EFFECTIVENESS OF KENYA EDUCATION SECTOR SUPPORT PROGRAMME GRANTS ON PRIMARY SCHOOL INFRASTRUCTURE IMPROVEMENT: A CASE OF KIAMBU DISTRICT

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E55/10256/08

A RESEARCH PROJECT SUBMITTED TO THE DEPARTMENT OF EDUCATIONAL MANAGEMENT, POLICY AND CURRICULUM STUDIES IN THE SCHOOL OF EDUCATION IN PARTIAL FULFILMENT FOR THE REQUIREMENT OF THE AWARD OF THE DEGREE OF MASTER OF EDUCATION OF KENYATTA UNIVERSITY

11TH NOVEMBER 2010
DECLARATION

This is my original work and has not been submitted for any other programme in any other university.

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DEDICATION

This work is dedicated to Almighty God; for giving me physical and mental strength as well as the resources I needed to complete this course.
ACKNOWLEDGEMENT

While it is not possible to mention everyone who contributed to the success of this project, I wish to express my heartfelt gratitude to the following:

To my employer, Teachers Service Commission, thank you for giving me time-off while I studied.

I am greatly indebted to my supervisors; Dr N.O. Ogeta and Mr. K. Gatimu for their time, guidance and patience without which this project could not have been successfully completed.

To my other course lecturers in the department of Educational Management, Policy and Curriculum Studies; Dr G. A. Onyango, Dr S.N. Waweru, Dr W. Otieno, Prof F.Q. Gravenier, Dr. J.A. Orodho, Dr.J.Shiundu, Dr. M. Otieno and Dr. L.I. Libese, thank you for laying the foundation that led to the success of this project.

I wish to thank my colleagues; the 2008 Educational Planning class for the insightful class discussions and encouragement throughout the course.

To my brothers Cosmas and Martin; my sisters; Jane, Assumpta and Virginia, thank you very much for your encouragement, moral and material support.

Finally, to Mr. David Onsomu of School Infrastructure Management Unit headquarters, Ms Nancy Wachira of District Education Office Kiambu and all my respondents; your assistance is highly appreciated.
ABSTRACT

This study sought to assess the effectiveness of KESSP grants on improvement of primary school infrastructure in Kiambu District under the Sector Wide Approach to Programme Planning adopted by the government. The specific objectives of the study were: to survey the current infrastructure situation in the district, to find out specific projects undertaken by various schools, to estimate the relative adequacy of the grants, to investigate the problems faced in disbursement and utilization of the funds and to propose strategies that should be put in place to improve the effectiveness of KESSP infrastructure funding. The conceptual framework points out the relationship between good and poor planning of the grants in the face of poor and inadequate infrastructure and scarce resources. The study adopted the descriptive survey design. It targeted all the 22 public primary schools in Kiambu District under the programme. Head teachers and the DEO were targeted respondents. The head teachers and the DEO were purposively sampled. Simple random sampling was utilized to get two schools that were used for piloting. The actual sample size of 20 schools in the study was determined by the census survey approach. Information from the head teachers was got through a questionnaire while the DEO was subjected to an interview schedule. The researcher utilized an observation checklist to find out the general infrastructure condition of the schools. Reliability of the questionnaire was determined by piloting; after which the correlation efficiency index of 0.76 was obtained. Collected data were recorded, coded and analysed using the Statistical Package for Social Sciences. The analyzed data were presented using frequency tables, pie charts, graphs and narratives. The findings of the study established that in spite of the KESSP infrastructure funding, there was a shortage of infrastructure and existing facilities were in poor condition. The funds were not enough and there were numerous challenges facing the implementation of the programme. The study recommended that the government allocates more funds, the funds be released regularly, projects be closely monitored and those involved in corruption be investigated and punished accordingly to ensure the success of the programme.
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<tr>
<td>ADEA</td>
<td>Association for the Development of Education in Africa</td>
</tr>
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<td>AEO</td>
<td>Area Education Officer</td>
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<tr>
<td>ALRMP</td>
<td>Arid Lands Resource Management Programme</td>
</tr>
<tr>
<td>ASIIG</td>
<td>Additional School Infrastructure Improvement Grants</td>
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<td>BSIIG</td>
<td>Basic School Infrastructure Improvement Grants</td>
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<tr>
<td>ESP</td>
<td>Economic Stimulus Programme</td>
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<tr>
<td>DEB</td>
<td>District Education Board</td>
</tr>
<tr>
<td>DEO</td>
<td>District Education Officer</td>
</tr>
<tr>
<td>DICT</td>
<td>District Infrastructure Coordination Team</td>
</tr>
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<td>FPE</td>
<td>Free Primary Education</td>
</tr>
<tr>
<td>GoK</td>
<td>Government of Kenya</td>
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<tr>
<td>ICT</td>
<td>Information Communication Technology</td>
</tr>
<tr>
<td>IEA</td>
<td>Institute of Economic Affairs</td>
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<td>IIEP</td>
<td>International Institute of Education Planning</td>
</tr>
<tr>
<td>KESSP</td>
<td>Kenya Education Sector Support Programme</td>
</tr>
<tr>
<td>KNBS</td>
<td>Kenya National Bureau of Statistics</td>
</tr>
<tr>
<td>KSH</td>
<td>Kenya Shilling</td>
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<tr>
<td>MOE</td>
<td>Ministry of Education</td>
</tr>
<tr>
<td>OECD</td>
<td>Organisation for Economic Cooperation and Development</td>
</tr>
<tr>
<td>RoK</td>
<td>Republic of Kenya</td>
</tr>
<tr>
<td>SIC</td>
<td>School Infrastructure Committee</td>
</tr>
<tr>
<td>SID</td>
<td>Society for International Development</td>
</tr>
<tr>
<td>Abbreviation</td>
<td>Full Form</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------</td>
</tr>
<tr>
<td>SIIG</td>
<td>School Infrastructure Improvement Grants</td>
</tr>
<tr>
<td>SIIP</td>
<td>School Infrastructure Improvement Programme</td>
</tr>
<tr>
<td>SIMU</td>
<td>School Infrastructure Management Unit</td>
</tr>
<tr>
<td>SMC</td>
<td>School Management Committee</td>
</tr>
<tr>
<td>SWAP</td>
<td>Sector Wide Approach Programme</td>
</tr>
<tr>
<td>UNESCO</td>
<td>United Nations Education Scientific and Cultural Organization</td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
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CHAPTER ONE
INTRODUCTION

The study assessed the effectiveness of KESSP grants on improvement of primary school infrastructure in Kiambu District, Central Province. This chapter covers the following sections of the study; background of the study, statement of the problem, purpose of the study, objectives of the study, research questions, significance of the study, limitations and delimitations of the study, assumptions of the study, theoretical framework, conceptual framework and operational definition of terms.

1.1 Background of the Study

1.1.1 Introduction

African traditional education took place almost everywhere; at home, in the fields, law courts, grazing grounds etc. Yet, the type of education offered met the needs of the society. Bogonko (1992) concurs with this and echoes the sentiments of Mahatma Ghandi who once said that learning can take place under the trees. Formal schools were introduced for the first time in Africa by the missionaries who initially used prayer houses to teach Christianity. Calstadi (1969) holds that many school buildings did not attract the serious attention of architects until mass education was established about a century ago. He traces the evolution of the American schools to the Hellenistic and Roman period when the education programme was very simple (reading, writing, arithmetic and gymnastics) and the pupils supplied the little equipment that was needed.
This was followed by the post civil war period when schools were simple shelters where teachers and pupils could come together. The American schools of the twentieth century were designed as architectural works rather than educational facilities. Today, educational planners in America and elsewhere emphasize on the functional aspects of school plants.

Governments in various parts of the world spend a large portion of their education budget on infrastructure. Beynon (1997) maintains that within an education system, the costs of physical facilities are second to those of teachers’ salaries. The investment is justified given the crucial role played by physical facilities in schools. This can be summarized as

i. Provision of shelter to education.

ii. Determination of enrolment and attendance.

iii. Provision of safety and security to pupils and teachers.

iv. Influence on learning and achievement.

1.1.2 School Infrastructure Funding in Kenya

After independence, communities, parents and the local authorities were principally responsible for capital investments in primary education throughout Kenya (Bogonko 1992, RoK 1966) while the government financed professional and administrative services. The Harambee Philosophy led to rapid growth and expansion of both primary and secondary education in the 1970s and 1980s. Cost-sharing policy in education introduced in the late 1980s saw the government transfer the costs of text books and other
teaching materials in primary and secondary schools to parents while school communities were to put up physical facilities including classrooms and workshops (IEA/SID 2001).

Communities in Kenya and in various parts of the world have however been unable to provide relevant and adequate school infrastructure. Various investment programmes have been initiated by the government and her development partners to improve primary school infrastructure in different parts of the country over the years. Some of these programmes include:

i. Infrastructure Support for North Eastern Primary schools; a partnership between GoK and USAID. It aims to build 215 classrooms by 2015.

ii. Basic Education Project; funded by GoK and OPEC that aimed to build 1,400 classrooms country wide by 2007.

iii. Arid Lands Resource Management Programme; funded by GoK and USAID.

iv. Constituency Development Fund.

v. Local Authority Transfer Fund.

vi. Economic Stimulus Programme (ESP) that funds infrastructure in targeted primary and secondary schools in all constituencies across the country.

The government of Kenya has steadily invested in the education sector in relation to other sectors since independence, especially in the provision of basic education. Empirical evidence suggests that more than 60% of the investment in education is derived from the public sector which translates to 6-7 percent of Gross Domestic Product (Onsomu et al 2004). In recent years, the government has sought to restructure expenditure allocations
across sectors towards basic functions that include financing of broad-based programmes in education and health services in line with the Medium Term Expenditure Framework and the Poverty Reduction Strategic Programme.

Despite the effort by stakeholders, poor infrastructure remains one of the major barriers to improving access to primary education. In the past three decades, expanding education facilities to provide an education to increasing number of students has been one of the most important challenges facing the government and her development partners. The introduction of Free Primary Education (FPE) in 2003 led to an increase in enrolment in all grades of primary school without commensurate increase in either infrastructure or personnel. The national education conference held in October 2003 aimed to address some of the issues and challenges that resulted from FPE. This gave rise to Sessional Paper No 1 2005 on Policy Framework for Education, Training and Research.

In pursuit of Education for All and the Millennium Development Goals coupled with the task of delivering on policies set out in Sessional Paper No 1 2005, the government adopted a Sector Wide Approach to Programme planning (SWAp); a process of engaging all stakeholders in order to attain ownership, alignment of objectives, harmonization of procedures and a coherent financing arrangement under the leadership of the Ministry of Education (Otieno 2008). SWAp secures funding for the education sector and ensures that all education sub-sectors are given attention (ADEA 2005). Through SWAp, the government and other stakeholders developed Kenya Education Sector Support Programme (KESSP); a five year programme covering 2005-2010. KESSP comprises 23 prioritized development programmes grouped around six thematic areas of financing,
access, sector management, quality, retention, secondary, tertiary and higher education. The programme provides a road map for the education sector development by ensuring effective service delivery at all levels of education and training. The main focus is to consolidate gains accrued after the introduction of FPE, address the main sector issues and to support the government in strengthening management and delivery of educational services.

