0.85 was obtained. An instrument is considered to be reliable if a correlation coefficient of 0.75 or more is obtained (Orodho, 2004). The research instruments were therefore reliable.

3.7 Data Collection Procedure

The researcher sought permission from the Maseno University Ethics and Review Board to conduct research. On receiving the permit, the researcher got further permission from the Kisumu County Director of Education and Kisumu East Sub-county education officer before proceeding to the schools to collect data. The researcher communicated to head teachers of the schools under study, requesting for permission to use their schools for study. This was done one month before the study was undertaken to ensure that the school authorities receive information in time. Three visits were made to these schools for familiarization, distribution of questionnaires and finally collection of the questionnaires.

3.8 Data Analysis and Presentation

Quantitative cohort statistical analysis as applied in educational planning was used to analyze data for 4 cohorts; 2 cohorts that did not benefit from FSE (2003 and 2004 cohorts), and 2 cohorts that fully benefited from FSE policy (2008 and 2009 cohorts). Rates of internal efficiency indicators such as enrolment, completion, drop-out, repetition rates and average number of years required per graduate to complete secondary education before and after the introduction of FSE were determined and used to measure internal efficiency of education. The impact was established by determining the internal efficiency indicators rates for the two cohorts that did not benefit from FSE and two cohorts that benefitted from FSE policy. An improvement or decrease in the rates of the indicators shows positive or negative impact respectively. These efficiency rates were presented as bar graphs of enrolment, drop-out and repetition rates. Stakeholder's opinions were also sought to re-enforce the information obtained from the records. Data from stakeholder's opinions were analysed using mean ratings, frequencies and percentages of the responses. Qualitative data were transcribed, classified and reported in an ongoing process as themes and sub-themes emerged, the information was converted into percentages and means to allow for further analysis using Statistical Package for the Social Sciences (SPSS).

3.9 Ethical Consideration

Ethics and scientific clearance for the study was obtained from the Maseno University Ethics Committee. The researcher was guided in the research by adhering to the procedures in research design during data collection and analysis so that the chance for misleading results is minimized and to ensure that the sole aim of contributing to the development of systematic and verifiable knowledge in research is maintained. The researcher was obliged to ensure that the research

participant's rights and welfare were not violated before, during and after conducting the research. The researcher urged participants to provide honest, valid and reliable information.

To enhance informed consent, participants were thoroughly briefed beforehand on the research problem, the need for a scientific research on the problem, the reasons for the area of study and the benefits of the study. Their rights and risks or dangers associated with their participation were clarified and their voluntary involvement in the research was fully guaranteed. The principle of beneficence was observed and the researcher treated the information obtained with confidentiality so as to minimise the possible harm to the participants. Great care was taken to avoid identification of real participants in the study against their derived information. The researcher was cautious on the questions posed to SQASO whose identity could not be concealed since he/she is the only Quality Assurance and Standards officer in the district by asking purely policy oriented and not personal questions. The raw data from the field were kept under lock and key where only the investigator could access. The process data were kept in computer encrypted by password accessible to only the principal investigator.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1. Introduction

This chapter presents the results of the study and discussion of the results. These have been presented according to the five research questions that guided the study which were:

i. What is the impact of FSE on enrolment rate in public secondary schools in Kisumu East district?

ii. What is the impact of FSE on completion rates in public secondary schools in Kisumu East district?

iii. What is the impact of FSE on drop-out rates in public secondary schools in Kisumu East district?

iv. What is the impact of FSE on repetition rates in public secondary schools in Kisumu East district?

v. What is the impact of FSE on the average year per graduate in public secondary schools in Kisumu East district?

Data was collected by use of questionnaires interview schedule and the rate of return for the questionnaires and interview schedule was 100%.

4.2. Impact of FSE on Secondary School Enrolment

In line with the research questions and objectives, the study sought to investigate the impact of FSE on enrollment in public secondary schools in Kisumu East district. In order to do this, the study established the enrolment pattern per form over a period of 10 years. Table 4.1 shows the enrolment trends in the district from 2003 to 2012.

Table 4.1 **Enrolment in public secondary schools in Kisumu East Sub-county, 2003-2012 .**

Year	Form					
	One	**Two**	**Three**	**Four**	**Total**	**% (age) Increase on total enrolment**
2003	1823	1590	1089	729	5231	
2004	1945	1680	1270	828	5723	9.4
2005	1950	1770	1500	930	6150	7.5
2006	2157	1684	1625	1274	6740	9.6
2007	2196	1977	1570	1381	7124	5.7
Average						**8.05**
2008	2900	2131	1815	1440	8286	16.3
2009	3149	2700	1900	1579	9328	12.6
2010	3350	2959	2481	1679	10469	12.2
2011	3443	3200	2699	2281	11623	11.0
2012	3789	3725	3033	2463	13010	11.9
Average						**12.8**

Source: School records

From Table 4.1 above, it is clear that since 2003, there has been a steady increase in enrolment in secondary schools in Kisumu East Sub-county. The percentage increase was highest in 2008 with a percentage increase of 16.3%. This was attributed to the fact that in the year 2008, the government implemented the FSE aimed at enhancing access to secondary education, thus secondary school going age children regardless of the family economic background were

enrolled in school. This finding agrees with the Republic of Kenya (2009) that observed that, with the implementation of the FSE policy, there was substantial increase in enrolment by 17.1%, from 1,180,267 in the year 2007 to 1,382,200 thousand students in Kenya in 2008. The same trend was also realized in primary schools when FPE was introduced in 2003. Primary school enrollment rose by 17.2% from 6,131,049 in 2002 to 7,185,106 in 2003 (Republic of Kenya, 2005). Asyago (2005) observed that the enrolment in primary schools after the introduction of FPE was overwhelming.

However, despite the introduction of FSE, parents are still expected to pay other levies such as; mock examination fees, boarding fees, building funds, PTA funds and development funds directly to the schools (Ayodo and Jagero, 2009). They are also expected to cater for other costs that are not directly paid to the schools such as transport, pocket money, lunch, uniform, private tuition and supplementary textbooks, bus fund. In the year 2009, there was a drop in the percentage increase of enrolment from 16.3% in the year 2008 to 11.0% in the year 2009 (see Table 4.1). When the head-teachers were asked to describe parents' opinion on school extra levies, one of the head-teachers gave this as the answer;-

> *"Most parents think that secondary education is entirely free, infact some of them demand even uniforms from the school, they have a feeling that the government caters for everything that a child requires in school. This misconception was serious in the years 2008 and 2009. It forced us to call the parents one by one to explain to them how FSE operates."*

Some parents had developed negative attitudes towards school levies. Head-teachers were in agreement that there is need for parents to be sensitized on how FSE operates as some of them are abandoning their roles of providing educational requirements and paying other school levies to their children. When a follow-up interview was conducted to find out what could have led to a

drop in the percentage increase in enrolment in the year 2008, one of the head-teachers had a feeling that students from families that could not afford these extra levies either dropped out or failed to enroll in the year 2009.

