

**FACTORS INFLUENCING THE IMPLEMENTATION OF  
INFRASTRUCTURE PROJECTS IN PUBLIC SECONDARY SCHOOLS IN  
MATHIRA EAST SUB-COUNTY, NYERI COUNTY, KENYA.**

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**DECLARATION**

This research project report is my original work and has not been presented to any university for academic award.

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## **DEDICATION**

This research project report is dedicated to my loving mother Marianne Njoki for her moral and financial support in the course of my studies.

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## **LIST OF ABBREVIATIONS AND ACRONYMS**

AGM - Annual General Meeting

BOM-Boards Of Management

CDF-Constituency Development Fund

CEF- Centres of Excellence Fund.

DEO - Sub County Education Officer

EFA-Education For All

ESP- Economic Stimulus Package

FPE-Free Primary Education

FSE- Free Secondary Education

ICT-Information Communication Technology

KEMI - Kenya Education Management Institute

KESSP- Kenya Education Sector Support Program

LATIF-Local Authority Transfer Fund

MDGs - Millennium Development Goals

MOE- Ministry of Education

PTA-parents Teachers Association

SPSS- Statistical Package for Social Sciences

SWAP- Sector Wide Approach to Planning

TSC- Teachers Service Commission

## ABSTRACT

The increased enrolment of students from the free primary school education and secondly the subsidized Secondary Education has put pressure on the existing physical facilities in most public secondary schools creating a need to develop physical school infrastructure in public secondary schools. However in many public schools there are examples of faulty project implementation such as uncompleted school buildings, schools without necessary instructional materials and infrastructure, school laboratories with little or no equipments, and so on. The purpose of this research study was to establish the factors that influenced the implementation of school infrastructure projects in public secondary schools in Mathira East Sub County, Nyeri County, Kenya. A descriptive survey research design was adopted in the study. In the study all public secondary schools in Mathira East Sub-County were considered as a representative of all public secondary schools in Kenya. The study limited itself to a parent population of 334. A sample size of 121 was selected for the study. Purposive sampling was used to select Principals, BOM chairpersons, PTA chairpersons and Sub-county Education officer. Simple random sampling was used to select teachers. Questionnaires were used as main instruments for data collection. Validity of the questionnaires was ensured through judgment of experts, while reliability was established through test and re-tests method during pilot study. The data collected was analyzed using statistical package for social sciences (SPSS). Descriptive statistics was used to present the results of the study. The study findings showed that all the independent variables that is; the project management skills of the school heads, stakeholder involvement and availability of funds had a major influence in the implementation of school infrastructure projects. The government through the Ministry of Education (MOE) should organize training programs on project management skills, project finance and project monitoring and evaluation for all the stakeholders involved in school infrastructure projects. The study also portrayed that a glaring gap existed between available funds for the implementation of the school infrastructure projects and the magnitude of school infrastructure projects to be implemented. Therefore more exploration on various ways of funding the implementation of school infrastructure development projects was paramount. The responsibility of developing infrastructure was removed from parents to CDF and County governments. There was therefore need for assessment and clear policy framework to be put in place to regulate the expenditure of county governments on infrastructure development projects in public secondary schools. According to the respondents there was a positive relationship between training of school heads in project management and school infrastructure projects implementation.

# **CHAPTER ONE**

## **INTRODUCTION**

### **1.1 Background of the study**

In the year 2008, the government of Kenya launched Vision 2030. The Ministry of Education is one of the key players for the attainment of the Kenya's vision 2030. The National Action Plan for the achievement of Kenya's vision 2030 in education is focused on improvement of school infrastructure, expanding facilities and equipment at existing institutions. The overall aim is to cut down on costs, and achieve education policy goals on improving access, equity, transition rates and participation of all Kenyan children a move that will also propel the country towards the achievement of Education For All (EFA) and Millennium Development Goals (MDGs) (Government of Kenya, 2005).

In the formal education system secondary school education is the second level which caters for adolescents' age group 14-18. As per the Kenya's vision 2030 alongside the Millennium Development Goals (MDGs) the Kenya government introduced 'free' secondary education in the year 2008 under a program named free day secondary education and through this program the administration planned to achieve Education for all by the year 2015. The aim was to develop a literate population in order to facilitate rapid development of the nation. The program was rolled out to enhance learners' progression from primary level to secondary school level, retention and completion of basic education. The program involves provision of government subsidy on tuition fees, teaching and learning materials for all learners in public secondary schools.

In execution of the subsidized free Education in secondary schools, in January 2008, the Government set aside Kshs. 10,265 per annum for each student in public secondary school. This government capitation was raised in 2015 to Kshs.12, 870 per annum by the Cabinet Secretary Ministry of Education in line with Dr. Kilemi Mwiria's Taskforce Report (2015/2016) on Secondary school fees in Kenya. The taskforce recommendations on realistic unit cost of secondary education provided for KES.22, 244 for Day Schools, KES 66,424 for Boarding Schools and KES.69, 810 for special needs secondary schools. Besides funding tuition, teaching and learning materials, the government meets the cost of salaries for teachers under the Teachers

Service Commission and wages for non-teaching staff, as well as expenses of co-curricular activities. Free Secondary Education promotes joint responsibilities between parents, the government and sponsors of schools calling for the spirit of partnership between the government, parents and other stakeholders. Earlier Parents and Guardians were required to meet the following costs: School meals for day scholars, school uniforms, Boarding fees, Transport costs, pay teachers employed by the school board, infrastructure development including building and construction of physical facilities.

However according to Dr. Kilemi Mwiria's Taskforce Report (2015/2016) on Secondary school fees in Kenya there is shift of the responsibility of developing school infrastructure facilities from parents to CDF and County governments. However Levies for on-going approved infrastructure and school transport projects will continue for the current forms 2,3 and 4 students until the lapse of the said projects and as such will not be levied on 2015 form one students. All future infrastructure projects will be undertaken through CDF, county governments or any other government financing mechanisms. This is a significant shift in the carrying out of infrastructure projects in public secondary schools in Kenya that warrants a research study.

### **1.1.1 An Overview of the Management of Public Secondary Schools in Kenya**

The cabinet secretary of education has the mandate to manage schools under the Education Act (CAP 211) and the Teachers service Commission Act (CAP 212). The minister delegates mandate at the school level to the boards of management and principals. In secondary school management hierarchy therefore principals are the line managers. Their competency in project identification, planning, monitoring and evaluation is imperative. According to Musera et al (2012), secondary school principals are appointed by the Ministry of Education (MOE) through the Teachers Service Commission (TSC). The school principals are the accounting officers at the school level and are directly accountable to a District Education Officer (DEO) now called Sub County Education officers, the school's Board of Management (BOM) and the school's Parent-Teacher Association (PTA) on the management of secondary school resources (World Bank, 2005). The school principals can also be thought of as project managers, and are expected to plan, implement, manage, maintain and evaluate the entire education system – physical facilities, human resource, students,

financial inputs and the curriculum. The school principals are responsible for school development planning. Effective development planning influences the success of a school, and therefore there is need for adequate preparation of school principals in planning and management (Odhiambo 2005).

Boards of Management (BOMs) of secondary schools are appointed by the cabinet secretary of education and are charged with the responsibility of overseeing the overall secondary school management (Basic Education Act 2013). The BOMs functions among others include setting up secondary school fees using government guidelines, ensuring sound financial management, mobilizing resources for the school development, monitoring academic performance, setting priorities for spending and authorizing all school expenditures (Government of Kenya, 2006). In their study, Kuria and Onyango (2006) were of the view that the Boards were not giving the necessary leadership that would promote quality management in schools.

On the other hand, Parent Teachers Associations (PTAs) were created as a result of the 1980 presidential directive and are elected on a yearly basis by parents during Annual General Meetings (AGMs). They are charged mainly with the responsibility of ensuring the quality of education offered in the school. In particular, PTA executive committees are responsible for the development of school infrastructure projects on behalf of the parents besides overseeing the academic performance of the students (World Bank, 2007). According to Musera et al (2012), secondary school management in Kenya is participatory and all these various stake holders must be involved.

## **1.2 Statement of the Problem**

The main objective of this study was to establish the factors that influence implementation of infrastructure projects in Public Secondary schools in Mathira East Sub-County, Nyeri County, Kenya and find out the main gaps existing in the execution of infrastructure projects in Secondary schools in Kenya. This study aimed to address the problem of inadequate infrastructure facilities in secondary schools in spite of the Sub County benefitting from the government resources. Most government secondary schools in the Sub County were overstretched and or lacking in basic infrastructure facilities. The increased enrolment of students from the free primary school education and secondly due to the subsidized Secondary Education had put

pressure on the existing physical facilities in most public schools. There was an existing need to expand classrooms to accommodate the recommended 45 students, need to put up more science and computer laboratories, Libraries, dormitories, electricity installation, and water supply projects and so on.

As earlier mentioned investment in physical facilities in schools under Kenya Education Sector Support Programme (KESSP), Constituency Development Fund (CDF), Economic Stimulus Package (ESP), Local Authority Transfer Fund (LATIF) and the Centres of Excellence Fund (CEF) etc have attracted a lot of funds (Wanjala et al 2014). However this had not necessarily translated to infrastructure development in most Public secondary schools. In many public schools, according to KESSP 2005-2010, you find examples of flawed project implementation such as incomplete school buildings, schools without essential instructional resources, and infrastructure, school laboratories with inadequate or no equipments, and so on.

A study done by Igunnu et al (2005) agreed with the report and postulated that faulty project implementation was evident such as uncompleted buildings due to inadequate funding, schools without furniture such as desks or laboratories without equipments and basic fittings. In addition some school infrastructure projects have been executed amid difficulties or worse never preceded the planning stage with some of the projects failing during implementation. Therefore in implementation of infrastructure projects in schools there was need for efficiency in the utilization of funds and resources through prudent project planning, appraisal and implementation to ensure completion of projects on schedule, minimal costs, ensure quality, utility and health and safety standards (Rwelamila, 2007).

Moreover according to Dr. Kilemi Mwiria's Taskforce Report (2015/2016) on Secondary school fees in Kenya there is removal of the responsibility of developing infrastructure from parents to CDF and County governments. All future school infrastructure projects will be undertaken through CDF, County governments or any other government financing mechanisms. This is a key shift in implementing infrastructure projects in secondary schools in Kenya that warrants a research. This research study seeks to establish the extent to which the independent variables: project management skills of school heads, stakeholder involvement and availability of

funding has influenced the implementation of infrastructure projects(dependent variable) in public secondary schools in Mathira East Sub-County, Nyeri County.

### **1.3 Purpose of the Study**

The rationale of this study was to establish the factors that influence the implementation of infrastructure projects in public secondary schools in Mathira East Sub-County, Nyeri County. The independent variables were: project management skills of school heads, stakeholder involvement and availability of funding have been identified for this study and the extent of their influence on the implementation of infrastructure projects (dependent variable).

### **1.4 Objectives of the Study**

1. To establish the extent to which project management skills of school heads influences the implementation of infrastructure projects in public secondary schools in Mathira East Sub-County, Nyeri County.
2. To determine the extent to which stakeholder involvement influences the implementation of infrastructural projects in public secondary schools in Mathira East Sub-County, Nyeri County.
3. To determine the extent to which availability of funding influences the implementation of infrastructural projects in public secondary schools in Mathira East Sub-County, Nyeri County.

### **1.5 Research Questions**

1. To what extent do project management skills of school heads influence implementation of infrastructure projects in public secondary schools in Mathira East Sub-County, Nyeri County?
2. To what extent does stakeholder involvement influence the implementation of infrastructure projects in public secondary schools in Mathira East Sub-County, Nyeri County?
3. To what extent does availability of funding influence the implementation of infrastructure projects in public secondary schools in Mathira East Sub-County, Nyeri County?



