INFLUENCE OF FIRE SAFETY PREPAREDNESS ON SUCCESS OF FIRE SAFETY PROJECTS IN PUBLIC SECONDARY SCHOOLS IN NAIROBI COUNTY, KENYA

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NOVEMBER, 2016
DECLARATION

This project is my original work and has not been presented to any other university/institution.

Signature

Date

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D53/CE/24844/2013

This project has been submitted with my approval as the University supervisor.

Signed

Date

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DEDICATION

I dedicate this research project to my loving family and friends for their unwavering support both morally and financially. God bless. Special dedication goes to my husband George and to my children for their unending commitment and incessant inspiration through this endeavour.
ACKNOWLEDGEMENT

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ABSTRACT
The ministry of education recognize fire disasters in schools as a serious challenge to learners’ ability to attain their full potential. Fire safety projects in secondary schools, have been a serious challenge as depicted by the many fire incidences experienced in secondary schools thus the need of combined efforts in establishment of fire safety preparedness mechanisms in all learning institutions in Kenya. The purpose of this study was to establish the influence of fire safety preparedness on success of fire safety projects in public secondary schools in Nairobi County. The study assessed the influence of training, resource mobilization, management team and monitoring and evaluation on success of fire safety projects in Nairobi County. The descriptive research design was used for the study. The study targeted 11 fire safety projects in 11 public secondary schools in Nairobi County. 55 respondents were interviewed in 11 public secondary schools in Starehe Sub-county. The study used semi-structured questionnaires which were administered to the 55 respondents. Quantitative data analysis was done through descriptive statistics such as frequency counts, percentage charts, averages and standard deviation. Qualitative data was analyzed by content analysis of meanings and implications emanating from respondents’ information. The study used regression model to establish the significance to which each independent variable influenced success of fire safety projects. The results were presented in tables and charts. The recommendation made from this study will be of significance to educational policy makers, administrators and researchers at all levels. The findings of the study show that training was actually being carried out; almost half of the respondents admitted that training was taking place in their institutions. However, a considerable proportion of the respondents disputed the kind of training taking place by terming it obsolete and lacked purpose. The findings of the study further show that majority of the respondents admitted that management was actually mobilizing resources from different stakeholders. However, through interviews and opinion responses, the researcher learned that mobilization of resources was not commensurate to the success of the projects in reality. Furthermore, most schools lack the right management as revealed from the respondents. In fact, majority of the respondents disagreed on aspects of management that required respondents to show their level of agreement on whether they existed in their institutions. Monitoring and evaluation happens to be one of the important aspects of project implementation and hence, its success. On average, majority of the respondents agreed that monitoring and evaluation was taking place. However, respondents argued that the process lacked seriousness from the management. The study recommends training of all the staff, management and students on aspects of fire safety; in line with this, the study recommends the ministry of Education to develop a framework that makes training of fire safety programmes especially on practical basis. The study further recommends the government to allocate resources to schools that strictly caters for fire safety projects. The resources should include human resource and physical resources. It is a recommendation of this study that the management team managing fire projects in public secondary schools should be reformed or rather changed completely. Finally, the study recommends that a programme be developed through the aid of the ministry of education that compels the management to carry and report from time to time the strategies they have taken to monitor and evaluate the fire safety projects.
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## ABBREVIATIONS AND ACRONYMS

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<tr>
<td>CCTV</td>
<td>Closed Circuit Television</td>
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<tr>
<td>DREF</td>
<td>Disaster Relief Emergency Fund</td>
</tr>
<tr>
<td>FANDC</td>
<td>Fire Administration National Data Centre</td>
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<td>GOK</td>
<td>Government of Kenya</td>
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<td>MoA</td>
<td>Ministry of Agriculture</td>
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<td>MOEST</td>
<td>Ministry of Education Science and Technology</td>
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<td>MOE</td>
<td>Ministry of Education</td>
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<td>NFPA</td>
<td>National Fire Protection Association</td>
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<td>QASO</td>
<td>Quality Assurance Officer</td>
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<td>TSC</td>
<td>Teachers Service Commission</td>
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<td>USFA</td>
<td>United States Fire Administration</td>
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<td>VIF</td>
<td>Variance Inflation Factor</td>
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OPERATIONAL DEFINITION OF TERMS

Evaluation  A systematic method of collecting, analyzing and using information to answer questions about projects effectiveness and efficiency.

Fire risks  The probability of harmful consequence or expected loss resulting from the interactions between fire hazards and vulnerable conditions.

Management Team  The administration of a group of people assembled to work on a particular or to perform a particular function within an organization.

Monitoring  Routine collection and analysis of information to track progress against set plans and check compliance to established standards.

Preparedness  Are the measures that ensure organized mobilization of personnel, funds, equipments, and supplies within a safe environment for effective response to disaster situations.

Project  An endeavor to accomplish a specific objective through a unique set of interrelated tasks and the effective utilization of resources.

Project Success  This is the achievement of some predetermined goals and objectives.

Project Evaluation  This is an attempt to determine if the overall status and progress of a project is acceptable as compared to the set objectives.

Project Monitoring  This represents an ongoing activity to track project progress against planned objectives.

Resource Mobilization  All activities involved in securing new and additional resources for an organization.

Success  A project that satisfies stakeholder groups, meets functional requirements, meets quality expectations and requirements, within cost, within deadline, delivers sustained and actual benefits and provides the team with Professional satisfaction and learning.

Training  Type of activity which is planned, systematic and it results in enhanced level of skills, knowledge and competency that are necessary for successful project implementation.
CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Projects differ in nature, size, uniqueness and complexity, thus the criteria for measuring success vary from project to project (Muller & Turner, 2007) making it unlikely that a universal set of project success criteria will be agreed (Westerveld, 2003). Project success is measured based on project management performance. A project is acknowledged successful if it is completed within budget and on schedule within a pre specified scope, and if it meets users’ expectations, quality requisites, and technical specifications. Time, cost, and quality are the basis of project performance, but also they are not enough for a fair view of project success (Satankar & Jain, 2015).

According to Dynes and Russell (2002), there is fast growth in urban places of all sizes from small markets to Mega-cities. The increased development interactions increase the risk of fire occurrences as well. Thus, all stakeholders especially users of the buildings need to be well equipped in terms of knowledge on how to prevent and react to fire outbreaks (Dynes & Russell, 2002).

In Kenya, a baseline study was carried out to establish the status of DRR and it revealed that the country is at risk of several hazards and vulnerability. This included droughts, floods, fires and low levels of mitigation (GoK, 2006)
1.1.1. Project Success.

The international community appreciates that fire safety poses a serious challenge in human development and thus the need to develop the way we design and implement projects to enhance safety and disaster risk reduction. It was upon this that World Conference on Disaster Reduction and Mitigation was held in Kobe, Hyogo Japan from 18th to 22nd January 2005. The Conference adopted the 2006 to 2015 Framework for Action with the theme “Building the Resilience of Nations and Communities to Disasters”. The Hyogo Conference provided an opportunity to promote a strategic and systematic approach to reducing vulnerabilities and risks (ISDR, 2005; GoK, 2006).

Worldwide, notable failed fire safety projects have occurred either by negligence or incompetence. In Texas City Refinery explosion occurred due to negligence injuring over 100 and killing 15 people (NFPA, 2012). In September 2012, 289 people died in fire at the Ali Enterprises garment factory in Karachi, Pakistan which makes ready ready-to-wear clothing for Western export. A similar fire incident occurred in November 24, 2012 in Dhaka Tasreen Fashions fire killing at least 112 people. In April 17, 2013 an explosion occurred at the West Fertilizer Company storage and distribution. This is pointing to the fact that fire safety projects have not been successful in Europe, Asia and North America despite the mitigation measures in place.

In South Africa, the Safe Schools Project was launched in 2000 to create safe and disciplined learning environments. This project is a national initiative by the Education Department to promote safety at schools and involves surveillance of violence and injury at schools, develops discipline and behavior codes and provides learner training and after school safety activities (Rika, 2008). In Rwanda, the Ministry of Education developed a policy document
that outlines the schools infrastructure standards expected to be met by all schools (Hirano, 2009).

A study in Nigeria by Makanjuola et al (2009) on the importance of fire safety preparedness through training for occupants of premises is demonstrated. This research focused on the assessment of the level of fire safety provisions in buildings and associated safety awareness of users and occupants. The study considered a number of scenarios that would affect the success or otherwise of fire safety projects.

Fires have contributed to the toll of manmade disasters in Kenyan Schools with varying losses of property and life. To mention a few cases of fire incidents, a fire blaze in 1998 killed more than 20 schoolgirls in a locked dormitory at Bombolulu Secondary School in Mombasa County. At Kyanguli Secondary School in Machakos County, fifty-eight learners were burned to death. In June 2001, 114 boys were left affected when a fire broke out at Nakuru Boys High School in Nakuru County destroying property worth Sh10 million including a dormitory, a dispensary and staff quarters, (Tonui, 2009).

Examples of these fires include the 2001, fire at the Free Market at Uhuru Park Nairobi which razed down the entire market with merchandise worth millions of shillings destroyed. In February 2012, fire ravaged Mt Kenya forest and consumed bamboo trees in Chogoria and Chuka whose value was estimated to be more than 8 billion Kenya shillings (Ihure, 2012).