Population growth is one of the factors that influence enrollment (Psachoropoulos and Patrinos, 2002). World Bank, (2009) indicated that the average population growth rate in Kenya is 2.01%. Even though population has been growing, its influence could not have led to such an increase in enrollment after the year 2007. When SQASO was asked to give his opinion on factors that influence enrollment, this is what he said;-

> *"There are several factors that affect enrollment in secondary schools, but the major factor is cost of education, and that is why when FSE policy was introduced, we experienced tremendous increase in enrollment. Some of these factors have been there, for example average population growth of the country has been around 1.5%-2.5% over the years, when FSE was introduced, secondary enrollment shot to 17%. This is a clear indication that the policy reduced cost burden to parents."*

Figure 4.1 shows that enrollment in the sample schools had increased across the years under study. It further reveals that enrollment decreases from form 1 to form 4. Enrollment was highest in form 1 and lowest in form 4 across all the years. This finding agrees with UNESCO (2010) which noted that enrolment decreases as students progress to upper grades due to drop-out and repetition experienced by students in the education system.

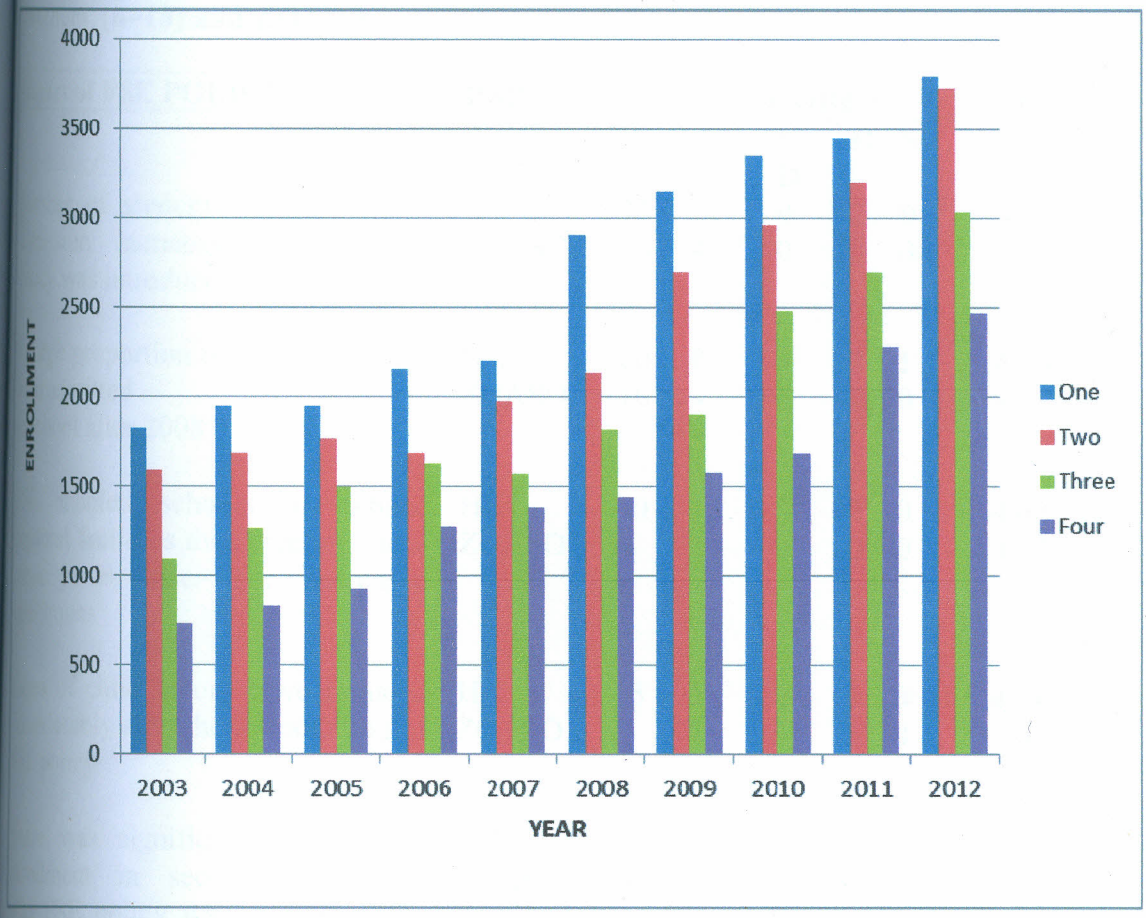


Figure 4.1: Enrollment Trends by Form in Kisumu East Sub-county, 2003-2012

When Head-teachers and ZQASOs were asked to rate the impact of FSE on secondary school enrollment, they responded as shown in Table 4.2 below.

Table 4.2: **Impact of FSE on Public Secondary School Enrollment as Rated by Head Teachers (n=18) and ZQASO (n=3).**

Impact of FSE POLICY	RSP	SCORES					MR
		SA	A	UD	D	SD	
Number of students requesting for admission increased after FSE policy was introduced in 2008	H/T	75	8	0	2	0	4.72
	ZQASO	10	4	0	0	0	4.67
A large proportion of drop-outs have been admitted to school after 2008	H/T	70	8	0	2	1	4.50
	ZQASO	10	4	0	0	0	4.67
FSE enabled schools to expand physical facilities thus creating more capacity to cater for increased enrollment	H/T	70	12	0	2	0	4.67
	ZQASO	5	8	0	0	0	4.33
Cases of child labour have reduced considerably after the introduction of FSE policy	H/T	75	4	0	4	0	4.61
	ZQASO	5	4	0	2	0	3.67
There was significant increase in enrollment in secondary schools after FSE policy was introduced in 2008	H/T	80	8	0	0	0	4.89
	ZQASO	10	4	0	0	0	4.67

Key:

RSP- Respondent

SA- Strongly Agree

A - Agree

UD - Undecided

D - Disagree

SD - Strongly Disagree

MR- Mean rating

Level of Impact

1.0-1.9- Least impact

2.0-2.9- Low impact

3.1-4.0- High impact

4.1-5.0- Very high impact

Number of students requesting for admission in secondary schools increased after the introduction of FSE policy in 2008. This was rated at 4.72 and 4.67 by the head-teachers and ZQASOs respectively as shown in table 4.2 above. The study revealed cases of child labour reduced after the introduction of FSE. This was rated at 4.61 and 3.67 by the head-teachers and ZQASOs respectively. According to one of the head-teachers, this resulted to increase in transition rates into secondary schools after the announcement of FSE policy by the government as the number of class eight graduates who were looking for chances in form one went up. It was noted that a large proportion of drop-outs were re-admitted to school after 2008. The head-teachers rated it at 4.50 and ZQASOs at 4.67. This was because of the government subsidy through FSE, thus those who dropped out due to lack of school fee got relieved and therefore sought re-admission. According to Waweru (2001), 40% of school drop-outs are directly related to lack of school fees. Most students drop-out of school due to lack of school fees. FSE policy had a high positive impact on enrollment as those regardless of age who would otherwise drop-out of school were enrolled.