Primary school infrastructure improvement is one of the nine programmes attracting the highest level of investment with a budget allocation of 7.3% of KESSP funds. The strategy is to give funds through the School Infrastructure Improvement Programme to schools in low potential areas, pockets of poverty in high potential areas and densely populated urban slums. The funds are used for infrastructure improvement and construction of new schools. Basic School Infrastructure Improvement Grants (BSIIG) are used for maintenance and minor repairs of physical facilities. Additional School Infrastructure Improvement Grants (ASIIG) are used to put up new structures and major repairs (MOE 2005). A budget allocation for BSIIG and ASIIG over the five year period is Ksh 2.7750 billion and Ksh 1.940 billion respectively. The money was to be disbursed in five phases and according to the School Infrastructure Management Unit, shortage of funds was experienced right from the first phase. By the end of financial year 2005/2006, phase one experienced a shortfall of Ksh 495,000,000 to be disbursed to 605 schools in seven districts.
Kiambu District schools fell under phase three of the programme as illustrated in Table 1.1. Both BSIIG and ASIIG have been released to schools. According to the District Education Office, the money was disbursed late and some schools in the district received the first two installments at the same time. A majority of schools had effectively utilized and accounted for the funds. Some schools however took long to utilize the funds prompting the office to intervene. The study sought to find out if the funds have been effective in alleviating poor infrastructure in the district and come up with strategies to improve on the management of the funds in order to provide quality infrastructure.

Table 1.1 Phase Three Schools

<table>
<thead>
<tr>
<th>Province</th>
<th>District</th>
<th>Number of Schools</th>
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<tbody>
<tr>
<td>Nyanza</td>
<td>Bondo</td>
<td>61</td>
</tr>
<tr>
<td>Nyanza</td>
<td>Siaya</td>
<td>160</td>
</tr>
<tr>
<td>Nyanza</td>
<td>Rarieda</td>
<td>40</td>
</tr>
<tr>
<td>Western</td>
<td>Kakamega central</td>
<td>30</td>
</tr>
<tr>
<td>Western</td>
<td>Kakamega East</td>
<td>67</td>
</tr>
<tr>
<td>Western</td>
<td>Teso</td>
<td>118</td>
</tr>
<tr>
<td>Western</td>
<td>Kakamega North</td>
<td>101</td>
</tr>
<tr>
<td>Western</td>
<td>Kakamega South</td>
<td>79</td>
</tr>
<tr>
<td>Central</td>
<td>Kiambu East</td>
<td>76</td>
</tr>
<tr>
<td>Central</td>
<td>Kiambu West</td>
<td>96</td>
</tr>
<tr>
<td>Central</td>
<td>Murang’a North</td>
<td>107</td>
</tr>
<tr>
<td>Coast</td>
<td>Taita</td>
<td>105</td>
</tr>
<tr>
<td>Coast</td>
<td>Taveta</td>
<td>25</td>
</tr>
<tr>
<td>Coast</td>
<td>Lamu</td>
<td>75</td>
</tr>
<tr>
<td>Eastern</td>
<td>Mbeere</td>
<td>140</td>
</tr>
<tr>
<td>Eastern</td>
<td>Meru South</td>
<td>161</td>
</tr>
<tr>
<td>Riftvalley</td>
<td>Samburu</td>
<td>101</td>
</tr>
<tr>
<td>Riftvalley</td>
<td>Bureti</td>
<td>82</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td><strong>1,624</strong></td>
</tr>
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Source: MOE 2010
1.2 Statement of the Problem

Primary school infrastructure is one of the KESSP programmes attracting the highest level of investment with a budget allocation of 7.3%. Although communities and the government have substantially invested in infrastructure over the years, there still exists a huge backlog. The 2003 school census revealed a nation wide shortfall of 43,000 classrooms. Existing infrastructure was in poor conditions due to lack of investment capital, poor construction and inadequate standards. Increased enrolment has led to overcrowding which is not conducive for learning. As such, the current research sought to investigate the effectiveness of KESSP infrastructure improvement grants on primary school infrastructure improvement in Kiambu District.

1.3 Purpose of the Study

The government is obliged to provide education to all its citizens since it is a basic human right. Poor infrastructure however remains one of the major impediments to improving access to primary education. The purpose of this study was to assess the effectiveness of KESSP grants on improvement of primary school infrastructure in Kiambu District.

1.4 Objectives of the Study

The objectives of the study were:

i. To survey the current infrastructure situation in primary schools in Kiambu District.

ii. To find out the specific projects financed by the KESSP grants in the district.

iii. To estimate the relative adequacy of the funds.

iv. To investigate the problems faced in disbursement and utilization of the funds.
To propose strategies that should be put in place to improve the effectiveness of KESSP infrastructure funding.

1.5 Research Questions

The study sought to answer the following questions;

i. What were the current infrastructure needs of various schools in the district?

ii. To what extent were schools following the ministry’s guidelines on implementation of the programme?

iii. To what extent has the programme met the individual infrastructure needs of the schools?

iv. What problems were being experienced in disbursement and utilization of the funds at the district and school levels?

v. What strategies should be put in place to improve the effectiveness of KESSP infrastructure funding?

1.6 Significance of the Study

The findings of the study will be useful to stakeholders in a number of ways. They may be used by the government to justify need for additional budgetary allocation to the education sector in general and infrastructure provision in particular. The findings may also be used to convince financial institutions and development partners to release more funding to support the education sector. The study may also bring to the fore how money may be short changed knowingly or unknowingly to other projects. Finally, the findings will inform the ministry of Education of the problems faced in the implementation of the
programme and suggest ways to address these problems in order to improve the programme.

1.7 Limitations of the Study

i. The study was carried out in Kiambu, a district in a high potential region. Its findings may not therefore apply to districts in geographically different regions.

ii. The study was limited to KESSP infrastructure grants, one among many programmes that have invested in school infrastructure in the country.

iii. It was not possible to cover the opinions of parents, SIC members and other stakeholders because tracing them required considerable time, resources and other logistics since most of them are out working. Their opinions would have contributed to the findings of the study.

1.8 Delimitations of the Study

The study was an assessment of the effectiveness of KESSP grants on improvement of primary school infrastructure. It focused on public primary schools in Kiambu District, Central Province. The district had 42 public primary schools. Public schools that were not under the KESSP programme were not studied.

1.9 Assumptions of the Study

The study was based on the following assumptions;

i. The schools had utilized the funds.

ii. The respondents gave honest answers.
iii. SIC members had the necessary financial management skills.

1.10 Theoretical Framework of the study

The study was based on the Systems Approach Theory. A system is a collection of interrelated parts that function together to achieve a common purpose (Schemerhorn 1993). A system is composed of sub-systems upon which if one fails, the whole system is in jeopardy. Nasibi (2003) defines the systems approach as a process for effectively and efficiently achieving a required outcome based on documented needs. The researcher found the theory relevant because it stresses the importance of interaction of various components of a system in order to achieve the set goals. The success of the infrastructure programme depends on sound planning practices that have been put in place. Some of these practices include:

Prioritization

At the macro level, there is identification of needy regions/districts based on poverty levels and shortage of facilities. At the micro level, schools are chosen according to needs while specific projects are determined by the individual needs of the schools. Misplaced priorities may lead to ineffectiveness of the programme.

Capacity Building

Various organs were formed to ensure successful implementation and co-ordination of the programme. School Infrastructure Management Unit (SIMU) was formed at the ministry headquarters and co-ordinates and monitors the programme country wide. At the district level, District Infrastructure Co-ordination Teams (DICTs) were formed and members trained on how to manage, monitor and control quality of the programme.
School Infrastructure Committees (SIC) identify the specific projects at the school level.

Special bank accounts ensure faster flow of funds.

**Transparency and Accountability**

All stakeholders are involved in the planning process at all levels. According to ADEA (2005), this leads to the ownership and support of the programme. The amount of money received is made public and schools are expected to report the progress to the immediate community and DICT. Like any other public funds, infrastructure bank accounts are supposed to be audited yearly.

If the above practices are strictly followed, there will support of the programme by stakeholders, cost saving hence sufficiency of funds, timely release of funds and completion of projects. This will lead to provision of quality and adequate facilities in primary schools. On the other hand, if the priorities are not right, stakeholders are not involved, accounting and reporting mechanisms not in place, personnel not trained and necessary structures not in place, the success of the programme can not be guaranteed. There will be little support. Funds will be delayed, projects not completed on time, misappropriation and insufficiency of funds. The programme will therefore not be effective.
1.11 Conceptual Framework

Figure 1.1 Effective Planning of KESSP Infrastructure Improvement Grants

School Infrastructure
- inadequate
- overcrowded
- poorly maintained
- sub-standard
- expensive

KESSP Infrastructure Improvement Grants

Poor Planning
- Ad-hoc-planning
- One man activity
- delay of funds
- wastage
- poor budget
- poor auditing

Results
- insufficient funds
- stalled projects
- inadequate facilities
- overcrowding
- unsafe structures
- low academic achievement

Good planning
- prioritization
- stakeholders’ involvement
- timely funds
- Cost saving measures
- proper auditing

Results
- sufficient funds
- timely completion of projects
- adequate facilities
- safe structures
- high academic achievement

Source: Researcher 2010

Figure 1.1 graphically shows what the researcher conceptualizes to be good and poor planning of KESSP infrastructure improvement grants. Features of good planning are indicated on one hand and they include prioritizing, involvement of all stakeholders,
timely release of funds, cost-saving, proper budgeting and proper auditing. This leads to achievement of SIIP goals of providing quality and adequate infrastructure and high academic achievement. Poor planning on the other hand is characterized by ad-hoc planning, one man activity, delay in disbursement of funds, wastage, poor budgeting and auditing hence programme failure. This leads to insufficient funds, stalled projects, inadequate facilities, over-crowding and low academic achievement.

1.12 Operational Definition of Terms

**Capital costs**  - Total costs of site, buildings and long lasting furniture and equipment

**Multi-grade schools**  - Schools where several different grades of pupils studying different curricula are taught in a single classroom by one teacher

**Non-schooling gap**  - The difference between the estimated population of the appropriate age group and the numbers enrolled in the education sector corresponding to that age group.

**School Infrastructure**  - Refers to the entire school plant that comprises of land, buildings, equipment, fences, electricity, water and sanitation facilities.

**Stakeholders in education**  - Government through the Ministry of Education and Semi-autonomous Government Agencies; Religious Organizations; NGOs; communities including parents and teachers; Development partners such as foreign countries and Financial Institutions such as banks
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of literature related to the study. It explores various aspects of infrastructure under the headings; importance of infrastructure, government policy on infrastructure, current state of infrastructure, KESSP School Infrastructure Improvement Programme, other policy options and a summary of the reviewed literature.

2.2 Importance of Infrastructure

School buildings provide shelter for education in the same way that houses protect domestic activities from the elements and provide security. Mahatma Ghandi once said that learning can take place under the trees. Schools without buildings can exist in areas with an accommodating climate and where resources are very scarce. Heavy rains, blistering sun and intense winds make effective learning without shelter almost impossible. In extremely cold areas, learning without shelter is unimaginable because supplementary heat is required. For example; in Hungary, winter heating must assure $20^0c$ in classrooms, $22^0c$ in washrooms, showers and cloakrooms, $18^0c$ in gymnasium and dining rooms and $16^0c$ in workshops, kitchens and corridors (Lajos 1986). In noisy urban neighborhoods, learning without shelter is unimaginable.

The adequacy of physical facilities has a lot of bearing on school enrolment and attendance. Few facilities mean that schools can accommodate a small number of pupils. Research in many parts of the world has shown the relationship between physical
facilities and attendance. For example many Indian schools without their own buildings (and hold classes under the trees or in space borrowed from other schools or from other users) tend to have poor attendance (Beynon 1997). In a pilot survey of schooling conditions in Least Developed Countries by UNESCO and UNICEF, it was revealed that some parents refused to let their children attend schools where sanitation facilities were poor.