In Kenya the School Safety Policies as indicated in the Ministry of Education Circular No.G9/1/169 (Republic of Kenya, 2001) requires that drills should be held at least twice a year in all Kenyan schools in order to make them aware of the students aware of the
emergency exits and also prepare them for evacuation in case of fire outbreak. However, according to analysts, Kenya’s failure to put in place a comprehensive fire disaster management projects means its response to high-risk events of fire disasters will remain slow, poorly coordinated and unnecessarily expensive. They recommend that there should be national fire disaster laws to be followed accompanied by actions to be meted on those who break them (Gicheru, 2011). To ensure success of fire safety projects, an enhanced understanding of the factors critical for project’s success becomes fundamental (Belout & Gauvreau, 2004).

1.1.2. Fire Safety Preparedness in Secondary Schools and Project Success

Safety of students in school is a matter of concern to all governments in the world. All organizations and institutions of learning have safety measures put in place. Learning institutions are viewed as havens of peace for learners by many, but in the past few years there has been reported increase in the number of tragic incidences in public secondary schools in Kenya. The resultant trauma, injury loss of lives and property are attributed to failure by schools to strictly implement the safety projects. The successful implementation of fire safety projects will reduce or eliminate injuries and deaths in schools caused by fire accidents (Siringi, 2004).

Fire disasters in schools are a source of concern in all parts of the world. This results to enormous losses of lives, property, development initiatives and threats to students’ safety (FANDC) in the USA reported that Africa, Asia and South America have recorded large death tolls related to school fires due to their lack of inspection units (FANDC, 2007).
In Kenya, an attempt has been made to make schools safe zones by the Ministry of Education by coming up with a school safety policy in 2008. The school safety policy includes: requirements that Head teachers should reside in school so that in case of emergency he/she is able to assist, other teachers where possible should also reside in school. Fire safety awareness should be created in learning institutions. Training should be carried out on how to prevent and respond on fire safety emergencies. Adequate Fire fighting equipments should be provided. Fire drills should be held at least twice every term to improve preparedness (GoK, 2003). Schools' projects implementers should allocate adequate funds to enhance fire safety projects to meet the acceptable standards.

Effective monitoring and evaluation of projects should be carried out by competent and trained staff in order to ensure compliance with the law and agreed standards, (GoK, 1999).

The Kenya Red Cross Society (KRCS) observes that secondary schools are vulnerable to disasters because of lack of specialized training such as fire drills among other factors (GOK, 2008). According to USFA (2007), fire drills are the largest contributing factor to the safety of the students. Omuterema (2009) study on ‘Mega stores fire preparedness, response and mitigation’ found out that ignorance and lack of appropriate training for staff on fire safety and response is a major contribution to fire tragedies. Ignorance about scale of negative impact once the fire disaster occurs is also contributory to negligent or casual approach to fire disasters. This ignorance has led to fire disasters in schools.

According to Kukali (2009), lack of basics about fire safety issues or on how to react in event of fire disaster is to blame for the large number of casualties experienced. Basic fire
emergency drills to workers or students are often taken for granted to the extent that in event of fire very few workers or students may know what to do. On the other hand, some employees who are first to spot the fire burning could be too frightened, and may choose to run away instead of raising alarm. Basic training on the use of firefighting equipment and other lifesaving skills in event of fire disaster must be regularly done. In most Kenyan schools this kind of training is not given. Teachers and learners may be told what to do generally in case of fire but its practicality is rarely done. This implies that fire disaster risk reduction in secondary schools is still poor.

1.1.3 Fire Safety Projects in Nairobi County, Starehe Sub-county

The Government of Kenya (GoK) through the Ministry of Education has been involved in a number of initiatives in trying to ensure the safety within the schools for conducive learning environment. One of such initiatives is the setting up of fire safety projects in all learning institutions (MOEST, 2008). Safety is a crucial component in all learning institutions to ensure smooth teaching and learning process. Smooth teaching and learning cannot take place in an environment that is unsafe and insecure to both learners and staff. It is therefore important that the implementers of fire safety projects foster safe and secure school environment to facilitate increased learners enrolment, retention, completion resulting to quality education (GoK, 2008).

Nairobi County is located one of the forty seven counties in Kenya. It consists of seventeen sub counties. Starehe sub-County is one of the sub counties in Nairobi County. It consists of central and a north area of Nairobi County. The entire constituency is located within Nairobi City Council area.
According to the Ministry of Education (MOEST, 2015) Starehe Sub County in Nairobi County have 11 public secondary schools some of which are top performers in the national examinations. The sub county has about 376 secondary school teachers some of whom have training in their areas of specialization.

In Nairobi county fire safety projects implementation is not as required by the Ministry of Education school safety policy. The fire safety preparedness projects in most of the schools are not up to the required standards due to inadequate resources and insufficient training, (GoK, 2005). The existence of this gap necessitates research on fire safety preparedness influence on success of fire safety projects in public secondary schools in Nairobi County.

1.2 Statement of the Problem

In Kenya, reports on lack of safety in learning institutions have been featuring prominently. This made the Government to prepare a safety and standards manual (MOEST, 2008) to create safer schools. Despite the Government’s efforts, fire safety projects are still facing challenges resulting to loss of life and property through fire incidences. In Nairobi County, fire safety projects don’t meet the requirements by the Ministry of Education school safety policy (MOEST, 2008). Equitable and sustained agricultural growth is critical to uplifting the living standards of people and generating rapid economic growth. (MoA, 2011). There are numerous research studies done in Kenya on the safety in schools but focused different aspects other than specifically looking into influence of fire safety preparedness on implementation of fire safety projects in public secondary schools. Wainaina (2012) did a study on safety measures in secondary schools
in Kikuyu district, Kiambu County Kenya. The study established that lack of funds and capacity building were major barriers principals faced in implementation of safety policy. The study observed that safety policy implementation requires major modifications of the existing buildings, acquisition of safety equipments such as fire-fighting equipment and fitting besides capacity building for school community.

Omolo and Simatwa (2010) study of the assessment of the implementation of safety policies in public secondary schools in Kisumu East and West Districts, Kenya revealed that 86.67 percent of head teachers decried inadequate funds, 26.67 percent lack of skills and 6.67 percent poor coordination from the MOE regarding safety policy issuance. The study further established that 100 percent of QASOs cited lack of cooperation from head teachers and negative perceptions towards QASOs’ assessment and Monitoring and Evaluation reports. Gichuru (2013), in a study effects of training on fire disaster reduction, observed that fire fighting equipments were not enough in most public secondary schools in Nyeri. Principals, teachers and students were not trained in fire disaster risk reduction. Most of the secondary schools did not have fire safety plans and buildings were not in accordance to the Safety Standard Manual requirements by the Ministry of Education (2008).

Masese (2009) also noted that the high cost of fire fighting equipments was the reason why North Rift schools did not install fire safety equipments. Despite these studies, fire safety projects in Kenyan secondary schools have not been successful. Kenyan secondary schools have continued to have frequent fire occurrences. Asumbi Girls Boarding Primary School (2012), Embakasi Girls Secondary School (2015), Stephjoy Boys’ High
school in Kiambu County (2015), Dagorett High school in Nairobi County, July 2015, Kabianga High school in Kericho County, May 2015 and Jaribuni Boys’ High school in Kilifi High County have had fire incidences where properties have been razed down and loss of life in some of the schools. This study focused on the influence of fire safety preparedness and the success of fire safety projects in Nairobi County.

1.3 General Objective

The general objective of this study was to establish the influence of fire safety preparedness on success of fire safety projects in public secondary schools in Nairobi County, Kenya.

1.3.1 Specific Objectives of the study

The study aimed at achieving the following specific objectives:

i. To determine the influence of training on the success of fire safety projects in public secondary schools in Nairobi County, Kenya.

ii. To evaluate the influence of resources mobilization on the success of fire safety projects in public secondary schools in Nairobi County, Kenya.

iii. To assess the influence of management team on success of fire safety projects in public secondary schools in Nairobi County, Kenya.

iv. To determine the influence of monitoring and evaluation on success of fire safety projects in public secondary schools in Nairobi County, Kenya.
1.4 Research Questions

The study sought to answer the following research questions:

i. What influence does training have on success of fire safety projects in public secondary schools in Nairobi County, Kenya?

ii. What influence does resources mobilization have on success of fire safety projects in public secondary schools in Nairobi County, Kenya?

iii. What is the influence of management team on success of fire safety projects in public secondary schools in Nairobi County, Kenya?

iv. What is the influence of monitoring and evaluation on success of fire safety projects in public secondary schools in Nairobi County, Kenya?

1.5 Significance of the study

The study envisioned to create awareness and aid in the success of fire safety projects to a number of stakeholders in the education sector. The study will sensitize the principals in Nairobi County on influence of fire safety preparedness on the success of fire safety projects in the schools. The study will also aid the MOEST and T.S.C to develop policy on fire safety preparedness for teachers and principals on fire safety to ensure successful implementation of fire safety projects. The study will aid Kenya Education Management Institute, Kenya Institute of Curriculum Development, the universities and the Teacher Training Colleges to ensure fire safety projects are successful. This research project might act as a sound basis and foundation on which other scholars can conduct further research on the area of the influence of fire safety preparedness on success of fire safety projects in other institutions and companies.
1.6 Scope of the Study

The study sought to establish fire safety preparedness influence on success of fire safety projects in public secondary schools in Nairobi County, Kenya. To achieve this objective the study focused on training, resource mobilization, management team and monitoring and evaluation in public secondary schools in Nairobi, County, Kenya. The study targeted 11 fire safety projects in 11 public secondary schools with a population of 55 respondents in the 11 public secondary schools in Nairobi County, Kenya, who provided data to be analyzed.