The respondents were in agreement that FSE has enabled schools to expand physical facilities thus creating more capacity to cater for increased enrollment. This was rated at 4.67 and 4.33 by the head-teachers and ZQASOs respectively. FSE funds are disbursed through different vote heads to schools as; funds for repairs and maintenance (RMI), tuition, Electricity, Water and Conservancy (EWC), Administration cost (ADM), Personal Emoluments (PEM), and activity. This ensures that funds are channeled to different facilities in school. This has therefore resulted in schools repairing and maintaining existing facilities as well as installing new ones such as laboratories, libraries, machines such as printers and computers. All these have created

conducive teaching and learning environment and has attracted more enrollment as the higher the enrollment the more money a school receives from FSE fund.

There was significant increase in secondary schools enrollment after FSE policy was introduced in 2008. This fact was rated by the head teachers at 4.89 and ZQASOs at 4.67 as in table 4.87 above. The high rating by the respondents is an indication that more students are benefiting from FSE policy. Secondary education became affordable to parents as tuition fee was waived off by the FSE policy. The DQASO indicated that the enrolment in secondary schools increased tremendously due to government subsidy. He had this to say;

> *Unlike before the year 2008, when few parents could admit their children to secondary schools, FSE has made secondary education affordable to most parents enabling them to enroll their children in secondary schools.FSE has also enabled schools to expand physical facilities as the little money/fees charged as extra levies to parents can now be used for development.*

The average percentage increase in enrolment before the introduction of FSE between 2003 to 2007 (for 2003-2006 and 2004-2007 cohorts) was 8.1%, compared to 12.8% for the period 2008-2012 (for 2008-2011 and 2009-2012 cohorts), after the introduction of FSE. This is a clear indication that FSE contributed significantly to the increase in secondary school enrolment in Kisumu East sub-county.

4.3. Impact of FSE on Completion Rate

The research question responded to was: what is the impact of FSE on completion rates in public secondary schools in Kisumu East Sub-county? In order to address the question, the number of students graduating from form four was determined. Cohort completion rate was calculated by dividing the number of students of 2003-2006, 2004-2007, 2008-2011 and 2009-2012 cohorts

who successfully completed form four by the total enrollment of the cohorts at form one in the same year.

In order to get Cohort Completion rate the following formula was used.

$$C.C = \frac{G_{t+3,(g)}^{k+3,(g)}}{N_{t,g}^{k,(g)}} X\,100\ \%$$

Where;

C.C- Cohort completion rate

$N_{t,(g)}^{k,(g)}$ - Form one enrolment for a given cohort g.

$G_{t+3,(g)}^{k+3,(g)}$ -Student of a given cohort g, completing secondary education.

The study sought to establish the completion rates, being one of the measures of internal efficiency before and after the introduction of FSE as the result tabulated in Table 4.3.

Table 4.3: Completion rates in Kisumu East Sub-county Secondary Schools, for 4 Cohorts.

Cohort	No. enrolled in form 1	No. enrolled in form 4	Number completed	Completion rate (%)
2003	1823	1274	1102	60.4
2004	1945	1381	1198	61.6
2008	2900	2281	2114	72.9
2009	3149	2463	2288	72.7

As Table 4.3 indicates, cohorts' completion rates have increased considerably from 60.4% for 2003 cohort to 72.7% for 2009 cohort. Students who enrolled in form one in the year 2003 were 1823. These students progressed through the system and those who completed the cycle in 2006

were 1102. It also shows that students who enrolled in form one in the year 2008 were 2900. These students progressed through the system and those who completed the cycle in the year 2011 were 2114, representing cohort completion rate of 72.9%. The highest completion rate of 72.9% was recorded in 2008 cohort. The cohort fully benefitted from FSE policy that waived off tuition fee thus reducing the burden of paying school fees by the parents. This finding agrees with Apiyo (2012) that observed that there was increase in the number of students who completed secondary education after the introduction of FSE policy. In her study, she established that graduation rates in Siaya district was relatively high at 97.55% and 98.11% in 2007 and 2008 respectively, an increase of 0.56%. However, it is still unfortunate that some students do not complete secondary education even after enrolling in the final class as shown in Figure 4.2.

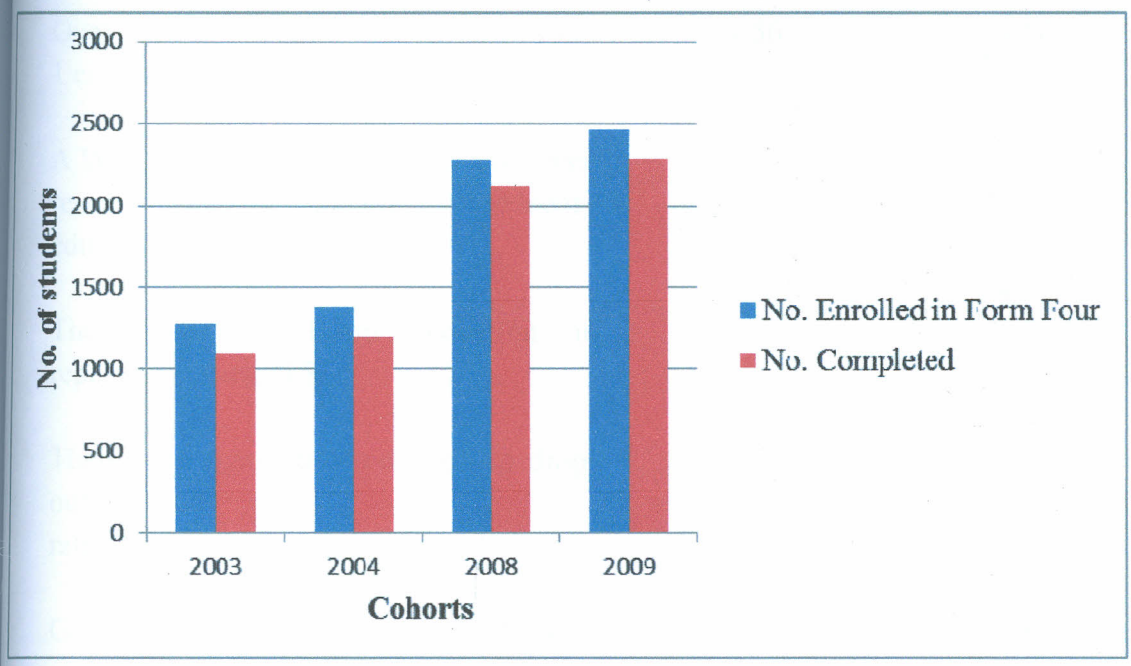


Figure 4.2: Number of Students Enrolled in Form Four against the Number that Completed Form Four for 5 Cohorts.