### **1.6 Significance of the Study**

The findings of the study will help in project formulation and implementation in the education sector. The findings of the study will create knowledge which might be useful for training of the school administrators in areas that need improvement. The findings might be used by the department of policy analysis and formulation in the Ministry of Education in formulating capacity building programmes to empower education managers. The findings will help the management and other stakeholders in identifying some of the factors they would need to consider to enhance success of school projects. Scholars will also benefit this research study since it will contribute to the scholarly dialogue concerning the factors influencing school principals in implementation of school projects in Kenya. Future researchers too may use the findings of this research to advance their points of view. The study will be used for further reference in scholarly work.

### **1.7 Delimitation of the Study**

This was a study on the factors influencing the implementation of infrastructure projects and the extent to which these factors have influenced implementation of these projects in public secondary schools in Mathira East Sub-County, Nyeri County. The study focused on secondary schools within Mathira East Sub-County, Nyeri County selected due to their accessibility to the researcher. The Population is likely to have participants who are readily accessible for participation in the study (especially considering the short of time available to complete the study and the budget constraints).

### **1.8 Limitations of the Study**

The researcher encountered several limitations during the study. These included time, finances and accessibility to information. On time constraint the researcher engaged research assistants and a data analyst to enable her complete the study in the required time. To overcome the limitation of finances, the researcher secured an education loan which enabled her to successfully carry out the study.

## 1.9 Assumptions of the Study

The researcher assumed that the sample was a representative of the management of school infrastructure projects in Kenya and that the respondents were conversant with the topic; that the respondents answered the question correctly and accurately. The researcher also assumed that no external factors arose as they would have affected the data collection and completion of the project.

## 1.10 Definition of Significant Terms

**Board of management:** Is a body consisting of a number of persons appointed to manage affairs of secondary schools on behalf of the Minister of education.

**School infrastructure projects:** These are projects that entail the provision of physical and technological facilities in schools.

**School managers:** These entail the school heads and the school Boards of Management who are the main decision makers in the school.

**Project budget:** These are the required resources/inputs, finances and their expected sources.

**Project control:** Refers to the mechanism of assessing and appraising the school infrastructure projects to ensure that they are achieving the planned objectives and that they deliver the project outcome within stipulated time, cost, and quality and meet the stakeholder expectations.

**Project implementation:** Is the whole process of translating the broad school infrastructure project goals or objectives into visible results or outcomes. In the context of this study project implementation entailed ensuring that the projects were undertaken within the constraints of; completion of projects on schedule(time), minimal costs(budget), ensures quality(scope), utility and health and safety standards.

**Project planning:** Is a rational determination of how to initiate, sustain, and terminate a project. It prescribes the path followed in executing the school infrastructure projects.

**Public Secondary School:** Refers to the school that is wholly or partly financed by the public through taxation. It is a corporate ownership by either government or by the community.

**Stakeholders:** In the context of this study stakeholders are individuals or groups who have the organizational authority to allocate resources (people, money, services) and set priorities for the school. They entail the government agencies such as the MOE, CDF, County Governments, sponsors, teachers, teacher committees, PTAs and to some extent Alumni associations.

### **1.11 Organization of the study**

This study is organised in five chapters. The first chapter gives the overall context of the study. Chapter two presents a literature review conducted from an analytical perspective as to what other previous researchers have established. This provides a factual context for the study. Chapter three describes the research methodology. Chapter four presents the data analysis, presentation and interpretation of the findings of the study. Chapter five will include conclusions, summary and recommendations.

## CHAPTER TWO

### LITERATURE REVIEW

#### 2.1 Introduction

Literature review is the account of other published information the researcher consulted in order to comprehend and explore the research problem (Kombo & Tromp, 2006). It entails the logical analysis of previous research documents that have information interrelated to the study problem being investigated (Mugenda and Mugenda, 2003). It forms a framework within which the research findings will be interpreted in line with the previously existing data. The purpose of this study was to establish the factors that influence the implementation of infrastructure projects in public secondary schools in Mathira East Sub-County, Nyeri County. This chapter reviews information obtained from relevant literature to this research. The theoretical review covers the theories associated with project management and implementation and the research gap.

#### 2.2 Implementation of Infrastructure Projects in Public Secondary schools

Implementation of Infrastructure Projects in Public Secondary schools was the dependent variable in this research study. According to past related studies and KESSP 2005-2010 report most public secondary schools are overstretched and or lacking in basic infrastructure facilities due to the increased enrolment of students from the free primary school education and secondly due to the subsidized Secondary Education. This increased enrolment of students from primary schools has put pressure on the existing physical infrastructure facilities in public secondary schools. Therefore according to KESSP 2005-2010 there has been a need to expand classrooms to accommodate 45 students, need to put up more science and computer laboratories, Libraries, dormitories and so on.

Infrastructure projects in public secondary schools include, The Kenya school equipment scheme, classroom, libraries, laboratories and dining halls construction, electricity installation, information communication technology(ICT) projects, water supply to schools , Grants to African government schools projects, development funded projects in schools, KESSP funded projects, Constituency Development Fund (CDF) projects, Economic Stimulus Package (ESP) projects, Local Authority Transfer Fund (LATIF) projects and the Centres of Excellence Fund (CEF) projects while the non infrastructure projects include Government bursaries to vulnerable and needy

students in schools, subsidized secondary education and School Feeding and nutrition schemes to students. According to a research study by Wanjala et al, 2014, the investment in infrastructural facilities under the Kenya Education Sector Support Programme (KESSP), Constituency Development Fund (CDF), Economic Stimulus Package (ESP), Local Authority Transfer Fund (LATIF) and the Centres of Excellence Fund (CEF) among others had attracted a lot of funds. These are government initiatives meant to stimulate a lot of infrastructure development in public secondary schools country wide.

Now under the devolved government and in accordance with Dr. Kilemi Mwiria's Taskforce Report (2015/2016) on Secondary school fees in Kenya there is removal of the responsibility of developing infrastructure from parents to CDF and County governments. County Governments are now the initiators and implementers of major infrastructure projects in schools inclusive. Funds are being channeled directly to the Counties for development of infrastructure projects. However, In spite of this positive gesture from the government, past researchers have established that the legislative and structural frameworks are so weak at the grassroots to the extent that there is inadequate tracking of the funds invested in infrastructure projects.

Researchers such as Rwelamila,( 2007) have established that the Public Health Act (CAP 242) and the Architects and Quantity Surveyors Act (CAP 525) are hardly enforced to ensure successful implementation of infrastructure projects in secondary schools hence according to Rwelamila, (2007) the consideration of the project performance parameters usually; completion of projects on schedule, minimal costs, ensured project outcome quality, utility and health and safety standards have raised several issues of concern.

There are a myriad of project management problems facing most public secondary schools today. Some of these include; the lack of project management and leadership skills by the school managers, lack of adequate funds and resources for the projects and programs implementation, loss of project control due to lack of proper project planning, monitoring and evaluation, lack of stakeholder involvement and support. Managerial or institutional problems have also been seen as a cause of implementation delays and cost overruns in implementation of school infrastructure projects (Wamunyu, 2011). School managers must therefore strive to acquire the necessary skills for effective implementation of projects since research findings have

established that effective project implementation requires school heads to have project management skills (Odhiambo, 2005). They must have the ability prioritize projects, skills on sourcing and allocation of funds, how to schedule project events and activities and how to communicate and solicit for stakeholder involvement and support. In this study the researcher focused on establishing the factors that influenced the implementation of infrastructure projects in public secondary schools in Mathira East Sub-County, Nyeri County. The study sought to establish the extent to which the independent variables: project management skills of school heads, stakeholder involvement and availability of funding were influencing the implementation of infrastructure projects (dependent variable) in the public secondary schools.

### **2.3 Project management skills of school heads and project implementation**

The Project management skill of school heads was the first independent variable identified for this research study. The study sought to ascertain the level to which Project management skills of school heads influenced the implementation of infrastructure projects in public secondary schools in Mathira East Sub County. As noted earlier, In Kenya, the cabinet secretary (CBS) of education has the mandate to manage schools under the Education Act and the Teachers Service Commission Act. The CBS delegates mandate at the school level to the boards and school principals. School administration is multifaceted and requires committed and visionary leadership (Bush, 2007) since a school head is mandated with the duty of managing school physical amenities, the staff, school finance, the curricular activities, learners and school public affairs. As such, the school principal acts as a project manager. The successful implementation of any programme or project in the school therefore depends on their managerial capacity. However, this capacity in managerial skills may be inadequate.

A study by Chepkonga (2006) found out that the principals needed training in very key management areas such as accountancy, preparing budgets and general project management. While Kilonzo (2007) found out that the primary head teachers needed training in management and according to Odhiambo (2005), most teachers are promoted to head schools without initial training in school management. Olemba (1992) and Okumbe (1998) also independently noted secondary school principals in Kenya are appointed from serving teachers and that little orientation is given as to the nature of the work they are supposed to do as education programme managers.

Odhiambo (2005) observed that lack of adequate training especially affected principals in project control, budgeting and accounting, human resource management, project scheduling, and project implementation. Hence this may be the reason why some public schools in the country have stalled projects, dilapidated structures, and register poor academic performance. Therefore If we look at a school head as a project manager, one who is expected to plan, implement, manage, maintain and evaluate the entire education system – physical facilities, human resource, students, financial inputs and the curriculum – then we see the need for adequate preparation of school heads in project management. The research study sought to establish the level to which the project management skills of school heads influenced the implementation of infrastructure projects in public secondary schools in Mathira East Sub-County, Nyeri County.

#### **2.4 Availability of funds and project implementation**

The study sought to find out the extent to which availability of funds (independent variable) influenced the implementation of infrastructure projects in public secondary schools in Mathira East Sub-County, Nyeri County. The disbursement and use of the public funds under the Free Primary (FPE) and Secondary Education (FSE) programme was subject to the terms of the Government Financial Management Act, 2004. According to the government's 2013/2014 – 2015/2016 Medium Term Expenditure Framework (Government of Kenya, 2012), the strategy to increase access to secondary education will entail providing free tuition by sending grants to schools to facilitate procurement of instruction and learning resources in schools. In partnership with the private sector, Kenya was to increase funding to support schools in increasing their enrolment and retaining learners (Kenya Vision 2030). According to the Ministry of Education, circular number MOE/ G1 / 1 / 44, the 'free' Secondary Education government subsidy money is supposed to be in the schools in December, April and August. That means the preceding months before opening of the school terms respectively. However there have been challenges of the adequacy of this government subsidy, it was not catering for the establishment of school infrastructure and at the same time there was late disbursement of these monies to schools.

According to a study done by Musalia (2005) and that done by Kilonzo (2007), constant delay by the ministry in sending the money to schools was adversely affecting infrastructure development in schools. Furthermore, allocation of funds to

public secondary schools was based on a formula of budgeting based on the number of learners in the school at the rate of Kshs.12, 870 per learner per annum. Past research studies are of the opinion that this is not the most equitable way. For instance based on the capitation per learner a single stream school with an average 45 learners per class will receive fewer funds for a laboratory equipment project than a six stream school. Given that already the six stream school is likely to have most of the basic facilities such as laboratories, microscopes etc, it is likely to develop its infrastructure much faster or have funds it doesn't need than the one stream school. According to Khamati et al (2013) this system therefore only perpetuates the prevalent inequalities between schools. The government should consider other ways such as need assessments per school in the allocation of these funds where prioritization of projects to be implemented will be done. In a research study on the effect of subsidized school fees on infrastructure improvement in public secondary schools by Mbaya and Masinde (2014) the researchers sought to establish the level of adequacy of Government funding towards infrastructure in the schools concurs. Their findings indicated that the Government did not adequately contribute towards infrastructure projects in schools.