1.8 Limitations of the Study

The study faced limitations emanating from the respondents unwillingness to disclose some information they considered confidential. However, the study overcame this limitation by explaining to them the purposes of the study. They were assured that the findings were to be used for the purposes of the study only and not for the evaluation of their personal performance. Respondents were assured that the information provided was to be treated with utmost confidentiality and for the purposes of the study only. The respondents also cited issue of lack of time which was solved by allowing them to retain the questionnaires for some days and collected later. The researcher established a good relationship with the respondents. The respondents may cite lack of time.

1.9. Organization of the Study

The study was organized into five chapters. Chapter one forms the introduction part of the study, which includes the background to the study, statement of the problem,
objectives of the study, research questions, significance of the study, scope of the study, assumptions of the study, limitations of the study and organization of the study.

Chapter two entails the literature review. It has been reviewed under the following subheadings: theoretical review, empirical literature and research gaps identification.

Chapter three describes the research methodology used. This includes research design, target population, sample size and sampling techniques, data collection instruments, pilot testing, testing of validity and reliability of instruments, data analysis techniques and ethical considerations.

Chapter four entails data presentation, analyses and interpretation. This includes response rate, demographic, gender, age, position held, education level, position held, dependent variables and independent variable and research methodologies.

Chapter five includes summary of the findings, conclusions and recommendations of the study.
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter covers the theoretical review, theoretical framework, empirical studies and conceptual framework which give the relationship between strategies used and success of fire safety projects in public secondary schools in Nairobi County.

2.2 Theoretical Review

2.2.1 System Theory

The systems theory is a method of organizing the interaction between component parts of a larger organism, the theory seeks to organize information rather than explain observations (Boulding, 2004). A system is an organized whole consisting of various components that interact in a way distinct from their interaction with other entities and which lasts over a given period of time (Anderson, Lowe & Carter, 1999). According to Brandell (2010) systems theory enables us to understand the components and dynamics of client systems in order to interpret problems and develop balanced intervention strategies so that the “goodness to fit” between individuals and their environments is maintained.

According to Tao and Tan (2013) the behaviour of specific complex systems relies on how the components interact and how they relate to each other. This helps in understanding fundamental structure of various systems applying similar underlying
issues. In projects the fundamental factors are similar for project managers, project teams, funding agencies, consumers, time, budgets and communication practice. The way in which these factors relate with each other is what makes a project special and unique with its own dynamics.

Kishore, Abraham and Sinfield (2011) state that the individuals who have taken part in projects appreciate that impacts take longer time to clearly be noted and mostly small causes can have great influence on the people and project itself. Human issues such as the motivation of project members and the clients’ satisfaction are all vital factors in this phenomenon. Insufficient communication can lead to disagreements and slow collapse of the project.

Even though great weight is laid on controlling technical hitches in projects, the actual causes of the project malfunctions are mostly as a result of human and information issues. Considering general complex projects, it is clear that most of the rules that describe any complex system are also relevant to projects (Kishore et al., 2011).

Haslett and Sankaran (2009) state that project managers are dealing with complex systems defined by numerous stakeholders, nonlinearities, multiple interdependencies and feedback systems. Typical nonlinearities are often unanticipated changes in the scope of the project, dismissal of key project members or termination of project funding arrangements while interdependencies are the relationships between project team, stakeholders, clients, contractors and suppliers. The feedback systems are rework cycles, progress updates and performance reviews (Haslett & Sankaran, 2009).
In the schools various parties for example teachers, non-teaching staff, students and parents, should work together by pooling resources. This may include joint training and fire safety committees as they all continually affect each other and operate towards a common purpose. The theory presupposes that the organization may fail to achieve the desired goals because of difficulties in interaction and coordination. For example, in a situation of panic, coordination of the rescue operation will be made difficult and as such the working condition is disrupted (Librera, Bryant & Martz, 2004).

Fires outbreaks are known to disrupt almost all the equilibrium, implying that the human being have to devise measures of controlling excessive distortion or surviving the disaster effects (UNDP, 2007). There is therefore the need to have all appropriate fire outbreak prevention and recovery strategy in schools. The management team must therefore ensure that the systems of the organization are well coordinated. This study was based on this theory to establish fire safety preparedness influence on success of fire safety projects in public secondary schools in Nairobi County.

2.2.2 Theory of Constraints

This study was based on theory of constraints by Goldratt (1990). This theory has been applied to production planning, production control, project management, performance measurement as well as in not for profit facilities (Blackstone, 2010). Theory of constraints helps in identifying the most important bottleneck in the processes and systems for the purpose of improving performance. Theory of constraints is based on the fact that there is most often only one aspect of that system that is limiting its ability to achieve more of its goals. For any system to attain any significant improvement that
constraint must be identified and the whole system must be managed with it in mind. This theory is based on five steps which include; identify the system constraints; decide how to exploit the system constraints; subordinate everything else to the above decision; elevate the system constraints; and if in the previous steps a constraint has been broken, go back to the first step, and do not allow inertia to cause a system’s constraint (Rand, 2000).

All projects are managed by focusing on the delivery of the tasks that make up the project, in the belief that if these tasks are done on time, the project will be completed within the scheduled time frame. Apparently, the long established strategy of focusing on task completion does not seem to work too well due to a variety of reasons.

To ensure project success, project managers need to be continually on the lookout for critical constraints and identify opportunities where constraints can be removed or mitigated. The projects which entail high levels of complexity and uncertainty, where traditional project management techniques have been found lacking, and are therefore more susceptible to failure (Kapsali, 2013). Project managers should therefore, identify and manage constraints in all phases of the project and aim to reduce the levels of complexity and uncertainty, in order to minimize the potential for delays, cost blow outs, scope creep and poor quality. The secret to success lies in managing these constraints and the system as it interacts with these constraints, to get the best out of the whole system (Tulasi & Rao, 2012). Parker, Nixon and Harrington (2012) adds to this, suggesting that removal of the key constraints frees up substantial capacity and removes wasteful costs. The Theory of Constraints as a process of continual improvement encourages project
managers to identify constraints at each stage of the project and implement measures to address these constraints (Parker, Nicholas & Isharyanto, 2015). Theory of Constraints help the management team in identifying the most important bottleneck in the process and systems for the purpose of improving fire safety projects in secondary schools in Nairobi County.

2.2.3 Program Theory

Program theory by Bickman (1987) deals with the assumptions that guide the way specific programs, treatments, or interventions are implemented and expected to bring about change (Donaldson, 2001). Program theory is concerned with how to practice evaluation; program theory focuses on the nature of the program, treatment, intervention and policy being evaluated. In evaluation practice today, program theory is defined as the construction of a plausible and sensible model of how a program is supposed to work (Bickman, 1987); a set of propositions regarding what goes on in the black box during the transformation of input to output, that is, how a bad situation is transformed into a better one through treatment inputs (Lipsey, 1993). The process through which program components are presumed to affect outcomes and the conditions under which these processes are believed to operate (Donaldson, 2001).

Rossi (2004) describes program theory as consisting of the organizational plan which deals with how to garner, configure, and deploy resources, and how to organize program activities so that the intended service system is developed and maintained. The theory also deals with the service utilization plan which looks at how the intended target population receives the intended amount of the intended intervention through interaction.
with the programs service delivery system. Finally, it looks at how the intended intervention for the specified target population brings about the desired social benefits (impacts).

Rogers, as cited by Uitto (2000) identifies advantages of the theory based framework to monitoring and evaluation to include being able to attribute projects outcomes to specific projects or activities and identify unanticipated and undesired programme or project consequences. Theory based evaluations enable the evaluator to tell why and how the programme is working, Weiss, (2003) and Birkmayer & Weiss, (2000).

Monitoring ensures that implementation is moving according to plans and if not, the project manager takes corrective action. Monitoring enhances project management decision making during the implementation thereby increasing the chances of good project performance Crawford & Bryce, (2003). It also facilitates transparency and accountability of the resources to the stakeholders including donors, project beneficiaries and the wider community in which the project is implemented. Monitoring tracks and documents resources are used throughout the implementation of the project Passia (2004) and Uitto (2004).

Evaluation assesses project effectiveness in achieving its goals and in determining the relevance and sustainability of an on-going project, McCoy, (2005). It compares the project impact with what was set to be achieved in the project plan, Shapiro (2004). Evaluations are mainly of two types depending on when they take place. These are formative and summative evaluations. Formative Evaluation is concerned more with
efficient use of resources to produce outputs and focuses on strengths, weakness, and challenges of the project and whether the continued project plan will be able to deliver the project objectives or it needs redesigning, Passia, (2004). Formative evaluations are sometimes called interim or midterm evaluations. Summative evaluations are carried out at the end of the project and aims at determining how the project progressed, what went right and wrong and capture any lessons learned Shapiro, (2004).

Wellings and Macdowall, (2000) identify two types of summative evaluation is geared towards guiding future projects by facilitating organizational learning by documenting good practices and mistakes. Outcome evaluation is concerned with extent to which the set objectives were achieved and how we can attribute the role of project to the outcomes.

In order to carry out monitoring evaluation effectively; there are some critical factors that must be taken into account. These include use of relevant skills, sound methods, adequate resources and transparency, in order to be a quality Jones (2009). The resources here include skilled personnel and financial resources. Programme theory help the management team to identify some critical factors that must be taken in to consideration in order to carry out monitoring and evaluation of fire safety projects in secondary effectively.

