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Analysis of Trends in Enrolment Rates and Subsidized School Funding in Kenyan Public Secondary Schools

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Abstract: The study investigated current trends in enrolment rates and subsidized school funding in Kenyan public secondary schools by school category, basing on the Von Thunen's Production Function Theory that relates educational inputs and outputs. The study was undertaken in Vihiga County. A descriptive survey research design was used to guide the study. All the 5 Sub-County Directors of Education, 5175 form three students, 115 principals and 1023 teachers from all the 115 public secondary schools in Vihiga County formed the target population. A sample of 518 students, 102 teachers, 12 principals and 5 Sub-County Directors of Education was selected by saturated sampling for the directors of education, stratified random sampling for the schools and simple random sampling for the students, teachers and principals. Data were collected using a questionnaire, an interview schedule and a document analysis guide. These instruments were validated and assessed for reliability during the pilot study, which was conducted three weeks to the actual study in 5 secondary schools within the research area. Data were analyzed by use of descriptive statistics thus; frequencies and percentages. Findings revealed that there was a steady rise in the average number of students enrolled in form one in public boarding schools as compared to those who enrolled in day schools, which registered a lackluster trend. On the basis of these findings, it was recommended that the government of Kenya sensitizes parents on the need to enroll their children in day schools, so as not to overwhelm the already overstretched facilities in public boarding secondary schools, which would bridge the gap in enrolment rates among both categories of schools.
Keywords: Trends, School Enrolment, Subsidized School Funding, Day School, Boarding School.

INTRODUCTION

Education is viewed as a basic human right in the present day world because it provides the basic framework on which peace and other forms of sustainable development can be laid [1]. Globally, education is perceived as the basic human development indicator that is crucial in determining the quality of life of any individual. Good education significantly improves the livelihood of all human beings by imparting knowledge, skills and attitudes, which empower all individuals to become self-reliant [2]. It is no wonder therefore, that good education is a common point of convergence among all politicians and citizens in Kenya, regardless of their tribal, religious and even cultural affiliations.

According to World Bank [3], demand for Secondary education is soaring worldwide, due to the fact that; many countries achieve universal primary schooling and the demand for education is escalating to higher levels of the education ladder. Since its inception in the mid-19th century, formal education in Kenya has taken root and developed systematically over the years, during both the pre- and post-independence times. Improved access to education has been very significant and quality has also been emphasized on providing formal education, in line with the declaration of Human Rights and Jomtien resolutions [4]. Secondary education has however been confronted with many constraints which include high dropout rates, rampant illiteracy and financial constraints which make education not accessible to all. Still on the benefits of education to the society, Atieno, *et al*. [5], stated "Education lays the foundation upon which socio-economic and political development of a national is founded. Elsewhere, Achoka, Odebero, Maiyo and Mualuko [6] observed that social inequalities tended to decline whenever school enrolment in Kenya increased.

On the benefits of education to an individual, most scholars are in agreement that secondary education in particular tended to produce the greatest payoff in casing upward social mobility [7].

The aforementioned benefits of education seem to have informed decisions by various governments worldwide to increase public expenditure on the education sector, with a view to promote access to secondary education to all citizens. Kenya is one of the countries that are currently on the forefront to ensure access to quality education and has made the all-important step of formulating laws that guarantee education for all, going by what is been enshrined in the current constitution that was formulated in 2010. Education in Kenya is therefore a basic human right [8]. In this regard, many other countries have even gone further to make basic education free and compulsory. Despite these developments however, there is emerging evidence indicating that the massive investments in the education sector notwithstanding, the ideal trend in enrolment rate and learning outcomes in most countries still remains a pipe dream.

In the USA for instance, the academic achievement has been noted to be a big challenge, despite basic education being fully funded by the US government. The Coleman Report on Equal Educational opportunities claimed that although the USA had made significant efforts to provide wide access to quality basic education, disparities still existed in academic achievement [9]. Following these findings and recommendations of the same report, efforts by the USA government were directed towards improving the quality of learning outcomes among all children, regardless of their socio-economic backgrounds, type of school attended or community in which they belonged, through funding in basic education to ensure maximum enrolment and achievement of all goals of education.

In several other developed countries across the world, governments have also generously invested in education, so as to improve teaching and learning resources, infrastructure, and to provide qualified and experienced teaching staff in an attempt to improve students' academic achievement. In Canada for instance, it has been reported that heavy expenditure in public education has resulted to improved students achievement at international test, compared to students from other countries [10].