According to past research findings infrastructure development in schools was being funded by Parents Teachers Association (PTA), Constituency Development Fund (CDF), and Donors with PTAs bearing the greatest responsibility of developing the schools infrastructure. However in the Dr. Kilemi Mwiria's Taskforce Report (2015/2016) on Secondary school fees in Kenya there is removal of the responsibility of developing infrastructure from parents to CDF and County governments. Levies for on-going PTA approved infrastructure and school transport projects will continue for the current forms 2, 3 and 4 students until the lapse of the said projects and therefore by the year 2018 it seems when the current form 2 students will clear school there will be no more PTA levies for infrastructure development in schools. All future infrastructure projects will be undertaken through CDF, County Governments or any other Government financing mechanisms. With this critical shift in the implementation of infrastructure projects in public secondary schools in Kenya the Government should therefore allocate more funds and also streamline the funding mechanisms to cater for infrastructure development in public schools. The government should also provide clear policy guidelines to school heads on how public schools are to develop infrastructure hence forth as currently most school heads are



waiting to be advised since no development levies were charged on the current form 1 students.

## **2.5 Stake holder involvement and project implementation**

The study sought to establish to what extent stakeholder involvement (independent variable) influenced the implementation of infrastructure projects in public secondary schools in Mathira East Sub-County, Nyeri County. Narrower views of the term stakeholder focus on the decision makers. In the context of this study however stakeholders are individuals or associations who have the executive role to assign resources (people, money, services) and set priorities for their own organizations in support of a change (Kotter, 2001). In education sector therefore this may mean the government agencies involved in policy making and implementation, sponsors, teachers, teacher committees, PTAs and to some extent Alumni associations.

Researchers have established that the rapid increase of learner enrolments in recent years has a ripple effect of the implementation of the 'free' primary education. It has led to scarcity of funds to cope with the escalating demand for education provision. It has made school project implementation much more challenging to undertake. To ensure effective administration, the twenty first century school principal should be innovative, resourceful and dynamic. He should possess good interpersonal skills to interact well with the staff, students, and parents and with the community surrounding the school. All of these stakeholders need to be actively involved in the decision-making and project implementation practice if they are to remain supportive of what the school head is doing. In order to achieve success as a project manager, the school administrator must create an environment of involvement for all stakeholders in the running of the school. Some of the significant stakeholders include:

### **2.5.1 Teachers and Teacher committees**

Literature reveals that teacher's professional involvement is very necessary for the effective management of school improvement projects (Kanji, 2001). However, in his opinion teachers are not aware of these professional responsibilities and that the current situation in most schools is that teachers disregard their role as key agents of school improvement. Fullan (2001) also says that educational change depends on what teachers do and think. Moreover the lack of teachers' confidence and participation affects school infrastructure projects. School improvement is deemed to

come from higher authorities and therefore most teachers generally take a passive role during the implementation of school infrastructure projects. Research has indicated that we cannot deny the significant role of school heads in the management and school infrastructure improvement. Nevertheless, their role sometimes creates delusions among the teachers that they cannot take any step for school infrastructure improvement. Some teachers are of the opinion that their job is only to teach, and cannot do anything about the school infrastructure without principal's consents.

The heads of the schools make different committees to look after different aspects of the school like administration, cleanliness, and academic and co-curriculum activities (Hillman and Stroll, 1994). However, there is a significance gap in the role of delegated leadership in implementation of school infrastructure projects. Therefore while planning school development projects it may be a good practice to set up committees that directly relate to the development of the school infrastructure or planning for improvement. Currently schools are required to formulate Strategic Plans which identifies areas for improvement and plans for the implementation of strategies for infrastructure development and teachers are actively involved in the formulation of the Strategic Plans. However in addition to the teachers and students playing a part in the planning and decision making process they can also participate in monitoring progress and identifying strengths and weaknesses in infrastructure projects. The day-to-day management running of a school projects, depends to quite a large extent upon an effective system of committees' communication, consultation and participation of all of the stakeholders' teachers inclusive.

### **2.5.2 The Parent's Teachers Association**

Parents in the school operate individually, collectively and formally. Each of these roles can be quite different. The Basic Education ACT, 2013 highlights the role PTA representatives as being to explore and advise the parents on how to mobilize resources for infrastructure development, discuss and recommend charges to be levied on parents; and to oversee infrastructure development projects on behalf of the PTA. Therefore the participation of PTAs is pivotal in school infrastructure improvement and parents play a critical role in influencing the implementation of school infrastructure projects. Therefore the need for co-operation between a school head and the teachers on the one hand, and homes and parents on the other, cannot be over-emphasized. This co-operation is not only likely to be beneficial to the school, but is also essential to the welfare of students. In bringing the home and the school together,

the PTA may assist in assessment of learners' needs and coming up with solutions. The PTA also provides a forum where the school administration clarifies the school projects, solicits for parental support, and thus ensures their achievement. The PTA is also a significant resource in terms of fiscal support critical for the improvement of the school infrastructure. Similarly, it can be a source of resource persons to help in a wide variety of school projects, from providing advice on farming and gardening, to advice on information technology, to assisting with students' reading and discipline to even more technical advice in projects such as architectural and engineering expertise.

In more recent times, the PTA has been more formally involved in school development and PTA representatives are required to form part of a committee to formulate the School strategic plan and approve it. Apart from the per functionary roles of paying school fees, electing PTAs and attending AGMs once a year therefore PTAs should offer school administrators any needed expertise in project management. However some researchers are of the opinion that with the introduction of subsidized Secondary education and the feeling that the government provides free education has led to unwillingness by many parents to pay fees and levies to the schools. According to a study done by Kilonzo (2007), parents were not ready to pay levies to schools since education was 'free'.

### **2.5.3 Boards of Management**

Boards of Management in schools are the legal stewards of key amenities in schools (Basic Education Act, 2013). They are charged to appraise and control the fees overheads in order to ensure that the income received is put to the intended use to accomplish desired goals. According to Wanderi (2008), this presumes that BOMs and principals are knowledgeable in matters such as law, human resource management, supplies and procurement, contracting, accounting and project management. However according to Kuria and Onyango (2006), BOMs are not giving necessary leadership that would promote Total Quality Management (TQM) practices necessary for schools continuous improvement. According to Wangatho (2007), most of the BOM members have inadequate education, training and commitment to manage schools properly. Besides, the implementation of school projects is also likely to be affected by any disharmony between the BOMs and the principals. According to Kilemi and Osita (1999), principals of schools can overrule decisions by the BOMs

and vice versa. This could lead to a haphazard and unsystematic implementation of any projects or utilization of the school funds sent by MOE.

## **2.6 Government Policy Framework**

In this research study the government policy Framework is considered as a moderating variable that affects significantly the degree of correlation between the independent and the dependent variables. Key reforms in Education sector began with the sector review when the NARC Government came to power in 2003. They were aimed at aligning the Education sector to the Millennium Development Goals (MDGs) and Education for All (EFA) by 2015. This culminated into: The National Stakeholders Conference on Education held in November, 2003. The talks led to: formulation of the Sessional Paper No.1 of 2005 and Development of the Kenya Education Sector Support Programme (KESSP) 2005-2010. Under the KESSP some of the significant reforms entailed Sustaining Free Primary Education (2003), Free Day Secondary Education (2008), Expansion of school infrastructure, Provision of laboratory grants/equipment to enhance teaching of science and technology and providing learning opportunities for all children in Kenya. This is also fundamentally in the Government's plan for Economic Recovery Strategy (ERS) and Poverty Reduction Strategy Paper (PRSP).

According to these strategy documents the Government's main concern is to guarantee equitable access to education for all. This can be achieved through a number of strategies such as working in partnership with the private sector, the Non Governmental Organizations' and other partners in the improvement of physical amenities in schools. This forms a policy framework in the education sector in which all the stakeholders that is, the government agencies involved in policy making and implementation, sponsors, teachers, teacher committees, PTAs, NGOs and to some extent Alumni associations must collaborate in the provision and implementation of infrastructure projects. The significance of the providing infrastructure amenities in schools towards the achievement of the goals of Education was also documented by the Kamunge and Koech Reports of (1988) and (1999) respectively.

The Basic Education ACT, 2013 also makes provisions for the promotion and regulation of free and compulsory basic education. It establishes the National and County Education Boards as policy makers. The Basic Education ACT, 2013

highlights the role of BOMs as to ensure and assure the provision of adequate physical facilities for the school and PTAs roles as mobilizing parents and recommending the charges to be levied for undertaking any infrastructure development projects in schools.

However, researchers are wary that to some extent the enforcement of the government legislative and structural frameworks is so weak at the grassroots to the extent that there is inadequate tracking on the funds invested and generally poor implementation of school infrastructure projects. Similarly according to researchers other supporting Acts of Parliament such as the Public Health Act (CAP 242) and the Architects and Quantity Surveyors Act (CAP 525) are hardly enforced to ensure successful implementation of infrastructure projects in public secondary schools.

Currently, with the Dr. Kilemi Mwiria's Taskforce Report (2015/2016) on Secondary school fees in Kenya, key policy reforms have led to the critical shift where school infrastructure projects will now be undertaken through CDF or any other government financing mechanisms including County governments removing the responsibility from parents. This has significant effect on implementation of school infrastructure projects.

## **2.7 Theoretical Framework**

According to various authors such as Koskela & Howell, 2002, Maylor, 2001 and Morris, 2004; there is need to explore alternative hypothetical approaches to the study of projects, and to recognize the repercussion these may have on how projects are organized and managed. This study is based on the theoretical framework of critical chain project management theory.

### **2.7.1 Critical chain project management (CCPM)**

Critical chain project management (CCPM) is a method of setting up projects that emphasizes on the resources essential in the execution of project tasks. It puts emphasis on the material and human resources needed to implement the projects. It applies the Theory of Constraints to the implementation of projects. The goal is to boost the completion rates of projects. The theory as proposed by Eliyahu M. Goldratt (1997) differs from other conventional methods derived from the critical path and PERT. These methods put emphasis on order and rigid scheduling of project tasks. In

the management of projects the critical chain refers to the order of progression of constraints that prevent the project from being completed in a shorter time (Stratton, 2009). The theoretical approach of the study seeks to establish the constraints faced by school heads in Project management as well as the resources available to them in implementation of school projects. An effective project manager should possess the drive to complete the difficult tasks and keep the project on schedule, within cost and write project reports that are accurate. He must make sure that all the critical resources are available when required in order to increase the completion rates of infrastructure projects in schools.