2.2.4 Stakeholders Theory

Stakeholder theory by Freeman (1998) is a theory of organizational management and business ethics that addresses morals and values in managing an organization. A Stakeholder Approach identifies and models the groups which are stakeholders of a corporation, and both describes and recommends methods by which management can
give due regard to the interest of the groups. In traditional view of a company, the
shareholder view, only the owners or the stockholders of the company are important and
the company has fiduciary duty to put their needs first, to increase the value for them.
Stakeholder theory instead argues that there are other parties involved including
employees, customers, suppliers, financiers, local communities, government bodies,
political groups and trade unions. Competitors are equally counted as stakeholders
because they have the capacity to affect the firm and its stakeholders.

Donaldson and Preston (2005) argue that stakeholder theories have grown in number and
type since the term stakeholder was first coined in 1963. According to Freeman (1998)
whose work in stakeholder theory is well known, the stakeholder concept was originally
defined as including the participation those groups without whose support the
organization would cease to exist. As part of management theory and practice,
stakeholder theory takes a number of forms. Descriptive stakeholder theory assumes that
managers who wish to maximize their firms’ potential will take broader stakeholder
interests into account (Fontaine et al, 2006). Normative stakeholder theory discussed how
corporations ought to interact with various stakeholders (Friedman, 2006). Stakeholder
Theory enables the managers of fire safety projects in secondary schools to recognise
everybody who is involved in fire safety projects, which partly contributes to successful
fire safety projects.
2.3 Empirical Literature

2.3.1 Training and Project Success

In a study by Warui (2013) on impact of training on project management effectiveness among secondary schools principals in Kirinyaga District, Kenya. Secondary schools principals are looked at as project managers, expected to plan, implement, manage, maintain and evaluate the entire education system: physical facilities, human resource, students, financial inputs and the curriculum (MOEST 2008). As such, there is need for adequate training of school heads and other stakeholders in safety preparedness and project management. The study sought to find the impact project management training of secondary school principals has on success of school projects. A survey among secondary principals established that training plays a great role in the management of projects. However, secondary schools are still facing project management challenges.

A study by Odhiambo (2005) on influence of training on schools' projects success revealed that most principals had not received adequate training. The study was set to establish the influence of management training on the success of schools' projects. A survey on the secondary school principals, cited lack of adequate training, affected principals to a great extent in controlling projects. If this has been taken in to consideration, it means there are other factors contributing to unsuccessful projects as reflected by the unsuccessful fire safety project.

Mburu (2008) conducted a study on the viability of Youth Enterprise Development Fund Project as an empowering tool for youth entrepreneurs for youth informal sector in Ruiru Division, Kiambu County. A survey on youth entrepreneurs established that 81 percent of
the respondents had some basic training in learning the business and they felt that they needed more training in management of projects. Resources were available but youth projects were still unsuccessful.

Macharia (2010) Study on Fire Safety Management in Government Buildings in Nairobi County. The study assessed fire safety management in government buildings. A survey on the government employees found out that 38 percent of the respondents had no basic training on fire safety. Less than 50 percent had participated in fire drills and 88 percent of the respondents claimed to know how to behave in case of fire outbreak. The study recommended that all the stakeholders to undergo fire safety training.

Moses et al (2012) study on fire safety management in government training institutions. A survey on various stakeholders found out that 52 percent of those involved had participated in fire drills. 92 percent confirmed availability of fire fighting tools in the institutions while 84 percent confirmed that the fire fighting equipments are well placed. Fire incidences continue to be experienced.

Thus, the study sought to establish influence of fire safety preparedness on the success of fire safety projects in Nairobi County.

2.3.2 Resource mobilization and Project Success

Availability of resources is considered to be a factor necessary for the successful completion of projects. Kogi (2013) points that amongst the basic conditions for smooth project activity operations without stoppages and unnecessary disruption, is regular and sufficient funding of the project. Gichuru (2013) study on Fire Disaster Preparedness
Strategies in Secondary Schools in Nyeri Central District, Kenya. This study sought to investigate fire disaster preparedness in high schools. Sampling technique was employed and it was observed that in most public secondary schools in Nyeri Central District fire fighting equipment were not enough, the principals, teachers and students were not trained in fire disaster risk reduction, most secondary schools did not have fire safety plans and most of the secondary schools did not build the school buildings in accordance to the Safety Standard Manual requirements by the Ministry of Education (2008). Fire incidences still become one of the serious challenges facing secondary schools’ managers.

Fagan and Mihalic (2003), through work done by the University of Colorado at Boulder’s Center for the Study and Prevention of Violence identified some key implementation factors. The factors identified such as school readiness, allocation of financial, and human resources and time have the same impact in other countries in the process of implementing of safety projects. Funds are required for the purchase of fire extinguishers, first aid kits, installation of CCTV Cameras, alarm and intruder systems.

Kukali’s (2010) study on evaluation of the state of fire safety policy implementation in Girls’ Boarding secondary schools in Bungoma. The study sought to establish the importance of evaluation of implementation of fire safety policy. The study found that financial resources and its management were the factors influencing implementation of safety policy in secondary schools. The category of teachers and QASOs argued that funds may be adequate but management was wanting. The study did not capture training of the stakeholders on fire safety measures.
This study established the influence of fire safety preparedness on the success of fire safety projects in Nairobi County, Kenya.

2.3.3 Management Team and Project Success

Effectiveness of project management team has been linked to the success of the project (Hyva’ri, 2006). The connection between project success and project manager’s performance has also been established (Rahman, 2008. Zimmerer & Yasin (1998) found that positive leadership contributed about 76 percent to the success of projects. Negative or poor leadership contributed 67 percent to the failure of projects (Kahn & Nauman, 2008). Crises occur in certain degrees of severity and time when the crisis can occur cannot be predicted. When there are crisis, calm, responsibility and pro activity are important for effective management of the crisis. Schools should no longer believe that crisis situations only happen to others. They must prepare to manage crisis situations. All the necessary decisions to contain the crisis cannot be made on the day of the occurrence of the crisis (Decker 2007)

Ogbeide and Harrington (2011) study on the relationship among participative management style, strategy implementation, success and financial performance in the food service industry. The study was done in United Stated of America. The study found out that there were low levels of participation in decision making and planning. Small firms are likely to use an approach with greater participation than larger firms.

Wainaina (2012) study on safety measures in secondary schools in Kikuyu district, Kiambu County Kenya. The study focused on the measures taken in secondary schools to
enhance safety. The study established that lack of funds and capacity buildings were the major challenges principals faced in implementation of safety policy. The study observed that safety policy implementation requires major modifications of the existing buildings, acquisition of safety equipments such as fire-fighting equipment and fitting. Capacity building is also a requirement for school in Kiambu. The study did not capture management team and monitoring and evaluation as a contributing factor to safety.

Ntheya (2011) study on the effect of management leadership on the success of school safety projects. The study sought to determine the effects of management leadership style on successful school safety projects. Descriptive statistics found out that 20 percent of the schools had constituted safety sub-committees. The principals and deputy principals did not serve as secretary or member of the sub-committee respectively as it is the requirement by MOE Safety Standards policy on safety projects implementation. The study observed that buildings in the schools in the study area were not of the required standard by MOE Safety Standards policy. The study did not look at other factors contributing to success of school safety projects.

This study sought to determine the influence of fire safety preparedness on the influence of the success of fire safety projects in Nairobi County, Kenya.

2.3.4 Monitoring and Evaluation and Project Success

Monitoring and evaluation is concerned with systematic measuring of variables and processes over time. Management and evaluation is an important instrument for the management of schools' projects and employs quantitative and qualitative measurement
tools (World Bank 2004). This contributes to improving the implementation of projects by enabling continuous feedback of their performance allowing for identification of problems as they arise. Monitoring and evaluation of project improves overall efficiency of project planning, management and implementation (Jaylor & Taylor, 2003).

Management of fire safety projects is a continuous process where all the phases of the plan are reviewed and revised constantly. Good plans do not get finished but are updated based on research, new experience and changing vulnerabilities (Kennedy 2004).

Monitoring and evaluation of school safety projects should be a continuous exercise. It is also understood that monitoring and evaluation of projects is fundamental if the project objectives and success is to be achieved. Monitoring and evaluation are essential components of the school safety programme, MOE (2008).

Omolo and Simatwa (2010) study on the assessment of the implementation of safety policies in public secondary schools in Kisumu East and West Districts, Kenya. The study assessed whether implementation of safety policies was taking place in secondary schools. A survey was carried out and revealed that head teachers decried inadequate funds, lack of skills and poor coordination from the MOE regarding safety policy issuance. The study also found out that QASOs cited lack of cooperation from head teachers and negative perceptions towards QASOs’ assessment and Monitoring and Evaluation reports. The study did not take in to consideration the effects of lack of proper implementation to the projects undertaken in secondary schools.

Nderitu (2009) study on monitoring and evaluation and successful implementation of safety projects in secondary schools in Kiambu secondary schools. The study sought to
establish the influence of monitoring and evaluation on the success of safety projects in secondary schools. Sampling technique was used to collect data. The study found out that, all the principal respondents were aware of MOE Safety Standards, but did not implement the Safety Standards on the safety projects in their schools. Secondary schools are still experiencing fire outbreaks. The study therefore established the influence of fire safety preparedness on success fire safety projects in public secondary schools in Nairobi County, Kenya.