In Africa, it has also been reported that many countries have made significant efforts to increase access to basic education in line with the world declaration of education for all [11]. There is sufficient evidence indicating that governments have increased public expenditure in education. In Nigeria, Oruonye[12] acknowledged that secondary education plays a fundamental role in preparing young people for labour market, especially for those leaving secondary education to seek employment. According to Chapman *et al.* [13], with the success of UPE policy in Uganda, the government introduced free Universal Secondary Education (USE) policy in the year 2007, which has worked well ever since. According to the Ministry of Education in Uganda, parents may send their children to other secondary schools that do not take part in USE policy if they can afford to pay the fees. Although students are free of paying tuition fee in USE schools, they still have to pay boarding fees, scholastic materials and medical care among others [13].

In Kenya, the Government introduced subsidized secondary school funding in 2008, with the aim of increasing enrolment rates among secondary schools [4]. The launch of the funding was guided by the sector policy guidelines articulated in sessional paper number. 1, of 2005, the Kenya Education Sector Support Programme (KESSP) and the Kenya vision 2030 [8]. The Government of Kenya was informed by the conviction that secondary education plays a critical role in providing the link between academic and practical knowledge, skill development and the job market [4]. Those of school going age have no option, other than attend school to acquire education that is fully funded by the government [14, 15].

Financing of education in Kenya is a partnership between the government of Kenya and several other donor agencies. Education financing is highly decentralized and 87% of the total education budget is sent directly to schools [4]. However, occasional bureaucracies in the processing of the funds cause delays, hence causing panic and outcry among the school stakeholders [16]. The magnitude of this delay has been at its climax in second term each year, with the Permanent Secretary in the Ministry of Education writing to the treasury, seeking urgent allocation of fund to save the twin learning programmes [17]. While confirming release of the delayed funds, the minister for education stated that the funds could not be disbursed to schools immediately due to the constitutional requirement under article 221, which requires that budget making process undergoes wider consultation [18]. Compounded by delays are cases of students who are unable to pay for education due to poverty. Other challenges facing the sector include lateness, absenteeism, unfinished assignments, lack of proper school uniform and untidiness among students were caused by poverty and therefore the need for increase the support to finance education [19].

In Vihiga county, Kenya, the poverty level is relatively high and therefore students in both public day and boarding schools benefit from the government subsidy. An interesting scenario however here is that there are more students enrolled in boarding schools than in day schools. According to Vihiga County Director of Education, the boarding schools have an average of 65 students per stream, while day schools

have an average of 30 students per stream, against the standard national enrolment of 45 students per stream. The Government subsidy however stands at Ksh. 10,265 per student [4]. Each student in day school is expected to pay an additional Ksh. 3,000 while boarding school student is expected to pay and additional Ksh. 40,000 as at 2015, which clearly highlights the preference by most Kenyan parents to send their children in boarding schools as opposed to day schools, despite both being equipped with sufficient facilities needed for effective teaching and learning to take place [4].

Statement of the Problem

It is at the end of secondary education that students sit for examinations that decide what kind of courses they qualify to undertake at tertiary level. This makes secondary education a very crucial stage in every leaner's academic development cycle, as it is critical in preparing them for further training and entry into the job market. It is against this backdrop that the government of Kenya, through the Ministry of Education, introduced subsidized education at secondary school level in the year 2008, with the hope of attaining maximum student enrolment, so that education benefits all Kenyan citizens. This noble objective is however yet to be fully realized in Vihiga county, because the statistics held by the county director of education's office show dwindling enrolment, especially in day schools as compared to boarding schools. The preference of boarding schools over day schools by most parents has consequently put extensive pressure on the available resources in the few boarding schools within the county, compared to the day secondary schools, whose resources remain under-utilized. This scenario puts to direct question whether the government of Kenya is getting good returns from their heavy investment in the education sector, through subsidization of secondary education. It is against this background that the study investigated the subsidized secondary school education programme and how it influences students' enrolment in public secondary schools in Kenya, with the aim of obtaining facts and figures to explain whether the introduction of subsidized secondary education initiative by the Ministry of Education is worth the huge budgetary allocations being made currently.

Research Objective

The study aimed at investigating trends in enrolment rates and subsidized school funding by school category in public secondary schools in Vihiga County from 2009 to 2015.

Research Question

One research question was formulated from the aforementioned research objective, which guided the study as follows;

"What is the trend in enrolment rates and subsidized school funding by school category in public secondary schools in Vihiga County from 2009 to 2015?"

REVIEW OF RELATED LITERATURE

According to a report given by Consortium for Research on Educational Access, Transition and Equity (CREATE), secondary enrolment rates in Sub-Saharan Africa continue to be the lowest in the World [20]. One of the greatest challenges of gaining access to secondary education in Sub-Saharan Africa is affordability. This is because secondary education in the majority of the countries is part of a free-paying sector. According to the CREATE study, this means that parents are required to meet some operational costs such as tuition and maintenance and they may be required to foot many other things including food, uniform, learning materials and special equipments. Consequently, children from poor households whose parents cannot meet the costs are less likely to participate in secondary education.