Figure 4.2 shows that across all the cohorts under study, not all students enrolled in the final class complete/graduate from the cycle. Out of the 1274 students of 2003 cohorts enrolled in

form four, only 1102, representing 86.5% completed form four. 2009 cohorts had the highest percentage of students enrolled in form four completing the cycle, at 92.9%. Documents such as EMIS report from MoE, KNEC nominal rolls also indicated form to form survival and completion rates had improved after the year 2007. This was attributed to the introduction of FSE policy that led to the reduction of cost of schooling hence reducing cases of repetition and drop-outs at form four due to inability to afford school levies.

When Head-teachers and ZQASOs were asked to rate the impact of FSE on completion rate, they responded as shown in table 4.76 below.

Table 4.4: Impact of FSE on Completion Rate as rated by Head teachers (n=18) and ZQASO (n=3)

	MEAN RATES	
	HEAD-TEACHERS	ZQASOs
Over 70% of students who enroll in form 1 completed form four after 2008	4.56	4.67
A large proportion of drop-outs have been re-admitted to complete secondary education after 2008	4.50	4.67
There was significant reduction in repeater rate after FSE	4.72	4.33
There was significant reduction in drop-out rate after 2008	4.67	3.67
Completion rates increased significantly after 2008	4.72	4.67

Key:

1.0-1.9- Least impact
2.0-2.9- Low impact
3.0- Neutral
3.1-4.0- High impact
4.1-5.0- Very high impact

Maumie (2008) concluded that the provision of secondary education in Kisumu East district is faced by several challenges such as drop-out and repetition that results to lower completion rates. Her study observed that only 62% of students in Kisumu East district were able to complete secondary education in the year 2007. According to the Republic of Kenya, (2008), it was expected that with the introduction of FSE, over 70% of students who enroll in form 1 will be retained in the system and complete the cycle in a timely fashion. It is observed in Table 4.4 that over 70% of students who enrolled in form one completed form four after the introduction of FSE in 2008. This fact was rated at 4.56 and 4.67 by the head-teachers and ZQASOs respectively. The rates show that the respondents perceived that there was very high positive impact of FSE on completion rates. This implies that they felt that FSE led to a significant increase in completion rates. Repetition and drop-outs negate completion rates. After the introduction of FSE both repetition and drop-out rates decreased. There was significant reduction in repeater rate after 2008. This was rated highly by the head teachers at 4.72 and ZQASOs at 4.33 while the significant reduction in drop-out rate was rated at 4.67 and 3.67 by the head-teachers and ZQASOs respectively. This finding (in both day and boarding schools) agrees with that of Mwangi (2012) that revealed that repetition in public day secondary schools had declined under the FSE policy. Before the introduction of FSE, repetition rates were high in the schools he studied with the leading causes of repetition being irregular school attendance due to lack of school fees.

It was also noted that a large proportion of drop-outs have been re-admitted to complete secondary education after the introduction of FSE. This was rated at 4.50 and 4.67 by the head-teachers and the ZQASOs respectively. According to Republic of Kenya (2008), most of those who would not complete form four were children from poor households and mainly orphans who

drop out because of lack of school fees. In this regard, when FSE was introduced, majority of students who would have dropped out due to lack of school fees were able to complete secondary school education. When ZQASO was asked why completion rate is not 100% he had this to say;

> *"some students who could not pay examination fees and other levies request to be allowed to repeat form three while others to the extreme drop out of school. However, with the introduction of FSE factors that lower completion rates have been cushioned and the policy has boosted completion rates in secondary schools."*

4.4 Impact of FSE on Drop-out Rates

The research question responded to was: what is the impact of FSE on repetition rates in public secondary schools in Kisumu East Sub-county? In order to address the question, the actual form to form drop-out rates were calculated. The actual form drop-out rate is a definite index that shows the number of students we cannot account for after deducting the net survivors in the subsequent form in a subsequent year and the repeaters of the same form in the subsequent year from the total enrolment in the previous form in the previous year, divided by the same total enrolment in the previous form the previous year.

Table 4.1 was further summarized to show the flow of cohorts as they progress from form one to form four as shown in Figure 4.3, 4.4, 4.5 and 4.6.

