

Tuition fees waiver on the crude cohort wastage rates in public secondary schools in Bungoma County, Kenya

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Abstract

Introduction of the tuition fees waiver in public secondary schools in republic of Kenya led to a substantial increase in the enrollment of students at this level of schooling in all the counties within its borders including, Bungoma County. However, despite the improved students' enrolment not much was known and documented about the progression of students from the entry grade, to the exit grade at this level of education. The purpose of the study was to analyze the effect of the tuition fees waiver on the crude cohort wastage rates in public secondary schools in Bungoma County, Kenya. According to the findings of this study, the tuition fees waiver significantly reduced the crude cohort wastage rates in the public secondary schools giving a p-value of less than 0.05% ($p < 0.05$). In conclusion, the fees waiver had a negative effect on the crude cohort wastage rate in public secondary schools in the County.

Key words: crude cohort wastage rate, effect, public secondary school, tuition fees waiver

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1.0 Introduction

Existing evidence shows that, tuition fees and the other expenses incurred by individual students and their families are barriers to accessing and completing secondary school education (Boyle, Brock, Mace and Sibbons, 2002). However, the impact of these charges is greater to the schooling of children from poor families. This is because poor families cannot afford to pay for them, thus raising issues of internal efficiency at the secondary school level. In an effort to generally redress inefficiency and inequalities in education, governments of most developing countries resolved to abolish school fees as a strategy to improve student enrollments, progression and participation rates in education (UNESCO, 2007). Those who support the removal of fees contend that, the intervention reduces the cost of education and makes school more accessible to the poor in society. This argument is supported by studies conducted in a number of African countries such as; Uganda, Malawi and Zambia among others. The findings from these studies revealed that, in the first year after the removal of school fees, the student/pupil enrollment improved immensely in the aforementioned countries (Al-Samurai and Hassan, 2000; Tomaseuski, 2003; Rose, 2002).

Policies that advocate for the provision of fee-free education have greatly been used in the Sub-Saharan Africa to increase the demand for education at both the primary and secondary school levels. In countries such as; Malawi, Kenya, Tanzania and Zambia, the policies have improved enrollments at both the primary and secondary levels of education (Al-Samurai and Hassan, 2000; UNESCO, 2007). Available data shows a drastic increase in total enrolment, in the year following the elimination of school fees. For example, it was: 11 percent in Lesotho (2001), 12 percent in Mozambique (2005), 14 percent in Ghana (2006), 18 percent in Kenya (2004), 23 percent in Ethiopia (1996), 23 percent in Tanzania (2002), 26 percent in Cameroon (2000), 51 percent in Malawi (1995) and 68 percent in Uganda (1998). However, one criticism that can be leveled against these studies is that they were conducted immediately after the abolition of fees. Consequently, they failed to state the effect of the fees waiver on student enrollment in the long-run. For instance, what happens within a period of say; 5, 10 or 15 years after introducing the policy? In addition, these studies did not take into consideration the effect of the fees waiver on critical indicators of internal efficiency such as the crude cohort wastage rate (CCWR) and the promotion rates among others.

The tuition fees waiver was launched in Kenya in 2008, following the recommendations by a task-force report on affordable secondary school education in Kenya (Malenya, 2008). According to the Kenya National Bureau of Statistics (KNBS) report of 2009, the launch of the tuition fees waiver in 2008 resulted to an overall increase in the student enrollment in all public secondary schools in Kenya. The secondary schools enrollment data revealed that, Bungoma County like the rest of the counties, also witnessed a significant growth in the student enrollment in its public secondary schools after the waiver was introduced in 2008, as reported by the Bungoma County Education Office (2015). Though much had been reported at both the national and county levels, on the tuition fees waiver and student enrollment in public secondary schools, there was no documentation about how the waiver affected the general progression of students from the entry grade to the exist grade at this level of education. This is the missing link that constituted the gap which this study sought to fill.

1.1 Problem Definition

The tuition fees waiver was among other things expected to improve the progression of students in public secondary schools in Kenya. The launch of this fees waiver in 2008 provoked a tremendous increase in the student enrollments in public secondary schools in all the devolved Counties in Kenya. However, despite the improved student enrolment not much was known and documented about the progression of students from the entry grade to the exit grade at this level of schooling. The problem of this study therefore was to answer the central question; what was the effect of the tuition fees waiver on the crude cohort wastage rates in public secondary schools in Bungoma County, Kenya for the period 2009 to 2014?

1.2 Hypothesis

H₀: There is no significant difference in the crude cohort wastage rates in public secondary schools in Bungoma County for the period before and after the introduction of the tuition fees waiver in 2008.

H_A: There is a significant difference in the crude cohort wastage rates in public secondary schools in Bungoma County for the period before and after the introduction of the tuition fees waiver in 2008.

1.3 Assumption of the Study

All the students who joined a cohort at any level between the entry grade and the exit grade were considered to be members of that cohort.

