

**INFLUENCE OF SCHOOL INFRASTRUCTURE ON STUDENTS'
PERFORMANCE IN PUBLIC SECONDARY SCHOOLS IN KAJIADO
COUNTY, KENYA**

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Award of the Degree of Master of Education in Corporate Governance

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DECLARATION

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

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DEDICATION

I dedicate this project with a lot of love, respect and appreciation to my beloved husband Alex Mokaya Onsongo, our children: Patrick Ogeto and Ignatius I3osire and my parents as an inspiration in their quest to realise my dreams.

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Most important is our Almighty God whose powerful hand led me throughout the study period and all those in one way or another contributed to the success of this study. "God bless you abundantly."

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LIST OF ABBREVIATIONS AND ACRONYMS

BOG	Board of Governors
EFA	Education for All
GOK	Government of Kenya
HOD	Head of Department
K.C.S.E	Kenya Certificate of Secondary Education
KESSP	Kenya Education Sector Support Programme
KIE	Kenya Institute of Education
MDG	Millennium Development Goals
NCST	National Council for Science and Technology
PTA	Parents Teachers Association
SPSS	Statistical Package for the Social Sciences
UNESCO	United Nations Educational Scientific and Cultural Organisation
UNICEF	United Nation Children's Fund

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ABSTRACT

School infrastructure is a key base for effective teaching and learning in schools. The goal of school infrastructure in secondary school education is to increase school attendance of students, enhance staff motivation and improve academic achievements of students. School infrastructure includes classrooms, laboratories, halls, open fields, games equipment, dormitories and sanitation facilities. It is in the classrooms that the day to day formal teaching and learning take place. In the libraries, learners get the opportunity to conduct their own personal studies and carry out research. It is in the field that co-curricular activities take place. Learners and teachers need to be housed in the school and at the same time need sanitation facilities like toilets, waste disposal services and clean water. School infrastructure is therefore a very important component in ensuring successful education. On this backdrop, the Kenya government must pursue school infrastructure development if the broad national goals are to be achieved. Current studies have examined the attitude of students and teachers towards school infrastructure, access to secondary education, attendance, retention and academic achievements. The purpose of this study was to establish the impact of school infrastructure on the provision of quality education in public secondary schools in Kajiado County. The study was guided by four objectives; to determine the extent to which the physical layout of teaching and learning infrastructure affects students' performance in public secondary schools in Kajiado County; to analyze how adequacy of existing boarding infrastructure influences students' performance in public secondary schools in Kajiado County; to establish how co-curricular infrastructure influences students' performance in public secondary schools in Kajiado County and to establish the extent to which adherence to government policy in school infrastructure influences students' performance in public secondary schools in Kajiado County.

Descriptive survey was appropriate for the study because it seeks to describe aspects of a study as they are during the time of conducting a study. The target population was 3600 including 528 teachers, 1652 form three students and 1420 form four students, the total sample size was 360 respondents distributed proportionately under the categories 53 teachers, 162 form three and 142 form four students. The study involved both qualitative and quantitative data. Tables were used to present the findings of the analysis and thereafter the findings of the analysis was presented in a report. The data was analysed with utilizing SPSS and Microsoft excel. The study found that improved academic achievement is associated with more adequate and well spaced classrooms, adequate and ample spacing in the libraries, adequate science laboratories, adequate water and sanitation facilities and adequate participation in co-curricular activities.

CHAPTER ONE

INTRODUCTION

I.I Background lo the Study

In both developed and developing nations, the education is a very crucial process through which an individual's life chances are determined. Beyond the economic significance, education is viewed as a good in itself and indeed a basic human right with regard to the lower level of education (World Bank, 1995). Education is a universal investment in human beings and a value resource for economic benefit of the country. The governments all over the world committed themselves to the provision of Education for All (EFA) at Dakar, Senegal in 2000 (UNESCO, 2003).

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Education does not exist in a vacuum but in an environment structured of physical facilities and material resources that are used in teaching and learning. The specifications given for the establishment, management and material resources in public secondary schools are stipulated in the laws and policies that govern the country's education system. The goal of infrastructure system in secondary schools seeks to increase school attendance of students, enhance staff motivation and to improve academic achievement of students (Alimi, 2004). There is a link between school architecture and its users, (students and teachers); Research has shown that a well planned school with clean and safe learning environment are important for academic achievement (Cash 1993, Earthman & Lemaster 1996). Physical

facilities play a key role in the attainment of the school's intended objectives and overall quality performance in national examinations . Public secondary schools are often characterized by lack of infrastructure facilities such as adequate classrooms, latrines, hostels and laboratories.

Ironically the introduction of Free Primary and Secondary Education has been touted as an accelerator of the aforementioned problems. Since its inception in 2003, more students now attend school, however a number of challenges continue to plague the implementation of these programs including overstretched facilities such as classrooms, latrines, hostels and laboratories and overcrowding. It may be a fact that dilapidated; crowded or uncomfortable school infrastructure leads to low morale among the students, teachers and the parents. Hence this leads to the drop in achievement when school facilities are inadequate (Fraizer, 1993).

In Nigeria, a study by Ejionueme (2007) states that the physical infrastructure in secondary schools were poor and would continue to adversely affect the contributions of secondary education to the Millenium Development Goals (MDGs). Educational facilities contribute directly to jr remotely to the teaching and learning processes in the educational system. Thess facilities and environment also portray the quality of the institution in terms of their staff or students, friendliness, safety and relevance (Okoiye and Uche, 2004).

In East African especially in Tanzania, poor physical infrastructure is a common feature in many educational institutions. Most schools are characterized by

ramshackle infrastructure. In addition, new programs and expanded intake have been suggested without matching development of the physical infrastructure (Stephen, 2002).

In Kenya, conditions in Nairobi create hurdles for children to get quality education and form barriers to school planning (Dieky, 2002). Most schools rarely meet the basic standards of health and inspection, because they are poorly planned (Siringi, 2009). With the introduction of broad-based curriculum at all levels of education which has led to a more diversified and specialized programmes there is need for effective planning of physical facilities and material resources (Olembo,1992). Organisation, coordination and supervision are required in scheduling the use of space equipment and relating availability of effective teaching and learning (Olembo, 1992). The Free Primary Education was aimed at reducing illiteracy levels in the country as it aims that by 2015 every Kenyan will be able to read and write (Universal Primary Education and Education For All) by the year 2015. This policy has however worsened the quality of education due-to high enrollments with limited physical infrastructure such as classrooms

Kajiado County which is the main focus of this study is a semi-arid area mainly inhabited by pastoralists who move from one place to another in search of green pastures for their livestock. As a result of the nomadic lifestyle many schools have not constructed permanent institutional infrastructure needed for delivery of quality education. This has contributed to students' dropouts, absenteeism and

overall poor performance (GOK, 2003). In secondary school education, the gross enrolment rate has been generally low (that is; 21%) and hence poses a great challenge to achievement of Education For All (UNICEF, 2003). Development/ construction of adequate and permanent infrastructure in Kajiado County would greatly increase students' enrollments, improve delivery of quality education and overall student performance in the schools (Ouma, 2011). Due to these facts, the study aims at assessing the impact of school infrastructure factors that on students' performance in public secondary schools in Kajiado County, Kenya.

1.2 Statement of the Problem

According to GOK (2003) under Free Primary Education policy, many pupils were enrolled in primary schools. In fact, in 2003 over 1.3m pupils were enrolled through this programme. These enrolments in primary and secondary schools have not been consistent with the development of necessary physical infrastructure needed to boast quality education and improve students' performance in schools. Many public schools in Kajiado County lack the basic infrastructure facilities such as laboratories and classrooms among others. This has a consequence on the overall students' performance in national examinations.

Many studies have been done on primary and secondary education. For example, a study by Siringi (2009) assessed the basic standards of health and inspection; Dieky (2002) assessed the relationship between quality education and school planning; Stephen (2002) assessed development of new programs and expanded

intake in school. Rintangu (1998) on the other hand assessed the effects of participation in competitive sports on academic performance on secondary schools students in Nairobi Province. Performance in public secondary schools depends on a lot of factors that occur in collaboration, Rintangu (998) should have therefore included the planning of school infrastructure such as classrooms, libraries, sanitation facilities and fields. This poses a knowledge gap which this study will seek to fill.

1.3 Purpose of the Study

The purpose of this study was to establish the impact of school infrastructure on students' performance in Kenya Certificate Secondary Education (KCSE) in public secondary schools in Kajiado County, Kenya.

1.4 Objectives of the study

The following were the objectives of the study:

- i. To determine the extent to which the physical layout of teaching and learning infrastructure affects students' performance in public secondary schools in Kajiado County.
- ii. To analyze how adequacy of existing boarding infrastructure influences students' performance in public secondary schools in Kajiado County.
- iii. To establish how co-curricular infrastructure influences students performance in public secondary schools in Kajiado County.

- iv. To establish the extent to which adherence of government policy in school infrastructure influences students' performance in public secondary schools in Kajiado County.

1.5 Research Questions

The research was guided by the following questions:

- i. What is the extent to which physical layout of teaching and learning infrastructure affect students' performance in public secondary schools in Kajiado County?
- ii. What is the adequacy of existing boarding infrastructure and its impact on the students' performance in public secondary schools in Kajiado County.
- iii. What is the physical layout of co-curricular infrastructure and its effects on performance of students in public secondary schools Kajiado County?
- iv. What is the extent which adherence of government policy in school infrastructure affect students' performance in public secondary schools in Kajiado County?

1.6 Significance of the study

This study could be useful to the Ministry of Education and Ministry of Finance in formulation policies and strategies to boost development of infrastructure in the

schools to increase students' access to education and disbursement of infrastructure funds to public schools in Kenya. The findings of this study may provide useful information for head teachers and Board of Governors (BOG) and Parents and Teachers Association (PTA) as stakeholders to know the infrastructures which affect student performance in school. The findings of this study will form a basis for further researchers who might be interested in advancing this study on the other regions of the country.

1.7 Limitations of the Study

This study targeted current students and teachers in the public secondary school in Kajiado County therefore the accuracy of the data depended on the willingness of the respondent who gave accurate information during the field work. The other limitation was that the study relied on the students' perception on the existing state on the infrastructure in their school which is a qualitative aspect and vary from one person to the others. There are possibilities that the researcher were only probe to the extent that the respondents allow.

1.8 Delimitations of the Study

The study was based in Kajiado County. The study focused on students and teachers in public secondary schools to establish the influence of infrastructure on students' performance in public secondary schools.

1.9 Assumptions of the Study

The following were assumptions were made:

1. Respondents were to give accurate, truthful and honest responses to the items in the questionnaire.
2. Secondary school students were to make responsible judgment about the existing infrastructural facilities within their schools.

1.10 Definitions of Significant Terms

Boarding facilities refers to physical infrastructures **ihut** support students stay in schools such as sanitation blocks, dining halls, dormitories among others.

Co-curricular facilities are those infrastructures that are meant to bring social and physical adjustments in a child. These include fields, recreation centres, rooms for indoor games among others.