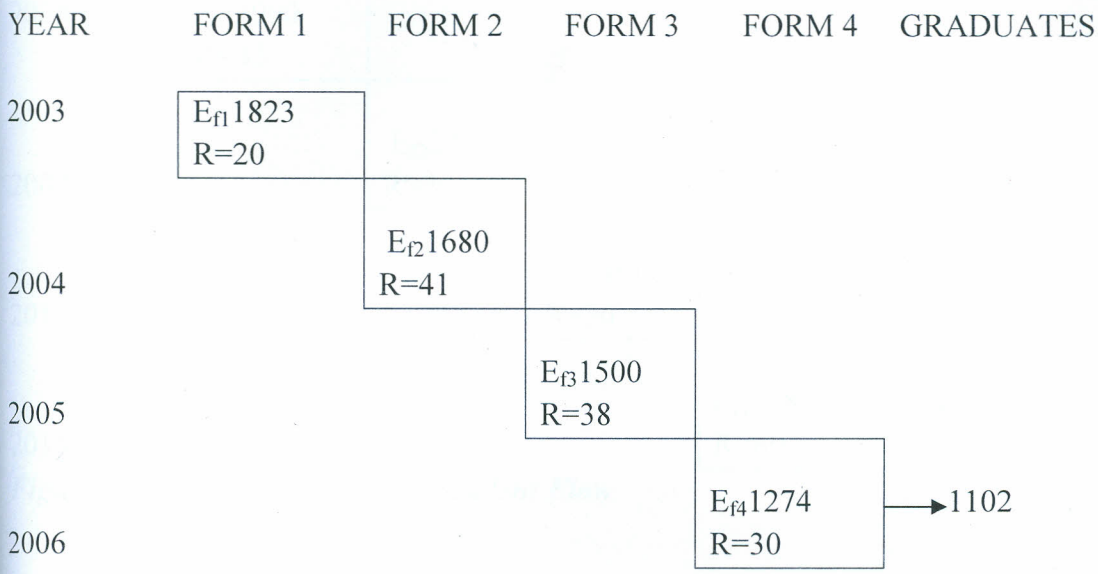


Figure 4.3 : 2003-2006 Cohorts Student Flow

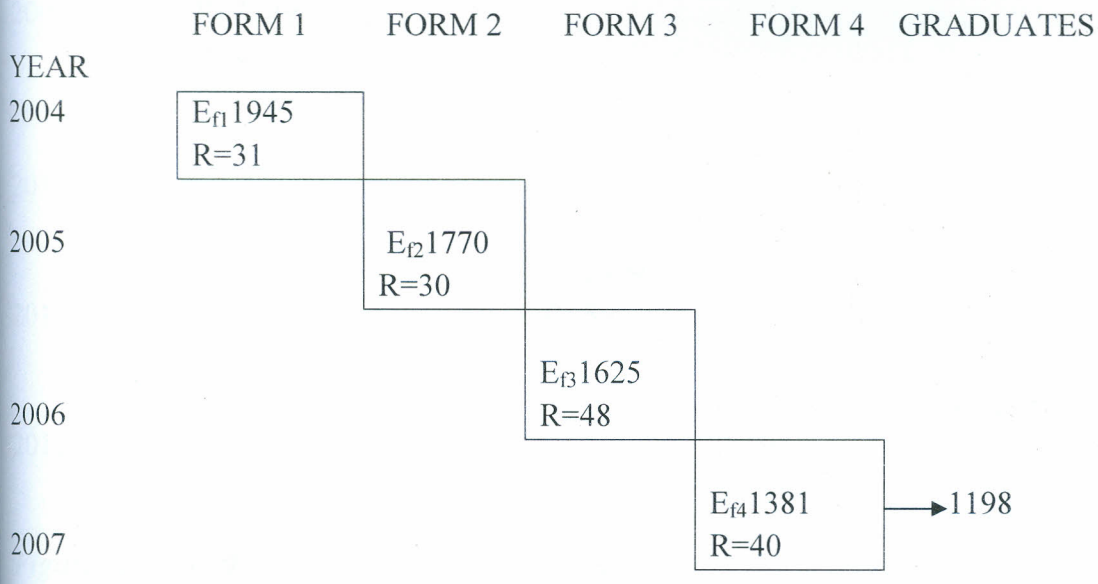


Figure 4.4: 2004-2007 Cohorts Student Flow

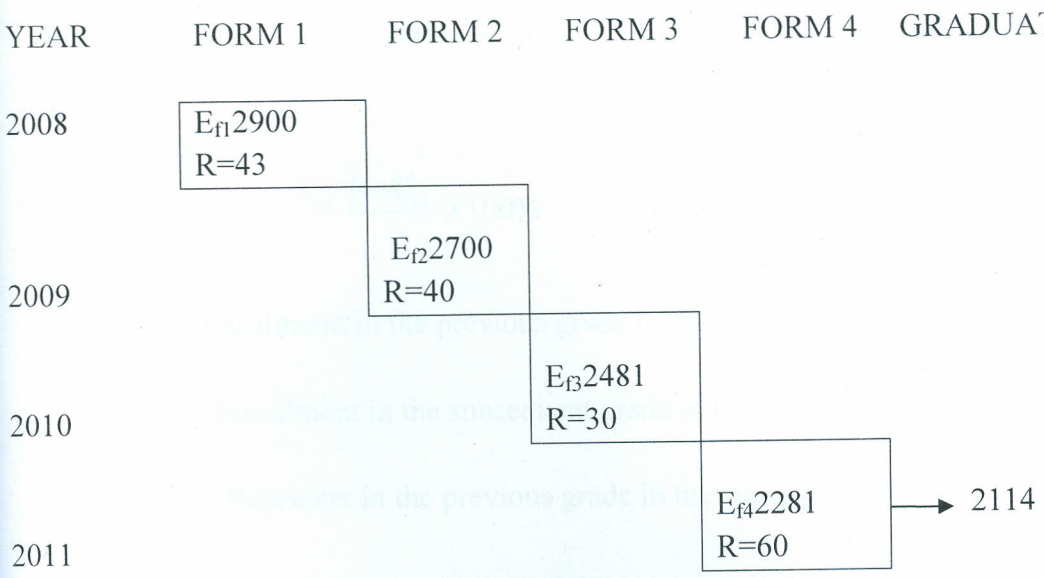


Figure 4.5: 2008-2011 Cohorts Student Flow

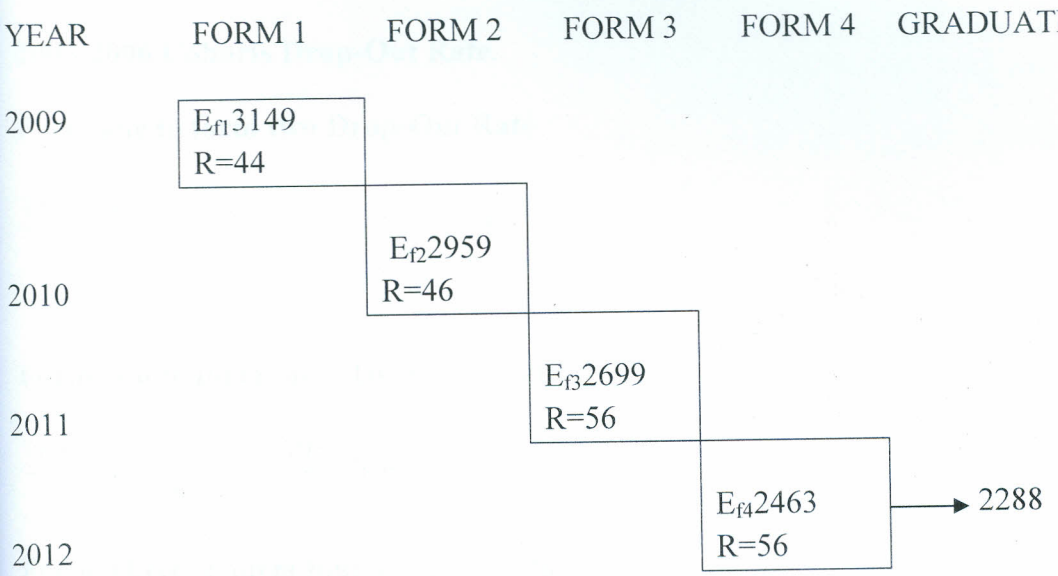


Figure 4.6: 2009-2012 Cohorts Student Flow

From Figures 4.3, 4.4, 4.5 and 4.6 form to form drop-outs were calculated using the formula below.

$$\text{D.R} = \frac{N_t^k - \left[N_{t+1}^{k+1} - R_{t+1}^{k+1}\right] + R_{t+1}^k}{N_t^k} X100\%$$

Where; N_t^k - Enrollment in the previous grade in the previous year.