1.4 Delimitation

The data that was collected on student enrollments and progression was restricted to the period 2002 to 2007 and 2009 to 2014. These periods represented the years before and after introduction of the tuition fees waiver respectively. These periods were adequate for making meaningful analyses on equity and internal efficiency in the public secondary schools.

The study excluded the public secondary schools that were non-existent before the launch of the tuition fees waiver. This was because such schools did not have the baseline information on student enrollment and progression before the introduction of the fees waiver.

1.5 Theoretical Framework

This study was guided by the outcome theory of evaluation developed by Webster (1995). In this theory, an intervention is considered to be a system that has inputs, activities/processes, outputs and outcomes. The inputs are the materials or resources that the programme uses in carrying out the activities or processes so as to be able to serve the clients or beneficiaries. Some of the said resources may include equipment, staff, facilities and money among other things. Outputs are the first level results or the short term achievements associated with the programme or intervention. The change in the number of students enrolled is an example of a first level result in an educational investment. While outcomes are the second level of results associated with the programme and tends to refer to the medium term consequences of an intervention. To facilitate the measurement of any change brought about by an intervention, baseline data is collected to ascertain the state of affairs before the implementation of the intervention. After implementing the intervention, new data is collected and comparisons with the baseline data are made. Any changes that are realized between the new data and the baseline data are attributed to the intervention. In this particular study, the tuition fees waiver was the intervention; while the change as reflected through the crude cohort wastage rate was the outcome.

2.0 Methodology

2.1 Research Design

This study used the descriptive survey research design. Kothari (2004) observes that, in a survey the researcher does not manipulate variables, but only collects information on what has already occurred. Therefore, surveys are mainly concerned with conditions or relationships that exist, opinions that are held, the processes that are going on and the effects that are evident or the trends that are developing. Consequently, this design was found to be relevant and useful in this study because of the aforementioned attributes.

2.2 Locale

Bungoma County is located in western Kenya, and it occupies a total surface area of 3,032.4 Km². The County lies between latitude 00 28' and latitude 10 30' North of the Equator, and longitude 340 20' East and 350 15' East of the Greenwich Meridian. It borders the Republic of Uganda to the North West, Trans Nzoia County to the North East, Kakamega County to the East and South East, and Busia County to the West and South West (County Government of Bungoma, 2014). Though, the County has 275 public secondary schools with an eligible school age population of 150,738 children for this level, only about 11.0% of the population has secondary level of education (CGOB, 2013). Hence the need to equalize educational opportunities and reduce student wastage in the public secondary schools

2.3 Population and Sample

The study population and sample comprised of 115 and 90 public secondary schools in Bungoma County respectively, as shown in table 1. The sample size was determined by applying the Krejcie and Morgan (1970), sample determination formula.

$$s = \chi^2 NP (1-P) \div d^2 (N- 1) + \chi^2 P (1-P)$$

Where:

s = Sample size

χ^2 = The table value of chi-square for 1 degree of freedom for the desired confidence level

N= The population size

P = Population proportion (assumed to be 0.50)

d = The degree of accuracy expressed as a proportion (.05).

Table 1: Population and sample

Item	Population	Sample
Public Secondary Schools	115	90

Source: Bungoma County Education Office (2015)

2.4 Research Instrument

The study used a document analysis guide to collect and analyze data on student enrollment and progression through secondary education in the County.

2.4 Data Analysis

Data on student enrollment and progression was used to determine the crude cohort wastage rate (CCWR). In this study, the crude cohort wastage rate is basically the percentage of repeaters and drop-outs from the entry grade (form one) to the exit grade (form four) for the four year educational cycle in a given cohort of students in each of the sampled public secondary schools in Bungoma County, for the period 2002 to 2014. The document analysis guide was used to collect data on student enrolment in each of the grades from the entry grade to the exit grade for each cohort for the period 2002 to 2007 and 2009 to 2014. In addition, it also recorded the number of repeaters in the exit grade in each of the sampled schools. The above data was then used to calculate the crude cohort wastage rate indices for the schools by applying the formula stated below:

$$\text{Crude Cohort Wastage Rate (CCWR)} = \frac{N_t^k - (N_{t+3}^{k+3} - R_{t+4}^{k+3})}{N_t^k}$$

Where:

N_t^k = Student enrolment in the entry grade (form one) in the cohort

N_{t+4}^{k+3} = Total student enrolment in the exit grade (form four) in the cohort

R_{t+4}^{k+3} = The number of repeaters in the exit grade (form four) in the cohort

OR

$$\text{Crude cohort wastage rate (CCWR)} = \frac{\text{Cohort Wastage}}{\text{Enrolment in the entry grade}} \times 100$$

These indices that were obtained using the formula above were further subjected to a two related sample/paired sample t-test analysis to test the null hypothesis for any effect by the tuition fees waiver on the crude cohort wastage rate in the public secondary schools in the County.