Corporate Governance refers framework of rules, relationships, systems and processes within and by which authorities are exercised and controlled.

Government policy refers to the guidelines of operating institutions, **learning facilities** refers to physical space and equipments that supports teaching and learning programmes they include; classrooms, laboratories and libraries.

Infrastructure refers to the basic systems and services that are necessary for an organization to run smoothly. This study will mainly focus on physical facilities in the schools.

Retention refers to the state or action of retaining to keep possession

1.11 Organization of the Study

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The study was organized into five chapters. Chapter one consists of the background to the study, statement to the problem, purpose of the study, objectives of the study, limitations and delimitations of the study, assumptions of the study and organization of the study. Chapter two focuses on literature review and conceptual framework, the literature will check on what scholars and researchers have found.

Chapter three focuses on the research methodology. It shows justification of the area of study, research design, target population, sample and sampling procedure, research instruments, validity and reliability of instruments, data processing and analysis. Chapter four consist of the findings of the study. Both inferential and descriptive statistics were used in examining the relationship between variables in the study. Chapter five contains a conclusion for the study in which the major findings will be noted and discussed. Important implication will be pointed out and recommendation given as well as suggestions for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a comprehensive review of the literature related to the study. Material has been drawn from several sources, which are closely related to the theme and the objectives of the study. The issues discussed include physical planning of schools, infrastructures in schools, government policy on quality of education in Kenya, theoretical framework, conceptual framework and summary of literature review.

2.2. Effects of Physical Layout of Learning Infrastructure on Students' Performance in KCSE Public Secondary Schools

Sanoff (2001) in his research on school building assessment methods, he says that school buildings had an impact on the mental development of a student, he explains that schools that are properly built and attractive to look at motivated the children to stay in school and learn as well. A study by Chiriswa (2002) showed that schools that rarely perform well in national examinations cause their students to be de-motivated to work hard hence lose hope in pursuing higher education. Students from schools that perform well in national examinations have their students motivated to work hard and often focus their energies towards attaining good grade in school. Okoye and Uche (2004) stated that education is an equalizer where those who do well in schools are economically rewarded regardless of their

economic background while those who do not do well are not rewarded. Kibui (2001) commented that education throughout the world has for many centuries emphasized a selective function regardless of available infrastructure in schools. A number of studies have shown that many school "systems, particularly those in urban and high-poverty areas, are plagued by poor planned infrastructures, decaying buildings that threaten the health, safety, and learning opportunities of students. Good facilities appear to be an important precondition for student learning, provided that other conditions are present that support a strong academic program in the school. "Learning environment" is a term used liberally in educational discourse because of the emerging use of information technologies for educational purposes on the one hand, and the constructivist concept of knowledge and learning on the other (Mononen-Aaltonen, 2008). The concept of the physical learning environment with respect to physical structures relates to spaces, equipment and tools within the school.

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In a school environment, learning infrastructure includes; classrooms, laboratories and libraries. Fisher (2006) conducted research on the impact of school infrastructures on student outcomes and behaviour in Georgia and established that academic achievement improves with improved building conditions, lighting levels air quality and temperatures. He further established a correlation between school class size and student achievements. Having large classes can affect students achievements. Mark (2002) in a study of factors

affecting learners' performance in schools in Canada. maintained that one cannot expect high level of students academic performance where school buildings are poorly located and substandard. He emphasized that well planned structures, clean, quiet, safe, comfortable and healthy environment are important componets of successful teaching and learning.

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A study by Lackey (2001) in overcrowded schools in New York City found that students in such schools scored significantly lower on both mathematics and reading examinations than did similar students in under utilized schools. In addition, when asked, students and teachers in overc owded schools agreed that overcrowding negatively affected both classroom activities and instructional techniques. Laboratories and technical workshops ar; essential in teaching and learning process. The extent to which these infrastructures could enhance quality education depends on their location, their structures and facilities available in them. It is not unlikely that well planned learning infrastructures in terms of location, structures and facilities will affect facilitate teaching and learning process and as well as enhance good academic performance of the students (Ayaji, 2007).

2.3 Effects of Adequacy of Boarding Facilities on Student Performance in Public Secondary Schools

Boarding facilities encompasses the physical infrastructures such as; sanitation blocks, dining halls, dormitories, staff houses among others. In order to plan and

construct effective boarding facilities and improve the physical learning environments, not only technical specifications need to be elaborated; qualitative and adequacy aspects are also need to be considered (Marton and Booth, 2007). Beer (2005) and Watson (2003) observed that housing teachers and students in the school compound goes a long way to improve learner performance. She established that teachers who stay in school compound can get time to help learners after class hours through remedial teaching.

Sanitation facilities should include solid waste disposal, drainage and adequate water for personal hygiene and to clean toilets. According to Gogo (2002), Wilkens, White and Kinder (2003), materials used in constructions of school buildings and type of buildings determine the levels of cleanliness. When cleanliness in schools is maintained students get attracted and motivated and this will contribute to good academic performance of the students (Kinder 2003).

2.4 Effects of Co-Curricular Infrastructure on Student Performance in Public Secondary Schools

Co-curricular infrastructure include fields, music rooms, theater rooms among others, they help the students to participate in different activities which helps in developing the learner physically, socially mentally and emotionally Ng'anga (2003). The location and availability of adequate playing fields and necessary equipments are necessary for talent development. Co-curricular infrastructure

should be well located and well structured for nurturing talents in students, (Khaemba 2007).

According to Stephens & Schaben (2002) modern approaches of education emphasize on all round development of the students. It is believed that unless balancing both the curricular and co curricular activities is done the very purpose of education would be left unrealized. Studies indicate that extracurricular activities when are well organized and supported by the school management do promote academic performance in students (Broh, 20(12)).

2.5 Effects of Government Policy on Students' Performance in Public Secondary Schools

One of the aims of the Government goal is to ensure that all the citizens acquire quality education .The specification for the establishment and requirement of physical and material resources in public secondary schools are stipulated in the laws and policies that govern a country's education system. Ministry of Education inspection manual for educational institutions states that learners output is determined by such factors as sanitation facilities, availability of physical resources, effective utilization well maintained and trained teachers. Over the year school managers have emphasized that physical facilities available in most of the schools may as well regarded as obsolete in terms of quality and quantity since they were meant for a small population but now enrolment has increased This calls for increase in number so as to improve (Mworia, 1993).

A part from personal threats insecurity for children can emanate from inappropriate school facilities and infrastructure. Poorly constructed classrooms, dormitories, playing grounds, insufficient and broken (own facilities (GOK 2003). This goal has however not been achieved especial in semi arid region where students are faced by myriad of challenges that act as impediment to access quality education. To this end, the government has made some allocation to the development of schools infrastructure however this allocation has been minimal as compared to the schools infrastructural needs. According to Kenya Institute of Education (KIE) (2006), the Government recognizes curriculum as the pillar of quality education and training where Kenya Institute of Education (KIE) plays a central role in the implementation of the Kenya Education Sector Support Programme (KESSP). The Institute is relied upon to develop quality curriculum and curriculum support materials. However the implementation of education policies and development of the school's physical infrastructure have lagged behind schedule especially in semi arid region includir g Kajiado County. This has resulted to poor performance ofthe students in these regions.

2.6 Summary of Literature Review

Secondary school is an important transition for students. It is during this transition period that students make decisions concerning which academic course and career path based on their academic performance. Their performance in to some extent influenced by the physical facilities provided by the schools. The literature has shown that users' expectations and the theoretical concept of what makes a good

school building do not match up. In practice, this leads to a certain extent to traditional planning, which requires teachers **and** students as users of the buildings, to adapt to given environments whether good or bad (Dudek, 2000; Sanoff, 2009; Marton and Booth, 2007). However, no study has been found to address the issues of the institutional infrastructural factors influencing students' performance in public secondary schools in Kajiado County, Kenya. This poses a knowledge gap which this study will seek to fill.

2.7 Theoretical Framework

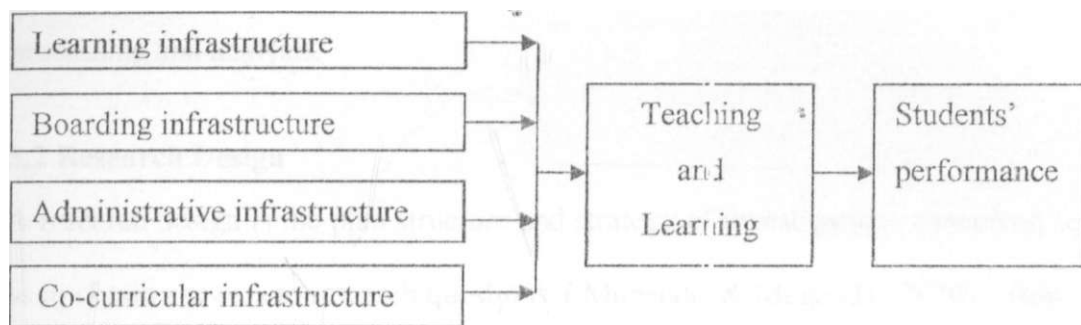
This study used Classical Liberty Theory. The classical liberty theory was put forward by Rousseau between 1712 and 1778. The classical liberty theory states that each person is born with a great amount of capacity. Thus educational system should be designed so as to remove barriers of any nature (institutional or infrastructural) in a person's life (Orodho, 2003). The classical liberal theory also states that social mobility will be promoted by providing equal opportunity to education access.

According to Rousseau, (the theory proponent), personality qualities should not jeopardize social equity so long as society rewards people according to their status. It follows that those social institutions such as education institutions should attempt to create an enabling environment by having the needed infrastructural facilities needed to excel in academics. The education institution should treat people equally by providing the needed facilities and people should take

advantage of education opportunities and perform better in their examinations (Orodho, 2003). There is therefore need to ensure students from all part of the country get the needed physical infrastructure to gunntee equal opportunities to education access which will later improve their living standards.

2.8 Conceptual Framework

Figure 2.1 Conceptual Framework to Show the Conceptualization of the Variables of the Study



As shown in figure 2.1, the independent of the study includes; the learning infrastructure (such as classrooms, laboratories and ibraries), existing boarding infrastructure (such as; sanitation blocks, dining halls, dormitories among others), co-curricular infrastructure (such as fields, music and theatre rooms among others) and administrative infrastructure (such as; staff room ;, principals, deputy, HODs, bursars' offices among others). The dependent variable for this study will be students' performance in national examinations.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section details the methodology that will be adopted in the study. It highlights the procedures and techniques that will be used in carrying out the research. Key sub-sections of the chapter includes; the study design target population, sampling procedure, data collecting instruments, data collection procedures and data processing and analysis.

3.2 Research Design

A research design is the plan structure and strategy of investigations conceived so as to obtain answers to research questions, (Mugenda & Mugenda , 2010). This study will adopt a descriptive design. According to Gay (1981) descriptive survey research method is used to investigate, determine and report the way the situation is or was at a given time. According to Kerlinger (2002), descriptive survey research design is used to obtain pertinent and precise information concerning the current status of a problem/issue and where possible draw valid general conclusion from the facts available. In view of the above mentioned characteristics of a descriptive design, it is the best to apply in this study because it will help the researcher to explore and gather information on current situation concerning issues being investigated in this study.