Mutegi [21] investigated the influence of unit cost of education on students' enrolment rates in public secondary schools in Tharaka South sub county, Kenya. The study investigated the extent of average household expenditure on education of every student and how it influenced enrolment in secondary schools in Tharaka South Sub-county. The study also assessed the extent to which average government expenditure on every student's education influenced enrolment in secondary schools in Tharaka South Sub-County. Furthermore, the study established unit cost differentials by age and gender in Tharaka South Sub-County. The study used co-relational survey research design to establish the relationship between unit cost of education and students' enrolment rates in public secondary schools. The data were collected from household heads and principals of secondary schools and also from Ministry of Education offices. The target population comprised all the 23,275 household heads and 26 principals of secondary schools in Tharaka South Sub county. The Yamane's formula was used to get a sample of 393 household heads, while census was used to get the number of school principals who participated in the study. Questionnaires, interview schedules and education document analysis by interviewers were the main tools that were used for data collection. The data were analyzed using both SPSS and STATA softwares whose results revealed that most of households had more girls in secondary school than boys.

The study also established that there was high correlation between parents' level of education and children enrolment in secondary schools with r=0.891and $p<0.05$. On transport cost, the average distance from home of student to school is 24km, with day schools being closer at 12km and boarding schools being 28km away. The study revealed that the cost of girls' school uniform is 12% higher than that of boys,

and there was evidence of a high correlation between uniform cost and a student's gender (p<0.05). Regarding the household average expenditure on education for children in public secondary schools, the study established that the unit cost of education for girls is higher than that of boys in boarding schools (the average cost for girls was Ksh 52, 474 while that for boys was Ksh 49,194). However, the situation was opposite in day schools, where the unit cost for boys was higher than that of girls. The study also established that the average government expenditure per student was Ksh 27,189. Furthermore, the study established that a child was less likely to enroll in a secondary school if the household expenditure was higher than the government expenditure. Thus, government education subsidies may have been promoting enrollments in secondary schools in the region [21].

Aroni [22] assessed the effects of subsidized secondary education in Nyamache Division, Kisii County. The specific objectives of the study were; to determine the gross enrolment rates in public secondary schools in Nyamache Division in the last five years, to determine the impacts of subsidized secondary education on access to the existing educational resources in public secondary schools in Nyamache Division, to determine how access has been achieved by the subsidized secondary education in relation to teaching and learning resources in public secondary schools and to propose solutions to the problems of subsidized secondary education in relation to access on the educational resources in public secondary schools in Nyamache Division. The study adopted the descriptive survey design to investigate the various effects of subsidized secondary education in Kenya. The target population comprised of 28 public secondary schools in Nyamache Division with 2,536 students who are under the Subsidized Secondary Education Programme, from which a sample size of 14 Head Teachers and 48 class teacher were used which made a total of 62 respondents. Data were collected, coded and entered into the computer for analysis using the Statistical Package for Social Sciences (SPSS). The collected data were analyzed using both inferential and descriptive statistics such as frequency tables, bar graphs, pie charts and measures of central tendency using SPSS. From this research, it was found out that there was scarcity of learning resources, delay in disbursement of funds to schools by the government and shortage of teachers in the public schools in Nyamache Division. The enrollment trend was also on the upward trend hence there was need to make early plans to carter for the expected learners seeking secondary education.

Objectives of a study IPAR [23] included documentation of patterns of student enrolment by province and gender; status of the teaching force; availability and adequacy of physical resources; efficiency in utilization of the specified teaching period; students, performance in key subjects; and causes of regional inequalities in student access to and participation in secondary school education. The study adopted an exploratory approach, with a descriptive design. Four provinces were randomly selected, with one district purposively selected from each of the provinces. The key respondent sources included the Ministry of Education, Science & Technology staff and opinion leaders at the community levels. Personal interviews based on unstructured interview schedules; group discussions and direct observation were used to complement the secondary data. The Statistical Package for Social Science (SPSS) computer programme was used in data analysis. Findings of this study revealed major regional and gender disparities, with best performing districts in the non-ASAL regions. Among the first 14 best performing districts in the country (ranked by GER), five were in Central Province, four in Rift-Valley, two in Western, two in Nyanza and only one in Coast Province. None of the districts with GER above the national mean figure of 20.5% were either from Nairobi (urban) or the predominantly ASAL North Eastern and Eastern Provinces. The poorly performing districts were concentrated in the ASAL regions of North Eastern, Eastern and Coast Provinces. The districts with severe gender disparities as of 2000 included Wajir (GER: girls 2.7%, boys 8.8%); Mandera (GER: girls 3%, boys 6.9%) and Garissa (GER: girls 4.7%, boys13.1%) in North Eastern Province. In contrast, the districts with overall high GER and near gender parity were Kiambu, Nyeri, Nyandarua, Muranga, and Kirinyaga in Central Province; Taita-Taveta in Coast Province and Kakamega in Western Province.