Education outcome is a product of many interrelated factors. (UNESCO 2008) holds that a good learning environment constitutes secure, un-crowded and well maintained schools. The teaching and learning environment either motivates or de-motivates both the pupils and the teachers. Unfortunately in most Kenyan schools, the environment is not conducive for learning since many schools are crowded, unsafe and poorly maintained; a factor that leads to low academic achievement. Although some studies have shown no positive effect of a well established school infrastructure on performance in examinations, there is a growing body of research that links physical facilities to increased educational opportunity and achievement. An analysis applying multivariate statistical procedures conducted by IIEP with the co-operation of the Ministry of Education and Culture in Zimbabwe revealed that-all factors being equal- pupils could not be expected to learn effectively if the classrooms did not have fundamental items such as blackboard, sitting and writing places for all pupils and storage facilities for books and teaching aids (Beynon 1997). In another IIEP research conducted in connection with South African Consortium for Monitoring Educational Quality, strong links are shown to exist even when controlling for other variables between the extent to
which school heads perceived their school buildings to be in need of major repairs or total re-building and reading achievement in grade six in all of the countries of the study Wobmann (2005).

2.3 Government Policy on Physical Facilities

Physical facilities should be adequate depending on the needs of the individual school. The amount of land should be sufficient for games, staff houses and agriculture. The amount of land required is determined by enrollment as illustrated below:

Table 2.1 Land Acreage for Primary Schools

<table>
<thead>
<tr>
<th>Number of streams</th>
<th>Plot size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Double stream boarding</td>
<td>12 acres</td>
</tr>
<tr>
<td>Double stream day</td>
<td>7 acres</td>
</tr>
<tr>
<td>Single stream boarding</td>
<td>7 acres</td>
</tr>
<tr>
<td>Single stream day</td>
<td>5 acres</td>
</tr>
</tbody>
</table>

Source: MOE 2002

According to Oddie (1966) adequacy of classrooms is evaluated against the amount of floor space to permit a group of pupils under a teacher’s guidance to carry out the range of educational activities called for in the overall educational programme. In Kenya, a standard classroom in a primary school should be 8 by 8 metres to accommodate forty pupils. The girl toilet-pupil ratio is 1:25 and that of boys is 1:30 (MOE 2002).

It is a government requirement that school facilities adhere to the physical and health safety guidelines as outlined in the safety standards manual for schools. They should be devoid of any risks to the users. School buildings should comply with the
provisions of the Education Act (cap211), Public Health Act (cap 242) and the Ministry of Public Works building regulations. No physical infrastructure should be constructed or occupied without consultations and approval of the Ministry of Public Works (MOE 2008). All school buildings should be accessible to special needs learners.

2.4 State of School Infrastructure

Olembo (1985) holds that sharing of school costs between the local communities and the government has led to variations in the quality of facilities between and within districts. There are however common features that can be used to describe the current state of infrastructure in Kenyan schools.

**Inadequate** - There is a shortage of permanent classrooms especially in poor districts. The 2003 school census revealed a shortfall of 43,000 classrooms and only 32% of the permanent and semi-permanent were reported as adequate (MoE 2005). In densely populated areas of Western, Nyanza and Central provinces, some schools are located on very small plots that are inadequate for teacher’s houses, school farm and playgrounds (Olembo 1985). Other facilities such as the toilets and sanitation are inappropriate as a result poor development of the areas of location. In most schools, the physical facilities do not meet the needs of special students.

**Overcrowded** - Overcrowding is a common feature in primary schools in Kenya. This can be attributed to high population growth rate and the introduction of FPE which led to increase in enrolment in all grades without commensurate increase in infrastructure. This has resulted in high teacher-pupil ratio and is partly responsible for declining quality of education in public primary schools throughout the country.
Poorly maintained- There is little or no maintenance of school facilities due to lack of investment capital. Corruption in the education sector has led to existence of facilities that do not meet the building and construction standards.

Some of the old buildings do not meet the current safety and health standards as well as the needs of special students. Funds are therefore required to renovate and modify them.

2.5 KESSP School Infrastructure Improvement Programme

2.5.1 Background

SIIG is the government investment strategy for Primary School Infrastructure Improvement Programme under KESSP. It began in 2005/2006 fiscal year and is expected to end in 2010. Its main focus is to improve school infrastructure in the disadvantaged communities of the country (primarily ASAL, high density urban areas and pockets of poverty in High potential areas). The programme has two components;

   i. School infrastructure improvement

   ii. Construction of new primary schools.

Under the programme, the government provides Basic School Infrastructure Improvement Grants and Additional School Infrastructure Improvement Grants. BSIIG is allocated depending on need and enrolment as illustrated in table 2.2

Once calculated in the first year of the programme, BSIIG remains the same unless enrolment increases significantly. ASIIG of Ksh 1million is provided as a one–off grant to neediest schools in selected districts especially those with high and stable enrolments and those with minimal permanent infrastructure. The ASIIG is used to build additional facilities such as classrooms, toilets and water supply depending on the school’s priority.
Areas with crowded classrooms and high enrolments and land for school construction will have new schools built. More schools will also be built in areas with extremely long distances between schools with high enrolment.

Table 2.2 BSIIG Grant Award Threshold

<table>
<thead>
<tr>
<th>Enrolment (January 2005)</th>
<th>Annual Basic School Infrastructure Improvement Grant Award</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 300 pupils</td>
<td>Ksh 300,000</td>
</tr>
<tr>
<td>Between 300 and 500 pupils</td>
<td>Ksh 350,000</td>
</tr>
<tr>
<td>Greater than 500 pupils</td>
<td>Ksh 400,000</td>
</tr>
</tbody>
</table>

Source: MOE 2007

2.5.2 Selection of Needy Districts and Schools

The School Infrastructure management Unit at MOE headquarters devised an identification criterion in 2005 using data from Kenya National Bureau of Statistics and Education Management Information System. The variables used were:

i. Poverty index,

ii. Classroom gap in the districts based on a pupil classroom ratio of 1:50,

iii. Permanent toilet gap based on a pupil toilet ratio of 1:40.

iv. Non-schooling gap

The districts were ranked using weighted averages. To conform to the poverty index percentage, absolute figures representing the other three gaps were converted to percentages. The four variables were given a weight of 10 and distributed in the order; poverty index; a weight of 4, permanent toilet gap; 3, permanent classroom gap; 2 and the non-schooling gap 1. All the ranking of the then 71 districts was based on the weighted
means. Districts in North Eastern province were omitted from the programme because the province is benefiting from GoK/USAID/ALRMP programmes.

To achieve regional representation, the districts were ranked in the provinces. The programme was to be implemented in five phases. The districts which were ranked first and second in the districts formed phase one of the project while those ranked third and fourth formed phase two etc. At the district level, school selection was done by the District Education Board through a rigorous needs assessment in the district. Schools with high enrolment and infrastructure problems were given priority. SIMU evaluated an average of 50% of the schools in the districts to verify if the DEB nominated schools were indeed the neediest.

Recent developments in the Ministry of Education however reveal that due to corruption, the above procedure has not been strictly followed. According to Menya (2009), undeserving schools have received the funds.

2.5.2 Capacity Building

District Infrastructure Coordination Teams comprising of multi-sectoral officers from different ministries were selected at the district level. They were trained on aspects of infrastructure improvement management to facilitate participatory monitoring of the projects at the school level and ensure quality control. Some Area Education Officers from each district were trained at the divisional level. At the school level, School Infrastructure Committees (SIC) were formed with a membership of eight or nine members who include; the DEO and sponsor representatives, matron (if boarding), two
parents, chair of School Management Committee (SMC), two class teachers (representing lower and upper classes), the head teacher and the deputy head teacher (secretary). The committee is chaired by an elected member who must not be the chair of SMC. SIC in collaboration with SMC prepared a five year School Infrastructure Development Plan (SIDP) depending on each school’s priorities. The SIDPs approved by the school communities were submitted to the DEOs, approved by DICTs, verified by SIMU and ratified by DEBs. Schools whose SIDPs were approved opened special infrastructure bank accounts in which the grants are managed.

2.5.3 Projects Financed by SIIG

The purpose of the government is to improve school infrastructure in disadvantaged areas. Strict guidelines are therefore provided by the government on the type of uses in which to put the funds. They include:

i. Building new permanent structures such as classrooms, sanitation and boarding facilities, water supply systems, administration blocks, cooking systems and purchase of furniture.

ii. Rehabilitation, refurbishment and improvement of permanent structures. Any usage on temporary or semi-permanent structures is prohibited.

Other projects that may be financed using the grants include:

- Fencing and gates.
- Beds, mattresses and nets for boarding schools.
- Basic sports equipment.
- Purchase of tools and equipments to facilitate community participation such as shovels, jembes etc
- Hiring of skilled labour for the above activities.
- Administrative documentation such as receipt books or photocopying of forms.

The projects are undertaken in order of priority as outlined in SIDP. Priority is given to pupil’s needs and very sensitive areas such as sanitation or those that would lead to closure of schools (MOE 2007).

### 2.5.4 Evaluating, Reporting and Auditing

Each beneficiary school is expected to fill in quarterly and annual reports on how SIIG and other resources have been used. Stakeholders should be kept informed by reporting progress to them. Schools are expected to update their plans before the next disbursement. The updated plan and the annual progress report should be sent to the zonal Quality Assurance and Standards Officer and DICT. It should also be displayed on the schools notice board. BSIIG and ASIIG accounts should be audited annually like any other accounts of schools receiving public funds.

However, delay in auditing of school accounts is a major problem in most schools. On the other hand, corrupt government auditors collude with school heads to give false audit reports.
2.5.5 Monitoring and Evaluation

The main purpose is to ensure that the funds are used for the intended purpose and that there is accountability. Monitoring and evaluation ensures that the problems encountered are addressed. Over time, it will lead to improvement of the programme and react to the changing needs and requirements in the school. At the school level, SIC keeps the necessary documents for the programme. The committee also evaluates the quality of contractors and reports this information to the DEO’s office.

DICT supervises and monitors performance of all consultant designs and supervisory support. Team members visit sites monthly. The team compiles quarterly and annual progress and budget reports as well as district quality cost reports.

At the central level, SIMU produces medium term and long term budgets and work plans. The unit monitors progress and budgets by producing progress and financial reports. It maintains data based on construction costs and quality and measures the impact of the programme.

The KESSP, School Infrastructure Improvement Programme is however very ambitious and there is a visible gap between theory and practice. According to ADEA (2005), Sector Wide Approach Programmes are driven too much by the goals, practices and values of international agencies rather than the local capacity to sustain the programme. As pointed out in the background, the programme experienced financial shortages right from the onset. Long procurement procedures have led to delays in release of funds from
the donors and development partners to the government and from the government to the projects. As a result, programme implementation has been delayed.

2.6 Other Policy Options

One of the major problems facing education sector in many developing countries in general and Kenya in particular is how to allocate scarce resources. Some infrastructure problems can be solved by making maximum utilization of existing resources. To cope with limited space in densely populated urban areas, double or more shifts come in handy. Singapore as rich as it is continues to use double shift throughout the primary system for cost effective purposes (World Bank 2002).

Multi-grade schools can be used in remote areas with low population density and correspondingly high unit costs. In countries such as Zambia, Guatemala, Burkinafaso, Philippines and Columbia, it has been an effective way of making optimal use of the classroom facilities (www.unesco-iicba.org).