3.3 Target Population

According to Orodho (2004) target population comprises of the items or individuals under consideration in a given study. The target population in this case consisted of 528 teachers, 1652 form three students and 1420 form four students of all the 25 public secondary schools in Kajiado County. My target population was 3600.

3.4 Sample Size and Sampling Procedures

Orodho (2004) defines sampling as selecting a sub-set of cases in order to draw conclusion about the entire set. Purposive sampling method was used to select form three and four students from the target school. These were selected because they have already done the subject selection and have at least two years experience in the school hence able to assess the infrastructure facilities in the school. Purposive sampling method was used to select the principals, deputies and teachers as key informants of the study since they were well versed with the infrastructure facilities in the school.

Simple random techniques was used to select the specific schools where teachers and students was sampled. Since there are 59 public schools in Kajiado County, 13 schools have only form one students, 15 schools have up to form two students, 6 schools will be sitting for their first time the KSCE examinations; the remaining 25 schools were targeted, a sampling percentage of 42% was made which will give a total of 23 public schools, the individual students in form three and four in

each of the selected school was sampled using Simple random techniques. This eliminated bias since any students in form three and four had an equal chance of **being selected in the sample**. A sample percentage of **10%** was chosen from each school. Based on this criterion, the sample size was **360** respondents, the number conforms to the widely held rule of the thurrb: to be representative, a sample should have thirty or more test items (Cohen & Manion). The sample size is shown in table **3.1**.

Table 3.1: Sampling Matrix

Category	Total number	Sampling percentage	Sample size
Form 3.	1652	10	165
Form 4	1420	10	142
Teachers	528	10	53
"Totals	3600	30	360

3.5 Research Instruments

According to Kombo and Tromp (2006) in carrying out a research, the researcher requires methods that provide high accuracy, generalizability and explanatory power; with low cost, rapid and minimum management demands and with administrative convenience. To this respect, the researcher collected data from the students and teachers using questionnaires that contained both closed and open ended questions. In closed ended questions, the teachers and students were expected

alternatives while open ended question gave the teachers and students complete freedom to respond through brief discussion and explanation.

The questionnaire was structured in six main sections. The first section contained background information of the students. The second section contained questions on learning infrastructure; the third section captured information on administrative infrastructure, the fourth section captured information on co-curricular infrastructure, fifth section captured information on boarding infrastructure while the sixth section captured information on the performance in examinations. A five point Likert scale-type questions was widely be used in the questionnaire. In addition, an observation checklist was used by the researcher to check the availability and adequacy of teaching and learning infrastructure facilities in the schools. This aimed at investigating the conduciveness of learning environments in the schools.

3.6 Validity of the Instruments

Orodho (2004) defines validity as the degree to which an instrument measures the intended concept. It is also a degree to which results obtained from the analysis of the data actually represent the phenomenon under study. If a data is a true reflection of the variables then inferences based on such data will be accurate and meaningful according to (Mugenda and Mugenda, 2010). In this study, to ensure validity, the researcher consulted the supervisors and experienced lecturers of the

university who assisted to ascertain the validity of the prepared research instrument (Kombo and Tromp, 2006).

3.7 Reliability of the Instruments

Reliability is defined by Best and Kahn (1989) as the degree of consistency that an instrument or procedure demonstrates. To establish reliability of an instrument, test and retest method was applied whereby the researcher administered the instrument to students of the two selected schools. This was repeated using the same respondents at an interval of two weeks. The results of the two sets of questionnaires was correlated to determine the reliability coefficient using the Pearson correlation coefficient (r). Pearson correlation formula was used as follows;

$$R = \frac{I.XY - (ZX)(\Sigma Y)/N}{\sqrt{[J(\Sigma X^2 - (\Sigma X)^2/N) [A/\Sigma Y^2 - CZY/N]}}$$

Where,

R -- Is the Pearson's coefficient of correlation in ex.

N - Is the number of the respondents.

X — Is the numbered items responded to as expected.

Y - Is the odd numbered items responded to as expected.

According to the formula, the value of R should lie between +, Mugenda and Mugenda (2010). The result of test-retest technique was 0.7. This was taken to be reliable and therefore satisfactory.

3.8 Data Collection Procedures

A research permit was obtained from the National Council for Science and Technology. The research permit was used to secure permission from sampled schools. The researcher administered the instruments whereby the researcher delivered the instruments to the respondents in person and explained the instrument items to them. The respondents filled in the questionnaires after which the researcher collected the instruments from the respondents ready for data processing and analysis.

3.9 Data Analysis Techniques

Data from the field was tabulated, coded and entered in the computer program statistical package for social science (SPSS) which aided in the data analysis process. According to Orodho (2004), descriptive statistic involves tabulating, graphing and describing data received from sample of the population. The researcher used descriptive statistics such as frequency tables, bar graphs and percentages. In addition, qualitative data was analyzed using content analyst technique. The research finding was presented using frequency tables, percentages, pie charts and bar graphs among others.

CHAPTER FOUR

DATA ANALYSIS, DISCUSSION AND INTERPRETATION

4.1 Introduction

This chapter presents data analysis, discussion and interpretation of the data collected from field interpretation based on the analysis. The data analysis and report of the findings was done using tables, frequency distribution, percentages, bar graphs and pie charts. An observation list was also used to evaluate the location and the status on the physical infrastructure in Kajiado County. The purpose of this study was to investigate the influence of infrastructure facilities on student performance in Kajiado County. The study targeted twenty live schools from which a sample of twenty three schools were sampled. There were 165 form three students, 142 form four students and 53 teachers.

The findings of the study are discussed under the following; questionnaire return rate and the following themes derived from the research questions, demographic information of the students and teachers. The study had four objectives: To determine the extent to which the physical layout of teaching and learning infrastructure affects students' performance in public secondary schools. To analyze the adequacy of existing boarding infrastructure and its impact on the student;' performance in public secondary schools. To establish the physical layout of co-curricular

infrastructure and its effects on students performance in public secondary schools. To establish the extent to which adherence of government policy in school infrastructure influences students performance in public secondary schools.

4.2 Questionnaire Return Rate

The study targeted 53 teachers, 142 form four students and 162 form three students from the 23 schools in Kajiado County. The return rate of the instruments is illustrated in the following Table 4.1

Table 4.1 Questionnaires Responses Return Rate

Respondents	Delivered	Returned	%
Form 3	165	162	98.18
Form 4	142	140	98.59
Teachers	53	50	94.33

The study was unable to get 100% response rate; for students and teachers as 94.33% teachers, 98.59% form four students and 98.18% form three students returned the questionnaire. According to Mugenda & Mugenda (2010), a response rate of 50% is adequate for analysis and reporting; a response rate of 60% is good and of 70% and above is very good. Hence these percentages were adopted as adequate for the study.

4.3 Demographic Characteristics for the Students

The study explored demographic characteristics of the students. They included the form, gender and the age bracket. The researcher focused on these three demographic characteristics because of their importance in school infrastructure. For example in the case of gender, male and female students usually require different types of boarding infrastructure, co-curricular infrastructure and sanitation facilities. Having both gender in a study is therefore important in examining whether the study captured the views of the infrastructure utilized by both male and female students.

Data obtained from the field regarding sex of the students were analyzed and presented as shown in Table 4.2.

Table 4.2 Gender of the Students

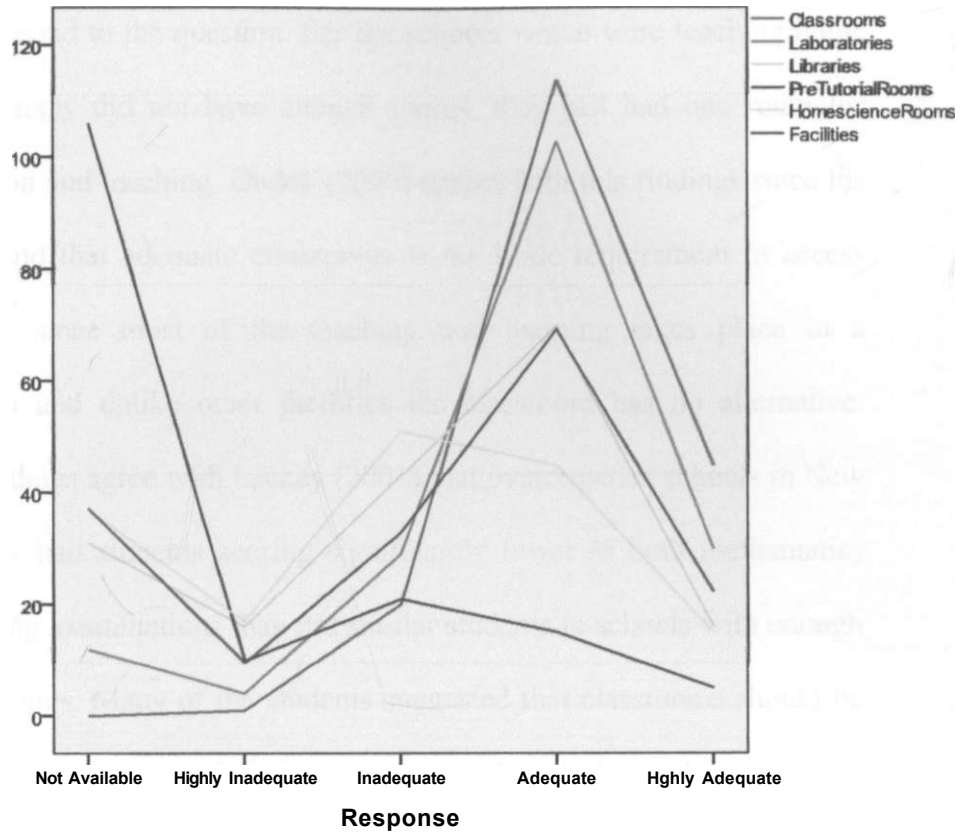
Gender	Frequency	Percentage
Male	158	47.59
Female	174	52.41
Total	332	100

From Table 4.2, the study had a total of 332 students, with a total of 158 male students and 174 female students. The results reveal that the study had more or less the same number of male and female students and was therefore able to have a representative view of infrastructure utilized by both male and female students. The study explored the period the students had been in school. The first three students had been in for two and half years; while the first four students had been in school for three and half years. This was long enough to assess the influence of infrastructure in academic performance.

4.4 The Physical Layout of Teaching and Learning Infrastructure

The students were asked to state the status of learning infrastructure in their schools. The findings are shown in figure 4.1.