## 2.8 Conceptual Framework

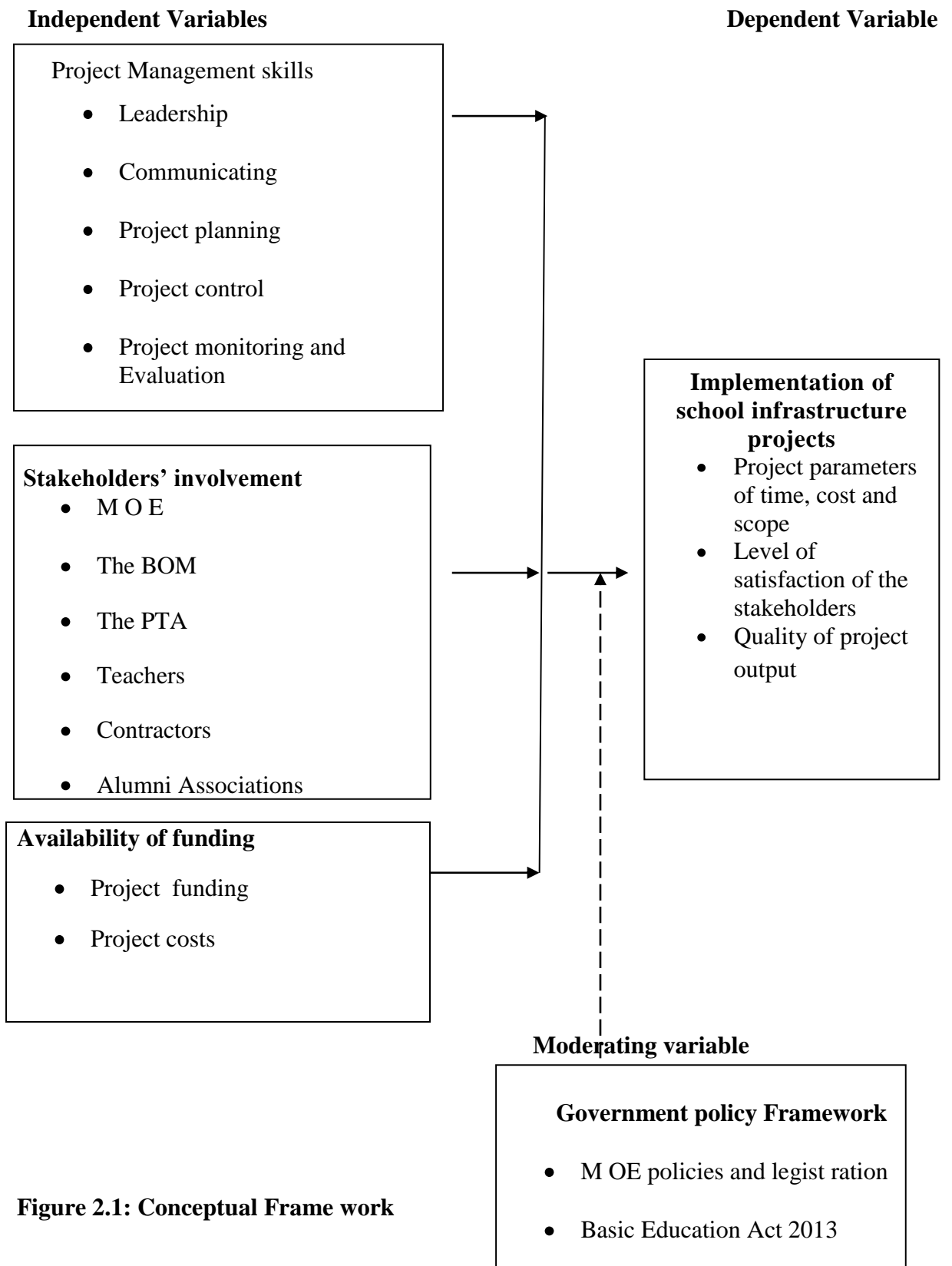


Figure 2.1: Conceptual Frame work

In the study the following indicators were considered; project parameters of time, cost and scope; level of satisfaction of the stakeholders involved in school infrastructure projects and the quality of project (deliverables) output. In project management skills, key skills like Leadership, Communicating, Planning, Project control, Monitoring and Evaluation were considered as key indicators. In project control the projects actual performance was considered in comparison to some preset standards and specifications. In Availability of funding, Project funding and Project costs were considered. In Stake holder involvement the researcher considered the participation and support of the stakeholders. The stakeholders that were considered included; The school BOM, The PTA, the teachers, the parents, the Ministry of Education, the contractors, Alumni and the general public. The above factors were intervened by the absence of an enabling environment due to inadequate resources and lack of stakeholders support. The moderating variable considered was the presence of an enabling environment aided by a supportive government policy. Implementation of infrastructure projects in secondary schools was the dependent variable. The indicators considered in the study were; Project parameters of time, cost and scope; Level of satisfaction of the stakeholders involved in school project and Quality of project output.

## **2.9 Research Gap**

This study sought to establish the factors influencing the implementation of infrastructure projects in secondary schools in Mathira Sub-County, Nyeri County. Other researchers have conducted related studies in different parts of the country but this is the first time the study is being carried out in Mathira Sub-County, Nyeri County. The findings of this research study were extrapolated to establish the main gaps existing in the implementation of infrastructure projects in Secondary schools in Kenya. Secondly, the removal of the responsibility of developing infrastructure from parents to CDF and County governments by Dr. Kilemi Mwiria's Taskforce Report (2015/2016) has created a critical shift in the implementation of infrastructure projects in public secondary schools that warranted a research study. Implementation of infrastructure projects in secondary schools was considered as the dependent variable in this research study. The indicators were; Project parameters of time, cost and scope; Level of satisfaction of the stakeholders involved in school project and Quality of project output. The research findings will go a long way in assisting policy makers on Educational infrastructure projects in secondary schools.



## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter deals with the methodology that was applied in order to achieve the research objectives. Specifically, the chapter highlights the research design, the target population, the sample size and sampling procedures, research instruments, data collection procedures and data analysis techniques.

#### **3.2 Research Design**

According to Ngechu(2004) research design refers to how the research is designed and the procedure used during the study. This study adopted a descriptive survey which involves a survey and facts finding enquiry, Kothari (2005). Descriptive research describes the state of affairs as it exists such as possible behaviour, attitudes, values and characteristics, Mugenda and Mugenda (2003). Descriptive research is used in preliminary and exploratory studies to allow researchers to gather information and summarize, present and interpret data for the purpose of clarification (Ngechu, 2004).The method allows the respondents to put across their experiences in their own language, rather than the researcher's language. Due to the fact that data is collected to answer questions concerning the current status this method was preferred for this research study.

#### **3.3 Target Population.**

A population is a group of individual objects or items from which samples are taken for measurement, Kombo and Tromp (2006). The target population (parent population) of the study comprised of all the 24 principals' and 261 teachers from the secondary schools in Mathira East Sub-County, 24 PTA chairpersons and 24 BOM chairpersons and the Sub-county Education officer. The total target population was 334.

#### **3.4 Sample size**

According to Kothari (2008) when selecting the sample, the sample size should be kept manageable. Kerlinger (2004) says that the ideal sample should be between 10% and 30% of the target population depending on the data to be gathered and analyzed.

A sample of 14 principals, 78 teachers, 14 BOM chairpersons, 14 PTA chairpersons and 1 Sub County education officer. A total of 121 respondents was identified for the study.

### 3.5 Sampling procedure

According to Kombo (2006), sampling procedures refers to how the population sample is to be selected for observation. It explains in details the focus of the investigation and how respondents are to be selected from the target group. According to Gay (2002) the researcher decides on a sample due to diverse confines that may not allow him to study the whole population. According to Sekran (2007) sampling procedures and sample size ascertain the representativeness of the sample for generalization.

Purposive sampling was the sampling technique used in this study. According to Mugenda and Mugenda (2003), a sample is simply a subset of the population that has been selected for study. It should be satisfactory in size and should represent the population. Purposive sampling was used in selecting the Principals, BOM chairpersons, PTA chairpersons and the Sub-county Education officer while Simple random sampling was used to select the teachers. This is because all these respondents were deemed to possess the information regarding the implementation of infrastructure projects in secondary schools in Mathira East Sub-County.

**Table 3.1 Summary of Sample size**

<b>Category Respondents</b>	<b>of Population (N)</b>	<b>Sample size (n)</b>	<b>Percentage (%)</b>	<b>Sampling Technique</b>
Principals	24	14	50	Purposive
Teachers	261	78	30	Simple random
BOM Chairpersons	24	14	50	Purposive
Sub-County Education Officer	1	1	100	Purposive
PTA chairmen	24	14	50	Purposive
<b>Total</b>	<b>334</b>	<b>121</b>		

### **3.6 Data Collection**

This section covers the research instrument used in this research, its validity and reliability, data collection techniques, data analysis, ethical considerations during the study and the operational definition of variables.

#### **3.6.1 Research Instruments**

Questionnaires and interview schedule were main data collection instruments. They were designed and the questions were structured to achieve the research objectives. The Questionnaires were administered to Principals, teachers and BOM and PTA chairpersons. The questionnaire comprised of five sections. The first section was designed to establish the demographic characteristics of the respondents while the other parts focused on the independent and dependent variables of the study. Face to face interview was used to collect data from the Sub-county education officer and several principals; the interview guide consisted of open ended questions that enabled the respondents to express their feelings. This instrument helped to corroborate the data collected through the questionnaires. It also enabled the researcher to employ probing techniques which allowed the respondents to freely give their opinions. An Observation guide was used to enhance other methods of data collection particularly the Questionnaire and the interview schedule. The researcher used the observation guide to assess the schools. The guide focused on school facilities (infrastructure in terms of availability and adequacy).

##### **3.6.1.1 Instruments Validity**

Validity of the research instrument is the extent to which the measurement technique measures the concept that it was intended to (Cooper and Donald, 2008). The questionnaires were designed to ask the questions that the study intended to answer; relevant structured questions to the study area were asked. A pre-test was used to test the understanding of the questions and the willingness of the respondents to enhance validity of the instrument. Pre-testing made the language unambiguous and tested the precision of the tool to generate satisfactory data and get rid of inappropriate and sensitive items in the instrument.

Respondents randomly selected from the target population for the pre-test / preliminary survey. These respondents were not used in the final survey to avoid the challenges brought about by test and retest. To ensure content validity, the

questionnaires were given to a researcher and an education expert to check whether all the objectives of the study were included in the questions. Respondents chosen to fill the questionnaire were guided on filling the questionnaire.

### **3.6.1.2 Instruments Reliability**

Reliability is the consistency of the measurements (Cooper and Schindler, 2003). The study used questionnaire as the data collection instrument and to boost the consistency the researcher guaranteed that the questionnaires were clear and precise in order not to confuse the respondents. A questionnaire is in most cases a reliable tool to collect data since there is uniformity in the questions. A split-half method was applied to test for reliability. Several questionnaires were given to a few respondents and the results correlated using the spearman's correlation coefficient.

### **3.6.2 Pilot Test**

A pre-test is a preliminary test administered on a research instrument to check on its reliability and validity (American heritage Dictionary, 2000). In order to establish the suitability and clarity of the instruments, a pilot study was done in two of the selected schools. These schools did not participate in the final study. The pre-test allowed for the clarification of the question phrasing and response categorization to be done in order to test the validity and reliability of the instruments. The desirability of piloting was to ensure that survey questions operated well and also that the research instruments functioned well.

### **3.6.3 Data Collection**

The study collected both primary and secondary data. Primary data is observed or data collected directly from first-hand sources (Wallen and Fraenkel, 2001). The researcher administered the questionnaires to the teachers, the principals, BOM and PTA chairpersons. Questionnaires were dropped at the respondents schools by the researcher where the researcher agreed with the respondent on the duration of filling the questionnaire. The researcher assured the respondents that strict confidentiality would be upheld in the usage of the responses. The researcher implored on the respondents to fill the questionnaires and to give accurate information to the best of their knowledge.

### **3.7 Data Analysis**

According to Kothari, (2011) the purpose of the coding would be to categorize the responses to the questions into significant clusters so as to reveal their patterns. Coding is the practice of assigning symbols or numerals to the responses in order to sort them into a small number of classes. After the information was collected, the researcher edited the data which involved the process of examining the raw data in order to discover any errors and/or omissions and correct them. Both quantitative and qualitative data was collected during the study. Quantitative data was analyzed through creation of simple tables that showed the frequency of occurrence through establishing statistical relationships between variables. On the other hand qualitative data was analyzed through development of data categories and recognizing relationships to produce well-grounded conclusions. Correlation analysis was used to establish the degree of correlation between the independent and dependent variables.