Use of locally available materials can greatly reduce the cost of physical facilities. (Olembo1985) holds that planners and architects should come up with designs that are inexpensive yet decent and suitable for educational purposes. All primary schools need not be built of cement blocks, bricks, and corrugated iron sheets. According to World Bank (1988) reliance on local materials is also a way of improving quality of construction. For Example in Niger, the cost of a classroom made of concrete is five times that made of
“banco”; the most commonly used construction material in the rural areas yet the latter is cooler in summer and warmer in winter than the former.

Introduction of e-learning, open learning and distant learning can greatly reduce physical space for education especially at the higher levels (Beynon 1997). This can be used for adults and out of school youths who find themselves back to school for a variety of reasons.

School buildings should be grouped together to reduce the cost of water and electricity installation (Hartfield 1961). Another way of reducing infrastructure costs is building physical facilities that are flexible. This means that the overall school plant lay-out should lend itself easily and economically for expansion and contraction. Flexibility also means that that interior of classrooms or entire building units can be changed easily and economically. School programmes emphasis may change and therefore need to be adapted to larger or smaller classes or to different teaching techniques. Certain facilities may be used for a variety of uses for cost effective purposes.

### 2.7 Summary of Literature Review

The reviewed literature has revealed that school infrastructure plays a crucial role in the education system. The state of physical facilities in Kenyan schools has been poor and inadequate. It is revealed that a lot of capital investment is required to improve school infrastructure. One such investment programme is School Infrastructure Improvement Programme funded by KESSP. For effective implementation of the programme, all
stakeholders must be involved in planning, implementation and monitoring of the projects.

The following gaps were evident from the literature reviewed:

ii. Not much has been done on the effective planning of infrastructure funding programmes. Most research studies focus on the role of infrastructure in the education system.

iii. The few research studies in Kenya are based on the needs of various schools and regions. Little attention has been given to the achievement of various infrastructure investment programmes.

In an attempt to fill these gaps, the study intended to establish the effectiveness of KESSP Infrastructure Grants on improvement of primary school infrastructure in Kiambu District.
CHAPTER THREE
METHODOLOGY

3.0 Introduction
This chapter contains design, variables, locale of the study, target population and sampling, research instruments, data collection and data analysis.

3.1 Research Design
The study adopted the descriptive survey design to find out the effectiveness of KESSP School Infrastructure Improvement Grants in Kiambu district. Descriptive survey design is used in preliminary and exploratory studies to allow researchers gather information. According to Kothari (1985), survey is concerned with describing, recording, analyzing and reporting conditions that exist or have existed. Kerlinger (1973) maintains that survey research is intended to produce statistical information in evaluating self practices and in providing basis for decisions. The descriptive survey was the most appropriate for this study because in the study, the researcher collected information on the effectiveness of school infrastructure improvement grants in the schools, without manipulating any variables.

3.2 Variables of the Study
Mugenda and Mugenda, (1999) hold that the independent variable is also known as the predictor variable because it predicts the amount of variation in another variable. On the other hand, the dependent variable varies as a function of the independent variable (Ibid). In this study, the state of school infrastructure is the Independent Variable. It determined
the schools, amount of money allocated and the projects funded (dependent variables) in the schools under the KESSP School Infrastructure Improvement Programme.

3.3 Locale of the Study

The study was carried out in Kiambu District in Central Province. Kiambu District comprised of Kiambu Municipality and Kiambaa Division of the former Kiambu East District. The district bordered Kabete, Limuru and Githunguri District and Nairobi province. The district was densely populated and has many residents who work in the nearby city of Nairobi. The main economic activities are small-scale business and farming as well as large scale coffee farming. The district has a total of 76 primary schools; 42 public and 34 private.

Singleton (1993) noted that the ideal setting of the study will be directly related to the researcher’s interest. Kiambu District was singled out because of poor development of education in the area. Primary schools are over-crowded; buildings are old, dilapidated and inadequate. The researcher would like to see the general development of education in Kiambu District.

3.4 Target Population

The target population was all the 22 public primary schools in Kiambu District who are receiving the KESSP infrastructure improvement grants. From these schools, all the head teachers constituted the target population because they are directly involved in the management. The District Education officer was also targeted.
3.5 Sampling Techniques and Sample Size

According to Orodho (2009), a population of less than 30 should be studied in whole. For the head teachers and the District Education Officer, sample selection was based on purposive sampling technique targeting the whole population. According to Gay (1992), the approach where the population is equal to the sample is known as census survey approach. Thus the head teachers of the 22 schools receiving the grants and the DEO constituted the study sample. Consequently, the total sample size was 23 respondents. Two schools out of the 22 schools were randomly picked for piloting.

3.6 Research Instruments

For the purpose of this study, data were collected using a questionnaire, interview schedule and observation schedules.

3.6.1 Questionnaire

Questionnaire was used because it offers considerable advantages in the administration: it presents an even stimulus potentially to large numbers of people simultaneously and provides the investigation with an easy accumulation of data. Gay (1992) holds that questionnaires give respondents freedom to express their views or opinions and also to make suggestions. It is also easy to compare responses from questionnaires.

Head Teachers’ Questionnaire

A questionnaire was used on the head teachers in their capacity as heads of institutions and members of SIC. The questionnaire had two parts. Part one sought information on the
establishment of the school. Part two got information on SIIP projects in their respective schools.

3.6.2 Interview Schedule

An interview was used because it allowed free expression of opinion by the interviewee and at the same time gave the researcher a chance to clarify questions and probe further when it was necessary (Orodho 2005).

DEO’S Interview Schedule

An interview schedule was used to get information from the District Education Officer on the progress and needs of the district as well as the problems faced.

3.6.3 Observation Schedule

This involved collection of information by way of investigation without involving any respondent. According to Orodho (2005) the information obtained relates to what is currently happening and is not complicated by past behaviour, future intentions or the respondent’s attitude. The researcher sought details on congestion, maintenance of school facilities, fencing, water supply, electricity supply and sanitation using an observation schedule.

3.7 Reliability of Research Instrument

To ensure that the research instruments gave consistent results, the researcher conducted a pilot study. The questionnaires were pre-tested to a selected sample that is similar to the actual sample. The researcher purposively selected two schools that are in the
programme. This enabled the researcher to discover deficiencies such as unclear instructions, insufficient spaces to write the answers, wrong phrasing of questions and ambiguity. The questionnaire items that were found to be inadequate or vague were discarded or modified to improve the quality of the research instruments thus increasing reliability.

The researcher used the split-half technique in testing the reliability of instruments. According to Mugenda and Mugenda (1999), this technique administers an instrument once to two groups of subjects. The research instruments were therefore administered to two head teachers. The scored items were then randomly divided into two groups. The completed questionnaires were scored and analyzed.

Spearman rank order correlation coefficient was calculated using the following formula:

\[ r = 1 - \frac{6\sum(D)^2}{N(N^2 - 1)} \]

The coefficient obtained was used to determine the reliability index of coefficient by subjecting it to Spearman Brown Prophecy formulae. A split-half coefficient of 0.76 was obtained.

\[ r = \frac{2r}{1+r} = 0.76 \]

Where \( r \) is Correlation Coefficient
According to Orodho (2005), a coefficient correlation (r) of about 0.75 and above should be considered high enough to judge an instrument as reliable. The researcher’s value of coefficient correlation (r) was 0.76, hence the instruments were considered reliable for data collection.

3.8 Validity of Research Instruments

A valid research instrument should measure that which it was intended to. It must be examined with respect to the use which is to be made of the values from the measurement procedure (UNESCO 2005). According to Orodho (2005), validity of a research instrument is established by expert judgment. For this study, the relevance of the content of the questionnaire was assessed by the two research supervisors. The recommendations of the supervisors were incorporated by the researcher.

3.9 Data Collection

The researcher obtained an introduction letter from Kenyatta University and a research permit from the National Council for Science and Technology to conduct the research. After that the researcher notified the DEO of the intended research. Appointments for the interview were made as well as arrangements to administer the questionnaires. The questionnaire was administered by the researcher in person after explaining the intent and the confidentiality involved. Observations on congestion, maintenance of school buildings, fencing, electricity, water and sanitation were made and recorded.
3.10 Data Analysis

The data were presented, analyzed and discussed according to the information obtained from the questionnaires, interview and observations. Collected data were coded and fed into the computer for analysis using the Statistical Package for Social Sciences. The data collected were quantitative and qualitative. Descriptive statistics such as percentages, means and frequency counts was used to analyze quantitative data which was reported in summary form using frequency tables, graphs and pie-charts. Qualitative data was analyzed using content analysis, whereby responses were reported in narrative form.
CHAPTER FOUR
DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.1 Introduction

This chapter presents the findings of the study. The findings were presented, interpreted and discussed in connection to the effectiveness of Kenya Education Sector Support Programme Grants on primary school infrastructure improvement. The findings have been presented under five main sections in line with the objectives. The study sought information from District Education Officer and head teachers using questionnaires, interview guide and observation schedules. Finally, the result of the findings was discussed in the light of the reviewed literature related to effectiveness of Kenya Education Sector Support Programme Grants on Primary school infrastructure improvement. Data analysis, presentation of results and discussion of the findings were guided by the following objectives:

ii. To survey the current infrastructure situation in primary schools in Kiambu District.

iii. To find out the specific projects financed by the KESSP grants in the district.

iv. To estimate the relative adequacy of the funds.

v. To investigate the problems faced in disbursement and utilization of the funds.

vi. To propose strategies that should be put in place to improve the effectiveness of KESSP infrastructure funding.

The analysis of data and discussion of results is done under themes relevant to the study.
4.2: Questionnaires, Interview Guide and Observation Schedules Return Rate

Twenty (100%) respondents responded to the questionnaires. All the observation schedules used were also responded to. There was only one interview schedule used in this research and apparently was responded to. This return rate was high enough and the researcher felt justified to proceed with the data analysis.

4.3 Current Infrastructure Situation in Primary Schools in Kiambu District

The first research objective sought to gather information concerning the current infrastructure situation in primary schools in Kiambu District. Information concerning the current infrastructure situation in primary schools is presented as below.

4.3.1 School Establishment

The first questionnaire item sought to determine the number of streams per school. This information is presented in Table 4.1. According to Table 4.1 majority of schools (65%) comprised of double stream. Only 5% of schools each indicated that their schools comprised of single, four or more than four streams. Twenty per cent of schools had triple streams.

**Table 4.1 Number of Streams**

<table>
<thead>
<tr>
<th>Response</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Single</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Double</td>
<td>13</td>
<td>65</td>
</tr>
<tr>
<td>Triple</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Four Streams</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Above Four</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>20</td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>
This information reveals that some schools in the study were overcrowded and more facilities were required to cater for this large numbers. Records available from schools in the study showed that average class sizes in urban areas ranged from 60 -70 pupils. Large classes had a negative effect on the teaching –learning process as teachers could not adequately pay attention to slow learners or effectively carry out proper assessment of their pupils bearing in mind that the recommended class size was 50 pupils.

The researcher also sought to gather information concerning the enrolments in schools. The data collected were categorised according to gender as presented in Table 4.2.