Figure 4.1 Status of the Learning Infrastructure

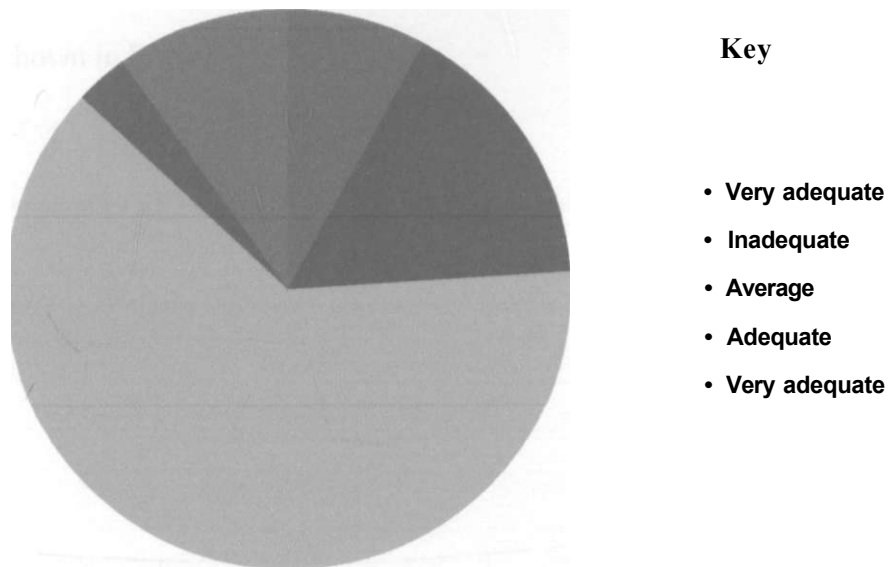


As can be seen from the figure 4.1 except for pre-tutorial rooms (study rooms), generally speaking majority of the students 115 (69.4%) felt that the learning facilities were adequate in the schools. The classrooms where most of the learning take place 108 (65.5%) students said they were adequate but the status was dilapidated especially the floors, windows, ceiling and the walls. Laboratories in many schools were adequate but some said that they were small in size so during practical lessons they were

congested. With the libraries many schools did not have them instead books were stored in store rooms when school; were closed lor holidays. Many schools did not have pre-tutorial rooms (study rooms) making many not to respond to the question. For the schools which were teaching home science, many did not have enough rooms, thjy just had one room for preparation and teaching. Dudek (2000) agrees with this findings since his study found that adequate classrooms is the bE sic requirement to access education since most of the teaching and learning takes place in a classroom and unlike other facilities the classroom has no alternative. These findings agree with Lackey (2001) that overcrowded schools in New York City had students scoring significantly lower in both mathematics and reading examinations than did similar students in schools with enough infrastructures. Many of the students suggested that classrooms should be big enough to accommodate the increase number of the students in many schools.

In this research question, the study sought to gather information on status of the spacing of the learners' lockers in classes. The data collected from the students was analyzed and presented as shown in Figure 4.2.

Figure 4.2 Status of the Spacing of the Learners' Lockers in the Classes

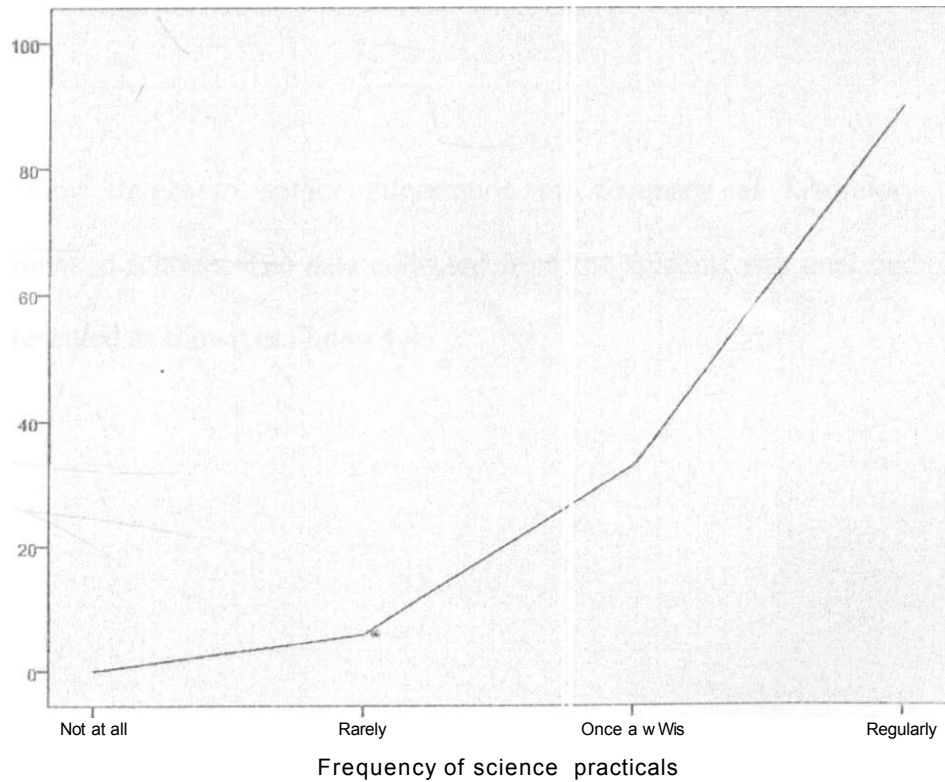


From figure 4.2, 126 (63%) of the students felt that the spacing of the learners' lockers in the classes was average, with very few of them feeling that the spacing was average, 32(16%) of the students felt that the spacing was inadequate, 20 (10%) students felt that the spacing was very adequate, 16 (8%) students felt very inadequate and 6 (3%) felt adequate. From the results there is a clear outcome that poor class spacing was associated with

poor performance. While good academic performance was associated with good performance. Dudek (2000) observed that uncomfortable and unsuitable classrooms cause problems such as poor concentration span, writing difficulties and illness thus reduces the learning opportunities.

The study sought to gather information on how often students performed science practicals. The data collected from the students was analyzed and presented as shown in Figure 4.3.

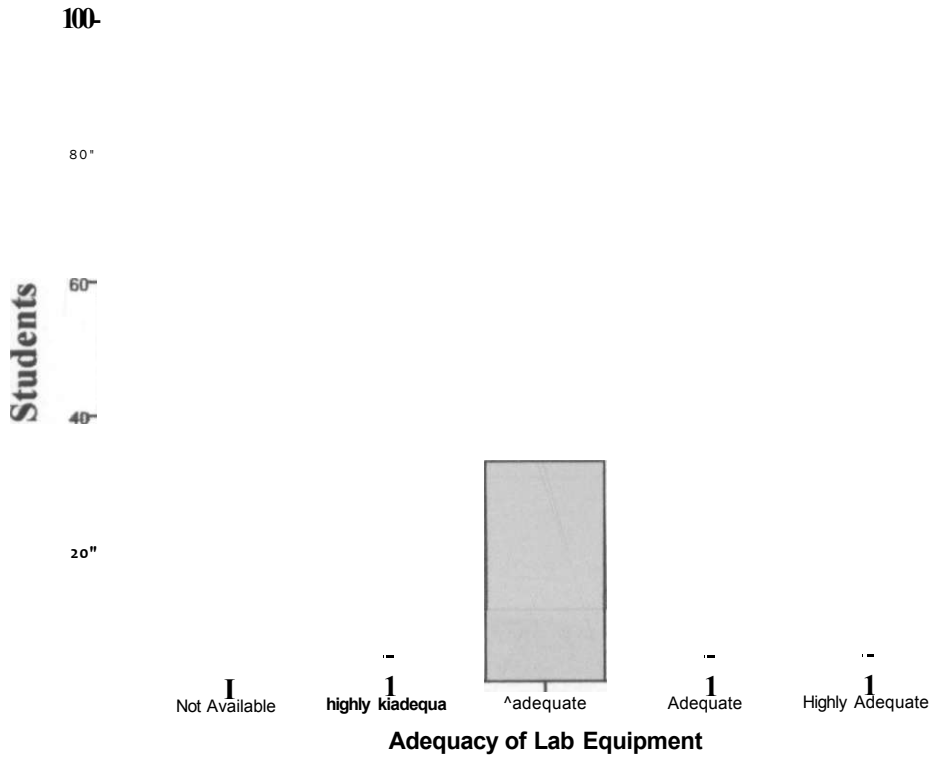
Figure 4.3 Frequency of Performing Science Practicals



From figure 4.3, approximately 90 students indicated that science practicals are regularly administered in the schools, 30 students said they did once in a while and 10 students said they were rarely done. The majority of the students also felt that the laboratories equipments in the schools were adequate as shown in figure 4.3. The findings concur with those of Popoola (2009) who found that schools laboratories significantly influence students' academic performance in Nigeria. The study shows that there are some public secondary schools which rarely perform practicals. Students in such schools are not fully exposed to many practicals and at the end of the four years they are disadvantaged thus perform poorly in sciences.

The study sought to gather information on adequacy of laboratory equipment in schools. The data collected from the students was analyzed and presented as shown in Figure 4.4.

Figure 4.4 Adequacy of Laboratory Equipment in the Schools

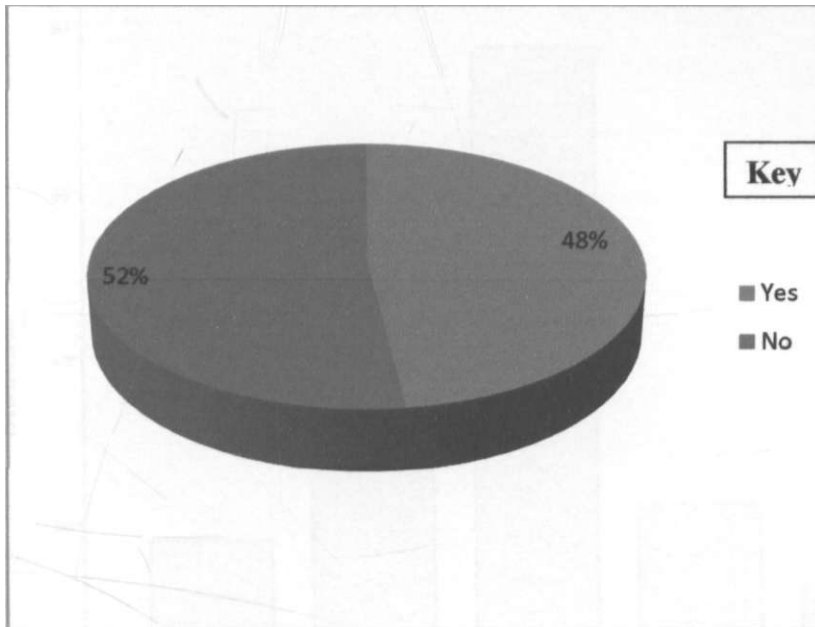


The study in figure 4.4 shows that; 70 students said the laboratory equipments were adequate, 40 students said they were highly adequate, 35 students said they were inadequate and 8 students said they were highly inadequate. Some student said their school laboratories were not spacious enough and not well located within the school premises leading to poor performance. The Ministry of Education requires each school to have biology, chemistry and physics laboratory (Republic of Kenya 2005).

However this study established that only 6 schools had the required number of laboratories, 10 schools had 2 laboratories, 5 had 1 laboratory and 2 schools had none.

A follow up question was posed that sought to gather information on access to library at any time felt. The data collected from the students was analyzed and presented as shown in Figure 4.5.