A correlation coefficient was used to identify the independent variables that appeared to be important determinants to the pattern of the dependent variable. Statistical Package for Social Sciences was used since it can handle bulky data (Martin and Acuna, 2002). SPSS is efficient because of its broad spectrum of statistical procedures purposively designed for research in social sciences. Results of the data analysis were presented in frequency distribution tables. The research ensured utmost discretion and confidentiality to the respondents. It also guaranteed all the respondents the free will to take part and contribute voluntarily to the study.

### 3.8 Operational Definition of Variables

<b>Objective</b>	<b>Independent Variables</b>	<b>Indicators</b>	<b>Scale</b>	<b>Data Collection</b>	<b>Type of Analysis</b>
1. To establish the extent to which school heads project management skills influences implementation of infrastructural projects in secondary schools.	project management skills	<ul style="list-style-type: none"> <li>• Leadership skills</li> <li>• Communicating</li> <li>• Project planning</li> <li>• project control</li> <li>• project monitoring and evaluation</li> </ul>	Nominal ordinal	Questionnaire Interviews	Descriptive analysis
2. To determine whether stakeholder involvement influences school managers in implementation of infrastructural projects in secondary schools.	stakeholder involvement	<ul style="list-style-type: none"> <li>• M O E</li> <li>• The BOM</li> <li>• The PTA</li> <li>• Teachers</li> <li>• Contractors</li> <li>• Alumni</li> </ul>	Nominal Ordinal	Questionnaire Interviews	Descriptive Analysis
3. To determine the influence of availability of funding on school managers in implementation of infrastructural projects in secondary schools.	availability of funding	<ul style="list-style-type: none"> <li>• Project funding</li> <li>• Project costs</li> </ul>	Nominal Ordinal	Questionnaire Interviews	Descriptive Analysis

## CHAPTER FOUR

### DATA ANALYSIS, PRESENTATION AND INTERPRETATION

#### 4.1 Introduction

The findings of the study were analyzed and presented in this chapter with respect to respondents' profile and demographics (age, gender and education qualification), project management skills, availability of project funding and stakeholder involvement in implementation of infrastructure projects in secondary schools in Mathira East Sub-county, Nyeri County.

#### 4.2 Questionnaire Return Rate by Age and Gender

The study utilized two sets of questionnaires i.e. questionnaires for Principals and teachers, and questionnaires for B.O.M and PTA chairpersons. For the questionnaire targeting the Principals and the teachers, Completed questionnaires were received from all the fourteen (14) principals representing a 100% return rate and sixty 63 teachers, 80.77% return rate. On the other hand, the questionnaire targeting the BOM chairpersons, and PTA chairpersons, Completed questionnaires were received from all BOM chairpersons representing a response rate of 100% and from 10 PTA chairpersons, a 71.43% response rate. From the finding of this study it was noted that the principals in public secondary schools were in the bracket of 46 – 50 years which was 44% of the school principals and those over 50 years was 66%. Majority of the BOM chairpersons were over 51 years and above with only 9% below 50 years of age. The respondents by gender were 58 male representing 58.58% of the respondents and 43 female 43.42% of the respondents.

**Table 4.1: Return Rate by Age**

<b>Age</b>	<b>Total</b>
Below 35years	11
35-40yrs	15
41-45yrs	22
46-50years	32
51 years and above	21
<b>Total</b>	<b>101</b>

### 4.3 Respondents' Profile

Mathira East Sub-County has a total of twenty four (24) public secondary schools. A sample was taken from all the twenty four (24) public secondary schools and targeted one hundred and twenty one (121) respondents there in of the 121 respondents 101 returned their questionnaires, a response rate of 83.5%.

**Table 4.2: Education Qualification of the respondents**

<b>Education Qualification</b>	<b>Frequency</b>
Secondary Level	3
Diploma	12
Graduate	55
Post Graduate	31
<b>TOTAL</b>	<b>101</b>

All the principals were university graduates representing a 100%.The teachers and the BOM chairpersons had a Diploma and above with only 3 of the PTA chairpersons having a secondary school certificate as their highest qualification.The research findings also established that majority of the principals and the teachers 71.4% have remained in their current schools for more than five years, and were therefore familiar with school projects undertaken within the schools in the period of five years. For the BOM chairpersons, 5 schools were noted to have new BOM chairpersons (stayed for less 1 year in the school) owing to the fact that the school Boards of Management were reorganised in 2015 so as to conform with the requirements of the Basic Education Act ,2013. All the PTA chairpersons were found to have been in the schools for less than five (5) years as they are choosen by the virtue of being parents in the schools.

### 4.4 Public Secondary Schools in Mathira East Sub County

Mathira East Sub-County has twenty four (24) public secondary schools. The study found out that all the 24 schools, a 100% have undertaken one or more infrastructure projects within the last five years. A total of 107 projects were identified by the respondents.



**Table 4.3: Summary of the type of infrastructure projects undertaken by the schools**

<b>Type of project</b>	<b>Frequency</b>	<b>Percentage(%)</b>
Dormitory construction	10	9.35
Laboratory construction	5	4.67
DH and kitchen construction	8	7.48
Classroom construction	13	12.15
Library construction	5	4.67
Staff quarters	7	6.54
Perimeter fence	10	9.35
Toilets and or sanitation blocks	39	36.45
School bus	10	9.35
<b>Total number of projects</b>	<b>107</b>	<b>100</b>

#### **4.5 Project Management Skills of School Heads and Infrastructure Project Implementation**

The study sought to establish the extent to which project management skills amongst the school heads as the first independent variable influenced the implementation of infrastructure projects in the secondary schools. Five key areas in project management skills were considered: ability of school heads to offer leadership, ability of school head to communicate with all stakeholders, ability of school heads to carry out project planning, ability of the school heads to control and appraise the project activities to ensure they are compatible with the project plans and ability of school heads to carry out project monitoring and evaluation. The Questionnaire utilised a five point Likert scale in which the respondents were to; 5 = strongly agree, 4 = agree, 3 = uncertain, 2 = disagree, and 1 = strongly disagree to specify their perceptions on 5 statements about the influence of the project management skills.

**Table 4.4 summary of the reponses on influence of project management skills.**

<b>Project Management Skill</b>	<b>SA (%)</b>	<b>A (%)</b>	<b>U (%)</b>	<b>D (%)</b>	<b>SD (%)</b>
Ability of school head to offer leadership.	29.70	33.66	24.75	6.94	4.95
Ability of school head to communicate with all stakeholders.	21.78	44.56	15.84	9.90	7.92
Ability of school heads to carry out project planning.	33.66	38.61	18.81	8.91	0.99
Ability of the school heads to control and appraise the project activities to ensure they are compatible with the project plans	27.73	36.63	2.97	22.77	10.89
Ability of school heads to carry out project monitoring and evaluation	21.78	35.64	13.86	19.80	8.92

The respondents agreed and rated the following project management skills of school heads as having influence as follows; ability of school head to offer leadership at an agreement level of 63.36%, ability of school head to communicate with all stakeholders at an agreement level of 63.34%, ability of school heads to carry out project planning at an agreement level of 72.27%, ability of the school heads to control and appraise the project activities to ensure they are compatible with the project plans at an agreement level of 64.36% and ability of school heads to carry out project monitoring and evaluation at an agreement level of 57.42%. The respondents also felt that other skills that were very essential in the management of the school projects to include: financial management skills, problem solving skills, public relations and resource mobilization skills.

The respondents agreed that all the five areas in project management skills of the school heads were a major influence to the successful implementation of school infrastructure projects. The respondents rated ability of school head to offer leadership at 63.36%.The respondents felt that the school heads needed to be visionary and possess leadership skills in order to improve the schools infrastructure. The respondents also agreed that the ability of school head to communicate with all stakeholders influenced implementation of school infrastructure projects at 66.34 %, since the school head needed to communicate and mobilise various stakeholders and bring them in to support the school infrastructure development. The school heads

needed to write project proposals and make timely reports on the projects to the stakeholders. Ability of school heads to carry out project planning was rated at 72.27%.

The school heads needed to prioritise and plan for the scarce resources at their disposal in order to improve the schools infrastructure in the sub county. The respondents agreed at 64.36% level that the ability of the school heads to control and appraise the project activities to ensure they are compatible with the project plans influenced how they successfully implemented infrastructure projects in their schools. The school head acting as the project managers needed to control and appraise the projects they were implementing to ensure their successful completion. The most desirable character that the school heads as an effective project manager should possess is the drive to complete the complex tasks of keeping the project on schedule, within the cost and make project reports that are accurate and timely, making sure that the resources, equipment and labour are available when needed. The ability of school heads to carry out project monitoring and evaluation was rated at an agreement level of 57.42%. The school head needed to carry out monitoring and evaluation of the projects to ensure that the projects was going on as scheduled and that all the resources were being utilised as per the project plans. The ability of the school heads to delegate project monitoring and evaluation tasks to the teachers and other stakeholders was also paramount. The twenty first century school head therefore must be trained and equipped with Project Management skills.

#### **4.6 Stakeholder Involvement and Infrastructure Project Implementation**

The study sought to establish the degree of the influence of stakeholder involvement (independent variable) on the implementation of infrastructure projects in the secondary schools, the respondents were asked to indicate their level of agreement using a five point Likert scale; 5 = strongly agree, 4 = agree, 3 = uncertain, 2 = disagree, and 1 = strongly disagree in order to specify their perceptions on six areas of stakeholder involvement; Support and training offered by Ministry of Education (MOE) to school heads, managerial support and leadership of school BOM, participation of PTAs in terms of financial and expertise support, participation of teachers in the implementation of schools infrastructure projects, professionalism and commitment of contractors, involvement and support of school alumni associations.

**Table 4.5: Responses on extent of influence of stakeholder involvement**

<b>Stakeholder Involvement</b>	<b>SA %</b>	<b>A %</b>	<b>U %</b>	<b>D %</b>	<b>SD %</b>
Support and training offered by Ministry of Education (MoE) to school heads.	15.84	40.59	19.80	12.87	10.90
Managerial and Leadership of School BOM	20.79	35.64	4.95	16.84	21.78
Participation of PTAs in terms of financial and expertise support	32.67	38.62	9.90	6.93	11.88
Participation of teachers in the implementation of schools infrastructure projects	6.93	16.83	38.62	21.78	15.84
Professionalism and commitment of contractors	23.76	36.63	23.77	7.92	7.92
Involvement and support of school alumni associations	22.77	20.79	30.69	18.82	6.93

The findings showed that following levels of agreement on the extent of stakeholders involvement and influence to the implementation of school infrastructure projects: Support and training on project management offered by MOE to school heads at 56.43%, managerial and leadership capacity of school BOM at 56.43%, participation of PTAs in terms of financial and expertise support at 71.29% and professional and commitment of contractors at 60.40%. However, participation of teachers in the implementation of school infrastructure projects and involvement of school Alumni Associations were noted to have little influence at an agreement level of 23.76% and 45.56% respectively.

The respondents rated managerial and leadership capacity of school BOM as influencing the implementation of school infrastructure projects at an agreement level of 56.43%. However 38.62% of the respondents strongly disagreed that the school boards were offering the expected leadership as far as implementation of infrastructure projects in schools was concerned. New Boards of Management had been inaugurated in some schools in the Sub County according to the Basic Education Act of 2013. The expectations were high that the new boards would effectively carry out their mandate. The respondents in the study rated the participation of PTAs in terms of financial and expertise support influence in the implementation of school

infrastructure projects at 71.29 %. The respondents felt that the PTAs were an important source of financial support for the improvement of the infrastructure projects in schools.