**Table 4.2 Enrolment per Gender**

<table>
<thead>
<tr>
<th>Year</th>
<th>ENROLMENT PER GENDER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>BOYS</td>
</tr>
<tr>
<td></td>
<td>1-300</td>
</tr>
<tr>
<td></td>
<td>f</td>
</tr>
<tr>
<td>2006</td>
<td>6</td>
</tr>
<tr>
<td>2007</td>
<td>6</td>
</tr>
<tr>
<td>2008</td>
<td>6</td>
</tr>
<tr>
<td>2009</td>
<td>7</td>
</tr>
<tr>
<td>2010</td>
<td>8</td>
</tr>
</tbody>
</table>

Based on information in Table 4.2, the researcher plotted a multiple line graph in Figure 4.1 to depict the trends of enrolments schools.
Table 4.2 and Figure 4.1 show the trends in enrolments of pupils (both boys and girls) in primary schools in the study area. In the year 2010, there was gender parity in enrolment. However, this trend was different in years 2006, 2007, 2008 and 2009 when there was gender disparity in favour of boys. From the figure 4.1, it is evident that enrolments reduced in 2007 but increased sharply in 2008, before recording a drop in the subsequent years. According to data obtained and recorded as per the document analysis, the drop had minimal impact on the enrolment per class. Enrolments in some schools were still above the recommended class size of 50. It could be concluded as per this information that infrastructure in the study area was not adequate. Data regarding the enrolment totals were as presented in Table 4.3.
Table 4.3 Enrolment Totals

<table>
<thead>
<tr>
<th>Year</th>
<th>200-400</th>
<th>401-800</th>
<th>801-1200</th>
<th>Above 1200</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>F</td>
<td>%</td>
</tr>
<tr>
<td>2006</td>
<td>2</td>
<td>10</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>2007</td>
<td>3</td>
<td>15</td>
<td>9</td>
<td>45</td>
</tr>
<tr>
<td>2008</td>
<td>1</td>
<td>5</td>
<td>12</td>
<td>60</td>
</tr>
<tr>
<td>2009</td>
<td>2</td>
<td>10</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>2010</td>
<td>2</td>
<td>10</td>
<td>12</td>
<td>60</td>
</tr>
</tbody>
</table>

Information gathered through the questionnaires as per Table 4.3 indicates that majority of schools in all the years comprised of between 400-800 students. However, there was a school with 2,000 pupils. The infrastructure in such a school was in no doubt overstretched. Even though establishment of new schools would ease this problem, the DEO felt that the district does not require new schools. According to him, the problem is caused by unequal population distribution and building more schools would increase cost to the households and not necessarily ease congestion. According to him, only 40 % of the schools in the district require infrastructure improvement. Noting that half of the schools in the district receive SIIG grants, the DEO is then to the opinion that 10 % of schools do not qualify for the grants.

Data regarding the plot sizes (in acres) of school were collected by use of questionnaires. The findings are presented in Table 4.4.
Table 4.4 School Plot Sizes

<table>
<thead>
<tr>
<th>School Plot Size (acres)</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-5</td>
<td>11</td>
<td>55</td>
</tr>
<tr>
<td>6-10</td>
<td>7</td>
<td>35</td>
</tr>
<tr>
<td>11-15</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>20</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

According to Table 4.4, majority of schools (55 %) are built on plots of 1-5 acres. Another 35% of schools are built on 6-10 acres of land. Finally, only 10 % of schools are built on land of acreage between 11 and 15. The situation revealed by these results show that most of the schools in the study area do not meet the land requirement and do not have enough land for expansion (MOE 2002).

4.3.2 Types and Quantity of Physical Facilities

In order for the researcher to achieve a complete overview of the physical facilities available in schools, head teachers were asked to fill in the questionnaire that had items that sought the type and quantity of these physical facilities. The researcher involved them because they were directly involved in the acquisition and maintenance of such facilities.

Information on the type and quantity of physical facilities was collected, analysed and presented in Table 4.5.
According to Table 4.5, all the respondents indicated that all schools had both offices and staffrooms. Sixty percent of head teachers indicated that schools had between 16 and 30 classrooms while 15 percent of head teachers indicated that their schools had a library.

The situation about sanitary facilities was also pathetic in majority of the schools. Boys and girls toilets were inadequate since in majority of schools (65%), only 1-10 toilets

### Table 4.5 Types and Quantity of Physical Facilities

<table>
<thead>
<tr>
<th>Physical Facility</th>
<th>Quantity</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>1-5</td>
<td>6-15</td>
<td>16-30</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>F</td>
<td>%</td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classrooms</td>
<td></td>
<td>1</td>
<td>5</td>
<td>7</td>
<td>35</td>
<td>12</td>
<td>60</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offices</td>
<td></td>
<td>20</td>
<td>100</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staffrooms</td>
<td></td>
<td>20</td>
<td>100</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Library</td>
<td></td>
<td>3</td>
<td>15</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Computer Labs</td>
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<td>0</td>
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<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School Halls</td>
<td></td>
<td>9</td>
<td>45</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher Houses</td>
<td></td>
<td>2</td>
<td>10</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toilets</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Boys</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1-10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>F</td>
<td>%</td>
<td>f</td>
<td>%</td>
<td>f</td>
<td>%</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>13</td>
<td>65</td>
<td>7</td>
<td>35</td>
<td>13</td>
<td>65</td>
<td>7</td>
<td>35</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Girls</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

According to Table 4.5, all the respondents indicated that all schools had both offices and staffrooms. Sixty percent of head teachers indicated that schools had between 16 and 30 classrooms while 15 percent of head teachers indicated that their schools had a library.

The situation about sanitary facilities was also pathetic in majority of the schools. Boys and girls toilets were inadequate since in majority of schools (65%), only 1-10 toilets
were built for both boys and girls respectively. Only 35% of the schools in the area of study had the required number of toilets for both boys and girls (MOE 2002). Although 10% of schools had teachers’ houses, none of the schools had a computer laboratory. All the schools in the area of study were therefore producing ICT illiterate graduates. This is a draw back to the country’s realisation of Vision 2030 goal of making Kenya globally competitive and industrialised. It is also not in tandem with Kenya’s ICT policy (2006) that seeks to transform the country into an information-rich and knowledge-based society.

4.3.3 Infrastructure Needs in various Schools

The research sought to determine the infrastructural needs in the schools in the district. The results obtained are contained in Table 4.6 below which shows the infrastructure needs in schools and their order of priority. It is evident from Table 4.6 that schools had prioritized the construction of classrooms (55%), school furniture (90%), construction of toilets (45%), improvement of water facilities (60%) and completion of class veranda (65%). It was interesting to note that although a library is essential in the improvement of education in schools, it was not identified as a priority by (45%) of the schools. Lack of libraries in schools was a serious challenge to teachers who depended on resource books to prepare the content for teaching.
Table 4.6 Infrastructure needs in Schools in Order of Priority

N=20

<table>
<thead>
<tr>
<th>Responses</th>
<th>First</th>
<th>Second</th>
<th>Third</th>
<th>Fourth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>f</td>
<td>%</td>
</tr>
<tr>
<td>Classroom construction</td>
<td>11</td>
<td>55</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>School Furniture(Both students and teachers)</td>
<td>18</td>
<td>90</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Toilet construction</td>
<td>9</td>
<td>45</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>Improving water facilities</td>
<td>12</td>
<td>60</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Library establishment</td>
<td>2</td>
<td>10</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>Completion of classroom veranda</td>
<td>13</td>
<td>65</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>Construction of a fence</td>
<td>9</td>
<td>45</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Playfield and games equipments</td>
<td>8</td>
<td>40</td>
<td>8</td>
<td>40</td>
</tr>
<tr>
<td>Construction of a new kitchen</td>
<td>5</td>
<td>25</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>School painting</td>
<td>4</td>
<td>20</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>Installation of electricity</td>
<td>3</td>
<td>15</td>
<td>3</td>
<td>15</td>
</tr>
</tbody>
</table>

4.3.4: Observation Report on the Availability of School Infrastructure

The observation schedule sought to establish the availability school infrastructure.

First, the following data were collected concerning the availability of some identified infrastructure. The information collected by the researcher by use of observation guide indicated the following information as presented in Table 4.7.
Table 4.7 Availability of School Infrastructure

<table>
<thead>
<tr>
<th>Availability of School Infrastructure</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
</tr>
<tr>
<td>Fence</td>
<td>17</td>
<td>85</td>
</tr>
<tr>
<td>Gate</td>
<td>20</td>
<td>100</td>
</tr>
<tr>
<td>Piped Water</td>
<td>7</td>
<td>35</td>
</tr>
<tr>
<td>Water Tanks</td>
<td>11</td>
<td>55</td>
</tr>
<tr>
<td>Electricity</td>
<td>12</td>
<td>60</td>
</tr>
<tr>
<td>Enough Classrooms</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>Enough Furniture</td>
<td>3</td>
<td>15</td>
</tr>
</tbody>
</table>

Results in Table 4.7 indicate that all schools had permanent gates (100%); majority (85%) of the schools had perimeter fences and had constructed water tanks (55%). Information from the observation showed that areas that were in shortage were piped water (65%), furniture (85%) and classrooms (85%).

The researcher noted that in many schools, pupils were crowded in their respective classes except in class eight. Further scrutiny showed that although the tanks were there, majority of them had no water, implying that the problem of water was far from solved.

Information in Table 4.7 is also presented in Figure 2.
The observation schedules utilized by the researcher sought information on whether the schools were congested or not. Information gathered from the observations made by the researcher indicated that 75 percent of the schools in the study area were congested and 25% of the schools in the sample were not congested. One cannot therefore assume that effective learning was going on since the poor outcomes in the examinations in the district were one of the indicators of lack of effectiveness in the teaching – learning process. Data regarding this information were as presented in Table 4.8.

**Figure 4.2: Availability of school Infrastructure**
Table 4.8 State of Congestion in Schools

<table>
<thead>
<tr>
<th>Responses</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very Congested</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>Congested</td>
<td>12</td>
<td>60</td>
</tr>
<tr>
<td>Not Congested</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>20</td>
<td>100</td>
</tr>
</tbody>
</table>

Observations from schools showed varied responses regarding maintenance of buildings. Information from the observation check lists showed that more than half of the schools were poorly or not maintained. A visit to such areas as the classrooms, toilets, and kitchens gave shocking revelations. The toilets, some of which were of temporary nature were dilapidated, classrooms and the kitchens had peeling walls and had not been painted for a long time. On the contrary, the head teachers’ offices and the staffrooms were well maintained, giving the impression of comfort at the expense of suffering pupils. Figure 4.3 shows the distribution of schools’ observations on maintenance of school buildings.

![Figure 4.3 Maintenance of School Buildings](image-url)
The observation schedule sought to gather information on whether the buildings in schools catered for the needs of children who are physically challenged. Schools in this study had not considered the wellbeing of the physically challenged children while designing and constructing the various buildings that were in the schools. A discussion with the head teachers in respective schools revealed that there are high costs associated with educating children with special needs. Children in special education programmes require special aids and equipments some of which might be very costly. The research further revealed that most of the buildings were of permanent nature. This is illustrated in figure 4.4 below.

![Figure 4.4 Permanence of Buildings](image)

**Figure 4.4 Permanence of Buildings**

From the figure 4.4 above, 80 percent of schools showed that buildings were of permanent nature while 20 percent of the schools had some semi-permanent buildings; mainly toilets and kitchens.
4.4 Projects Financed By the KESSP Grants in the District

The second research objective sought information on the projects financed by the KESSP grants in the District. In particular the questionnaires sought information from schools on the projects financed by SIIG. According to Table 4.9, there were various projects that had been financed by KESSP School Infrastructure Improvement Grants. In all the schools that received finances from SIIG, the funds had been used for construction of new classrooms or repairing existing ones. Seventy per cent of the schools had utilized the funds in the improvement water facilities and drainage. Other priorities of the fund had been the construction of toilets and their maintenances as was attested by 75 % of the head teachers. Other projects that had been financed SIIG were electrification, school painting, installation of black boards, purchase of water pumps, purchase of furniture and enlargement of staffroom.