Figure 4.5 Access to Library at any Time Felt

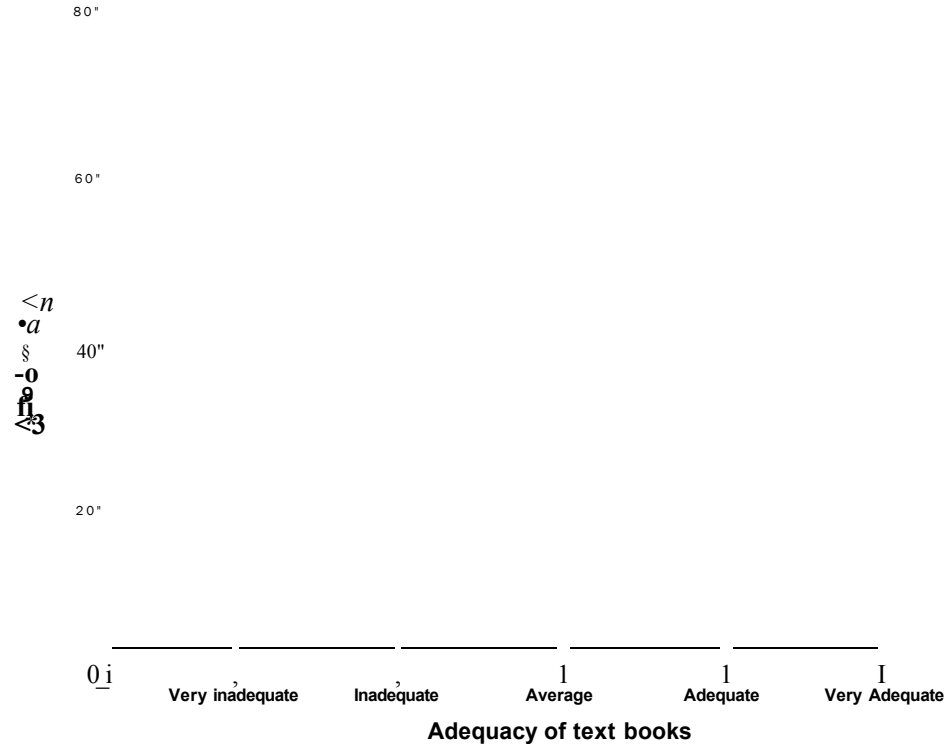


As can be seen form figure 4.5, around 175 (52%) students agreed that they had no access to the library any time they wish to while 157 (48%) agreed that they can access the library at any time they wish. It may be

concluded that libraries are important necessity in ensuring good results in schools. However, most of them indicated that on average text books are adequate in the library as shown in figure 4.6.

A question was asked to find out the adequacy of text books in the library. The data collected from the students was analyzed and presented as shown in Figure 4.6.

Figure 4.6 Adequacy of Text Books in the Library

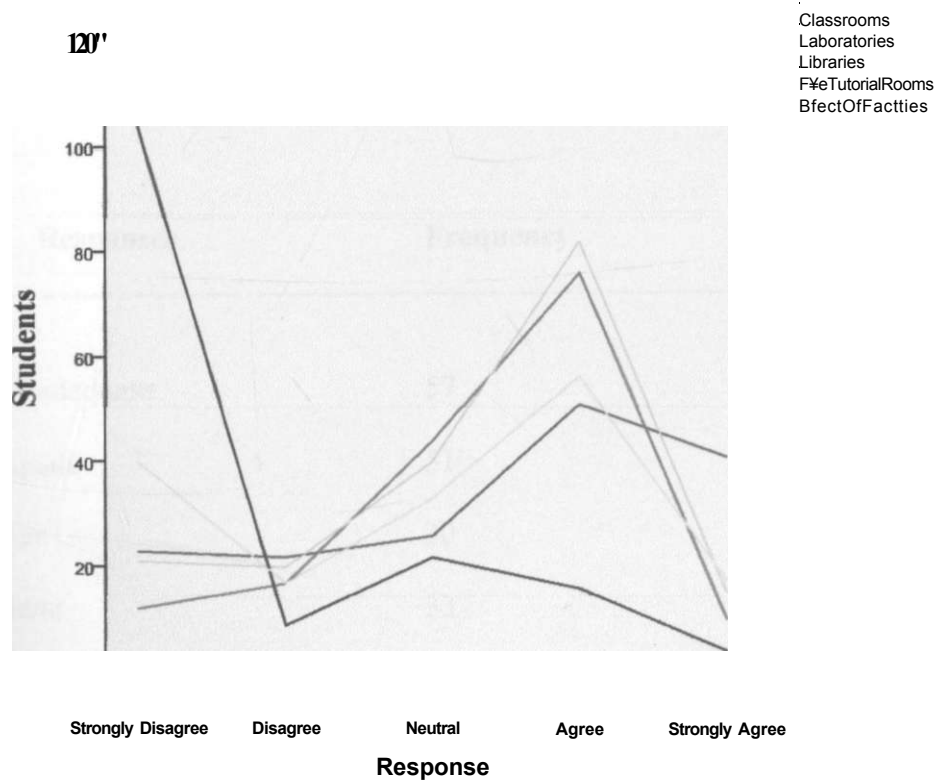


As can be seen from figure 4.6, 80 students said the adequacy of text books in the library was average, 45 students said they were inadequate, 25

students said they were adequate, 18 students said they were very inadequate, 15 student said they were very adequate. Text books are very important because students use them in class and in doing research.

In this research question the study sought to gather information on how learning infrastructure affects students' performance. The data collected from the students was analyzed and presented as shown in Figure 4.7

Figure 4.7 Effects of the Learning Infrastructure on Performance of the Learner



As can be seen from figure 4.7 except for pre-tutorial rooms (study rooms), generally speaking the majority of students felt that the learning facilities affect their performance. The highest was library with 82(24.69%) students, laboratory 78(20.24%) students, classrooms 45(14.1%) students, other facilities 50(16.5%), and pre-tutorial room.' 20(8.1 %) students. From the study we can say that the learning facilities especially classrooms determine academic performance.

4.3 Boarding Infrastructure

Information regarding various boarding infrastructure in the school was sought from students. The findings are shown in table 4.3

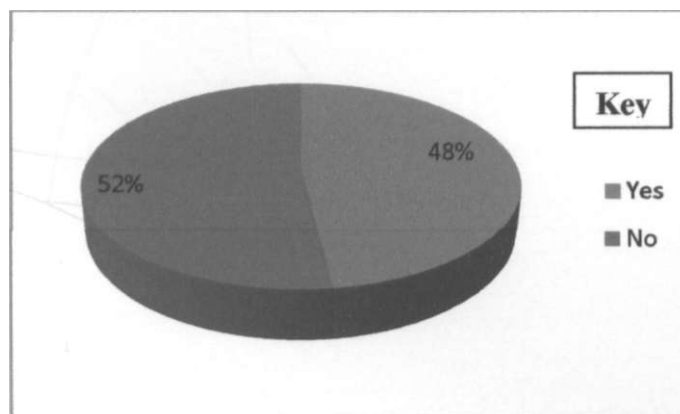
Table 4.3 Adequacy of Boarding Infrastructure

Responses	Frequency	%
Very inadequate	57	31
Inadequate	51	27
Average ;	30	16
Adequate	33	17
Very adequate	18	10
Total	189	100

Many students felt that the basic facilities were inadequate with 57 students, 51 students said were inadequate, 30 students said were average, 33 students said were adequate and 18 students said were very adequate. These facilities are important for the student because when they are adequate students feels comfortable. This study on boarding infrastructure agrees with Kinder (2003) who observed that; when cleanliness in schools is maintained, students get attracted and motivated and will contribute to good academic performance of the students.

In this research question, the study sought to gather information on convenience of location of toilets for the learners. The data collected from the students was analyzed and presented as shown in Figure 4.8.

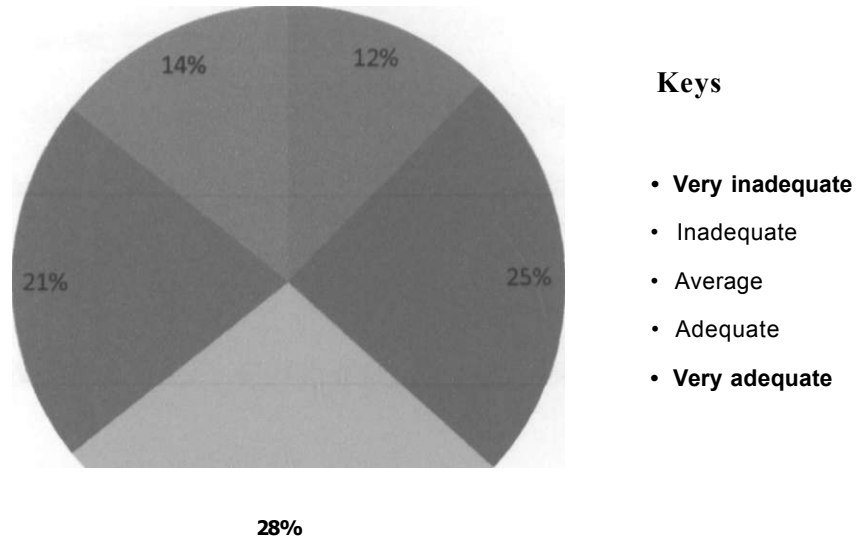
Figure 4.8 Convenience of the Location of Toilets for the Learners



From figure 4.8 the study found that 183 (52%) of the students said the toilets were poorly located, 149(48%) of the students said the toilets were located in convenient location. Many students gave their opinions saying that toilets were far from classes and they did not have privacy. During break time they would use most of their time walking to and from the toilet. The study found that the average number of students utilizing one toilet was 54 students per student in Kajiado County contrary to the Ministry of Education (MOE) guideline of 50 students per toilet. This led to overcrowding of the toilets which led to delays to class.

In this research question the study sought to gather information on adequacy of the spacing of beds in the dormitories. The data collected from the students was analyzed and presented as shown in Figure 4.9.

Figure 4.9 Adequacy of the Spacing of Beds in the Dormitories



We can see from the figure 4.9 that most students felt that the spacing of beds in the dormitories was not very convenient for the students. 42 (27%) of the students felt that the spacing was average, 23 (24%) felt inadequate, 30(21%) felt adequate, 20 (14%) very adequate and 17(12%) very inadequate. A good boarding facility promotes academic performance. This study agrees with Earthman and Lemaster (1996) that clean air, good lighting and quiet safe residential place promotes academic achievements. Many students gave suggestions that there is need to construct new

dormitories because many said they were congested; create racks for boxes, shoes and other personal items.

4.4 Co-curricular Infrastructure *d.*

The study sought to gather information on adequacy of co-curricular infrastructure. The data collected from the students was analyzed and presented as shown in Table 4.4.