N_{t+1}^{k+1} - Enrollment in the subsequent grade in the subsequent year

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

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

Form to form cohorts drop-out rates were obtained, for example;

2003-2006 Cohorts Drop-Out Rate.

Form one to form two Drop-Out Rate

$$\frac{1823 - (1680 - 41 + 31)}{1823} X100\% = 8.4\%$$

Form two to form three Drop-Out Rate

$$\frac{1680 - (1500 - 38 + 30)}{1680} X100\% = 11.2\%$$

Form Three to form four Drop-Out Rate

$$\frac{1500 - (1274 - 30 + 48)}{1500} X100\% = 13.9\%$$

The calculations for the other cohorts were done and presented in Table 4.5

Table 4.5: Drop-Out Rates (%) in Public Secondary Schools in Kisumu East sub-county between 2003-2012

	Form 1 to 2		Form 2 to 3		Form 3 to 4		Average
Cohorts	Drop-outs	%	Drop-outs	%	Drop-outs	%	%
2003-2006	153	8.4	188	11.2	208	13.9	**11.2**
2004-2007	171	8.8	163	9.2	236	14.5	**10.7**
2008-2011	196	6.8	203	7.5	204	8.2	**7.5**
2009-2012	189	6.0	265	9.0	223	8.3	**7.8**
Average	**179.6**	**7.74**	**195.8**	**8.98**	**218.6**	**11.4**	**9.4**

Source: Field data

It is evident in Table 4.5 that drop-out rate increases with each form level. Indeed the drop-out rate peaks in form three. This is seen across all the cohorts under study. Average drop-out rate was above 10% before the introduction of FSE (as in Table 4.5) at 11.2% and 10.7% for 2003 and 2004 cohorts respectively, a drop of 0.4% between the two cohorts. Students of these two cohorts did not benefit from FSE fund in their entire secondary education. Drop-out rate declined in 2008 and 2009 cohorts at an average of 7.5% and 7.8 % respectively. This finding agrees with Mwangi (2012). In his study he found that drop-out in public day secondary schools had declined under the FSE policy. Before the introduction of FSE policy, drop-out rates were high with the leading cause being the parent's inability to afford the cost of secondary education.

Despite the social-economic difficulties the country experienced after the 2007/2008 post-election violence Kisumu East Sub-county schools had lower drop-out rates than the previous years. This was as a result of the introduction of FSE policy that waived off tuition fee in

secondary schools thus students who would otherwise drop-out of school due to their parents' inability to afford secondary school fee were retained in school.

Figure 4.7 shows that the highest drop-out rate was experienced in form 3 in all the cohorts. On average 11.4% of those who attain form 3 achieve no more education. This finding concurs with Achoka (2007) and Mumina (2011). Both studies concluded that drop-outs mostly occur in form three with the main cause being lack of school fees.

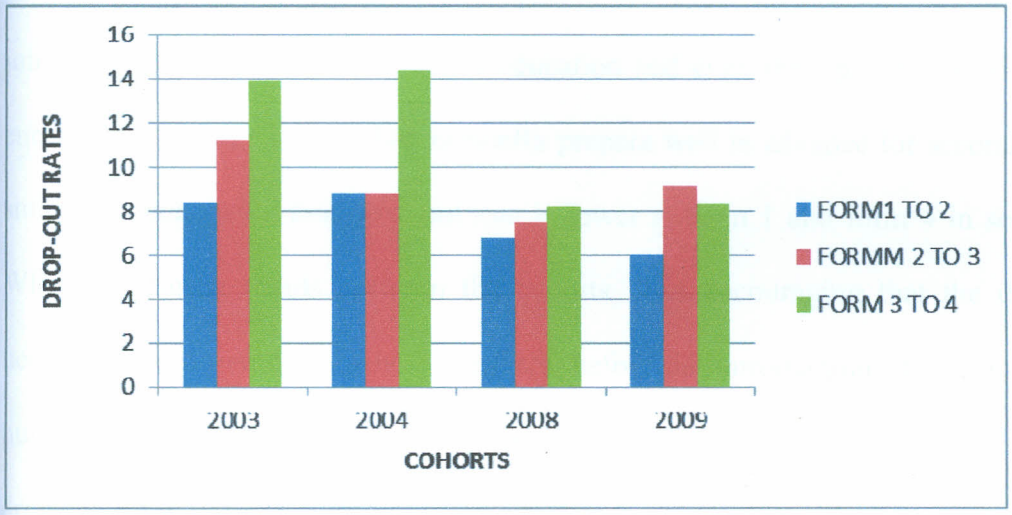


Figure 4.7: Drop-out rate in Kisumu East Sub-County, 2003-2012

The key informants felt that the high drop-out rates recorded in form three across all the years was as a result of households who were not able to pay examination fees alongside other school levies hence forcing their children to drop-out of the school system altogether. One of the Head-teachers said that;-

> *" Most students repeat or are encouraged to repeat form 3 for many reasons with the major cases are due their parents' inability to pay examination fees alongside other levies and secondly is to increase their chances of passing KCSE exams in form four. However some of them especially the ones that are forced to repeat normally have higher risks of dropping out of school."*

Interestingly, the first and final forms of the secondary school cycle have the lowest and lower drop-out rates respectively. One of the head-teachers said that;-

> *"At form one, students are eager and have very positive attitude to continue with education. Form four is the final class and a gateway to further education or to a field of work thus once a student enrolls, he/she gets motivated to stay in school and finish the cycle."*

This statement agrees with Mumina (2011), who observed that students are normally eager to join secondary schools after primary education and even their parents are more than willing to enroll them in form 1, thus they normally prepare well in advance for secondary admission. His study thus concluded that drop-out rate is lower at form 1 and form 4 in secondary education. When comparing trends between the cohorts, it is encouraging that the drop-out rates have decreased from two digits whole numbers, before the introduction of FSE to single digit whole numbers after the implementation of the policy. Thus FSE policy has had a positive impact on drop-out rates.

4.5. Impact of FSE on Repetition rates.

In line with the research questions and objectives, the study further sought to establish grade repeater rate for the years 2003-2012 in a bid to establish the impact of FSE on repetition rates. Grade repeater rate compares the number of repeaters of the same grade, in a subsequent year with the total number of students in that grade in the previous year. 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.

In order to get Grade Repetition Rates, the following formula was used.

$$G.R.R = \frac{R_{t+1}^{k}}{N_{t}^{k}} X100\%$$

Where R_{t+1}^{k} - Repeaters of the same grade (k), in the subsequent year, (t+1)

N_{t}^{k} - Enrollment in the same grade in the previous year.