Table 4.9 Projects Financed by SIIG

<table>
<thead>
<tr>
<th>Responses</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction and Repair of Classrooms</td>
<td>20</td>
<td>100</td>
</tr>
<tr>
<td>Improving water facilities and Drainage</td>
<td>14</td>
<td>70</td>
</tr>
<tr>
<td>Furniture</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>Construction and Repair of Toilets</td>
<td>15</td>
<td>75</td>
</tr>
<tr>
<td>School Painting</td>
<td>11</td>
<td>55</td>
</tr>
<tr>
<td>Installation of Blackboards</td>
<td>7</td>
<td>35</td>
</tr>
<tr>
<td>Purchase of a generator for back up power</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>Purchase of a water pump</td>
<td>3</td>
<td>15</td>
</tr>
<tr>
<td>Staffroom enlargement</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td>Electrification plus Wiring</td>
<td>7</td>
<td>21</td>
</tr>
</tbody>
</table>
The Ministry of Education has over the years implemented targeted programmes that aim at reducing the burden of the cost of education to the household at the primary level of education. One of the KESSP grants specific objective was to reduce the direct cost of education to households with a view to increasing access, and enhancing equity and participation (MOE 2005).

The Ministry of Education in its endeavor to improve efficiency in the use of SIIG had set guidelines on how best these funds could be utilized. This has been in the form of secondary data which is circulated to beneficiary schools in the form of manuals and handbooks MOE 2007). The researcher therefore sought for information from head teachers on the availability of school infrastructure management materials. This information is presented in Table 4.10.

**Table 4.10 Availability of School Infrastructure Management Literature**

<table>
<thead>
<tr>
<th>Programmes of School Infrastructure</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>f</td>
<td>%</td>
</tr>
<tr>
<td>School infrastructure management book</td>
<td>19</td>
<td>95</td>
</tr>
<tr>
<td>School infrastructure technical handbook</td>
<td>18</td>
<td>90</td>
</tr>
</tbody>
</table>

Table 4.10 indicates that majority (90%) of the schools had the required literature on the implementation of the programme. These materials were essential to guide the head teacher and other stakeholders on the proper usage of these funds. Indeed, all the projects
that were financed by the grants in all the schools studied were those that had been stipulated by MOE. All the schools had constituted SICs and had SIDPs.

The interview guide utilized with the DEO also wanted to know whether there are other programmes that fund infrastructure projects in primary schools. He identified the following programmes as GOK/OPEC, CDF, LATF; DEB parents approved funds and ESP.

### 4.5 Estimation of the Relative Adequacy of the Funds

The third research objective sought information on the relative adequacy of the funds. Head teachers’ questionnaires sought to gather data that would assist the researcher in estimating the relative adequacy of the funds. The questionnaires sought data on the type of grant disbursed to schools. 25% of the schools received both BSIIG and ASIIG while 75% of the schools received BSIIG only.

Information gathered by the researcher as per Table 4.11 shows that only one school comprising of 5% of total schools received the funds in the year 2006. In the subsequent year, there was a slight improvement with two schools receiving a grant of between ksh200, 000-1,000,000. More schools benefited in the subsequent years with 60 % of schools getting grants ranging between Ksh200, 000-1,000,000 in the years 2008 and 2009. An analysis of the data obtained clearly shows that the grants offered to schools have been irregular in all the years. Information on the total grants to school in the years 2006-2010 is presented in the Table 4.11.
Table 4.11 SIIG Grants to Schools

N=20

<table>
<thead>
<tr>
<th>YEAR</th>
<th>200000-1000000</th>
<th>1000001-1500000</th>
<th>Above 1500000</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>%</td>
<td>f</td>
</tr>
<tr>
<td>2006</td>
<td>1</td>
<td>5</td>
<td>-</td>
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<tr>
<td>2007</td>
<td>2</td>
<td>10</td>
<td>-</td>
</tr>
<tr>
<td>2008</td>
<td>12</td>
<td>60</td>
<td>1</td>
</tr>
<tr>
<td>2009</td>
<td>12</td>
<td>60</td>
<td>2</td>
</tr>
<tr>
<td>2010</td>
<td>1</td>
<td>5</td>
<td>-</td>
</tr>
</tbody>
</table>

The information in Table 4.11 is illustrated by use of a line graph in Figure 4.5 to depict the trends of grants given to schools. Figure 4.5 was also used to bring out the disparities in the allocation of funds among the schools during the period.
Figure 4.5 was used to bring out contrasts in the trends of the allocation of funds between the years 2006 to 2010. Majority of schools had been receiving funds of between Ksh 200,000 and Ksh 1,000,000.

The head teachers through the use of questionnaires were required to comment on the flow of the funds to schools. The head teachers had varying comments concerning the flow of funds to schools. As is evident from Table 4.12, all head teachers said that the flow of funds has been irregular, there has also been delay in disbursement and the funds have been inadequate. In some schools, the funds had been stopped as attested by 20% of head teachers. Other head teachers complained that their allocations had been channeled to wrong accounts. These comments were a clear testimony on the problems facing SIIG funds.

Table 4.12 presents the head teacher's responses on the flow of the funds.
Table 4.12 Responses on the Flow of Funds

<table>
<thead>
<tr>
<th>Response</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irregular</td>
<td>20</td>
<td>100</td>
</tr>
<tr>
<td>Delay in Disbursement</td>
<td>20</td>
<td>100</td>
</tr>
<tr>
<td>Inadequate</td>
<td>20</td>
<td>100</td>
</tr>
<tr>
<td>Stopped disbursing</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Channelled to wrong accounts</td>
<td>2</td>
<td>10</td>
</tr>
</tbody>
</table>

Asked to comment on the selection of the schools that benefited from the funds, the DEO said schools were selected based on the infrastructure needs. According to him, selection was purely on how schools’ physical facilities were available and their status in terms of being dilapidated. He said that most of the selected schools had shortage of sanitation facilities, dilapidated structures and inadequate classrooms. Given the number of projects that have been financed by the grants and the infrastructure needs of the schools as outlined in SIDP, it is clear that the funds are by far inadequate.

4.6 Problems Faced in Disbursement and Utilization of the Funds

The fourth research objective sought to find out problems faced in the disbursement and utilization of the funds. The information on the problems facing the implementation of the programme is presented in Table 4.13.
Table 4.13 Problems Faced in the Disbursement and Utilization of SIIG Funds

<table>
<thead>
<tr>
<th>Responses</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inadequate funds</td>
<td>20</td>
<td>100</td>
</tr>
<tr>
<td>No room for expansion</td>
<td>11</td>
<td>55</td>
</tr>
<tr>
<td>Uncooperative parents</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>Delay in the disbursement of the funds</td>
<td>17</td>
<td>85</td>
</tr>
<tr>
<td>Incompetent SIC members</td>
<td>7</td>
<td>35</td>
</tr>
<tr>
<td>Outside interference</td>
<td>12</td>
<td>60</td>
</tr>
<tr>
<td>High cost of building materials</td>
<td>20</td>
<td>100</td>
</tr>
</tbody>
</table>

According to Table 4.13, there are many problems faced in the implementation and utilization of SIIG funds. Head teachers identified the following problems: inadequate funds, delay in the disbursements of the funds, Incompetent SIC members, outside interferences, high cost of building materials and conflict between SMC and SIC. On the problems encountered in the implementation of the programme, the DEO concurred with the sentiments of the head teachers. According to the DEO, there are some isolated cases where school grants have been embezzled by head teachers. Such problems are normally unearthed after infrastructure accounts have been audited. The DEO further said that annual national FPE audits are conducted in the months of March/April. He agreed that some of these problems could be noted earlier, but DICT visits schools to oversee the projects less frequently.
Figure 4.6 Problems Encountered

4.7 Suggested Strategies to Improve the Effectiveness of KESSP Infrastructure Funding

The fifth objective sought information on strategies that can help improve implementation of the programme. The research instruments solicited from the head teachers and the DEO information on suggestions about possible measures necessary for the improvement of KESSP Infrastructure funding. The suggestions are presented in Table 4.14
Table 4.14 Suggestions on Improvement on KESSP Infrastructure Funding

<table>
<thead>
<tr>
<th>Responses</th>
<th>f</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase the allocation of the infrastructure Funding</td>
<td>20</td>
<td>100</td>
</tr>
<tr>
<td>Consistency in Disbursement</td>
<td>20</td>
<td>100</td>
</tr>
<tr>
<td>SIC members to be trained-workshops, seminars</td>
<td>17</td>
<td>85</td>
</tr>
<tr>
<td>SIC to source materials locally-no tendering process</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>Regular monitoring of projects to ensure quality</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td>Sensitize the community to support the programme</td>
<td>16</td>
<td>80</td>
</tr>
<tr>
<td>Proper planning</td>
<td>13</td>
<td>65</td>
</tr>
<tr>
<td>Discourage interference</td>
<td>20</td>
<td>100</td>
</tr>
<tr>
<td>Involvement of the community –they provide labour</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td>Auditing of the funds intensified-accountability</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td>Separation of duties-SMC and SIC</td>
<td>18</td>
<td>90</td>
</tr>
</tbody>
</table>

Head teachers and the DEO gave their suggestions on how to improve KESSP infrastructure funding. Although most views were varied and contextual, they however concurred on the following suggestions: the government should increase the allocations, consistency in disbursement, training of SIC members, regular monitoring of the projects, frequent auditing of the fund, proper planning, and separation of duties of SMC and SIC.

4.8. Discussion of the Findings

This section relates and interprets findings of the study in the light of literature reviewed in connection to effectiveness of KESSP grants on primary school infrastructure
improvement in Kiambu District. The discussion of the findings was made under the relevant themes as guided by the objectives of the study.

4.8.1 Current Infrastructure Situation in Primary Schools in Kiambu District

From the study findings, majority of schools (65 %) comprised of double streams. Only 5 % of schools each indicated that their schools comprised of single, four or more than four streams. Twenty per cent of schools had triple streams. Records available from school heads in the study area showed that some schools had class sizes that ranged from 60 - 70 students. UNESCO(2008) holds that in most Kenyan schools, the environment is not conducive for learning since many schools are crowded, unsafe and poorly maintained; a factor that leads to low academic achievement. According to data from head teachers, majority of schools in all the years comprised of between 400-800 students. However, there was a school with 2,000 pupils.

The findings show that majority of schools (55 %) were built on land of 1-5 acres. Another 35% of schools were built on 6-10 acres of land. Finally, only 10 % of schools were built on land of acreage between 11 and 15. The situation revealed by these results showed that most of the schools in the study area did not have enough land for expansion. According to Oddie (1966) adequacy of classrooms is evaluated against the amount of floor space to permit a group of pupils under a teacher’s guidance to carry out the range of educational activities called for in the overall educational programme. In Kenya, a standard classroom in a primary school should be 8 by 8 metres to accommodate forty pupils. However, introduction of e-learning, open learning and distant learning can
greatly reduce physical space for education especially at the higher levels (Beynon 1997). This can be used for adults and out of school youths who find themselves back to school for a variety of reasons.