Similar studies on access and retention in primary and lower secondary education in Ghana show that although Free Compulsory Universal Basic Education (FCUBE) made an overall enrollment increase, children from poor households continue to be under represented in enrolments [24, 25]. They made it explicit that not only indirect costs hinder access of the poor but also opportunity costs substantially affect the chances of poor children to enroll in and complete basic education.

A study of access patterns in Malawi also concluded that access to education continues to reflect household wealth [26]. These studies clarify that the abolition of fees has not been enough to ensure access to education for the poor. In Uganda it was observed that only one in five children who completed primary school had access to secondary education and majority of those were from wealthy households [27]. Although Uganda introduced USE parents are still required to pay boarding and medication costs. During the launch of Free Secondary Education in 2008, the president of Kenya explained the reasons for the government's introduction of subsidized education as follows: - Primary Education alone is not sufficient to provide the quality skilled human resource necessary for one

country's sustainable development. Moreover, primary school pupils complete 8 years of schooling when they are still too young to engage in productive activities and contribute meaningfully to nation building. In addition, children from poor families who fail to join secondary schools because of lack of fees often revert back to illiteracy, thus reversing 8 years of investment in their primary education. It is for these reasons that my Government undertook to implement the Free Secondary Education programme beginning this year speech by president in Februray, 2008.

Subsidized secondary education funding has in general increased opportunities for secondary schooling. Secondary enrolments increased from 779,000 in 2002 to 1.2 Million in 2007 to over 1.4million in 2008 (speech by President Kibaki in February 2008. However, increase in poverty levels discourages parents from investing in their children's education since the parents are unable to meet costs of education. According to the study carried by the MOE, economic profile of dropout and repeaters show that this phenomenon is common among students from low social economic background. These finding reinforce the findings by Wachiye[28] who says;

"Education plans of children decrease with social economic status to the extent that students with ability but low economic status background aspire to, but do not frequently expect higher education. This is worsened when the community is required to contribute part to the funds"

A report by Interim National Poverty Eradication plan [8] identifies hidden costs as further costs that have hindered access to secondary Education. The costs include uniform among others. Bishop [29] says that the main task facing developing countries including Kenya is giving basic essential right to education which is relevant due to massive capital and recurrent remains a deterrent factor due to additional costs for books, boarding and other materials. The question is, in reality to what extent will the abolition of secondary fees enable the poor to gain access to secondary education? This study therefore will compare enrollment rates in day and boarding public secondary schools in Vihiga County, Kenya.

Amisi [30] sought to establish the Socio-Economic factors influencing pupils' transition rates from primary to secondary schools in Kisumu East Sub-County. Four objectives guided the study to establish the influence of family structure on transition rates; the influence of parental level of education on transition rates; the influence of pupils' parental income on transition rates and finally the influence of pupils' participation in domestic chores on transition rates from primary to secondary schools. The study was influenced by the fact that transition rates in Kisumu East Sub-County was low, at an average of 48.74 compared to the neighboring Sub-Counties such as Kisumu West Sub-County at an average of 50.31 and Kisumu North Sub-County which is also at an average of 51.40. The study employed a descriptive survey research design, where the target population consisted of 68 head teachers of the public primary schools and 500 primary school teachers in Kisumu East Sub-County. The study findings indicated that some of the socio-economic factors had the highest influence on the transition of pupils from primary to secondary schools. These included; family structure, parental level of education, parental income level and participation of pupils in domestic chores. When looking at orphaned children sixty seven percent were found not to transit to secondary school. Parental level of education equally determined the transition rate, seventy four percent of the teachers agreed that most of the parents have primary education.

RESEARCH METHODOLOGY

This study used descriptive survey design. Descriptive survey design was adopted since it helps to establish the pertinent facts that the research intends to establish without necessarily manipulating the variables of the study [41]. Blaxter [32] states that survey research in education involves the collection of information from members of a group of students, teachers or other persons associated with the educational process and the analysis of this information to address important educational issues. Survey necessitates the data collection on existing status of the phenomenon on the ground [33]. Thus a survey became the best design for this study as the study collected views from the respondents' on educational matters to establish relationship of subsidized school funding on students participation in public secondary schools in Kenya.