The general grade repeaters were thus investigated and results tabulated in Table 4.6.

Table 4.6: Repetition rates (%) in Kisumu East Sub-county Secondary schools

Cohorts	Form 1		Form 2		Form 3		Form 4		Average
	Repeaters	%	Repeaters	%	Repeaters	%	Repeaters	%	%
2003-2006	31	1.7	30	1.8	48	3.2	40	3.1	2.5
2004-2007	34	1.7	38	2.1	50	3.1	39	2.8	2.4
2008-2011	44	1.5	46	1.7	56	2.3	56	2.5	2.0
2009-2012	47	1.5	51	1.7	69	2.6	60	2.4	2.1
Average		1.7		1.9	55	2.8		2.7	2.29

Source; Researcher

From Table 4.6, it can be noted that repetition occurs most frequently at form three with an average of 2.8% followed by form four at 2.7%. The lowest repetition occurs at Form 1 at a rate of 1.7%. There is a considerable difference of 1.1% between the repetition in form 1 and form 3. The key informants felt that the high repetition rates recorded in Form three across all the years was as a result of households who were not able to pay examination fees (before government initiated KCSE fees for the candidates) alongside other school levies. They also felt that, it was due to form threes who do not perform well that repeat with a desire to do better in the National Examinations so as to get placements in universities or in good middle-level colleges. This finding agrees with Achoka (2007) and Onduru (2011), studies that were carried out before the introduction of FSE. The studies observed that most repetition occur in form three as most

parents and teachers advice students who do not do well to repeat form three so as to perform better in the national examinations.

Higher average rate of repetition of 2.7% in form four was due to students who had sat for KCSE exams repeating with a desire to do better so as to qualify for direct entry to the university. Furthermore, students who have their examination results cancelled, quite often repeat in form four so as to get valid results in the subsequent year. Out of the four cohorts under study, 2008 cohort recorded the lowest repetition rate at 2.0% followed by 2009 cohort at 2.1%. These two cohorts are the beneficiaries of FSE fund. Unlike 2008 and 2009 cohorts, 2003 and 2004 cohorts had repetition rates higher than the average rate of the four cohorts under study. This was due to the fact that parents of the 2003 and 2004 cohorts had to look for money to cater for their children's school fee. Children whose parents could not pay school fee would be sent home for fee and would miss some lessons leading to poor performance hence ending up not being promoted to the next class.

When the head-teachers were asked to comment on the impact of FSE on repetition, they responded as indicated in Table 4.7.

Table 4.7. **Head-teachers responses on the impact of FSE on repetition (n=18).**

Impact	Frequency	Percentage (%)
Positively high	16	88.9
Positively low	2	11.1
Negatively high	0	0
Negatively Low	0	0
No impact	0	0
Total	18	100

From Table 4.7, 88.9 % of head-teachers were of the opinion that FSE had a high positive impact on repetition and 11.1% of head-teachers indicated that it had a low positive impact or very low impact while none indicated negative impact and no impact. One of the head-teachers who felt that FSE had a low positive impact remarked that;-

> "*Some parents have a wrong perception on FSE. They felt that FSE should cater for the whole cost of education and therefore there is need to create awareness on the role of FSE in financing education and part of the cost to be paid by parents*".

The ZQASOs indicated that repetition in secondary schools has reduced tremendously due to government subsidy. One of the ZQASOs had this to say;-

> *"Cost of education has been a burden to parents for long. Since repetition is associated with high cost of education, when FSE policy was introduced, we expected repetition to reduce and infact it has reduced significantly."*

This finding agrees with Koech (2012) who observed that FSE policy had resulted in increased access and that majority of students who would otherwise repeat form three due to lack of national examination fee and other school levies were enrolled in form four. However, the findings of this study differ from those of Macharia (2013). In her study, she found that repetition rates had increased after the introduction of FSE. A possible explanation for this would be the target population. Macharia (2013) restricted her study to the number of students in form four class only. This study focused on the trends in repetition in all classes (form I to IV) that gave a better representation of the population thus provided accurate and general conclusion.

4.6. Impact of FSE on Year input per graduate.

Year input per graduate measures internal efficiency of education by determining the average number of years the education system is taking to produce a secondary school graduate. A graduate is a student who successfully completes a secondary school level. The years input per graduate were obtained by dividing the total number of student years spent by the cohort by the total number of graduates. The study used student year as a unit measure to represent educational inputs. A student year is a non-monetary measure of educational inputs required to retain one student in the system for one year (UNESCO, 2003). Year Input per graduate (YIG) was calculated using the formula;

$$Y.I.G = \frac{N_t^k + N_{t+1}^{k+1} + N_{t+2}^{k+2} + N_{t+3}^{k+3}}{N_{t+3}^{k+3}} X\,100\,\%$$ Where;

N- Enrollment,

k- Form,

t- Year

Average number of years spent per graduate was obtained, for example for 2003-2006 cohorts was calculated as;

$$\frac{1803+1639+1462+1244}{1102} = 5.58 years$$

The calculations for the other cohorts were also done and presented in Table 4.8

Table 4.8 shows the number of years that were spent by students to complete secondary school cycle for 2003-2009 cohorts.

Table 4.8: Average Number of years Spent per Graduate in Kisumu East Sub-County, for 4 Cohorts; 2003, 2004, 2008 and 2009 Cohorts

Before FSE policy		After FSE policy	
Cohort	**Average years per graduate**	**cohort**	**Average years per graduate**
2003-2006	5.58	2008-2011	4.82
2004-2007	5.49	2009-2012	4.84
Average	**5.54**	**Average**	**4.83**

Table 4.8 reveals that the average years spent per graduate across all the years is higher than the normal 4 years meant for secondary school cycle. The 2003 and 2004 cohorts took the highest number of years to complete the cycle at an average of 5.54 years. This means that on average 1.54 years were wasted by those who either repeated or dropped out of school. There was a reduction on the average number of years spent per graduate from 5.54 years before the introduction of FSE to 4.83 years after the introduction of FSE. The closest value to the normal number of years for this level of education was recorded in 2008 cohorts at 4.82 years. This was attributed to the impact of FSE since majority of students who would otherwise drop-out of school due to lack of school fees were retained in school. Baraza (2003) noted that repetition is

regarded as wastage since repeaters consume more resources than otherwise allocated to them per grade and reduce the intake capacity of the grades in which they repeat, thus preventing other children from entering school. Head-teachers and SQASO were in agreement that cost of secondary education is the major barrier to students completing secondary education in a timely fashion. One of the head-teachers gave this comment.