All the respondents indicated that all schools had both offices and staffrooms. Although 10% of schools had teachers’ houses, none of the schools had a computer laboratory. Sixty percent of head teachers indicated that schools had between 16 and 30 classrooms while 15 percent of head teachers indicated that their schools had a library. The situation about sanitary facilities was also pathetic in majority of the schools. Boys and girls toilets were inadequate since in majority of schools (55% and 70%) only 11-20 toilets were built for both boys and girls respectively. Noting that toilet-pupil ratio is 1:25 and that of boys 1:30 (MOE 2002), these findings concur with a pilot survey of schooling conditions in Least Developed Countries by UNESCO and UNICEF, that revealed that some parents refused to let their children attend schools where sanitation facilities were poor (Beynon, 19997).

Olembo (1985) holds that sharing of school costs between the local communities and the government has led to variations in the quality of facilities between and within districts. Majority of schools had prioritized the construction of classrooms (55%), school furniture (90), construction of toilets (45%), improvement of water facilities (60%) and completion of class veranda (65%). It was interesting to note that although a library was essential in the improvement of education in schools, it was not identified as a major need by a majority (65%) of the schools. Information gathered from the observations made by
the researcher indicated that only 80 percent of the schools in the study area had buildings of permanent nature. These findings were in line with the MOE data that indicates that there was a shortage of permanent buildings especially in poor districts. The 2003 school census revealed a shortfall of 43,000 classrooms and only 32% of the permanent and semi-permanent were reported as adequate (MoE 2005).

Information from the observation check lists showed that more than half of the schools were poorly or not maintained. The toilets, some of which were of temporary nature were dilapidated, classrooms and kitchen had peeling walls and had not been painted for a long time. On the contrary, the head teachers’ offices and the staffrooms were well maintained, giving the impression of comfort at the expense of suffering pupils. A visit to those schools showed no single building that is designed to cater for the physically challenged pupils. According to the Ministry of Education (2008), all school buildings should be accessible to special needs learners.

4.8.2 Projects Financed By the KESSP Grants in the District

The study found out that there were various projects financed by SIIG. In all the schools that received finances from SIIG, this fund had either constructed new classrooms or repaired existing ones. 70% of schools had benefited by improving water facilities and drainage. Other priorities of the fund had been the construction of toilets and their maintenance as was attested by 75% of the head teachers. Other projects that had been financed SIIG were electrification, school painting, installation of black boards, purchase of water pumps, purchase of furniture and staffroom enlargement.
Other infrastructure funding programmes in the district were identified as GOK/OPEC, CDF, LATF; DEB parents approved funds and ESP. The schools in the area of study followed the ministry’s guidelines on the implementation of the programme (MOE 2007).

4.8.3 Estimation of the Relative Adequacy of the Funds

Information gathered by the researcher as per Table 4.11 showed that only one school comprising of 5% of total schools received ASIIG in the year 2006. In the subsequent year, there was a slight improvement with two schools receiving a grant of between Ksh 200,000-1,000,000. More schools benefited in the subsequent years with 60% of schools getting grants ranging between Ksh 20,000-1,000,000 in the years 2008 and 2009. As is evident from Table 4.12, all head teachers said that the flow of funds had been, irregular, there had also been delay in disbursement and the funds had been inadequate. In some schools, the funds had been stopped as attested by 20% of head teachers. Other head teachers complained that their allocations had been channeled to wrong accounts. These findings concur with BSIIG Grant Award Thresholds, which showed the disbursement rates. Schools with less than 300 pupils received Ksh300,000, between 300 and 500 pupils received Ksh350,000 and greater than 500 pupils received Ksh 400,000. These annual basic infrastructure improvement grants award were not adequate (MOE, 2007). Beneficiary schools still have long lists of infrastructure projects to be undertaken.
4.8.4 Problems Faced in Disbursement and Utilization of the Funds

Developments in the Ministry of Education revealed that due to corruption and other malpractices, proper procedures had not been strictly followed in disbursement of the fund (Menya, 2009). The research findings showed that there were many problems faced in the implementation and utilization of SIIG funds. Head teachers identified the following problems: inadequate funds, delay in the disbursement of the funds, Incompetent SIC members, outside interferences, high cost of building materials and conflict between SMC and SIC. On the problems encountered in the implementation of the programme, the DEO concurred with the sentiments of the head teachers. According to the DEO, there were some isolated cases where school funds had been embezzled by head teachers. Such problems were normally unearthed after infrastructure accounts had been audited. The DEO further reported that annual national FPE audits were conducted in the months of March/April.

4.8.5 Suggested Strategies to Improve the Effectiveness of KESSP Infrastructure Funding

From the results of findings head teachers and the DEO gave their suggestions on how to improve KESSP infrastructure funding. Although the views were varied and contextual, they concurred on the following suggestions: the government should increase the allocations, consistency in disbursement, training of SIC members, regular monitoring of the projects, frequent auditing of the fund, proper planning, and separation of duties of SMC and SIC. Other solutions applied in Singapore the use of double shift throughout the primary system for cost effective purposes (World Bank 2002). Olembo (1985) holds
that planners and architects should come up with designs that are inexpensive yet decent and suitable for educational purposes. All primary schools need not be built of cement blocks, bricks, and corrugated iron sheets. According to World Bank (1988) reliance on local materials is a way of improving quality of construction.
CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The purpose of this study was to assess the effectiveness of KESSP grants on improvement of primary school infrastructure in Kiambu District. This chapter gives a summary of the findings, conclusion and recommendations drawn from the findings in connection with the assessment of the effectiveness of KESSP grants on improvement of primary school infrastructure in Kiambu District.

The study was guided by the following five objectives;

i. To survey the current infrastructure situation in primary schools in Kiambu District.

ii. To find out the specific projects financed by the KESSP grants in the district.

iii. To estimate the relative adequacy of the funds.

iv. To investigate the problems faced in disbursement and utilization of the funds.

v. To propose strategies that should be put in place to improve the effectiveness of KESSP infrastructure funding.

The study used descriptive survey design. The researcher targeted all head teachers in schools that received SIIG grants. The sample was arrived at by use of purposive sampling. A sample of 20 schools and 21 respondents was included in the study. Respondents included 20 head teachers and the DEO. Data collection was done by use of questionnaires that were administered to head teachers, interview guide for DEO and observation schedules.
Quantitative data was analysed by use of descriptive statistics and for the qualitative data, it was organised into themes that came out in the research objectives and the researcher used descriptive narrative to analyse. The researcher used SPSS Version 10 to summarise the quantitative data into frequencies.

5.2 Summary of the Research Findings

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

5.2.1 Current Infrastructure Situation in Primary Schools in Kiambu District

From the study findings, majority of schools (65 %) comprised of double streams. Twenty per cent of schools had triple streams. Records available from school heads in the study area showed that some schools had class sizes ranged from 60 -70 students. The findings show that majority of schools (55 %) are built on lands of 1-5 acres. Another 35% of schools are built on 6-10 acres of land. Finally, only 10 % of schools are built on land of acreage between 11and 15. However, although 10 % of schools had teachers’ houses, none of the schools had a computer laboratory. Sixty percent of head teachers indicated that schools had between 16 and 30 classrooms while 15 percent of head teachers indicated that their schools had a library. The situation about sanitary facilities was also pathetic in majority of the schools. Boys and girls toilets were inadequate since in majority of schools (65% and 65%); only 1-10 toilets were built for both boys and girls respectively.
Majority of schools had prioritized the construction of classrooms (55 %), school furniture (90), construction of toilets (45 %), improvement of water facilities (60 %) and completion of class veranda (65%). It was interesting to note that although a library was essential in the improvement of education in schools, it was not identified as a major need by a majority (45 %) of the schools. Information gathered from the observations made by the researcher indicated that 80 percent of the schools in the study had buildings of permanent nature. Information from the observation check lists showed that more than half of the schools were poorly or not maintained. The toilets, some of which were of temporary nature were dilapidated, classrooms and kitchens had peeling walls and had not been painted for a long time. On the contrary, the head teachers’ offices and the staffrooms were well maintained, giving the impression of comfort at the expense of suffering pupils. A visit to those schools showed no single building that is designed to cater for the physically challenged pupils.

5.2.2 Projects Financed By the KESSP Grants in the District

The study shows that there are various projects financed by SIIG. In all the schools that received finances from SIIG, this fund has either constructed new classrooms or repaired existing ones. Fourteen percent of the schools had benefited in improving water facilities and drainage. Other priorities of the fund had been the construction of toilets and their maintenance as was attested by 75 % of the head teachers. Other projects that had been financed by SIIG included electrification, school painting, installation of black boards, purchase of water pumps, purchase of furniture and staffroom enlargement.
The DEO identified other infrastructure funding programmes in the district as GOK/OPEC, CDF, LATF; DEB parents approved funds and ESP.

5.2.3 Estimation of the Relative Adequacy of the Funds

The study showed that only one school comprising of 5% of total schools received SIIG in the year 2006. In the subsequent year, there was a slight improvement with two schools receiving a grant of between Ksh 200,000-1,000,000. More schools benefited in the subsequent years with 60% of schools getting grants ranging between Ksh200,000-1,000,000 in the years 2008 and 2009. The study shows that all head teachers said that the flow of funds has been, irregular, there has also been delay in disbursement and the funds have been inadequate. In some schools, the funds have been stopped as attested by 20% of head teachers. Other head teachers complained that their allocations have been channeled to wrong accounts. All the head teachers in the area of study indicated that the funds are not enough. This is also illustrated by the long lists of infrastructure projects yet to be undertaken in various schools.

5.2.4 Problems Faced in Disbursement and Utilization of the Funds

The study found out that there were numerous problems faced in the implementation utilization of SIIG funds. Head teachers identified the following problems: inadequate funds, delay in the disbursements of the funds, Incompetent SIC members, outside interferences, high cost of building materials and conflict between SMC and SIC. On the problems encountered in the implementation of the programme, the DEO concurred with the sentiments of the head teachers. According to the DEO, there were some isolated
cases where school grants have been embezzled by head teachers. Such problems were normally unearthed after infrastructure accounts have been audited.

5.2.5 Suggested Strategies to Improve the Effectiveness of KESSP Infrastructure Funding

Head teachers and the DEO gave their suggestions on how to improve KESSP infrastructure funding. The suggestions included; the government to increase the allocations, consistency in disbursement, training of SIC members, regular monitoring of the projects, frequent auditing of the fund, proper planning, and separation of duties of SMC and SIC.

5.3 Conclusion

Based on the results of the findings, the following conclusions have been made:

i. Some schools were overcrowded with class sizes ranging from 60 -70 pupils. Majority of these schools are built on lands of 1-5 acres. High percentage of schools in the study area lacked essential facilities such as computer laboratories, libraries, toilets, classrooms, furniture and water facilities. The toilets, some of which were of temporary nature were dilapidated, classrooms and kitchens had peeling walls and had not been painted for a long time. Schools showed no single building that was designed to cater for the physically challenged pupils.

ii. Various projects had been financed by SIIG. In all the schools that received finances from SIIG, this fund has constructed new classes and existing ones have been repaired. The fund has also been used to improve water facilities and
drainage. Other priorities of the fund have been the construction of toilets, electrification, school painting, installation of black boards, purchase of water pumps, purchase of furniture and staffroom enlargement. Schools have followed the ministry’s guidelines on implementation of the programme.

iii. Other programmes that offered funds for infrastructure improvement in the district are: GOK/OPEC, CDF, LATF; DEB parents approved funds and ESP.

iv. Majority of schools received grants of between Ksh 200,000-1,000,000. The study showed that these funds are not enough to cater for the various infrastructure needs. In addition, the flow of funds has been irregular, there has also been delay in disbursement and the funds have been inadequate. In some schools, the funds have been stopped.

v. Problems faced in the implementation and utilization of SIIG funds were: inadequate funds, delay in the disbursement of the funds, Incompetent SIC members, outside interferences, high cost of building materials and conflict between SMC and SIC. Some cases of embezzlement of funds have been reported.

vi. The study identified suggestions on how KESSP infrastructure funding could be improved. Suggestions offered included; government increases allocations, consistency in disbursement, training of SIC members, regular monitoring of the projects, frequent auditing of the fund, proper planning, and separation of duties of SMC and SIC.