The study was carried out in Vihiga County which is located in Western Kenya.. The County is located between 1^0 15" North and 30^0 03' North latitude. To the West, it extends to 33^0 15" West longitudes and to the East 35^0 12" East longitude. The county covers an area of 530.9 $Km^{2,}$ bordering Kakamega County to the North, Kisumu County to the South, Nandi County to the East and Siaya County to the West. It has five constituencies, namely, Emuhaya, Hamisi, Sabatia, Luanda and Vihiga [34] .The County has an annual average rainfall of between 1,800mm and 2,000 mm with an average temperature of 24^0C. According to the national census carried out in 2009, the county has a total population of 555, 000 people comprising of 47% males and 53% females. The population density is 1,045 people per Km^2 with a national percentage of 1.44%. Her annual growth rate is 3.3% with an age distribution of 0 -14 years (44.2%), 15-64 years (49.4%), 65 and above years. Poverty level in the county is 62%, with an age-dependency ratio of 100:102. The main economic activities include farming tea, maize, millet and cassava. Dairy farming is

practiced too. On the educational front, the county has 412 public primary schools and 115 public secondary schools. The secondary school enrolment is 136,082 with a teacher to pupil ratio of 1:31 in public schools. It has more than 10 tertiary colleges [34].

All public secondary schools in Vihiga County were targeted, as they all benefit from subsidized secondary education funds. Of the 115 public secondary schools in Vihiga County, 41 are boarding while 74 are day schools. All their 115 principals were targeted for the study, together with all the 5 sub-county directors of education, 1023 teachers and 5,175 Form 3 students, all totaling to 6318 respondents. Form 3 students were specifically used because they had used FSE funds for at least three years, which was long enough duration to be able to make a reasoned judgment on how the funds had benefitted them. The form 4 class was left out because they were busy preparing for the KCSE examinations, while Forms 1 and 2 had not been in the school long enough to clearly determine the benefits of FSE.

According to Nassiuma [35], simple random sampling represents the most basic statistical sampling technique. Mugenda and Mugenda [36] say that random sampling is the key to obtaining a representative sample. Simple random sampling was used to sample Form 3 students in each of the sampled schools. Stratified sampling was used to place schools into two categories as per their status as either Boarding or Day Schools. This ensured that representative sample of all respondents was obtained across the school categories. According to Mugenda and Mugenda [36], at least 30% of the cases per group are required for educational research. Saturated sampling was used to select all the sub-county directors of education, while simple random sampling was used to select Form 3 students, teachers and principals. Stratified sampling was used to select day and boarding schools. At least10% of the total schools per strata (Sub county) was used.

Table-1: Sampling of the Schools in the Sub Counties

Sub-County	Day	Boarding	Total	Sampled
Hamisi	23	11	34	3
Sabatia	22	12	34	3
Emuhaya	12	6	18	2
Luanda	10	6	16	2
Vihiga	8	5	13	2
Total	74	41	115	12

Source: Vihiga county director of education office

Sample size refers to the actual number of subjects chosen as a sample to represent the population characteristics. The exact numbers of respondents of each category that were selected were as shown in Table 2

Table-2: Sampling Frame

Category of Respondents	Population (N)	Percentage (%)	Sample (n)	Sampling Technique
Principals	115	10	12	Simple random
Teachers	1,023	10	102	Simple random
Form 3 Students	5,175	10	518	Simple random
SDE	5	-	5	Saturated
Total	6,318		637	

This study used both primary and secondary sources of data. Thus, the following instruments were used to collect data. These included; questionnaires, interview schedules and document analysis guides.

Bell [33] noted that questionnaires are a good way of collecting certain types of information quickly and relatively cheaply. The questionnaire is therefore an ideal instrument to gather categorical data from a large sample in a fairly short time [37]. It can also be answered at the convenience of the respondent and picked at a later date. Such a questionnaire was designed by researchers, with both open ended and closed items therein used to collect data from for teachers and students respectively. The subjects responded to questions that placed on a five-point Likert- type scale. This scale allowed the respondents to rate the relationship between subsidized school funding and students enrolment in secondary in Vihiga County. The respondents were assured that the information given were only for the purposes of research and would be treated with utmost confidentiality. To enhance return and completion rates of these questionnaires, a non-monetary incentive was provided to all the selected respondents.

An interview is a face to face interpersonal role situation in which one person, the interviewer, asks the person being interviewed to respond to some questions [38]. An interview schedule was used to collect data

from the principals and directors of education. The questions reflected the objective of the study.lso used to collect data was an observation checklist; the instrument was used to check records from the principals on subsidized school funding. The records on Government subsidy, students' fees payment, students' enrollment, education resources inventory and KCSE examination results were also perused and important data captured. A pilot study was carried out three weeks prior to the actual study, in 5 secondary schools one from each of the 5 sub-counties of Vihiga County, Kenya. The pilot schools and respondents were expunged from the study sampling frame before the actual study, so as to avoid redundancy and *hallo* effect in the actual study [39]. Data collected from the pilot study were used to assess validity and reliability of the research instruments.