2.4 Summary of Reviewed Literature and Research Gaps

Table 1: Cited Literature and Identified Gaps

<table>
<thead>
<tr>
<th>Author</th>
<th>Study title</th>
<th>Findings</th>
<th>Research gap</th>
</tr>
</thead>
<tbody>
<tr>
<td>Odhiambo (2005)</td>
<td>Influence of training on schools project success</td>
<td>Lack of adequate training</td>
<td>Influence of monitoring and evaluation on project success</td>
</tr>
<tr>
<td>Author(s) (Year)</td>
<td>Topic</td>
<td>Findings</td>
<td>Influence</td>
</tr>
<tr>
<td>------------------</td>
<td>----------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Nthenya (2011)</td>
<td>Effects of management leadership on the success of schools safety projects</td>
<td>Management team did not involve stakeholders to success of schools safety projects</td>
<td>Influence of resources and training on the success of schools safety projects</td>
</tr>
<tr>
<td>Ogbeide and Harrington (2011)</td>
<td>Relationship among participative management style, strategy implementation and finances in the food service industry</td>
<td>Low levels of participation in decision making and planning</td>
<td>Influence of monitoring and evaluation on project success.</td>
</tr>
<tr>
<td>Wainaina (2012)</td>
<td>Safety measures in secondary schools</td>
<td>Lack of funds and capacity building were the barriers to implementation of safety policy</td>
<td>Influence of monitoring on implementation of safety policy</td>
</tr>
<tr>
<td>Warui (2013)</td>
<td>Impact of training on project management effectiveness among secondary schools principals</td>
<td>Need for adequate training</td>
<td>Influence of resource mobilization on project management effectiveness</td>
</tr>
<tr>
<td>Author</td>
<td>Study Title</td>
<td>Findings</td>
<td>Recommendations</td>
</tr>
<tr>
<td>--------------</td>
<td>----------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Gichuru (2013)</td>
<td>Effects of training on fire disaster reduction in secondary schools in Nyeri</td>
<td>Stakeholders not trained in fire disaster risk reduction</td>
<td>Influence of fire safety preparedness in fire safety projects</td>
</tr>
<tr>
<td>Kukali (2010)</td>
<td>Evaluation of the state of fire safety policy implementation in Girls’ boarding secondary schools in Bungoma.</td>
<td>Financial resources and management factors influenced implementation of safety policy.</td>
<td>Monitoring and evaluation and training have not been captured in the implementation of safety policy.</td>
</tr>
<tr>
<td>Macharia (2010)</td>
<td>Fire safety management in Government Buildings in Nairobi County.</td>
<td>Most of those in management did not have training in fire safety.</td>
<td>The study did not focus on other factors contributing to fire safety.</td>
</tr>
</tbody>
</table>
2.5 Conceptual framework

The conceptual framework was based on the independent and the dependent variable as illustrated in figure 2.1. The independent variables are training, resource mobilization, management practices and monitoring and evaluation. What the structural model indicates is that the independent variables have implication on success of fire safety projects. According to the conceptual framework, success of fire safety projects is influenced by strategies used. The dependent variable is success of fire safety projects in public secondary schools.
Independent variables

Training
- Number trained
- Frequency
- Level of training
- Relevance

Resources mobilization
- Budget allocation
- Adequacy
- Source of funds
- Utilization

Management Team
- Leadership style
- Management skills
- Stakeholders involvement

Monitoring and Evaluation
- M&E tools used
- Frequency of M&E
- Participation
- Frequency & mode of feedback

Project Success
- Timeliness
- Cost-effective
- Objective-bound
- Goal achievement
- Project sustainability

Fig. 2.1: Conceptual framework

Source: Researcher (2016)
CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter focuses on research design for the study, the target population, the research instruments, pilot study, validity of research instruments, reliability of research instruments, data analysis and technique procedures, and ethical considerations in the research.

3.2 Research Design

According to Kothari (2004), a research design is a framework that guides the research procedures in data collection and analysis. The selection of an appropriate research design is very important since it is the plan through which answers to the question under study can be obtained and challenges in data collection addressed Polit and Beck (2004). The researcher employed a descriptive survey research design in order to establish the influence of fire safety preparedness on success of fire safety projects in public secondary schools in Starehe Sub-county and address the research question and achieve the set objectives.

The descriptive research design was preferred because it does not try to manipulate or control the study variables hence increasing the reliability of obtained results (Kelley, Clark, Brown, & Sitzia, 2003).
3.3 Target population

According to Creswell (2008) population is an entire group of individuals or objects having common observable characteristics. The target population defines those units for which the findings of the survey are meant to generalize (Dornyei, 2007). The study targeted 11 fire safety projects in 11 public secondary schools in Starehe Sub-county, Nairobi County. A total of 55 persons comprising of 11 boarding mistresses/masters, 11 academic senior teachers, 11 academic deputy principals, 11 principals and 11 BOM chairpersons currently in 11 public secondary schools in Starehe Sub-county were the study respondents. A list of schools (Appendix D) is attached. (Starehe sub-county Education office, 2015).

3.4 Sampling Design

The study employed census sampling design, where all the projects in the 11 public secondary schools in Starehe Sub-county were sampled. According to Kothari (2004), census design is convenient when the target population is small and manageable by the researcher. The choice of the design enabled the researcher to reduce selection bias that normally arises during sampling.

3.5 Data Collection Instrument

In this study, primary data was collected using semi-structured questionnaire because it is cost effective. Additionally, they are convenient to collect and summarise responses (Zikimond, 2003). McMillan & Schumacher (2001) recommend a questionnaire if the researcher knows that the respondents were in a position to answer questions in the
questionnaire. The questionnaire was divided into six parts. Part A of the questionnaire capture background information on the respondents while part B will capture training, Part C captured resource mobilization, Part D will capture management team, Part E will capture monitoring and evaluation and Part F will capture success of fire safety projects.

3.6 Pilot Testing

Kruger, Mitchell and Welman (2007) outline the reasons for pilot study as; to detect possible flaws in measurement procedures that may include, ambiguous instructions, inadequate time limit to identify ambiguously formulated items, to realize nonverbal behaviour on the part of the respondents. Before the questionnaires were administered to the respondents, a pre-test of the questionnaires was carried out. Mugenda & Mugenda (2003) recommend that the number in the pre-test should be small involving 1-10 percent of the sample. Pilot testing involved 10 respondents from public secondary schools in the neighboring Kamukunji sub-county, Nairobi County.

3.6.1 Validity of the Research Instrument

Validity is the degree in which a data collection instrument measures what it is intended to measure and not something else (Sekaran & Bougie, 2009. The pre-test of the questionnaires guided the researcher in modifying and improving the research questionnaires. In order to ascertain content and face validity the questionnaires were shared with three experts in the academic area related to the study for scrutiny and advice. The contents and impressions of the questionnaire were subsequently improved based on the experts' advice and comments. Validity in this case implied that the instruments pre-tested obtained information that was expected by the researcher.
3.6.2 Reliability of the Research Instrument

Reliability refers to the consistency and stability with which an instrument measures and supplies consistent results (Krishnaswamy, Bawa, Ganeshaiah & Kiran, 2009). Reliability enhances dependability, accuracy and adequacy of the instrument through piloting. Mūgenda and Mūgenda (1999) argue that reliability is a measure of the degree to a researchers' instrument yield consistent results or data after repeated trials. Pilot testing was done in two schools in the neighbouring sub County (Kamukunji), to test reliability. Comments made by the respondents during pilot testing were used to adjust and improve the instruments.

Internal consistency in this study was tested using the Cronbach alpha statistics. The Cronbach alpha coefficient was used to determine reliability of the instrument in this study because it's a better indicator of dimensionality (Tavakol & Dennick, 2011). Sekeran (2009) indicates a desirable reliability coefficient would fall in the range of 0.80 to 0.90. Bartholomew, Henderson & Marcia (2000) argue that a coefficient between 0.60 and 0.80 is acceptable.

3.6 Data Collection Procedure

Questionnaires were administered to the respondents through a drop and pick method at the respondents respective schools. The researcher left the respondents to fill the questionnaires at their own time and collected the complete forms after one week. This availed the respondents enough time to read, understand and fill the forms with maximum concentration. The information collected formed the basis of conclusion on the influence
of fire safety preparedness on success of fire safety projects in public secondary schools in Starehe Sub-county, Nairobi County.

3.7 Data Analysis and Presentation

The data collected was coded, key-punched into a computer and analysed. This study generated both qualitative and quantitative data. For the quantitative data, analysis was done through descriptive statistics such as frequency counts, percentage charts, averages and standard deviation. The relationship between the independent variables and dependent variable was determined using the following regression model:

\[ y = a + b_1 x_1 + b_2 x_2 + b_3 x_3 + b_4 x_4 + \epsilon \]

Where \( y \) = dependent variable (success of fire safety projects)

\( a \) = constant

\( x_1, x_2, x_3, x_4, x_5 \) = independent variables

\( X_1 \) = Training

\( X_2 \) = Resource mobilization

\( X_3 \) = Management practices

\( X_4 \) = Monitoring and evaluation

\( \epsilon \) = Error

\( b_1, b_2, b_3, b_4, b_5 \) = Regression Coefficients

The statistical significance of the results were then examined at \( \alpha = 0.05 \) statistical confidence level.
Normality of the data was tested using normal probability plots. The Study used coefficient of determination ($R^2_{\text{adjusted}}$) to test the adequacy of the regression. The individual variable parameters were tested using the t-test.

Qualitative data was analyzed by content analysis of meanings and implications emanating from respondents' information. The results were then reported by descriptive narrative. As observed by (Gay, 2004) qualitative data provides rich descriptions and explanations that demonstrate the chronological flow of events as well as often leading to serendipitous (chance) findings. Presentation of data was in form of tables and charts. The researcher finally used the results of data analysis to draw explanations, conclusions and recommendations about the study.