However they felt that the PTAs were not being formally utilized as a source of resource persons to help in a wide variety of school projects such as providing the technical advice in projects. The professional and commitment of outsourced contractors was rated as influencing the implementation of school infrastructure projects at 60.40%. Various contractors were being outsourced to implement the school infrastructure projects, through the school tendering committees. The respondents felt that some of these contractors were not committed to the projects and this had led to delays in project completion, inflated project costs and poor project output. The participation of teachers in the implementation of school infrastructure projects and involvement of school alumni associations were noted to have little influence at an agreement level of 23.76% and 43.56% respectively.

Also, according to the respondents, political influence on school leadership and project funding by politicians were also considered as other stakeholder related factors that influenced the successful implementation of the school infrastructure projects. The respondents also felt that some Sponsors and donors willing to be involved in the implementation of the school infrastructure projects had other interests such as gaining political mileage other than ensuring successful implementation of the projects. Stakeholders' involvement (independent variable) was therefore rated by the respondents as a key factor influencing the implementation of infrastructure projects in public secondary schools in Mathira East Sub County.

#### **4.7 Availability of Funding and Infrastructure Project Implementation**

The study sought to find out level of the influence of availability of funding (independent variable) on the implementation of infrastructure projects in secondary schools. The respondents were asked to indicate their level of agreement using a five point Likert scale (i.e. 5 = strongly agree, 4 = agree, 3 = uncertain, 2 = disagree, and 1 = strongly disagree) to specify their perceptions on key statements; allocation and disbursement of government funding, availability of donor funding, availability of approved PTA development project funds and availability of funding by alumni associations were considered on availability of funding and implementation of infrastructure projects.

**Table 4.6: Responses on the influence of availability of funding on implementation of infrastructure projects**

<b>Availability of funding and implementation of infrastructure projects</b>	<b>SA (%)</b>	<b>A (%)</b>	<b>U (%)</b>	<b>D (%)</b>	<b>SD (%)</b>
Allocation and disbursement of government funding.	15.85	24.75	12.87	16.83	29.70
Availability of CDF funding	17.82	24.75	10.89	33.66	12.88
Availability of county government funding	11.88	15.84	18.81	37.62	15.85
Availability of donor funding	20.80	35.64	21.78	14.85	6.93
Availability of approved PTA development project funds	41.58	42.57	7.93	3.96	3.96
Availability of funding by alumni associations	14.85	19.80	5.94	25.74	33.66

The results showed that allocation and disbursement of government funding, availability of donor funding, availability of approved PTA development project funds and availability of funding by alumni associations influenced the implementation of infrastructure projects. The respondents rated allocation and disbursement of government funding at an agreement level of 40.50%, availability of donor funding at 56.43%, availability of approved PTA development project funds at 84.15% , availability of funding by alumni associations at 34.65%, CDF funding and availability of county government funding were rated at 42.57% and 27.72% respectively.

The research found out that allocation and disbursement of government funding, availability of donor funding, availability of approved PTA development project funds and availability of funding by alumni associations influenced the implementation of infrastructure projects in secondary schools to a large extent. The availability of CDF funding and availability of county government funding were rated to influence the implementation of infrastructure projects to the least extent. The respondents were of the view that CDF and County government funds were not only inadequate but were also erratic. Most of respondents expressed displeasure with the delays in the release of CDF funds and the erratic funding from County Governments.

#### 4.8 Infrastructure Project implementation and Training of stakeholders in project management

The implementation of school infrastructure projects was the dependent variable in the study. The respondents were asked to indicate their level of agreement using a five point Likert scale (i.e. 5 = strongly agree, 4 = agree, 3 = uncertain, 2 = disagree, and 1 = strongly disagree) to specify their perceptions on key statements. They were asked to indicate whether their training in project management influenced the following aspects of school infrastructure project implementation; projects implemented within the stipulated time ( project schedule), projects implemented within the stipulated cost (project budget), projects resources are utilized to deliver the expected project output(project scope) and whether projects satisfy the stakeholders in terms of quality and project specifications(project quality).

**Table 4.7: The rate of training in project management among the respondents**

Stake holder	Whatever trained or not trained in project management	
	Yes	No
School heads	14	0
Teachers	23	40
BOM	6	8
PTA	4	6
<b>TOTAL</b>	<b>47</b>	<b>54</b>

A key finding from the study established that all the school principals sampled representing 100% have been trained in project management as it is a requirement in the management course for deputy principals in preparation for headship. Amongst the other respondents, 36.51% of the teachers, 42.86% of the BOM and 36.36% of the PTA had been trained in project management.

Pearson’s correlation coefficient was used to identify the independent variables that appeared to be important determinants to the pattern of the dependent variable. Correlation analysis was used to determine the degree of relationship between the school heads training in project management (independent variable) and key aspects

of school infrastructure project implementation (dependent variable).The extent of linear correlation between the school heads training in project management and aspects of school infrastructure project implementation was established.Table 4.8: below shows the frequencies and percentages indicating indicates the degree to which training of school heads in project management and the implementation of school infrastructure projects are related.(n=101)

**Table 4.8: The rate of training in Project management among the respondents**

<b>Category</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Schedule</b>	65	64.4
Influence by training		
not influenced by training	36	35.6
<b>Budget</b>	70	69.3
Influenced by training		
not influenced by training	31	30.7
<b>Scope</b>	78	77.2
Influenced by training		
not influenced by training	23	22.8
<b>Quality</b>	74	73.3
Influenced by training		
not influenced by training	27	25.7
<b>Expectation</b>	66	65.3
Influenced by training		34.7
not influenced by training	35	

According to the respondents there was a degree of relationship between training of school heads in project management and implementation of school infrastructure projects within the stipulated time (schedule) at moderate linear correlation of +0.483, training in project management and project implemented within the stipulated cost (budget) at moderate linear correlation of +0.563, training in project management and projects resources were utilized to deliver the expected project



output (scope) had a high linear correlation of +0.659, training in project management and projects satisfied the stakeholders in terms of quality and project specification at moderate linear correlation of +0.587 and that projects met the stakeholder expectations at moderate linear correlation of +0.628. According to the respondents therefore there was a positive relationship between training in project management and school infrastructure projects implementation. When correlation analysis using Pearson's correlation coefficient was carried out it showed that there was a positive correlation between training of school heads in project management and the school infrastructure project implementation within the stipulated time (schedule), the stipulated cost (budget), the utilisation of projects resources to deliver the expected project output (scope), the satisfaction of the stakeholders projects in terms of quality and project specification and that the projects met the stakeholder expectations.

#### **4.9 Summary of key Findings from the Interview Schedule for the Sub County Education Officer**

According to the research findings there were infrastructure projects being undertaken in public secondary schools in Mathira East Sub County, Nyeri County. The sub county education board was playing the role of policy implementation especially in the provision of free secondary education and in the provision of basic public school infrastructure. According to the findings schools in Mathira East Sub County had prioritized the infrastructure projects to undertake based on their strategic plans. Key infrastructure projects mostly involved construction of basic amenities such as classrooms, laboratories and dormitories. The MOE through the Sub County education office was involved in project appraisal and control from approving the building plans, to ensuring projects compliance with the statutory regulations, to approval of PTA funding.

According to the sub county education officer the project management skills of the school head and other key stakeholders to a very great extent influenced the implementation of school infrastructure projects in Mathira East Sub County, Nyeri County. The school heads were in charge of ensuring the implementation of their schools' strategic plans. Availability of funding also influenced the implementation of school infrastructure projects in public secondary schools in Mathira East Sub County, Nyeri County. As per the basic education Act regulations school heads were not allowed to solicit for funding of infrastructure projects by issuing alternative fees

other than those approved by the MOE without express written authority from the cabinet secretary of education. The county governments were now responsible for funding of school infrastructure projects. According to the sub county education officer the per capita allocation of funds was equitable. School heads as the accounting officers in their schools needed to ensure that these monies were stringently accounted for. CDF, fundraisers and grants from development partners were other sources of funding for infrastructure projects in public secondary schools in Mathira East Sub County, Nyeri County. According to the sub county education officer the school heads in the sub county needed to write more project proposals through the MOE and solicit for donor funds and grants as this avenue of funding was majorly unexploited.

On the extent of stakeholder involvement, the various stakeholders were involved as stipulated in the MOE policies and regulations. Stakeholders included the MOE, BOM, PTAs, community, learners and Alumni Associations. The MOE had both a supportive and supervisory role in the implementation of school infrastructure projects. The school BOM and PTA were planning, mobilising resources and overseeing the infrastructure project implementation in the Sub County. But felt that the community and alumni associations were hardly involved. Political leaders were also influencing the implementation of infrastructure projects in public secondary schools in the sub county.

As recommendations the sub county education officer felt that the school heads must be willing to write project proposals and solicit for funding from donors. The school heads must innovatively seek ways to incorporate all the stakeholders in implementation of infrastructure projects in the schools including the Alumni associations and the local communities. The BOM and PTAs needed to be trained in Project management.

## CHAPTER FIVE

### SUMMARY, DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

#### 5.1 Introduction

This chapter presents the summary of the findings, discussions, conclusions from the study and suggestions for further study and recommendations for practice.

#### 5.2 Summary of Findings

In summary the study utilized two sets of questionnaires i.e. Questionnaires for Principals and teachers, and Questionnaires for B.O.M and PTA chairpersons. A sample of all the twenty four (24) public secondary schools was considered and targeted one hundred and twenty one (121) respondents of which 101 returned their questionnaires representing a total response rate of 83.5%. The respondents were purposively sampled from various stakeholders involved in implementing infrastructure projects in schools. These include school heads, teachers, BOM chairpersons and PTA chairpersons. All the sampled principals were university graduates a 100%, the teachers and the BOM chairpersons had a Diploma and above and 30.0% of the PTA chairpersons had secondary school certificate.

The findings showed that most schools had undertaken major school development projects within the past five years prior to the study. The research established that key infrastructure projects undertaken included construction of dormitories, classrooms, libraries, laboratories, staff quarters, sanitation blocks and perimeter fences and purchase of school buses.

##### **5.2.1 Project management skills of school heads and implementation school infrastructure projects.**

The research findings established that the project management skills of school heads were a key determinant to a large extent to the successful implementation and development of school infrastructure. The findings also established that 100% of school heads had now been trained in project management as an induction course for deputies by KEMI but most of the other stakeholders were not fully conversant with project management practices. This training of school heads in project management was noted to have a positive linear correlation with school infrastructure projects implementation within the stipulated time (schedule), cost (budget), utilisation of

projects resources to deliver the expected project output (scope), satisfaction of the stakeholders in terms of project quality and project specification and that the projects met the stakeholder expectations.

This concurs with a study done by Odhiambo (2005) who observed that lack of adequate training in project control, budgeting and accounting, human resource management, project scheduling, and project implementation adversely affected principals in the successful implementation of school infrastructure projects. It also agrees with a study by Chepkonga (2006) who found out that the principals training in very key management areas such as accountancy, preparing budgets and general project management would contribute to the success of school infrastructure projects.

However among the other respondents who were also key stakeholders including Teachers, BOM and PTA chairpersons 53.63% had no training in project management. The MOE through KEMI should prioritise and organize training programs on project management skills, project finance and project monitoring and evaluation for all the stakeholders involved in school infrastructure projects including teachers such as Heads of Departments, BOM and PTA chairpersons in order to improve the infrastructure facilities in public schools when offering support and training in project management courses through the Kenya Education Management Institute (KEMI) that offers capacity building to the education sector. Since all of these stakeholders need to be involved in the decision-making and project implementation process if they are to remain supportive of what the school head is doing. This will also ensure that the stakeholders play an effective role in the improvement of school infrastructure and physical facilities in public schools.