Mugenda and Mugenda [36] refer to validity as the extent to which the instrument measure what it is supposed to measure or designed to measure. The instruments for this study were validated using the RASCH Model. It was expected that content validity of the items in the instruments was ensured following consultation with peers and experts from the department of Educational Planning and Management of Masinde Muliro University of Science and Technology. To implement this, the researcher supplied the three research experts with a rating scale and scoring guide for this purpose. The experts were all requested in writing to scrutinize critique and assess the content validity of the three instruments, whose results were as presented in Table 3, the validity score sheet.

Table-3: Validity score Sheet

Instrument	VALIDITY SCORE *(on a scale of 1 - 10)*			
	Expert 1	Expert 2	Expert 3	Average
Questionnaire for Teachers	7	9	8	8
Questionnaire for Students	7	7	8	7.3
Interview Schedule for Principals	5	8	7	6.7
Interview Guide for SDE	9	9	7	8.3
Document Analysis Guide	6	7	8	7

It can be observed from Table 3 that the average validity scores that were awarded to each of the five research instruments by the three research experts were above the minimum recommended score of 60%, for educational researches [40]. These validity scores were construed to mean that the instruments used had a strong ability to measure the variables that were investigated in this study.

On reliability, Mugenda and Mugenda [36] explain that, a ruler is considered to be a reliable instrument if it yields the same results every time it is used to measure the same object assuming the object itself has not changed. A reliable survey provided a consistent measure of important characteristics despite background fluctuations. It reflects the true score-one that is free from random errors. Test- retest method of estimating reliability was used to determine the reliability. This method administers the same instrument twice to the same group of subjects at different times to see if there is a strong relationship between the two test administrations. A pilot study was done in one school per sub-county totaling to 5 schools that were not part of the sample. The researcher administered the instruments to the students, teachers and the principals from both day and boarding schools. After a period of two weeks, the researcher administered the instruments again to the same respondents. Responses from the respondents were thus checked for consistency. From their responses, some changes were made to the structure and some of the questions. A quantitative analysis of the inquiry was performed using the SPSS computer programme to statistically test the reliability of the research instrument. In the analysis, the sum variables were compared to a single variable [41]. A correlation co-efficient was worked out using Pearson's Product Moment Correlation. It had been stipulated that an instrument whose calculated alpha coefficient would be equal to or greater than 0.7 would be deemed fit for use in this study, as it would have met the threshold set by George & Mallery [42], who came up with the following rules of thumb;

"Greater than 0.9 would be Excellent, greater than 0.8 would be Good, greater than 0.7 would be Acceptable, while greater than 0.6 would be Questionable, greater than 0.5 would be Poor, and less than 0.5 would be Unacceptable" (p. 231).

Going by these standards, items in all the research instruments, whose calculated Cronbach's alpha coefficients were found to be less than 0.7 were assumed to be defective, and were consequently modified. The reliability analyses indicated that all the three quantitative instruments eventually surpassed the minimum acceptable reliability coefficients *[questionnaire for teachers: r=0.746, questionnaire for students: r=0.846, Document analysis guide: r=0.818].* These results implied that the quantitative research instruments that were used to collect data in this study were of good scholastic quality and if used again under the same research conditions, they would produce a similar set of results.

This being a mixed methods study, both qualitative and quantitative data were collected. To

facilitate analysis, the raw data were coded in SPSS version 23.0 and analyzed descriptively to generate frequencies, percentages, means and standard deviations. These descriptive measures were used to supplement inferential statistics by giving explanations to the observations arising from the inferential statistics. Quantitative data were analyzed using Simple Linear Regression (SLR) to establish the relationships between the variables under investigation in this study. Simple Linear Regression was used to test the hypothesis because apart from the fact that the data collected with respect to this hypothesis met assumptions of this parametric test, the researcher wanted to establish whether there is association between the dependent and independent variables, and also to establish the equation linking these variables, making SLR the most robust for this.

Results of both descriptive and inferential data analyses were presented in tables, pie charts, histograms and line graphs. Hypothesis testing was carried out at $\alpha = 0.05$. A summary of objective, variables under examination and the statistical tools of analysis that was used are outlined in Table 4.