> *"After the introduction of FSE policy some students from poor families who were re-admitted back to school could not afford other levies at form 4 such as examination fees and this made them to repeat form 3."*

During the interview, the SQASO pointed out that repetition is the major cause of delayed completion and is caused by several factors. When he was asked the impact of FSE on internal efficiency he had to say this;

> *"It is a plus to the government for introducing FSE policy, it is evident that it is fruitful as it has led to increased enrollment, reduced wastage in secondary education, improved school physical facilities thus creating child friendly schools. Am very optimistic that very soon the number of years to be spent in secondary school will remain 4 years as prescribed in the 8-4-4 curriculum."*

Increase in the number of years spent per graduate in the 2009 cohort could be due to higher rate of repetition experienced by this cohort in form three as shown in Table 4.8. This kind of situation makes students to take longer in secondary education. The government of Kenya thought it wise to pay KNEC examination fees for KCPE and KCSE candidates so as to curb this menace. This finding concurs with that of Kerei (2005) which established that, generally, most students are spending extra years in secondary school. Repetition reduces the completion rates and increases the number of years spent by one to graduate which thus compromises the internal efficiency of education.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.

5.1. Introduction

This chapter gives a summary of research findings, conclusions, recommendations and suggestions for further research.

5.2. Summary of Findings

The purpose of the study was to establish the impact of FSE on internal efficiency of public secondary schools. The summary and conclusions are presented according to themes deduced from the research questions that guided the study.

5.2.1. Impact of FSE on Enrollment in Secondary Schools

Since 2003, there has been a steady increase in enrolment in secondary schools in Kisumu East sub-county. The percentage increase was highest in 2008, from 7,124 students in 2007 to 8286 students in 2008, representing 16.9% percentage increase. There was a positive impact on enrolment. Average percentage increase in enrolment improved from 8.1% before the introduction of FSE to 12.8% after the implementation of the Policy.

5.2.2. Impact of FSE on Completion Rates

There was improvement in cohort completion rate in the sub-county after the introduction of FSE policy from 60.4% in 2003 cohorts to 72.7% in 2009 cohorts, an increase of 12.3%. 2008 cohorts had the highest completion rate at 72.9%. Cohort completion rate was low before the introduction of FSE at 60.4% and 61.6% for 2003 and 2004 cohorts respectively

5.2.3 Impact of FSE on Drop-Out Rate

There was reduction in drop-out rate in the district from 11.2% in 2003 cohorts to 7.8% in 2009 cohorts. The average cohort drop-out rate reduced by 3.3% from 10.95% (2003-2006 and 2004-2007 cohorts) to 7.65% (for 2008-2011 and 2009-2012 cohorts). Lowest drop-out rate was recorded after the introduction of FSE policy. 2008 cohorts had the lowest rate at 7.5%. 2003 cohorts recorded the highest drop-out rate of 11.2%.

5.2.4. Impact of FSE on Repetition

There was considerable reduction in repetition rate after the introduction of FSE from 2.5% in 2003 cohorts to 2.0% in 2008 cohorts. The average cohort repetition rate reduced by 0.4% from 2.45% (2003-2006 and 2004-2007 cohorts) to 2.05% (for 2008-2011 and 2009-2012 cohorts). Repetition occurs most frequently at form 3 and least frequently at form 1. The average repetition rate in form 1 was 1.7%, form 2 was 1.9%, form 3 was 2.8% and form 4 was 2.68%.

5.2.5. Impact of FSE on Average Years Spent Per Graduate to Complete Secondary Education

The average number of years spent by graduates to complete secondary education reduced after the introduction of FSE policy with 2008 cohort taking the least average number of years of 4.82 years to complete secondary school cycle while 2003 and 2004 cohorts taking the longest number of years of 5.58 and 5.49 years respectively.

5.3. Conclusions

Based on the findings of this study, it was concluded that FSE policy has had a positive impact on internal efficiency of public secondary schools. FSE policy has had a positive effect on enrollment. FSE policy enhanced completion rate in secondary education. Many students who would otherwise drop-out of school due to lack of school fee were able to complete secondary education in a timely fashion.

FSE policy had an impact on drop-out rates. There was a significant reduction in drop-out rates following the introduction of FSE. There was also a significant reduction in the number of repeaters after the introduction of FSE policy. More learners were able to survive to the subsequent grade in the next year of secondary education. Furthermore, the average number of years required by a student to complete secondary education had been reduced since the rate of repetition and drop-out reduced considerably after the introduction of FSE policy.

5.4. Recommendations

Based on the findings of the study, the researcher made the following recommendations which can be addressed by stakeholders such as Ministry of Education (MoE), head teachers, schools' Boards of Management and parents to ensure that the FSE policy yields maximum benefits to individuals and to the nation.

The study established that enrollment in secondary schools had increased after the introduction of FSE policy. It was recommended that there was need to expand public secondary schools to create room for increased enrolment by increasing funding. This would enable schools put up necessary physical facilities, especially classrooms and science laboratories.

It was established that some parents misinterpreted the policy. Therefore, the government agencies and other stakeholders should create awareness to the parents and general public on the areas (vote heads) that FSE cater for and the extra levies to be paid by the parents.

Government and other stakeholders should look into other factors other than school fees that affect secondary education completion rate. This is because secondary school age children in Kisumu East sub-county were still challenged with barriers to secondary school completion despite the introduction of FSE policy. Strict guidelines on extra levies charged by schools should be put in place to reduce financial burden on parents so as to reduce drop-out cases.

Repetition rates had decreased under FSE policy, however some were still repeating. It was recommended that strict guidelines regarding repetition should be put in place to minimize or eradicate repetition all together. For instance, subsidies may be allocated in such a way that a student is entitled to the policy for four years and households would have to meet all the costs for any additional year.

5.5. Suggestions for Further Study

This study suggests the following for further research;

i. During the study it was noted that there was increase in enrollment after the introduction of FSE policy. This comes with numerous challenges such as student-teacher ratio, student book-ratio, delay in disbursement of FSE funds, increased demand due to increasing population and even rapid changes in consumer prices as a result of inflation. The study suggests that further studies be carried out on these challenges facing implementation of FSE policy. This will ensure that FSE funds are properly utilized in order to reap maximum benefits.

ii. The impact of FSE on quality of education in terms of the useful and desirable skills and attitude acquired by the graduates has not been addressed. The increase in enrollment in public secondary schools may have a negative implication on quality of education. The study further suggests that other studies be carried out to establish the impact of FSE on quality of education. This will help assess the benefits of government investment in education sector and whether FSE policy has led to production of productive citizens who contribute to country's economic development.

iii. The study has established that the completion rate had been increased as a result of FSE policy. This study suggests that other studies should be carried out on the impact of FSE on transition rate to higher education so as to assess the benefit of government subsidy to the overall education system of a country.

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