### **5.2.2 Stakeholder involvement and implementation of school infrastructure projects**

Stakeholders' involvement was the second independent variable identified in the research study. According to Kotter (2001) stakeholders have the organizational authority to assign resources (people, money, services) and set priorities for their own organizations in support of a transformation. In this view the stakeholders involvement was found to influence to a great extent the implementation of school infrastructure projects at the following agreement levels on the Likert scale: Support and training on project management offered by MOE to school heads at 56.43%. The

MOE was now offering capacity building support in project management by the training the deputy principals in preparation for headship through the Kenya Education Management Institute (KEMI). However the respondents felt that the MOE should do more in terms of support. The training in project management should also incorporate teachers particularly the HODs (Heads of Departments) and other stakeholders such as the PTA and BOM chairpersons.

The respondents agreed that managerial and leadership capacity of school BOM to a great extent influenced the implementation of school infrastructure projects. However, 38.62% of the respondents strongly disagreed that the school boards were offering the expected leadership as far as implementation of infrastructure projects in schools was concerned. However new Boards of Management had been inaugurated in some schools in the Sub County according to the Basic Education Act of 2013. The expectations were high that the new boards would effectively carry out their mandate. School Boards of Management are in charge of school funds and property and are mandated to audit and regulate expenditure by the school principals to ensure income received is applied for the intended purpose to achieve desired goals. It was however established in a study done by Kuria and Onyango (2006) BOMs were not giving necessary leadership to promote management practices necessary for schools continuous improvement. According to Wangatho (2007) as well most of the BOM members have inadequate education, training and commitment to manage schools properly. The MOE training and induction courses in project management should also incorporate BOM chairpersons if overall school infrastructure improvement was to take place.

The Basic Education ACT, 2013 highlights the role PTA as being to discuss, explore and advise the parents on ways to raise funds for infrastructure development, discuss and recommend charges to be levied on parents; undertake and oversee infrastructure development projects on behalf of the whole Parents Association. The respondents in the study rated the participation of PTAs in terms of financial and expertise support at 71.29 %. The respondents felt that the PTAs were an important source of funding in the implementation of school infrastructure projects. However they felt that the PTAs were not being formally utilized as a source of resource persons to help in a wide variety of school projects such as providing the technical advice in projects. Apart from the per functionary roles of paying school fees, electing PTAs and attending

AGMs once a year parents should offer school administrators the needed expertise in project management. Therefore the participation of PTAs is pivotal in school infrastructure improvement and parents play a critical role in influencing the implementation of school infrastructure projects. Some researchers such as Kilonzo (2007) however are of the opinion that the introduction of subsidized Secondary education and the feeling that the government provides 'free' education has led to unwillingness by many parents to pay fees and development levies to schools.

The extent to which professional and commitment of outsourced contractors influenced projects implementation infrastructure was rated at 60.40%. Various contractors were being outsourced to implement the school infrastructure projects, through the school tendering committees. The respondents felt that some of these contractors were not committed to the projects and this had led to delays in project completion, inflated project costs and poor project output. The participation of teachers in the implementation of school infrastructure projects and involvement of school alumni associations were noted to have little influence at an agreement level of 23.76% and 43.56% respectively. However according to past researchers the teacher's professional involvement is very necessary for the effective management of school improvement projects (Kanji, 2001).

The lack of teachers' confidence and participation had affected school infrastructure projects. School improvement is deemed to come from higher authorities and therefore most teachers were rather passive in the implementation of school infrastructure projects. The study established that there was a significant gap in the role of delegated leadership to the teachers by school heads in the implementation of school infrastructure projects. Though currently schools are required to have Strategic Plans which identifies areas for improvement and plans for the implementation of strategies for infrastructure development and teachers were actively involved in the Strategic Planning. The role of the teachers should go beyond planning. Teachers can also assist in monitoring progress and identifying strengths and weaknesses in the implementation of infrastructure projects in their schools. Moreover the day-today management running of a school projects depends to quite a large extent upon an effective system of committees' communication, consultation and participation of all of the stakeholders' teachers inclusive.

According to the research findings the school alumni associations it seemed had not yet been formally recognized as a key resource in the implementation of school improvement projects and programs. The respondents rated their involvement at only 43.56%. To ensure effective and successful management, the twenty first century school head must be innovative, resourceful and dynamic. He should interact well with people both within and outside the school. The school heads should therefore go out of their way to reach out to and to incorporate the school alumni into the implementation of school projects. The school alumni can not only offer financial support but also expertise advice on these projects among other contributions such as student mentorship programs.

### **5.2.3 Availability of funding and implementation of school infrastructure projects**

Availability of funding was found to influence the implementation of school infrastructure projects to a large extent in the public secondary schools in Mathira East Sub County, Nyeri County. The disbursement and utilisation of government funds under the Free Primary Education (FPE) and Free Secondary Education (FSE) programme was subject to the provision of the Government Financial Management Act. The respondents rated the extent of influence of the allocation and disbursement of this government funding at 40.50%. These findings agree with past research studies that have cited that there were challenges of the adequacy of this government subsidy in that it was not catering for the establishment of school infrastructure and at the same time there was late disbursement of these monies to schools.

In a research study on the impact of subsidized school funding on infrastructure development in public secondary schools by Mbaya and Masinde (2014), in which the researchers sought to establish the level of adequacy of Government funding towards infrastructure in the schools the findings concur. Their findings indicated that the Government did not adequately contribute towards infrastructure projects in schools. According to a study done by Musalia (2005) and that done by Kilonzo (2007), continual delays by the government in sending the money to schools was hampering development of infrastructure facilities in schools. Furthermore, allocation of funds to public secondary schools based on a formula of budgeting as per the number of learners in the school at the rate of Kshs.12, 870 per learner per annum has also been cited in past research studies as not being the most equitable way of allocating these

funds. According to Khamati et al (2013) the system of capitation per learner only perpetuated the prevalent inequalities between schools. The government should consider other ways such as need assessments per school in the allocation of these funds where prioritization of projects to be implemented will be done.

The respondents rated the extent of influence of availability of donor funding at 56.27%. Many school heads shied away from soliciting for donor funds as this involved stringent procedures including submitting project proposals through the MOE. The respondents in the research study rated the extent of influence of availability of approved PTA development project funds as the highest influence at 84.15%. According to past research findings infrastructure development in schools was being funded by Parents Teachers Association (PTA) and Constituency Development Fund (CDF) with the PTAs being the ones bearing the greatest responsibility of developing the schools infrastructure. However in the Dr. Kilemi Mwiria's Taskforce Report (2015/2016) on Secondary school fees in Kenya has been removal of this responsibility of developing infrastructure from parents to CDF and County governments. All future infrastructure projects are to be undertaken through CDF, County Governments or other Government financing mechanisms. With this critical shift in the implementation of infrastructure projects in public secondary schools in Kenya the Government should therefore allocate more funds and also streamline the funding mechanisms to cater for infrastructure development in public schools. Strict monitoring of these funds should also be done to ensure that the monies are used for the intended purpose.

The extent of influence of CDF funding was rated at 42.57% with 46.54% of the respondents feeling that CDF funding was not adequate. Majority of the respondents felt that the CDF funding was political, erratic and inadequate to effectively finance development of school infrastructure in the Sub County. Availability of funding by alumni associations was rated as an influence at 34.65% with 59.40% of the respondents disagreeing that the alumni were involved in project financing in the schools within the Sub County. The availability of county government funding was rated as having the least influence at 27.72%. The study established that there was inadequate funding from County Governments in support of school infrastructure projects with 53.47 % of the respondents disagreeing that availability of county government funding influenced the infrastructure projects implementation in the



schools. This is in sharp contrast with what Dr. Kilemi Mwiria's Taskforce Report (2015/2016) on Secondary school fees in Kenya proposed in which there is removal of the responsibility of developing infrastructure from parents to CDF and County governments. The research findings indicated that the county governments were still hardly involved in funding infrastructure projects in the schools. The Government should look into this and come up with clear policy mechanisms on how school infrastructure will be funded as there was already a glaring gap with school heads not yet clearly advised on how to fund their future infrastructure projects.

### **5.3 Conclusion**

The study investigated the extent to which the independent variables that is; the project management skills of the school heads, stakeholder involvement and availability of funds influenced school heads in the implementation of infrastructure projects in public secondary schools in Mathira East Sub-County, Nyeri County, Kenya. The study findings showed that all the independent variables that is; the project management skills of the school heads, stakeholder involvement and availability of funds to a great extent influenced the implementation of school infrastructure projects. In conclusion therefore it was established that to ensure effective and successful school management, the twenty first century school head must possess project management skills. The study also unearthed that although most of the schools were implementing major school infrastructure projects there was need for more stakeholder involvement in the process of implementation infrastructure projects in schools. The study also portrayed that a glaring gap exists between available funds for the implementation of the school infrastructure projects and the magnitude of school projects to be implemented. More funds and resources therefore needed to be mobilised in order to improve the physical facilities in public schools.

### **5.4 Recommendations for Policy and Practice**

From the study findings there is need for more stakeholder involvement in the process of implementation of infrastructure projects in public secondary schools. This involvement should start from project conception and design all the way to project handing over. It was established that most of the stakeholders were not fully conversant with the specifications of the projects implemented in their schools.

The government through the Ministry of Education (MOE) should organize training programs on project management skills, project finance and project monitoring and

evaluation for all the stakeholders involved in school infrastructure projects. The programs should be decentralized to county and sub-county levels and if possible mechanism should be put in place to decentralize them further to the school level. This will enable training to reach as many stakeholders as possible.

The government should also find ways of formally incorporating more professionals training for teachers (who later rise to be school heads) and involve them in the management of school projects in public secondary schools. Universities and other institutions training teachers should develop and offer a curriculum in management of school infrastructure. School heads should be encouraged to take personal responsibility and initiatives in equipping themselves with general management and project management skills through self study, reading literature, attending seminars and workshops out of their own personal volition. Formal mentorship programmes for newly appointed school heads should be put in place whereby they can be attached to experienced and successful school heads in their neighbourhood or even to the Private sector for induction and mentoring.

### **5.5 Suggestions for Further Study**

The research study was limited to investigating the extent to which the project management skills of the school heads, stakeholder involvement and availability of funds influenced school heads in the implementation of infrastructure projects in public secondary schools in Mathira East Sub-County, Nyeri County, Kenya. Further research would be required to determine empirically the influence of other determinant factors on the implementation of public school infrastructure projects. Similar studies can also be carried out in other Sub-Counties.

The study portrayed that a glaring gap existed between the available funds for the implementation of the school infrastructure projects, the status of the public school infrastructure and the magnitude of school projects to be implemented. The researcher therefore suggests more exploration on various ways of raising funds to enhance the implementation of school infrastructure development projects.

With the removal of responsibility of developing infrastructure from parents to CDF and County governments there is need for assessment and further studies on the challenges this will pose to the successful implementation of school infrastructure

projects baring in mind that so far the county governments has not been majorly involved in neither funding nor in the supervision of the implementation of school infrastructure projects.