Table-4: Statistical Analysis Tools Used

Research Objective	Independent Variable	Dependent Variable	Analytical Technique
To establish trends in enrolment rates and subsidized funding by school category in public secondary schools in Vihiga county from 2007 to 2015	Trends in enrolment and subsidized school funding	Categories of secondary schools	Trend analysis, means, %

RESULTS AND DISCUSSION

This section presents the findings of the study. The research question as formulated from the study's objective was, "What is the trend in enrolment rates and subsidized school funding by school category in public secondary schools in Vihiga County from 2009 to 2015?" To address this research question, the study established the number of students that had been enrolled in Form one as from 2009 to 2015 in boarding schools. The findings were as shown in Table 5

Table-5: Trends in Form One Enrolment Rates in Vihiga County from 2009 to 2015

School Type	Unit	2009	2010	2011	2012	2013	2014	2015
Boarding	Avg. no. of students	149	177	232	247	282	315	347
	Max. no. of students	123	130	140	158	178	248	276
	Min. no. of students	190	205	289	300	350	355	384
Day	Avg. no. of students	67	93	100	94	90	89	73
	Max. no. of students	95	130	140	138	137	121	96
	Min. no. of students	33	47	59	53	51	52	47

Results in Table 5 indicate that there was a steady rise in the average number of students enrolled in Form one in the boarding schools as from 2009 to 2015. At the same time, there was an increase in the minimum and maximum number of students who were enrolled in Form one as from 2009 to 2015. Since subsidized school funding was launched in 2008, there has been an influx of students who were enrolled in boarding schools.

This implies that the subsidized school funding may have enabled parents who were unable to pay fees in boarding schools take their children for admission to boarding schools. With respect to day schools, Table 5 shows that from the year 2009 to 2011, there was an increase in the average number of students who were enrolled in Form one. However, as from 2012 to 2015, there was a steady decline in the number of students who were enrolled in Form one. A comparison was also made between SSF and school enrolment rates per school category and the results were as presented in Table 6.

Table-6: Funding and Enrollment Trends from 2009 to 2015

School Type	Variable	2009	2010	2011	2012	2013	2014	2015
Boarding	Enrolment.	149	177	232	247	282	315	347
	Funding (Ksh)	1,529,485	1,816,905	2,381,480	2,535,455	2,894,730	3,233,475	3,561,955
Day	Enrolment	67	93	100	94	90	89	73
	Funding (Ksh)	687,755	954,645	1,026,500	964,910	923,850	913,585	749,345

Table 6 points out that the average enrolment increased with increase in the amount of SSE funds in both day and boarding schools, although the boarding schools recorded a steady increasing trend in students' enrolment for boarding schools. This may be attributed to the fact that most parents are attracted to take

children to boarding schools. It was further noted that there was intensive learning in such schools thus better academic performance. Principals in boarding schools may have utilized boarding funds as they waited the Government to disburse the subsidized school funds. This is contrary to day schools that had no extra funds and thus depend on the subsidized school funding from the Government.

On the other hand, there was a rise in the students' enrolment in day schools as from 2009 to 2011, after which there was a steady decline in the number of students who were enrolled in Form one. This is attributed to steady increase in extra levies demanded by schools. It also means that the Government relaxed the supervisory role hence without scrutiny, schools increased fees leading to drop outs or inability to enroll in secondary school after completing primary school. One Sub-county Director of Education (SDE) quipped thus:

"We do not have enough staff in our offices to monitor what happens in all schools on day to day basis. Remember that almost every primary school has an adjacent sister secondary school"

In addition, it may have been noted that little learning went on in day schools due to delay in disbursement of subsidized funds leading to many day schools either to close or fail to sit end of term examinations hence lowering confidence among the parents. It can be deduced from the Table that in boarding schools, there were positive deviations in the enrolment trends as from 2009 to 2015. This indicates that there was generally an increase in the number of students who were enrolled in Form one in the boarding schools as from 2009 to 2015. On the other hand, results indicate that for day schools, there was a positive deviation in the period of 2009 to 2010 and 2010 to 2011. After that there were negative deviations till 2015 which indicates that there was decrease in the number of students who were enrolled in Form one in day schools in the subsequent years.

These findings show that in spite of the low school fees charged by the day schools, the enrolment levels in Form one were on a steady decline while the boarding schools registered high levels of enrolment in Form one despite the fact that they charged high boarding fees. This implies that there must be other requirements that parents need and thus the need to flood boarding schools with students and avoid day schools. This may make the Government's goal of increasing access to secondary education be hampered unless the parents and the society at large be sensitized on the same. At the same time, quality in boarding schools is likely to be compromised due to large number of students being enrolled which leads to resources in those schools being over-stretched. On the other hand, the resources in day schools may be left idle or under-utilized due to low levels of enrolment. At the same time, it is worth noting that due to boarding levies; boarding schools can squeeze and employ some teachers on Board Of Management (BOM) to help areas that lack teachers unlike day schools that have no opportunity to charge any extra levies that can be used for the same. One SCDE said, thus:

"Day schools depend on the subsidized funding and the delay in the disbursement of the funds is a national issue not only in Vihiga County. The delay is due to logistical issues like the consultative budgetary process."