3.9 Ethical Considerations

Ethical measures were employed in order for the research to be effective and to receive satisfactorily honest responses. Firstly, the researcher sought permission through the use of introductory letter from the university in carrying out the research. All the respondents were informed about the intentions of this research and how the information they provided would be used. They were also assured by the researcher that data would be collected and stored anonymously and confidentially. In addition, the respondents were informed that they would participate in the research willingly without any form of incitement or coercion. Finally, as Bryman & Bell (2003) requires, the data was used only for the purposes of this study which was in consistent with the assurances given to the respondents.
CHAPTER FOUR

RESEARCH FINDINGS AND DISCUSSIONS

4.1 Introduction

In this chapter data pertaining to; the influence of training, resource mobilization, management teams, and monitoring and evaluation on the success of fire safety projects in public secondary school in Starehe Sub-County, Nairobi County have been analyzed. This chapter has therefore been themed along these objectives. The chapter has first discussed the response rate and the demographic information regarding study respondents.

4.2 Response Rate

A total of 55 respondents were given questionnaire out of which 48 respondents successfully completed the questionnaires. This gives a response rate of 87 percent. Response rate is displayed in fig 4.1

Fig 4.1: Response Rate
Source: Research data (2016)
Lack of time was attributed to the lack of completion of the remaining questionnaires.

4.3 Reliability test

Cronbach's Alpha was adopted to test the reliability in this study. The formula has several levels of threshold based on the alpha coefficient. Different alpha coefficients are judged as follows; “> .9 – Excellent, > .8 – Good, > .7 – Acceptable, > .6 – Questionable, > .5 – Poor, and < .5 – Unacceptable.

Table 4.1 Reliability test

<table>
<thead>
<tr>
<th>Variable</th>
<th>Cronbach's Alpha</th>
<th>Judgment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training</td>
<td>.707</td>
<td>Reliable</td>
</tr>
<tr>
<td>Resource</td>
<td>.731</td>
<td>Reliable</td>
</tr>
<tr>
<td>Management</td>
<td>.769</td>
<td>Good</td>
</tr>
<tr>
<td>Monitoring and Evaluation</td>
<td>.711</td>
<td>Reliable</td>
</tr>
</tbody>
</table>

Source: Research data (2016)

All the Cronbach's Alpha for the study variables shows that the study was within the acceptable rage of reliability. The four variables obtained reliability of 0.7 and above as recommended by Mugenda (1999) and later by Krishnaswamy, Bawa, Ganeshaiah & Kiran (2009).
4.4 Demographic and general information

This section sought to establish the respondents’ Gender, Age, position in school, level of education and period served in school. The findings are as displayed below.

4.4.1 Gender

The study sought to establish the gender of the respondents and the results are as displayed in Table 4.1

Table 4.2 Distribution by gender

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>30</td>
<td>62.5</td>
</tr>
<tr>
<td>Female</td>
<td>18</td>
<td>37.5</td>
</tr>
<tr>
<td>Total</td>
<td>48</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Source: research data (2016)

The results show that most of the respondents were male (62.5 percent) while females made up 37.5 percent of the respondents. Since male respondents were more than female respondents by 25 percent, it indicates that Starehe sub county has more male administrators than females.

4.4.2 Age of the respondents

The respondents were also asked to provide their age category and the results are presented in fig.4.1
Fig. 4.2: Age of the Respondents
Source: Research data (2016)

Fig. 4.2 shows that most of the teachers were above 40-50 and 51 and above where they represented 54.2 percent and 33.3 percent respectively. Those aged 21-30 represented only 2.1 percent while 10.4 percent represented those aged 31-40 years. This indicates that that the most in age responded, therefore their information is highly reliable.

4.4.3 Position held

The researcher also asked the respondents to indicate their position in the school. Figure 4.2 below represents the results.
The figure shows that 16.7 percent of the respondents were principals, 12.5 percent were deputy principals, 25.0 percent were senior teachers and boarding masters and the remaining 20.8 percent were BOM. This implies that senior teachers had the largest proportion in the school leadership. The position held indicated how a respondent was informed in regard to school projects activities.

4.4.4. Education

The study also sought to know the education level of the respondents. The figure 4.3 below represents the findings.
The results indicated that only 2.1 percent of the respondents had PhD while most of the respondents had a Bachelor’s degree (52.1 percent). 45.8 percent have a master’s degree. This implies that majority of teachers in secondary schools have a degree and above. Due to their level of education it was expected that they were to take the research seriously and give true information.

4.4.5. Period Served in School

The respondents were also required to state the time served in the school and table 4.3 below shows the results.

Table 4.3 Period Served
The table 4.3 shows that most of the respondents (62.5 percent) have served in their respective schools for over five years while 20.8 percentage and 16.7 percentage have served for 2-5 years and less than two years respectively. Above 5yrs were the most respondents, thus more conversant with the school’s projects.

4.5 Training and success of fire safety projects

Training was explored in this study as an important fire safety preparedness aspect. The respondents were asked to state whether they had received any fire safety project training. Figure 4.4 displays the results.
Majority of the respondents (85.4 percentage) said they have received fire safety project training while 14.6 percentage said they had received no such training. This is a clear indication that training was largely taking place; however, some respondents downplayed the seriousness of the training conducted terming it obsolete and a waste of time.

The study intended to determine the influence of training on the success of fire safety projects and the responses were ranked on the likert scale where 1 represented strongly agreed, 2=Agree, 3= Disagree, 4= Strongly Disagree and Not Sure=5
### Table 4.4 Parameters of Training

<table>
<thead>
<tr>
<th>Statement</th>
<th>(percent)</th>
<th>N=250</th>
<th>Mean</th>
<th>S.dv</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SA</td>
<td>A</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>Teachers are trained on how to implement fire safety project in our school</td>
<td>0</td>
<td>41.7</td>
<td>37.5</td>
<td>16.7</td>
</tr>
<tr>
<td>I am satisfied with the training I get on fire safety project in this school</td>
<td>0</td>
<td>45.8</td>
<td>39.6</td>
<td>10.4</td>
</tr>
<tr>
<td>Training policy in the school give guidelines on fire safety project training</td>
<td>6.3</td>
<td>29.2</td>
<td>47.9</td>
<td>12.5</td>
</tr>
<tr>
<td>The trainings given on fire safety were relevant to my role in implementing fire safety related projects</td>
<td>6.3</td>
<td>18.8</td>
<td>47.9</td>
<td>22.9</td>
</tr>
<tr>
<td>Trainings on fire safety projects are conducted frequently in this school</td>
<td>0</td>
<td>25.0</td>
<td>56.3</td>
<td>16.7</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Research data (2016)

The table 4.3 displays the results of the influence of training on fire project training. The average mean is 2.96 and it depicts that the majority of respondents generally agreed and disagreed with the study believes. The results varied as evident in the standard deviation of 0.713. The responses were skewed towards agree and disagree as evident in the statement, ‘I am satisfied with the training I get on fire safety project in this school where 45.8 percentage agreed, 39.6 percentage disagreed, 4.2 percentage strongly disagreed and
2.73 percentage were not sure. This is also seen in the statement 'The trainings given on fire safety were relevant to my role in implementing fire safety related projects where 6.3 percentage strongly agreed, 18.8 percentage agreed, 47.9 percentage agreed, 22.9 percentage strongly disagreed and 4.2 percentage were not sure. Warui (2013) points out that training is important in the success of any project calling for stakeholders to play their role in planning and executing effective training programs.

4.6 Resource Mobilization and success of fire safety projects

The respondents were also asked a series of questions to determine the influence of resource mobilization on the success of fire safety projects.

4.6.1 Ministry funds

The respondents were asked whether the ministry provides sufficient funds for implementation of the project and whether the funds have conditions for their applicability. The responses were as displayed in figure 4.5
Figure 4.5 Ministry Funds  
Source: Research data (2016)

Figure 4.5 shows that majority of the respondents (77.10 percent) do not believe that the ministry provides enough finances for the implementation of the fire safety projects while 22.9 percent state that the ministry provides enough finances. On the other hand, most of the respondents (75 percent) stated that the ministry provides conditions for the use of the funds while 18.80 disagreed with the statement.
4.6.2 Resource mobilization and success of fire safety projects

In this section, the respondents were given five statements on Likert scale to determine their general belief on the influence of resource mobilization of fire safety training projects and the table 4.4 below displays the findings.

Table 4.5 Parameters of Resource Mobilization

<table>
<thead>
<tr>
<th>Statement</th>
<th>(percent)</th>
<th>N=250</th>
<th>Mean</th>
<th>S.dv</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adequate resources are allocated to fire safety project in or school.</td>
<td>2.1</td>
<td>29.2</td>
<td>43.8</td>
<td>16.7</td>
</tr>
<tr>
<td>Our school sources for funds to fully implement fire safety projects</td>
<td>2.1</td>
<td>43.8</td>
<td>29.2</td>
<td>16.7</td>
</tr>
<tr>
<td>Funding greatly influences successful implementation of fire safety projects in our school</td>
<td>52.1</td>
<td>25.0</td>
<td>1.7</td>
<td>2.1</td>
</tr>
<tr>
<td>Our school always give priority to fire safety projects budget allocation</td>
<td>37.5</td>
<td>43.8</td>
<td>14.6</td>
<td>22.9</td>
</tr>
<tr>
<td>Government provide resources for fire safety project in our school.</td>
<td>10.4</td>
<td>16.7</td>
<td>25.0</td>
<td>25.0</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Research data (2016)
As displayed in table 4.4 above the mean of 2.718 implies that the respondents disagreed and agreed with the study beliefs. The results were highly skewed towards disagree as evident in the high standard deviation of 1.011. Measures of central tendencies in the frequency analysis further supported these findings and is evident in the following statements ‘Government provide resources for fire safety project in our school where 10.7 percent of the respondents strongly agreed with the statement, 16.7 percent agreed, 25 percent disagreed and strongly disagreed and this is further supported by the statement’ Adequate resources are allocated to fire safety project in or school where 2.1 percent strongly agreed, 29.2 percent agreed, 43.8 percent disagreed, 16.7 percent strongly disagreed and 8.3 percent were not sure. Kogi (2013) points that amongst the basic conditions for smooth project activity operations without stoppages and unnecessary disruption, is regular and sufficient funding of the project.