3.0 Results and Discussions

This section presents the findings and discussions of this study.

3.1 Effect of the tuition fees waiver on crude cohort wastage rate

In order to determine the effect of the tuition fees waiver on the crude cohort wastage rate, two sets of the crude cohort wastage rates for the period 2002 to 2007 and for the period 2009 to 2014 were calculated. The period 2002 to 2007, represented the time before introduction of the tuition fees waiver in the public secondary schools, while the period 2009 to 2014 represented the duration after introducing the tuition fees waiver in 2008. In total, there were three complete student cohorts in each of these two distinct sessions, making a total of six complete cohorts over the period 2002 to 2014 except for the year 2008. Details of the analyses are stated below:

Table 2: The crude cohort wastage rates (CCWR) before and after the tuition fees waiver

Cohort	Number of schools	CCWR (%)
Before tuition waiver		
2002	90	32.62
2003	90	34.93
2004	90	32.31
Mean		33.28
After tuition waiver		
2009	90	16.00
2010	90	14.32
2011	90	14.74
Mean		15.02

Source: School records (2015)

Table 2, shows the mean crude cohort wastage rate for the period before and after introduction of the tuition fees waiver, for the sampled public secondary schools in Bungoma County. The mean CCWR figures were determined by averaging the crude cohort wastage rate for all the schools for the various cohorts, for the period before and for the period after introduction of the tuition fees waiver. The results in table 2 above reveal that the crude cohort wastage rates were higher before the tuition fees waiver was introduced in 2008. The average wastage rate for the three cohorts under review was 33.28%. This implies that; before the tuition waiver was introduced, 33.28% of the students who were admitted to the entry grade in public secondary schools in the County were not able to make it to the exit grade in the stipulated four years of study. However, after the tuition fees waiver was introduced in 2008, the crude cohort wastage rate reduced to an average of 15.02% for the three cohorts. These results imply that, after the fees waiver was introduced, the percentage of students who were unable to progress from form one (entry grade) to form four (exit grade) of the cohort reduced to 15.02% in the four years of study. Besides this, the highest crude cohort wastage rate was 34.93%, and this was recorded by the form one cohort of 2003, while the lowest crude cohort wastage rate was 14.32%, and this was recorded by the form one cohort of 2010. In order to determine whether there was any statistically significant difference in the crude cohort wastage rates for the period before and after the tuition fees waiver was launched, a paired sample t-test (two related sample t-test) was applied to test the null hypothesis. The details of the analyses are as presented:

3.1.1: Testing the null hypothesis

H₀₁: There is no significant difference in the crude cohort wastage rate of the public secondary schools in Bungoma County for the period before and after introduction of the tuition fees waiver in 2008.

H_{A1}: There is a significant difference in the crude cohort wastage rate of the public secondary schools in Bungoma County for the period before and after introduction of the tuition fees waiver in 2008.

To facilitate for testing the above hypothesis, the crude cohort wastage rates for each of the sampled 90 schools for the period before and after introduction of the tuition fees waiver were subjected to the paired sample t-test analysis using the statistical package for social sciences (SPSS). The results that were obtained are as presented in table 3.

Table 3: The paired sample t- test results for the crude cohort wastage rates

Pair 1	Mean	SD	C.I	t value	df	Sig (2-tailed)
CCWRBF						
	+18.26	10.78	95%	15.87	89	0.000
CCWRAF						

Source: SPSS paired sample t-test analysis.

Table 3, shows that there was a difference of 18.26 percent between the mean crude cohort wastage rates for the period before the tuition fees waiver (CCWRBF) and the mean crude cohort wastage rate for the period after the tuition fees waiver (CCWRAF) . The positive sign implies that the cohort wastage rate was higher before the fees waiver was introduced. The t-statistic was 15.87 and the level of significance was $p= 0.000$. Since the p-value was less than 0.05 ($p < 0.05$), the null hypothesis was rejected. This means that the introduction of the tuition fees waiver did change the level of the crude cohort wastage rates significantly, in the public secondary schools in the county. A reduction in the crude cohort wastage rate indices implied that after the tuition fees waiver was introduced, the flow of students in public secondary schools from the entry grade to the exit grade improved .Consequently, after the launch of the tuition fees waiver, the proportion of students who failed to complete the four year secondary school cycle within the stipulated four years of study reduced drastically. According to this study, the tuition fees waiver improved the state of student progression from the entry grade to the exit grade within the stipulated four years of study in the public secondary schools in the County.

4.0 Conclusion

Based on the findings, this study concludes that: The tuition fees waiver had a significant negative effect on the crude cohort wastage rates in public secondary education in Bungoma County.

5.0 Recommendation

On the basis of the findings of this study, the following policy recommendation was made: The government should significantly increase the size of the tuition fees waiver allocated to each individual student in the public secondary schools. This is because, an increased tuition fees waiver package will help to reduce the educational costs that students and their families incur in order to attend the public secondary education Kenya.

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