Table 4.4 Adequacy of Co-Curricular Infrastructure

Responses	Frequency	%
Not available	10	6
Very Inadequate	30	17
Inadequate	38	21
Adequate	56	31
Very Adequate	45	25
Total	179	100

From Table 4.4, it is clear that in many schools, 56 students said they had adequate fields, 30 students said they were very inadequate, 38 students said they were inadequate while 10 students said they had no fields. From the study many students said they lacked other co-curricular infrastructure like theatre rooms. These results show that adequacy of co-curricular

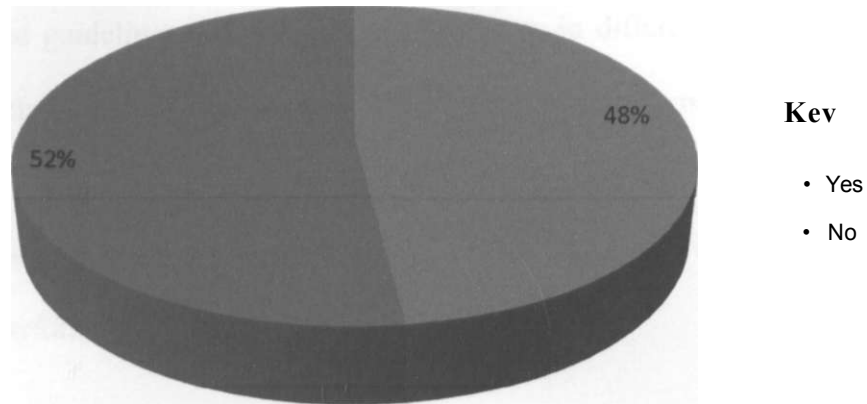
infrastructure is associated with improved participants of learners in the co-curriculum activities. Some students' strength lies in co-curricular activities such as athletics, drama, music and these talents can only be nurtured by schools through availing the necessary infrastructure. Most of the students indicated that fields are adequate. However the rest of the facilities were viewed to be either not available or very inadequate. Co-curricular infrastructure should be well located and well structured for nurturing talents in students. The availability of adequate playing fields and necessary equipments are necessary for talent development. It was noted that educational benefits of co-curricular activities include promotion of cognitive, affective and psychomotor growth and development, improved self concept, positive attitude and overall academic achievement.

4.5 Government Policy on School Infrastructure

In this research question the study sought to gather information on knowledge on government policy on school infrastructure. The data collected from the students was analyzed and presented as shown in Figure

4.10

Figure 4.10 Knowledge on Government Policy on School Infrastructure



From the figure 4.10, many of the students 156 (52%) were not aware on government policy on school infrastructure, while 144 (48%) students were aware on government policy on school infrastructure. These policies include class construction and class size, locker spacing, toilet location and the sharing ratio among many. The students said they should be informed of the government policies on the establishment of schools so that they can give their own views when needed. From the results it is a clear indication when policies are followed performance of students improves.

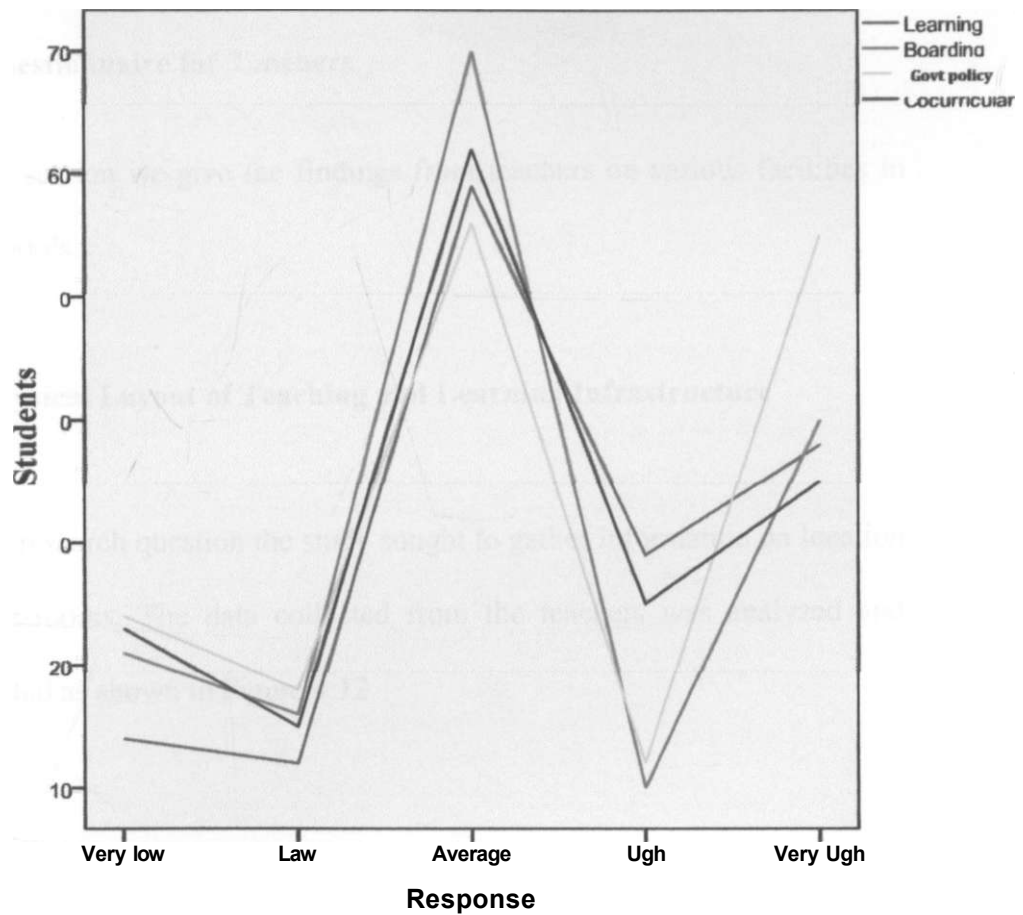
Most of the students felt that government policies do not affect their academic performance. A good number of students were also neutral because they were not aware of these policies. The ministry of education has provided guidelines that schools should follow in different areas for example a class should have a minimum of 40 students and a maximum of 45 students per class for effective teaching and learning in the schools. Hence schools should follow the government policies in order to promote academic performance in public secondary schools.

4.6 Overall Schools Academic Performance

Asked how they would rate the overall performance of their school in national examinations, majority of students felt that the performance was average as can be seen from figure 4.13. Very few felt the performance was excellent while only a good number thought theirs was very poor. Many students said that they performed poorly because they do not have enough facilities like a library and laboratories, "this is evidenced from the research where many students indicated that they could not access the library and lack enough laboratories. This means that most schools lacked basic facilities which could promote teaching and learning. Kinder (2003), recommends that good infrastructure promote teaching and learning; classrooms, laboratories and libraries should be well located and equipped.

In this research question the study sought to gather information on influence of physical facilities on overall performance. The data collected from the students was analyzed and presented as shown in Figure 4.11

Figure 4.11 Influence of Physical Facilities on Overall Performance



Asked for their opinion on whether the overall performance of their school was influenced by the existing physical facilities, on average 70 (29%) students said they were affected by boarding facilities, 62 (25%) students were affected by co-curriculum activities, 58 (24%) students were affected

by learning facilities, 56(22%) students affected by government policy. The majority of the students felt that there was no influence. As to whether the overall performance of their school was influenced by the various physical facilities most of the respondents said that the influence of all the facilities was average as evidenced by the figure 4.11.

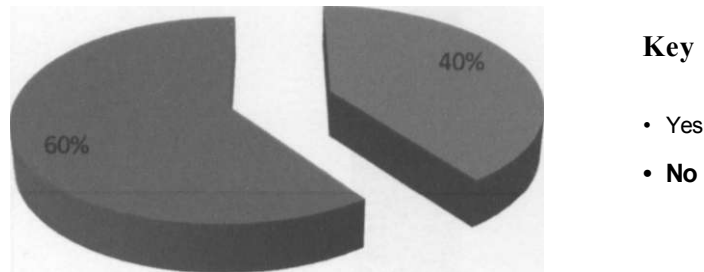
4.6 Questionnaire for Teachers _

In this section we give the findings from teachers on various facilities in the schools.

4.7 Physical Layout of Teaching and Learning Infrastructure

In this research question the study sought to gather information on location of classrooms. The data collected from the teachers was analyzed and presented as shown in Figure 4.12

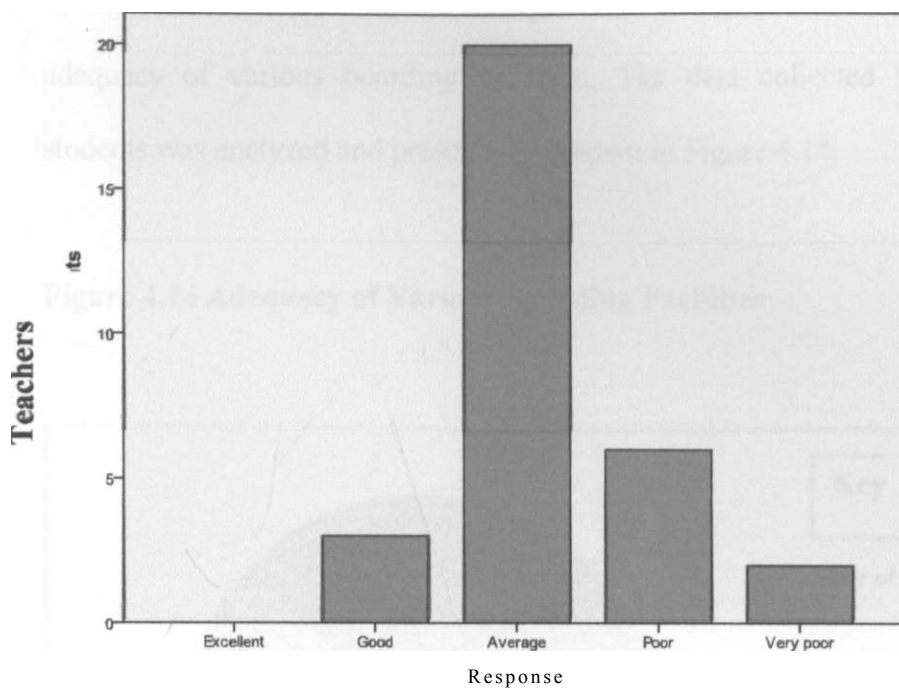
Figure 4.12 Location of Classrooms



Asked if the location of the classrooms was conducive to promoting students learning, 32 teachers (60%) said the classrooms were located in a conducive area, while 21 teachers (40%) said they were located in a conducive area. Teachers gave various reasons for this. Most of them cited rooms being very near to the busy roads leading to learners being distracted, other classrooms are near the games fields and when activities are on like physical exercise they are distracted. Other reasons were classrooms being near the staffroom where teachers consulted noisily.