4.7 Management Team and success of fire safety projects

Parameters of management team were also measures and the results are as displayed in table 4.5.
Table 4.6 Parameters of Resource Mobilization

<table>
<thead>
<tr>
<th>Statement</th>
<th>(percent)</th>
<th>Mean</th>
<th>S.dv</th>
</tr>
</thead>
<tbody>
<tr>
<td>N=250</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SA</td>
<td>A</td>
<td>D</td>
<td>SD</td>
</tr>
<tr>
<td>All the stakeholders are involved in fire safety project life cycle.</td>
<td>35.4</td>
<td>41.7</td>
<td>20.8</td>
</tr>
<tr>
<td>Administration affects implementation of fire safety project in this school.</td>
<td>25.0</td>
<td>50.0</td>
<td>12.5</td>
</tr>
<tr>
<td>The success of fire safety project in this school is greatly influenced by the management</td>
<td>37.5</td>
<td>47.9</td>
<td>8.3</td>
</tr>
<tr>
<td>The school administration has project management skills</td>
<td>50.0</td>
<td>29.2</td>
<td>8.3</td>
</tr>
<tr>
<td>Management team is committed to the fire safety implement projects</td>
<td>25.0</td>
<td>52.1</td>
<td>18.8</td>
</tr>
<tr>
<td>Our school involve stakeholders in implementation of fire safety projects.</td>
<td>25.0</td>
<td>41.7</td>
<td>20.8</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Research data (2016)

According to the table 4.6, a mean of 2.015 shows that the responses were skewed towards strongly agree and disagree. The results also show a high variation in responses as evident in the high standard deviation of 0.965. The results were skewed towards
strongly agree and agree as evident in the measures of central tendencies. The statements ‘The school administration has project management skills’ where 50 percent of respondents strongly agree, 29.2 percent agree, 8.3 percent disagree, 8.3 percent strongly disagree and 4.2 percent were not sure and the statement ‘Management team is committed to the fire safety implement projects where 25 percent strongly agree, 52.15 agree, 18.8 percent disagree and 4.2 percent strongly disagree shows that most of the respondents strongly agreed and agreed with the parameters. Decker (2007) states that the necessary decisions to contain the crisis cannot be made on the day of the occurrence of the crisis calling for the need of an effective management team.

4.8 Monitoring and Evaluation and success of fire safety projects

Parameters of monitoring and evaluation were investigated and the results are displayed in the table 4. 6
<table>
<thead>
<tr>
<th>Statement</th>
<th>(percent) N=250</th>
<th>Mean</th>
<th>S.dv</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Education consistently monitors and evaluates fire safety</td>
<td>12.5 47.9 25.0 10.4 4.2 2.46 0.988</td>
<td>2.46</td>
<td>0.988</td>
</tr>
<tr>
<td>project in our school</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management in our school regularly evaluate the fire safety project</td>
<td>0 31.3 45.8 16.7 6.3 2.98 0.863</td>
<td>2.98</td>
<td>0.863</td>
</tr>
<tr>
<td>The monitoring and evaluation on fire safety project in our school has</td>
<td>6.3 37.5 54.2 2.1 0 2.52 0.652</td>
<td>2.52</td>
<td>0.652</td>
</tr>
<tr>
<td>an influence on fire safety project success</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project stakeholders are involved to ensure fire safety project are</td>
<td>2.1 29.2 60.4 4.2 4.2 2.85 0.825</td>
<td>2.85</td>
<td>0.825</td>
</tr>
<tr>
<td>successful in this school</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td>2.702 0.832</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Research data (2016)

An average mean of 2.702 implies that most of the respondents disagreed with the study beliefs. The results were highly varied evident on the standard deviation of 0.832 and skewness towards disagree. The results from measures of central tendencies also supported this claim as is clear from the following statements ‘Management in our school regularly evaluate the fire safety project, where 31.3 percent of respondents agreed, 45.8 disagreed, 16.7 percent strongly disagreed and 6.3 percent were not sure. This is further
supported by, ‘Project stakeholders are involved to ensure fire safety project are successful in this school’ where 2.1 percent strongly agreed, 29.2 agreed, 60.4 percent disagreed, and 4.2 percent strongly disagreed and not sure respectively. The World Bank (2004) asserts that Management and evaluation is an important instrument for the management of schools' projects and employs quantitative and qualitative measurement tools.

### 4.9 Success of Fire Safety Projects

The study measures the parameters of the success of fire safety projects and the results are displayed in the table 4.7

<table>
<thead>
<tr>
<th>Statement</th>
<th>(percent)</th>
<th>N=250</th>
<th>Mean</th>
<th>S.dv</th>
</tr>
</thead>
<tbody>
<tr>
<td>The completion of fire safety project is always within the specified time frame in our school</td>
<td>0 25.0</td>
<td>43.8</td>
<td>8.3</td>
<td>22.9</td>
</tr>
<tr>
<td>Fire safety project in our school are always within the set budget</td>
<td>0 47.9</td>
<td>25.0</td>
<td>0</td>
<td>27.1</td>
</tr>
<tr>
<td>All the stakeholders are satisfied with Fire safety projects in our school</td>
<td>0 12.5</td>
<td>72.9</td>
<td>6.3</td>
<td>8.3</td>
</tr>
<tr>
<td>Fire safety project serve the intended purpose in our school (fire incidences reduction)</td>
<td>6.3 25.0</td>
<td>27.1</td>
<td>22.9</td>
<td>18.8</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Research data (2016)
The means of 3.17 shows that majority of the respondents agreed, disagreed and strongly disagreed with the study beliefs. The high standard deviation on 1.071 implies that the responses were highly skewed and this is further supported by the measures of central tendencies. The statement ‘The completion of fire safety project is always within the specified time frame in our school’ where 25 percent agreed, 43.8 percent disagreed, 8.3 percent strongly disagreed and 22.9 percent were not sure supported this statement. This is also evident in the statement, ‘Fire safety project in our school are always within the set budget,’ where 47.9 percent agreed, 25 percent disagreed and 27.1 percent were neutral. Kogi (2013) points that amongst the basic conditions for smooth project activity operations without stoppages and unnecessary disruption, is regular and sufficient funding of the project.

4.10 Regression model

4.10.1 Regression diagnostics

Gay (2004) asserts that a proper regression model should be able to meet certain assumptions that otherwise would render its results unreliable. These assumptions can be tested using various regression diagnostics such as normality test, Multicolinearity test and test of outliers (homoscedasticity).

4.10.1.1 Normality test

Normality test enables the researcher to establish whether data is normally distributed. Kolmogorov-Smirnov and Shapiro-Wilk coefficients were used to determine the significance of normal distribution in this data.
The findings show that all the data collected for both independent and dependent variables had significant levels of normal distribution (p<0.05). Shapiro-wilk test show that the study had correct data that met one of the most important regression assumptions.

### 4.10.1.2 Multicolinearity Test

The study employed Variance Inflation Factor (VIF) procedure to examine whether there was any multicolinearity among the independent variables. According to Bryman (2003), multicolinearity is said to exist when VIF is either less than 1 or greater than 10. Multicolinearity does not exist when VIF is between 1 and 10.
From the results in table 4.9, it can be shown that none of the variables were collinear. Since all the VIFs were between 1 and 10, therefore independent variables were unique and did not pose any threat of data redundancy.

### 4.10.2 Regression model

The study employed OLS regression model to establish the influence of the independent variables on the dependent variable. The model includes model summary, ANOVA and coefficients table all of which explain the implication of the relationship. The study employed 95 percent confidence interval to test the hypothesis that "the independent variables did not have significant influence on the success of fire safety projects". This implies 0.05 was the threshold for statistical significance.