More importantly, the Government policy of free day secondary school funding may be undermined. The question being raised is that: Is the policy working for the common good? Another SCDE indicated, thus:

"Education is like a shop, it is an issue of willing seller, willing buyer. It is upon the day school principals to market their institutions but the Government cannot force parents to take their children to schools that are not of their choice."

It can be concluded that there was a general positive trend in students' enrolment in both day and boarding schools, which was as a result of the steady increase in the amount of funds that were s It was found out in this study that there is a steady upward trend in the enrollment rate among students pursuing secondary education, especially in boarding secondary schools. This essentially calls for policy review. These findings in boarding schools are in agreement with Fafunwa [43] who argues that there was a big gap in quality resulting from large number of students in crowded classrooms, using obsolete equipment and disillusioned teachers, which is an argument that is not in line with the findings in day schools. The findings also agree with Chapman *et al.* [13] who indicates that parents can take their children to other secondary schools if they can afford to pay the fees. The findings also disagree with Nyaga [14] who opined that the school going age have no option other than attend school to acquire education that is fully funded by the Government. Parents were willing to pay more by taking their children to boarding schools. These results also part from the findings of Ndiku and Muhavi, [44] that implementation of free secondary education saw many parents withdraw paying additional levies to supplement the FSE due to misconception. Declining enrolment rate in day schools may be due to delay in the disbursement of the funding which agrees with Wafula, [16] who reported that due to bureaucracies in the processing of the funds, delay is experienced causing panic and outcry among education stakeholders.

Mutegi, [21] investigated the influence of unit cost of education on students' enrolment rates in public secondary schools in Tharaka South sub county, Kenya.

His study tried to answer three questions. First, to what extent does the average household expenditure on education of every student influence enrolment in secondary schools in Tharaka South Sub-county? Secondly, to what extent does average government expenditure on every student's education influence enrolment in secondary schools in Tharaka South Sub-County? Thirdly, are there age and gender education unit cost differentials in Tharaka South Sub-County? The study used co-relational survey research design to establish the relationship between unit cost of education and students' enrolment rates in public secondary schools. The data were collected from household heads and principals of secondary schools and also from Ministry of Education offices. The target population comprised all the 23,275 household heads and 26 principals of secondary schools in Tharaka South Sub county.

The study revealed that the cost of girls' school uniform is 12% higher than that of boys, and there was evidence of a high correlation between uniform cost and a student's gender (p<0.05). Regarding the household average expenditure on education for children in public secondary schools, the study established that the unit cost of education for girls is higher than that of boys in boarding schools (the average cost for girls was Ksh 52, 474 while that for boys was Ksh 49,194). However, the situation was opposite in day schools, where the unit cost for boys was higher than that of girls. The study also established that the average government expenditure per student was Ksh 27,189. Furthermore, the study established that a child was less likely to enroll in a secondary school if the household expenditure was higher than the government expenditure. Thus, government education subsidies may have been promoting enrollments in secondary schools in the region [21]. These findings therefore call for action by the Ministry of Education to put measures in place that would boost students' enrolment especially in day secondary schools, given that more money is allocated towards subsidization of secondary education in day schools as compared to boarding schools which receive lees money from the government,

A similar study by Aroni [22] assessed the effects of subsidized secondary education in Nyamache Division, Kisii County, whose specific objectives were; to determine the gross enrolment rates in public secondary schools in Nyamache Division in the last five years, to determine the impact of subsidized secondary education on access to the existing educational resources in public secondary schools in Nyamache Division, to determine how access has been achieved by the subsidized secondary education in relation to teaching and learning resources in public secondary schools and to propose solutions to the problems of subsidized secondary education in relation to access on the educational resources in public secondary schools in Nyamache Division. The study adopted the descriptive survey design to investigate the various effects of subsidized secondary education in Kenya. The target population comprised of 28 public secondary schools in Nyamache Division with 2,536 students who are under the Subsidized Secondary Education Programme, from which a sample size of 14 Head Teachers and 48 class teacher were used which made a total of 62 respondents. From this research, it was found out that there was scarcity of learning resources, delay in disbursement of funds to schools by the government and shortage of teachers in the public schools in Nyamache Division. Just like the present study, the enrollment trend was also on the upward trend, hence there is need to make plan for the expected large numbers of learners seeking secondary education.

CONCLUSION

There was a steady increase in students' enrolment in boarding schools as from 2009 to 2015. On the other hand, there was an initial increase in enrolment among day schools from 2009 to 2011 but later a decline in student enrolment between 2012 and 2015. This trend in day schools is attributed to certain conditions which prevailed in day schools, which discouraged parents and prospective students from enrolling, while pre-existing conditions in boarding schools encourage parents and prospective students from enrolling. The free day secondary funding policy is therefore under threat as results show negative response/trend in day secondary schools, despite the efforts being made by the government to maximize school enrolment among all public secondary schools.

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