In this research question the study sought to gather information on spacing of learners' lockers in classrooms. The data collected from the teachers was analyzed and presented as shown in Figure 4.13

Figure 4.13 Spacing of Learners' Lockers in Classrooms

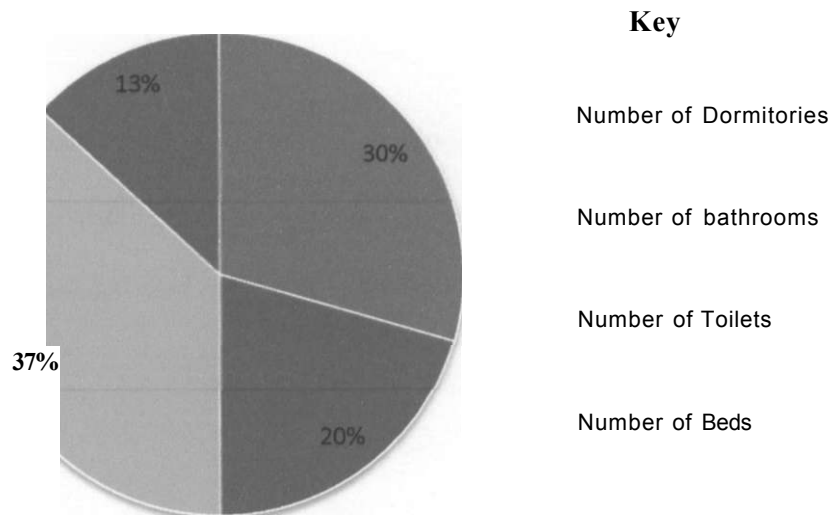


As can be seen from figure 4.13, 20(62%) teachers felt that the spacing of lockers in the classrooms was average, 6(19%) said was poor, 4(13%) said was good and 2(6 %) said it was very poor. None of the teachers felt that the spacing was excellent. From these findings, a conclusion may be made that when the spacing of lockers is excellent academic performance is excellent and vice versa. Maluba (2006) agrees with this study finding since his study found that classroom is the basic requirement to access education.

4.8 Boarding Infrastructure

In this research question, the study sought to gather information on adequacy of various boarding facilities. The data collected from the students was analyzed and presented as shown in Figure 4.14.

Figure 4.14 Adequacy of Various Boarding Facilities



From figure 4.14 it shows 18 (37%) teachers said toilets were inadequate, 15(30%) teachers said dormitories were average, 10 (20%) teachers said bathrooms were very adequate and 7(13%) teachers said beds were very

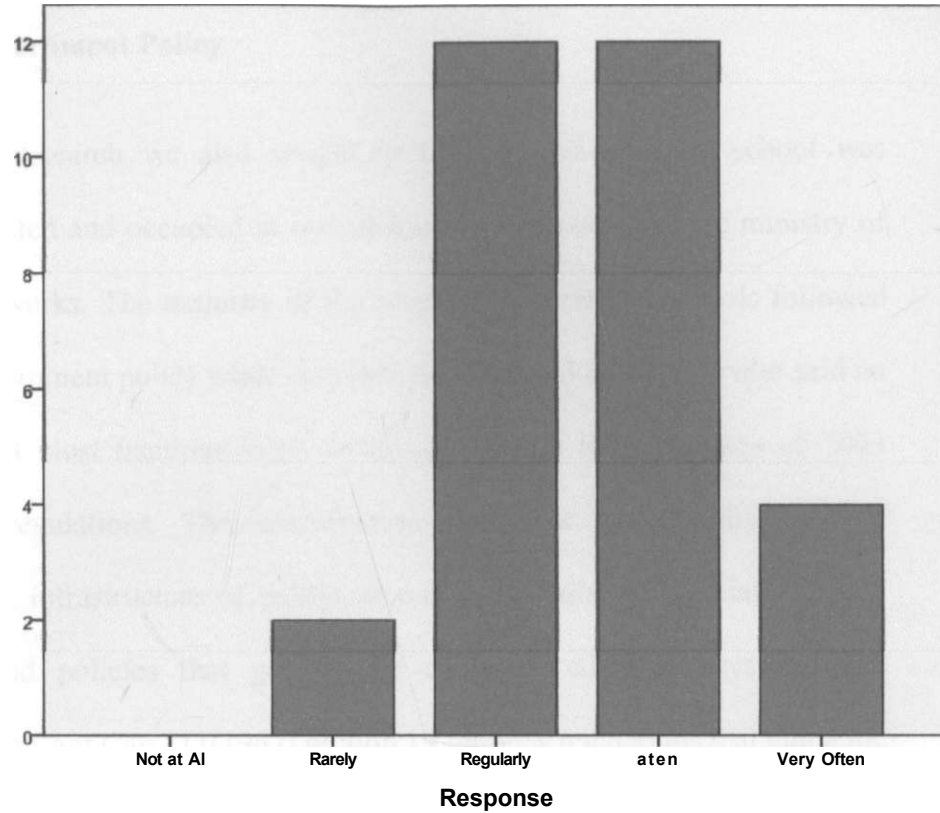
inadequate. Quite a significant number of teachers were not able to rate the adequacy of all the facilities, the probable reason being that these facilities are absent from the school especially in day schools. However for those that responded, the majority said that size of dining hall, number of bathrooms, number of toilets and size of food store are inadequate while most teachers also felt that the size of the kitchen and number of beds was adequate. Most of the teachers also said that the number of dorms was very inadequate an area that needs consideration by stakeholders in education.

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4.9 Co-curricular Infrastructure

In this research question, the study sought to gather information on frequency of participation in co-curricular activities. The data collected from the students was analyzed and presented as shown in Figure 4.15.

Figure 4.15 Frequency of Participation in Co-Curricular Activities



From figure 4.15, approximately 12 of the teachers felt that students regularly participate in co-curricular activities, 12 often, 4 very often, and 3 rarely. The results show that adequacy of co-curricular infrastructure enables students to participate in games activities. But when they lack facilities they do not participate. Balancing both the curricular and co-curricular activities should be done in order to realize the very purpose of education. Asked if various co-curricular activities in the school were

adequate, the majority said they were. An equal number of teachers said that students participate in co-curricular activities often and regularly

4.3 Government Policy

In our research we also sought to find out whether the school was constructed and occupied in consultation with approval of the ministry of public works. The majority of the respondents; said the schools followed the government policy while very few said they did not. Those who said no said that most facilities were constructed before the enactment of 2003 safety regulations. The specification given for the establishment of physical infrastructure of public secondary schools are stipulated in the laws and policies that govern the country's education system. The Education Act Cap 211(1967) section 19 outlines regulations that guide the physical layout of the school. There is need to use space and equipments to improve the academic performance in schools. To achieve the goals and objectives of education the Ministry of Education is targeting the construction and renovation of physical facilities in public secondary schools (Sessional Paper No. 2005).

CHAPTER FIVE

I

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter focuses on a summary of the study, conclusions, recommendations and suggestions for further research based on the issue raised by the study.

5.2 Summary of the Findings

The study findings from the analyzed are presented below under themes from the objectives of the study.

The study aimed at investigating the influence of school infrastructure on students' performance in public secondary schools in Kajiado County, Kenya. The study dwelled on the following objectives: To determine the extent to which the physical layout of the teaching and learning infrastructure affects students' performance in public secondary schools in Kajiado County. The study found that Schools that had adequate Laboratories registered improved academic performance while schools with inadequate laboratories registered poor performance.

To analyze how adequacy of the existing boarding infrastructure affects students' performance in public secondary schools in Kajiado County.

The study found that adequacy of boarding infrastructure in the schools was associated with improved academic performance. It also found that the average number of students utilizing one toilet in the secondary school in Kajiado County was 54 students per toilet contrary to the MOH guideline of utmost 50 students per toilet. This led to overcrowding of the toilets, hence delay to class.

To establish how co-curricular infrastructure influences students' students performance in public secondary schools in Kajiado County. The study found that few schools had adequate land sizes required for construction and expansion co-curriculum infrastructure.

To establish the extent to which adherence of government policy in school infrastructure influences students' performance in public secondary schools in Kajiado County. The study found (hat many schools did not comply with government policy on the construction of classes, laboratories and dormitories. There was need to follow the ministry of education specifications.

The study was also geared towards finding solutions to the following guiding questions; what is the extent to which physical layout of teaching and learning infrastructure affect students' performance in public secondary schools in Kajiado County? What is the adequacy of existing boarding infrastructure and its impact on the students' performance in

public secondary schools in Kajiado County. What is the physical layout of co-curricular infrastructure and its effects on performance of students in public secondary schools Kajiado County? What is the extent which adherence of government policy in school infrastructure affect students' performance in public secondary schools in Kajiado County?

The significance of the study was that it is likely to benefit the Ministry of Education and Ministry of Finance in formulation policies and strategies to boost development of infrastructure in the schools to increase students' access to education and disbursement of infrastructure funds to public schools in Kenya. The findings of this study may provide useful information for head teachers and Board of Governors (BOG) and Parents and Teachers Association (PTA) who are the stakeholders of the school to know the infrastructures which affect students' performance in school. The findings of this study will form a basis for further researchers who might be interested in advancing this study on the other regions of the country.

The literature review focused on literature related to effects of school infrastructure on students' performance in KSCE in public secondary schools. Effects of physical layout of learning infrastructure on students' performance in public secondary schools. Effects of adequacy of boarding facilities on student performance in public secondary schools. . Effects of physical of co-curricular infrastructure on student performance in public

secondary schools. Effects of government policy on students' performance in public secondary schools. The study looked at theoretical framework, the effects of infrastructure from the global, regional, and national level and also reviews studies carried out by previously by other authors on the issue of influence of infrastructure. The study used descriptive research design and the target population consisted of 105 form three students, 142 form four students and 53 teachers.

Data was computed using the Statistical Package for Social Science (SPSS). The data was analyzed and presented in frequencies, percentages and pie charts. The recommendations were discussed. The recommendations for further studies were in line with the findings and conclusion of the study.

5.3 Conclusions of the Study

After assessing the influence of school infrastructure on students' performance in public secondary schools in Kajiado County, the study found that improved academic achievement was associated with more adequate classrooms sizes and improved locker spaces. Enrolment of students was proportional to the adequacy of classrooms in the schools. Adequacy and proper stocking of libraries was related to improved academic achievement of the schools in KG:IE. The study found that

adequate laboratories was associated with improved performance in the respective science subjects in K.C.S.E, The study found that improved adequacy of sanitation facilities was associated with improved academic performance. It was found that schools with adequate water supply performed better than schools with inadequate water supply. The study also found that most schools had few toilets compared to the number of learners and this affected the learners efforts to access quality education due to delays and time wasting at the toilets, the study also found that learners' participation in co-curriculum activities was associated with improved academic performance the study however found that most schools had few co-curriculum activities.

5.4 Recommendations

From the research findings and conclusion, this study recommends the following:

- a) Ministry of Education (MOE) should introduce the sharing of special rooms such as library and laboratories; game fields also should be shared especially with neighbouring schools to cut down the cost of erecting new ones as well as have ground for the learners particularly those who lack the facilities.

- b) The head teachers should ensure that the number of toilets are adequate, kept clean and uphold privacy and that at no point should female students share such facilities with their male students. This will enhance the retention of students thereby enhancing performance.
- c) The QAS should ensure enough water supplies in line with 50 students per water point as required by the Ministry of Education to improve the health of the students.
- d) The government should revise the legal document governing the conditions for buildings and maintenances of school building, since the available policies have been overtaken by events.
- e) A specific land size and proper location should be a fundamental requirement for a school registration. This should be adhered to strictly to avoid the mushrooming of schools without the vital infrastructure that enhance learning.
- I) The department of quality assurance and standard officer should ensure secondary schools implement the non-formal curriculum to aid talent development among secondary school students. The head teacher should not only provide variety of co-curricular facilities but also ensure that they are well managed.