5.4 Recommendations

Based on the study findings, the researcher made the following recommendations.
i. The KESSP School Infrastructure Improvement grants is an ambitious programme that is aimed at assisting needy schools. However, the funds granted to these needy schools are not enough. The study recommends that the government should increase the allocations. Consistency in disbursement and re-training of SIC members will also improve the programme.

ii. The aim of the funds is to increase access, participation and reduce overcrowding in schools. This in the long run improves the quality of education. To guarantee quality of the infrastructure, the study recommends regular monitoring of the projects by the relevant authorities.

iii. Some cases of embezzlement of funds by head teachers have been recorded. The study noted that auditing of the fund is done infrequently. The study recommends that frequent auditing by the relevant authority be done and any officer found to have misused funds be punished.

iv. There has been confusion on the roles of SMC and SIC on the implementation of the infrastructure fund. The study recommends a separation of duties between SMC and SIC.

v. The infrastructure improvement funds have benefited half of the schools in the study area. However, the funds have been disbursed irregularly. The study recommends that the disbursement be done regularly for proper planning.

vi. Needs assessment is used to select beneficiary schools at the district level. SIC on the other hand selects projects to be undertaken at the school level. The study recommends that infrastructure priorities of various schools be determined at the
district level (during selection of schools). In some instances, SICs have not been able to effectively prioritize projects.

5.5 Suggestions for Further Studies

i. The study realised that KESSP School Infrastructure Improvement Programme is essential in the improvement of infrastructure in schools but problems exists in its implementation. It is suggested that another study be carried out to determine whether the same challenges exists in the implementation of other programmes apart from the KESSP School Infrastructure Improvement Programme.

ii. Similar studies should be carried out in different areas in order to make comparisons.

iii. Poor primary school infrastructure has been identified as a major barrier to improving access to education. Studies should therefore be carried out on the effect of the KESSP Infrastructure Improvement Grants on access to education.
REFERENCES


Orodho, J.A. (2009). Lecture Notes, 1st year, 2nd Semester, MED (regular), Kenyatta University


APPENDICES

APPENDIX 1

HEAD TEACHERS QUESTIONNAIRE

This research is meant for academic purpose. It seeks to find out the impact of KESSP grants on improvement of primary school infrastructure in Kiambu district. You are kindly requested to answer the questions as honestly and precisely as possible. Your responses will be treated with utmost confidentiality and only used for the purpose of this study. Provided below are statements to guide you in giving information by either ticking or giving further information in the spaces provided.

Part one: School Establishment

1) Size of the school

i. Number of streams

   a) Single ( )
   b) Double ( )
   c) Triple ( )
   d) Four streams ( )
   e) Above four ( )

ii. School plot size ________________ acres

iii. Enrolment

<table>
<thead>
<tr>
<th>Year</th>
<th>Boys</th>
<th>Girls</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2007</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2) Physical facilities

<table>
<thead>
<tr>
<th>Facility</th>
<th>Quantity</th>
<th>State- Permanent /semi –permanent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classrooms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Offices</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staffrooms</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Library</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Computer lab</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School hall</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teachers houses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Toilets</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Boys</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Girls</td>
<td></td>
</tr>
</tbody>
</table>

**Part Two: School Infrastructure Improvement Programme**

3) Please indicate whether you have the following:
   a. School infrastructure management handbook: Yes ( ) No ( )
   b. School infrastructure technical handbook: Yes ( ) No ( )
   c. School infrastructure committee: Yes ( ) No ( )
   d. School infrastructure development plan: Yes ( ) No ( )

4) Type of grants and the time received

<table>
<thead>
<tr>
<th>Year</th>
<th>BSIIG</th>
<th>ASIIG</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>2006</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>2007</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>2008</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>2009</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>2010</td>
<td>------</td>
<td>------</td>
<td>------</td>
</tr>
<tr>
<td>Grand Total</td>
<td></td>
<td>------</td>
<td>------</td>
</tr>
</tbody>
</table>
5) Please comment on the flow of funds

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-----------------------------------------------------

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-----------------------------------------------------

6) State your infrastructure needs in order of priority (according to SIDP)

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-----------------------------------------------------

-----------------------------------------------------

-----------------------------------------------------

-----------------------------------------------------

-----------------------------------------------------
7) Indicate the school projects that have been financed by SIIG

In case of buildings, state whether permanent all semi-permanent

8) What are the main constraints in implementation of the programme?

   a) Inadequate funds  ( )
   b) No room for expansion  ( )
   c) Un co-operative parents  ( )
   d) Delay in disbursement of the funds  ( )
   e) Incompetent SIC members  ( )
   f) Outside interference  ( )
   g) High cost of building materials  ( )
State any other

----------------------------------------

----------------------------------------

----------------------------------------

----------------------------------------

9) Suggest ways of improving the programme

Thank You for Your Time and Co-Operation
APPENDIX 2:

DISTRICT EDUCATION OFFICER’S INTERVIEW SCHEDULE

This research is meant for academic purpose. It seeks to find out the impact of KESSP grants on improvement of primary school infrastructure in Kiambu District. You are kindly requested to answer the questions as honestly and precisely as possible. Your responses will be treated with utmost confidentiality and only used for the purpose of this study.

1) When did the schools in the district first receive the funds? __________

2) Does the district require new schools? __________

3) How often does DICT visit schools to oversee the projects?
   a) Once a month ( )
   b) Twice a month ( )
   c) Less frequently ( )

4) How would you rate the success of the programme?
   a) Very high ( )
   b) High ( )
   c) Slightly high ( )
   d) Low ( )
   e) Very low ( )

5) Comment on the selection of the schools in the district

------------------------------------------------------------------------------------------------------------
------------------------------------------------------------------------------------------------------------
------------------------------------------------------------------------------------------------------------
6) What proportion of the schools in the district do you think require infrastructure improvement?

7) Have the infrastructure accounts been audited? Please comment.

8) Are there other programmes that fund infrastructure projects in primary schools in the district?

If so, please name them
9) What problems are encountered in the implementation of the programme?

10) Suggest possible solutions to the problems

Thank You for Your Time and Co-Operation
APPENDIX 3:

OBSERVATION SCHEDULE

1) Is there
   Yes No
   Fence ( ) ( )
   Gate ( ) ( )
   Piped water ( ) ( )
   Water tanks ( ) ( )
   Electricity ( ) ( )

2) The school is
   Very congested ( )
   Congested ( )
   Not congested ( )

3) The buildings are
   Well maintained ( )
   Poorly maintained ( )
   Not maintained ( )

4) The buildings cater/do not cater for the needs of the physically challenged

5) Is the progress report displayed on the notice board?
   Yes ( ) No ( )

6) Permanence of the buildings
   ----------------------------------------------------------------------------------------------------------------------------------
   ----------------------------------------------------------------------------------------------------------------------------------
   ----------------------------------------------------------------------------------------------------------------------------------
APPENDIX 4:
LIST OF PRIMARY SCHOOLS IN THE STUDY

<table>
<thead>
<tr>
<th>NO</th>
<th>SCHOOL</th>
<th>TYPE OF GRANT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Benson Njau</td>
<td>B</td>
</tr>
<tr>
<td>2</td>
<td>Gachie</td>
<td>B</td>
</tr>
<tr>
<td>3</td>
<td>Gatatha</td>
<td>B</td>
</tr>
<tr>
<td>4</td>
<td>Kamuiru</td>
<td>B</td>
</tr>
<tr>
<td>5</td>
<td>Gicoco</td>
<td>B</td>
</tr>
<tr>
<td>6</td>
<td>Kangoya</td>
<td>B</td>
</tr>
<tr>
<td>7</td>
<td>Karuri</td>
<td>B</td>
</tr>
<tr>
<td>8</td>
<td>Kiambaa</td>
<td>B</td>
</tr>
<tr>
<td>9</td>
<td>Kiambu</td>
<td>B</td>
</tr>
<tr>
<td>10</td>
<td>Kibathi</td>
<td>A</td>
</tr>
<tr>
<td>11</td>
<td>Kibubuti</td>
<td>B</td>
</tr>
<tr>
<td>12</td>
<td>Kiu River</td>
<td>A</td>
</tr>
<tr>
<td>13</td>
<td>Loreto</td>
<td>A</td>
</tr>
<tr>
<td>14</td>
<td>Lower Kihara</td>
<td>A</td>
</tr>
<tr>
<td>15</td>
<td>Mary Immaculate</td>
<td>A</td>
</tr>
<tr>
<td>16</td>
<td>Mungai Chengecha</td>
<td>A</td>
</tr>
<tr>
<td>17</td>
<td>Muongoiya</td>
<td>B</td>
</tr>
<tr>
<td>18</td>
<td>Ngegu</td>
<td>B</td>
</tr>
<tr>
<td>19</td>
<td>Nenga Karume</td>
<td>B</td>
</tr>
<tr>
<td>20</td>
<td>Riara</td>
<td>A</td>
</tr>
<tr>
<td>21</td>
<td>Ting’ang’a Model</td>
<td>A</td>
</tr>
<tr>
<td>22</td>
<td>Upper Kihara</td>
<td>B</td>
</tr>
</tbody>
</table>

A= Additional School Infrastructure Improvement Grants
B= Basic School Infrastructure Improvement Grants
APPENDIX 5:
TIME SCHEDULE

<table>
<thead>
<tr>
<th>Duration</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>January-April</td>
<td>Proposal development</td>
</tr>
<tr>
<td>May</td>
<td>Proposal approval</td>
</tr>
<tr>
<td>June</td>
<td>Piloting and data collection</td>
</tr>
<tr>
<td>July</td>
<td>Data analysis and report writing</td>
</tr>
<tr>
<td>August</td>
<td>Presentation to supervisors</td>
</tr>
</tbody>
</table>
### APPENDIX 6:

**BUDGET FOR THE STUDY**

<table>
<thead>
<tr>
<th>ACTIVITY/TASK</th>
<th>COST</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Secretarial Services</strong></td>
<td></td>
</tr>
<tr>
<td>a) Typing and printing the proposal</td>
<td>9,000</td>
</tr>
<tr>
<td>b) Photocopying Questionnaires</td>
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<tr>
<td><strong>Stationery</strong></td>
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<tr>
<td>a) Writing materials</td>
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<tr>
<td><strong>Traveling Expenses</strong></td>
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</tr>
<tr>
<td>a) To Pre-test questionnaires</td>
<td>10000</td>
</tr>
<tr>
<td>b) To administer questionnaires</td>
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<tr>
<td>c) To collect questionnaires</td>
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<tr>
<td><strong>Binding Expenses</strong></td>
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<tr>
<td>a) Binding the Proposal</td>
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<tr>
<td>b) Binding final report</td>
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<tr>
<td><strong>Data Analysis</strong></td>
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<tr>
<td><strong>Total Cost</strong></td>
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