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## APPENDICES

### APPENDIX I: LETTER OF INTRODUCTION

**MACHARIA JOYCE  
WAIRIMU  
P.O. BOX 97-10101  
KARATINA.**

**DATE**\_\_\_\_\_

Dear Sir/Madam,

**RE: LETTER OF INTRODUCTION FOR DATA COLLECTION  
INSTRUMENTS**

This is to inform you that I am a Masters of Project Planning And Management student in University of Nairobi, Nyeri Extra Mural Centre carrying out an academic research study focusing on “factors influencing school heads in the implementation of school infrastructure projects: a case of Mathira East sub county”

Upon the completion of the research, I presume the findings will provide valuable insights to the government, Ministry of Education, School Principals and the Community at large towards effective implementation of school infrastructural projects. Your input will highly contribute to the success of this research.

Attached please find a questionnaire that kindly requests you to provide answers to the questions as precisely and honest as possible. Information collected will be treated with utmost confidentiality. Please do not write your name or that of your school anywhere on the questionnaire.

Thank you in advance.

**MACHARIA JOYCE WAIRIMU**



## APPENDIX II: QUESTIONNAIRE FOR SCHOOL PRINCIPALS AND TEACHERS

Good morning/afternoon      Sir/ Madam

This research questionnaire is aimed at establishing **“factors influencing school heads in the implementation of school infrastructure projects in Mathira East sub county, Nyeri County” Kenya**. Information provided will be confidential and will be used for academic purposes only.

**Instructions:** Please answer the questions objectively and truthfully as possible. Do not write your name or that of your school anywhere on your questionnaire. Please tick [√] where appropriate or fill in the required information on the spaces provided. Thank you in advance.

### SECTION A: (DEMOGRAPHIC CHARACTERISTICS)

1. What is your Gender?

Male [   ]

Female [   ]

2. What is your Age Bracket?

a) Under 35 years                      [   ]

b) 35-40 years                            [   ]

c) 41-45 years                            [   ]

d) 46-50 years                            [   ]

e) 51 years and above                    [   ]

3. Indicate the number of years experience in teaching

a) Below 5 years                            [   ]

b) 5-10 years                                [   ]

c) 10-15 years                              [   ]

d) 15-20 years                              [   ]

e) 20 years and above                    [   ]

4. Where applicable indicate the number of years you have served as a school head.

a) Not applicable [ ]

b) Below 5 years [ ]

c) 5-10 years [ ]

d) 10-15 years [ ]

e) 15-20 years [ ]

f) 20 years and above [ ]

5. Indicate your Academic Qualifications

PhD [ ]

Post Graduate [ ]

under graduate [ ]

Diploma [ ]

Others (Specify)

.....  
.....

6. Indicate whether your school has undertaken any infrastructure project in the last five (5) years.

Yes [ ]

No [ ]

If yes (Specify the type of infrastructure project.....

.....  
.....

**SECTION B: (PROJECT MANAGEMENT SKILLS AND PROJECT IMPLEMENTATION)**

7. To what extent do you agree that the following aspects in project management skills of school heads influence the implementation of infrastructure projects in secondary schools in Mathira East sub-county?

**KEY: Use a scale of 1 to 5 where:**

**1-Strongly Dis-Agree 2- Dis-agree 3-Neither agree or dis-agree 4-Agree 5-Strongly Agree**

s/no.	Project management skills and implementation of infrastructure projects	1	2	3	4	5
i	Ability of school heads to offer leadership					
ii	Ability of school heads to Communicate with all stakeholders					
iii	Ability of the school heads to carry out project planning					
iv	Ability of school heads to control and appraise the project activities to ensure they are compatible with the project plans					
v	Ability of school heads to carry out project monitoring and evaluation					

**SECTIONC: (STAKEHOLDER INVOLVEMENT AND INFRASTRUCTURE PROJECT IMPLEMENTATION)**

8. To what extent do you agree that the following aspects of stakeholder involvement influence infrastructure project implementation in secondary schools?

**KEY: Use a scale of 1 to 5 where:**

**1-Strongly Dis-Agree 2- Dis-agree 3-Neither agree or dis-agree 4-Agree 5-Strongly Agree**

S.no.	Stakeholder involvement and implementation of infrastructure projects	1	2	3	4	5
i	Support and training on project implementation offered by MOE to school heads					
ii	Managerial and leadership capacity of school BOM					
iii	Participation of PTAs in terms of financial and expertise support					
iv	Participation of teachers in the implementation of school infrastructure projects					
v	Professionalism and commitment of outsourced					

	contractors					
vi	Involvement and support of school alumni associations					

**SECTION D: (AVAILABILITY OF FUNDING AND INFRASTRUCTURE PROJECT IMPLEMENTATION)**

9. To what extent do you agree that the following aspects of availability of funding influence infrastructure project implementation in secondary schools?

**KEY: Use a scale of 1 to 5 where:**

1-Strongly Dis-Agree 2- Dis-agree 3-Neither agree or dis-agree 4-Agree 5-Strongly Agree

	<b>Availability of funding and implementation of infrastructure projects</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
i	Allocation and disbursement of Government Funding.					
ii	Availability of CDF Funding.					
iii	Availability of County Government Development Funding.					
iv	Availability of Donor Funding.					
v	Availability of Approved PTA development project funds.					
vi	Availability of funding by Alumni Associations.					

**SECTION E: (SCHOOL INFRASTRUCTURE PROJECT IMPLEMENTATION AND TRAINING IN PROJECT MANAGEMENT)**

10. Indicate whether you attended any project management training courses in the last five years?

Yes [ ]

No [ ]

If yes, has your training in project management influenced the following aspects of school infrastructure project implementation in your school?

<b>S.no</b>	<b>School infrastructure project implementation</b>	<b>Yes</b>	<b>No</b>
i	Projects implemented within the stipulated time (schedule)		
ii	Projects implemented within the stipulated cost ( budget)		
iii	Projects resources are utilized to deliver the expected project output(scope)		
iv	Projects satisfy the stakeholders in terms of quality and project specifications(quality)		
v	Project meet stakeholder expectations		

**Thank you.**

## APPENDIX III: QUESTIONNAIRE FOR BOM AND PTA CHAIRPERSONS

Good morning/afternoon Sir/ Madam

This research questionnaire is aimed at establishing **“factors influencing school heads in the implementation of school infrastructure projects in Mathira East sub county, Nyeri County” Kenya**. Information provided will be confidential and will be used for academic purposes only.

**Instructions:** Please answer the questions objectively and truthfully as possible. Do not write your name or that of your school anywhere on your questionnaire. Please tick [√] where appropriate or fill in the required information on the spaces provided. Thank you in advance.

### SECTION A: (DEMOGRAPHIC CHARACTERISTICS)

1. Indicate your gender

Male [ ]

Female [ ]

2. Are you a BOM or PTA chairperson?

BOM [ ]

PTA [ ]

3. Indicate your Age Bracket

(a) Below 20 years [ ]

(b) 20-30 years [ ]

(c) 31-40 years [ ]

(d) 41-50 years [ ]

(e) 51 years and above [ ]

4. Indicate your Academic Qualifications

(a) Secondary Level [ ]

(b) Certificate Level [ ]

(c) Diploma Level [ ]

(d) Under graduate [ ]

(e) Masters Degree [ ]

(f) PhD [ ]

5. Indicate whether you attended any project management training courses in the last five years?

Yes [ ]

No [ ]

6. Indicate whether your school has undertaken any infrastructure project in the last five (5) years.

Yes [ ]

No [ ]

If yes (Specify the type of infrastructure project.....  
 .....  
 .....

**SECTIONB: (PROJECT MANAGEMENT SKILLS PROJECT IMPLEMENTATION)**

7. To what extent do you agree that the following aspects in project management skills of school heads influence the implementation of infrastructure projects in secondary schools in Mathira east sub-county?

**KEY: Use a scale of 1 to 5 where:**

**1-Strongly Dis-Agree 2- Dis-agree 3-Neither agree or dis-agree 4-Agree 5-Strongly Agree**

s/no.	Project management skills and implementation of infrastructure projects	1	2	3	4	5
I	Ability of school heads to offer leadership					
ii	Ability of school heads to Communicate with all stakeholders					
iii	Ability of the school heads to carry out project planning					
iv	Ability of school heads to control and appraise the project activities to ensure they are compatible with the project plans					
v	Ability of school heads to carry out project monitoring and evaluation					

**SECTION C: (STAKEHOLDER INVOLVEMENT AND INFRASTRUCTURE PROJECT IMPLEMENTATION)**

8. To what extent do you agree that the following aspects of stakeholder involvement influence infrastructure project implementation in secondary schools?

**KEY: Use a scale of 1 to 5 where:**

1-Strongly Dis-Agree 2- Dis-agree 3-Neither agree or dis-agree 4-Agree

s.no	Stakeholder involvement and implementation of infrastructure projects	1	2	3	4	5
i	Support and training on project management offered by the MOE to school heads.					
ii	Managerial and leadership capacity of school BOM.					
iii	Participation of PTAs in terms of financial and expertise support.					
iv	Participation of teachers in the implementation of school infrastructure projects					
v	Professionalism and commitment of outsourced contractors.					
vi	Involvement and support of school Alumni Associations.					

5-Strongly Agree

**SECTION D: (AVAILABILITY OF FUNDING AND INFRASTRUCTURE PROJECT IMPLEMENTATION)**

9. To what extent do you agree that the following aspects of availability of funding influence infrastructure project implementation in secondary schools?

**KEY: Use a scale of 1 to 5 where:**

1-Strongly Dis-Agree 2- Dis-agree 3-Neither agree or dis-agree 4-Agree5-Strongly

Agree



	<b>Availability of funding and implementation of infrastructure projects</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
i	Allocation and disbursement of Government Funding.					
ii	Availability of CDF Funding.					
iii	Availability of County Government Funding.					
iv	Availability of Donor Funding.					
v	Availability of Approved PTA development project funds.					
vi	Availability of funding by Alumni Associations.					

**SECTION E: (SCHOOL INFRASTRUCTURE PROJECT IMPLEMENTATION AND TRAINING IN PROJECT MANAGEMENT)**

10. Indicate whether you have attended any project management training courses in the last five years?

Yes [ ]

No [ ]

If yes how has your training in project management influence the following aspect of school infrastructure project implementation in your school?

<b>S.no</b>	<b>School infrastructure project implementation</b>	<b>Yes</b>	<b>No</b>
i	Projects implemented within the stipulated time (schedule)		
ii	Projects implemented within the stipulated cost ( budget)		
iii	Projects resources are utilized to deliver the expected project output(scope)		
iv	projects satisfy the stakeholders in terms of quality and project specifications		
v	Projects meet the stakeholder expectations		

**Thank you.**



14. In what ways are these stakeholders already involved towards school infrastructure project implementation in the sub county?
15. What proposals would you make to these stakeholders to make school infrastructure project implementation success full in Kenya?

**APPENDIX V: FEES STRUCTURE FOR SECONDARY SCHOOLS**

<b>Vote heads</b>	<b>Sub County/ Day Schools (KES)</b>	<b>National, Extra County &amp; County Boarding (KES)</b>	<b>Special Needs</b>
Teaching Learning Materials	4,792	4,792	9,067
BES and Meals/L	0	32,385	32,385
Repairs, Maintenance & Improvement.	1,886	3,192	2,422
Local Travel and Transport	1,833	2,421	2,144
Administration Costs	1,572	3,316	1,900
EWC	3,151	7,802	4,047
Medical	689	786	1,614
Activity Fees	1,256	1,398	1,462
Personal Emolument	5,755	8,672	13,155
Approved PTA Development. Projects	0	0	0
Insurance (Medical & Property)	1,310	1,660	1,614
Total School Fees	22,244	66,424	69,810
Less GOK Subsidy	12,870	12,870	32,600
Total Fees Less Government Funding	9,374	53,553	37,210

Source: MOE, circular number. MOE/ G1 / 1 / 44