5.5 Recommendations for Further Research

From the Findings of the study, further research has been recommended in the areas below:

- a) An assessment of the extent to which the provision of school infrastructure development fund has promoted access and quality education in public secondary schools.
- b) An assessment of the role of laboratory equipment fund in developing adequate laboratories in public secondary schools.
- c) A need to carry out a study to evaluate the implementation of the co-curriculum activities in public secondary schools.
- d) This study was conducted in Kajiado County, there is need for a replication of this study in other counties to elicit more accurate national perspective on influence of infrastructure on students performance in public secondary schools, in Kenya.

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APPENDICES

APPENDIX I: LETTER OF INTRODUCTION

University of Nairobi

P.O. Box 30197-00100

Nairobi.

2nd April, 2013.

The Head teacher,

Dear Sir/Madam,

**RE: QUESTIONNAIRES ON THE INFLUENCE OF SCHOOL
INFRASTRUCTURE ON STUDENTS' PERFORMANCE IN
PUBLIC SECONDARY SCHOOLS IN KAI ADO COUNTY**

I am a postgraduate student in the University of Nairobi studying a Master's Degree in Corporate Governance. Currently I am carrying out research on the above mentioned topic. Your assistance in responding honestly to all items in the questionnaire is likely to generate data that will help to improve infrastructures in schools. Your identity will be kept strictly confidential.

Thank you in advance for your cooperation.

Yours faithfully,

Zipporah Magoma Mokaya

*

APPENDIX II
QUESTIONNAIRE FOR STI DENTS

Dear Student,

This questionnaire is meant to collect information on the institutional infrastructure factors influencing students' performance in public secondary schools in Kajiado County, Kenya. Kindly fill/tick the applicable response. I assure you that your response will be treated with strict confidence and at no instance will your name be mentioned in this research whatsoever.

Section One: Demographic Information

1. What is the name of your school?
2. Which year of study are you?
1) Form III Q 2) Form IV Qj 3) Others (specify)...
3. What is your gender? 1) Male Q^j 2) Female | j
4. What is your age bracket?
1) 15-17 years Q 2) 18-20 years {_J 3) Above 20 years Q

Section Two: Learning Infrastructure

5. Assess the current status of the learning infrastructure in your school in the table shown. Key: 5-Highly Adequate, 4=Adequate, 3=Inadequate, 2=Highly Inadequate, 1=Not Available.

	Facilities	5	4	3	2	1
a)	Classrooms					
b)	Laboratories					
c)	Libraries					
d)	Pre-tutorial rooms					
e)	Homescience rooms					

6. How would you rate the spacing of the learners' lockers in the classes in your school? a)Very adequate, b)Adequate, c)Average, d)Inadequate, e)Very inadequate.

7. How often do you perform science practicals?

a)Regularly, b)Once a while, c)Rarely, d)Not at all.

8. How would you rate the adequacy of the laboratory equipment in your school? Key: 5=Highly Adequate, 4=Adequate, 3=Inadequate, 2=Highly Inadequate, 1=Not Available.

9. Do you access the school library at any time you are free?

Yes (~ | No Q

Explain your answer

10. In your own opinion what is the adequacy of the books stocked in the library in your school? a)Very adequate, b)Adequate, c)Average, d)Inadequate, e)Very inadequate.

11. Suggest what needs to be improved in the library so that you can realize good results in this school._

12. How would you agree or disagree with the following facilities on how they affect your performance in this school? 5=Strongly Agree, 4=Agree, 3=Neutral, 2=Disagree, 1=Strongly Disagree.

	Facilities	5	4	3	2	1
a)	Classrooms					
b)	Laboratories					
c)	Libraries					
d)	Pre-tutorial rooms					

Section Three: Boarding Infrastructure

13. How would rate the adequacy of the following boarding infrastructure in your school? Key: 5) Very adequate, 4)Adequate, 3)Average, 2)Inadequati, 1)Very inadequate.

	Facilities	5	4	3	2	1
a)	Sanitation blocks					
b)	Dining halls					
c)	Dormitories					

14. How many toilets for the learners do you have in your school?

15. In your own opinion are the toilets well located to serve all the learners? Yes Q No Q

Explain your answer.

16. How would you rate the spacing of beds in the dormitories?) Very adequate, 4) Adequate, 3)Average, 2 (Inadequate, 1)Very inadequate.

17. What challenges do you face in accessing the boarding facilities?

18. Suggest ways in which the above mentioned challenges can be addressed by the school management.

Section Four: Co- curricular Infrastructure

19. Which co-curricular do you participate in this school? a)Athletics
b)Football c)Netball d)Drama e)Musio f)Others specify

20. What level do you reach in the competition of the co-curricular you participate? a) Zonal b) District c)Count> d)Regional e)National
f)Others specify.

21. How would you rate the adequacy of the following co-curricular facilities and how they affect your performance in this school? Key: 5=Very Adequate,4= Adequate,3- Inadequate,2=Very Inadequate, 1= Not Able to Rate

	Facilities	5	4	3	2	1
a)	Fields					
b)	Musical rooms					
c)	Theatre rooms					
d)	Others					

Section Five: Government Policy on School Infrastructure

22. On your own opinion has this school complied with the government policy on school infrastructure? Yes () No ()
23. As a student how does the government policy on school infrastructure affect your academic performance?
24. Has school management created awareness; about the government policy on school infrastructure in this school f a)Yes () b)No []
25. How do you share the text books in class in this school? a) 1:1 b)2:1 c)3:1 d)4:1 e)Others specify
26. In your own opinion does the sharing of text books as answered above (question 25) affect your academic performance? a) Yes () b) No []

Section Six: School Academic Performance

27. How would you rate the overall performance of this school in national examinations? 1)Excellent 2)Good 3)Average 4)Poor 5)Very poor
28. In your opinion, is the overall performance of this school influenced by the existing physical facilities of the school? 1) Yes () 2) No ()

29. If yes above, in what ways?

30. How would you rate the overall influence of the following facilities in regards to academic performance of this school? Rate as follows; 5=very high, 4=high, 3=average, 2=low, 1=very low.

	Facilities	5	4	3	2	1
a)	Learning facilities					
b)	Boarding facilities					
c)	Administrative facilities					
d)	Co-curricular facilities					

31. What do you think needs to be done in relation to the existing physical facilities to boost students' performance in this school?

Thank you for your response

APPENDIX III

QUESTIONNAIRE FOR TEACHERS

Dear Sir/Madam,

This questionnaire is meant to collect information on the institutional infrastructure factors influencing students' performance in public secondary schools in Kajiado County, Kenya. Kindly fill/tick the applicable response. I assure you that your response will be treated with strict confidence and at no instance will your name be mentioned in this research whatsoever.

Section One: Demographic Information

1. What is your gender? Female Male
2. What is your position in the school? 1) Teacher 2) HOD
Principal/Deputy 4) Others

Section Two: Learning Infrastructure

3. In your own opinion are the classrooms located in a conducive environment which promote student learning? Yes No

Explain your answer

4. How would you rate the spacing of learners' lockers in classrooms in this school? 1)Excellent Q 2)Good Q 3) Average () 4)Poor()5) Very poor ()

5. Suggest ways in which classrooms can be improved in order to promote academic student performance this school.

6. In your own opinion, do students access school library at any time they are free in this school? Yes QJ No Q^j

Explain your answer.

7. In your own opinion are the laboratories in this school adequate to serve learners' interest? Yes () No

Explain your answer.

8. How would you agree or disagree that the following learning facilities to have affected the performance of this school? Key: 5=Strongly Agree, 4=Agree, 3 = Neutral, 2=Disagree, 1= Strongly Disagree.

	Facilities	5	4	3	2	1
a)	Classrooms					
b)	Laboratories					
c)	Libraries					
d)	Pre-tutorial rooms					

9. In your own opinion what do you think needs to be done on the existing learning facilities in order improve academic performance in this school?

Section Three: Boarding Infrastructure

10. In your own opinion are the dormitories located in strategic place to serve the student' needs? Yes No

Explain your answer.

11. How would you rate the adequacy of the following aspects in the boarding facilities in this school?

Key:5= Very Adequate, 4=Adequate, 3=Inadequate, 2= Very Inadequate, 1= Not Able to Rate

	Facilities	5	4	3	2	1
a)	Number of dormitories					
b)	Number of beds					
c)	Number of bathrooms					
d)	Number of toilets					
e)	Size of dining hall					
f)	Size of kitchen					
g)	Size of food store					

12. Suggest what needs to be done in order to improve the boarding infrastructure in this school

Section Four: Co-curricular Infrastructure

13. In your own opinion are co-curricular activities in this school adequate to serve students' interest in this school? Yes No N < 0

Explain your answer_

14. How often do student participate in the co-curricular activities in this school?

a)Very often b)Often c)Regular e)Rarely e) Not at all

15. To what extent do the following co-curricular facilities affect the overall academic performance of this school?

**Key: 5 = Very High, 4 = High, 3 • Moderated = Low,
1 = Very Low**

	Facilities	5	4	3	2	1
a)	Fields					
b)	Games equipments					
c)	Music rooms					
d)	Theatre rooms					
e)	Others					

16. Suggest ways in which co-curricular infrastructure can be improved in this school in order to enhance academic performance in this school

Section Five: Government Policy

17. In your own opinion is this school constructed and occupied in consultation with approval of Ministry of Public Works?

Yes [] No []

Explain your answer

18. What are possible constraints in the implementation of government policies in this_

19. Give suggestions on what should be done to overcome the constraints which are faced in regard with government policies.

Thank you for your response

APPENDIX IV

OBSERVATION CHECKLIST

	Well Located	Fairly Located	Poorly Located	Not Available
Facilities/ Resources				
Classrooms				
Desks/ Lockers				
Staffroom				
Head teacher's office				
HODs offices				
Library/Books				
Laboratory and equipment				
Playing field				
Games store and equipment				
Dining hall				
Safe water				
Dormitories/Beds				
Toilets				
Teachers houses				

**Physical Location of the Physical Facilities and their Adequacy in
Public Secondary Schools**

REPUBLIC OF KENYA



NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

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Date: 16<h M a) s 2 0 1 3

Zipporah Magoma Mokaya
University of Nairobi
P.O Box 30197-00100
Nairobi

RE: RESEARCH AUTHORIZATION

Following your application dated **30th April, 2013** for authority to carry out research on *"Influence of school infrastructure on students' performance in public secondary schools in Kajiado County, Kenya."* I am pleased to inform you that you have been authorized to undertake research in **Kajiado County** for a period ending **30th June, 2013**.

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

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


SAID HUSSEIN

FOR: SECRETARY/CEO

Copy to:

The County Commissioner
The County Director of Education
Kajiado County

University of nairo ^
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