**Table 4.10 ANOVA**

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>Df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>21.443</td>
<td>4</td>
<td>5.361</td>
<td>1.636</td>
<td>.003b</td>
</tr>
<tr>
<td>1 Residual</td>
<td>140.870</td>
<td>43</td>
<td>3.276</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>162.313</td>
<td>47</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Research data (2016)
The results in table 4.10 shows that Monitoring and Evaluation, Management team, Training and Resource mobilization significantly predicts the success of the fire safety projects

4.11 Regression results

Table 4.11 Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>8.778</td>
<td>5.911</td>
<td>1.485</td>
<td>.145</td>
</tr>
<tr>
<td>Training</td>
<td>.092</td>
<td>.212</td>
<td>.063</td>
<td>.435</td>
</tr>
<tr>
<td>Resource mobilization</td>
<td>.189</td>
<td>.196</td>
<td>.165</td>
<td>.964</td>
</tr>
<tr>
<td>Management team</td>
<td>-.183</td>
<td>.109</td>
<td>-.259</td>
<td>-1.681</td>
</tr>
<tr>
<td>Monitoring and Evaluation</td>
<td>.208</td>
<td>.221</td>
<td>.153</td>
<td>.943</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Success of fire safety projects
Source: Research data (2016)

\[ Y = 8.778 + 0.092X_1 + 0.189X_2 - 0.183X_3 + 0.208X_4 + e \]

4.11.1 Training and success of fire safety projects

Training of teachers, students and the school management was found to be a significant predictor of the success of fire safety projects. A unit increase in training would increase the probability of success of fire safety projects by 0.09. A study by Warui (2013) asserts that schools principals are looked at as project managers, expected to plan, implement, manage, maintain and evaluate the entire education system and as such training was found to significantly affect the way they implemented various projects bestowed to them.
4.11.2 Resource mobilization and success of fire safety projects

Resource mobilization was a significant predictor of the success of fire safety projects. At 95 percent confidence interval, the opinions of the respondents show that resources were important in implementation of these projects. Basically, respondents admitted that without resources, implementation of any project would be futile. Respondents therefore, suggested that resource mobilization should be central to planning about fire safety. A unit increase in resource mobilization would increase success of fire safety projects by 0.189. Moreover, Kogi (2013) points that amongst the basic conditions for smooth project activity operations without stoppages and unnecessary disruption, is regular and sufficient funding of the project.

4.11.3 Management team and success of fire safety projects

Management team was also found to significantly influence the success of fire safety projects. This implies that the kind of management team appointed to end the projects can significantly affect the outcome of that particular project. However, the current management team was found to negatively affect the success of fire safety management, an implication that change of the team was necessary in order to realize the goals of various fire safety projects being implemented in public secondary schools. In fact, a unit increase in the current management team would reduce the success of the fire safety projects by 0.183, which appears to be a serious regressor to the gains of fire safety projects. Additionally, Decker (2007) asserts that Crisis occurs in certain degrees of severity and time when the crisis can occur cannot be predicted. When there are crisis,
calm, responsibility and proactivity are important for effective management of the crisis. Schools should no longer believe that crisis situations only happen to others.

4.11.4 Monitoring and evaluation and success of fire safety projects

Monitoring and evaluation was a significant and positive predictor of success of fire safety projects. The findings show that lack and poor compliance with the provisions of the project was the main reasons for non-attainment of project goals or complete failure. Respondents blamed poor compliance to inadequate and improper monitoring and evaluation. In fact, the respondents admitted that minimal supervision and realignment leads to much improvement in the success of the projects. Even lack of proper training and resource mobilization was also blamed on poor monitoring and evaluation aspects. A unit improvement in proper monitoring and evaluation would lead to 0.208 improvements in success of fire safety projects. Furthermore, Management of fire safety projects is a continuous process where all the phases of the plan are reviewed and revised constantly. Good plans do not get finished but are updated based on research, new experience and changing vulnerabilities (Kennedy 2004)

4.12: Model Adequacy

Table 4.12 Model Summary

<table>
<thead>
<tr>
<th>Mode</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.763a</td>
<td>.632</td>
<td>.510</td>
<td>1.80998</td>
</tr>
</tbody>
</table>

Source: Research data (2016)
From the model summary, it can be depicted that Monitoring and Evaluation, Management team, Training and Resource mobilization predicts 0.51 of the success of fire safety projects. It can further be explained that 0.49 of the success of fire safety projects was predicted by other factors that were beyond the scope of this study.
CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter comprises the summaries, conclusions and the recommendations of the study based on the study objectives.

5.2 Summary

Despite the Government's efforts, fire safety projects are still facing challenges resulting to loss of life and property through fire incidences. In Nairobi County, fire safety projects implementation is in poor shape as required by the Ministry of Education school safety policy, (MOEST, 2008). Training, resource mobilization, monitoring and evaluation and management team are used in solving problems related to fire safety projects. The findings of each of the study objectives were summarized as below.

5.2.1 Training and success of fire safety projects

The findings of the study shows that training was actually being carried out; almost half of the respondents admitted that training was taking place in their institutions. However, a considerable proportion of the respondents disputed the kind of training taking place by terming it obsolete and lacked purpose. For instance, some respondents were angered by the manner in which training process is carried arguing that it emphasized theoretical aspects as opposed to practical bits. The argument is that fire fighting is a practical affair.
and without adequate experience in handling the equipment the success of such projects might prove to be futile.

Moreover, the findings from the inferential analysis show that coefficient of training was a significant and positive predictor of success of fire safety projects. Respondents associated training with increased awareness, experience and confidence in execution of duties. It can therefore be argued that training of staff, students and all stakeholders in a school setup is crucial since it is the first line of ensuring successful projects.

5.2.2 Resource mobilization and success of fire safety projects

Resource mobilization was another crucial factor that was examined in this study. The study intended to establish the views of the respondents in regard to resource mobilization as a factor that could have been hindering execution of fire safety projects. The findings of the study show that majority of the respondents admitted that management was actually mobilizing resources from different stakeholders. However, through interviews and opinion responses, the researcher learned that mobilization of resources was not commensurate to the success of the projects in reality. This was blamed on corruption and lack of goodwill from the project managers.

The study further established that resource mobilization was a significant predictor of success of fire safety projects. It can further be explained that projects are unlikely to succeed without proper and adequate mobilization of resources that are required to execute the projects. The resources required can be categorized as human resource and physical resource.
5.2.3 Management team and success of fire safety projects

Management is a crucial aspect for the success of any project. This study explored this aspect to establish whether it had any significant bearing on the challenges affecting public schools as far as execution of fire safety projects is concerned. The findings show that most schools lack the right management as revealed from the respondents. In fact, majority of the respondents disagreed on aspects of management that required respondents to show their level of agreement on whether they existed in their institutions. It therefore turned out that the current management team had contributed to failure of the fire safety projects in the public secondary schools. For instance, it was established that management had been reluctant in heeding to challenges that normally face projects at different stages. In fact, majority recommended a change in management team and selection of another management team based on competence and experience in fire related projects.

The findings further show that management team had a negative and significant influence on the success of the fire safety projects as shown in the egression model. The current management was found to be a regressor as far as successful execution of the fire safety project is concerned. Moreover, the researcher could see the problem with the management even from far; this could be explained by poor organization and state of fire extinguishers, poor guidance on what students and staff should do in case of fire and lack of proper fire assembly points within their institutions.
5.2.4 Monitoring and evaluation and success of fire safety projects

Monitoring and evaluation happens to be one of the important aspects of project implementation and hence, its success. This study examined the opinions of the respondents in regard to availability of monitoring and evaluation aspects in execution of fire safety projects. On average, majority of the respondents agreed that monitoring and evaluation was taking place. However, respondents argued that the process lacked seriousness from the management. In fact, respondents called it a programme in papers since it rarely happened as it was documented with little implementation.

Moreover, the regression findings show that monitoring and evaluation was the most significant predictor of success of fire safety projects. The findings show that majority of the respondents greatly associated monitoring and evaluation with the whole success of projects. The study further learned that if monitoring and evaluation was improved significantly, the challenges that arise could be detected even before they occur, training could be conducted from time to time and management could be more serious.

5.3 Conclusion

On the influence of training on the success of fire safety projects, this study concludes that training is an important aspect of project implementation that cannot be substituted with anything. In fact, respondents admitted that any project that is implemented without taking in consideration of adequate and proper training is bound to fail. Fire safety projects needs trainees in methods of fire fighting, signs of fire danger, various equipments of fire fighting and the ways in which they can deal with casualties of fire.
The second objective of this study was to establish the influence of resource mobilization on the success of fire safety projects. This study concludes that availability of resources significantly predicts the success of fire safety projects. Basically, without adequate resources, there is little that can be achieved; hence, projects meant for fire safety needs to be allocated adequate human and physical resources. The physical resources required include fire extinguishers of different types of fire, water storage containers, designed fire assembly, signboards to show emergency exits and ambulances.

The study concludes that management team of fire projects in secondary schools has failed to achieve the goals of such projects. Despite the fact that management is a crucial element of project implementation, the current management appeared to be the most significant hindrance to the success of these projects.

The study concludes that monitoring and evaluation is an important aspect that was found to be the most significant of the factors of project success studied in this study. Projects that are not well monitored and evaluated from time to time are likely to fail. The study therefore finds monitoring and evaluation as an inevitable practice that must be considered if the planners of fire safety projects are to achieve their objectives.

5.4 Recommendations

The study recommends training of all the staff, management and students on aspects of fire safety; in line with this, the study recommends the ministry of Education to develop a framework that makes training of fire safety programmes especially on practical basis
The study further recommends the government to allocate resources to schools that strictly cater for fire safety projects. The resources should include human resource and physical resources.

It is a recommendation of this study that the management team managing fire projects in public secondary schools should be reformed or rather changed completely.

Finally, the study recommends that a programme be developed through the aid of the ministry of education that compels the management to carry and report from time to time the strategies they have taken to monitor and evaluate the fire safety projects.

5.5 Suggestion for further studies

The study suggests further studies to determine other factors that affect implementation of fire safety projects other than the ones discussed in this project.
REFERENCES


Appendices

Appendix A: Introduction letter to respondents

13th April, 2016

Kenyatta University

P.O. Box 43844-00100,

Nairobi, Kenya

Cell: +254 722 143 719

Email: wangechikm@gmail.com

Dear respondent,

RE: INVITATION TO PARTICIPATE IN A RESEARCH AS A RESPONDENT.

I am a Post Graduate student at Kenyatta University School of Business undertaking a research project as part of the requirement for the award of the degree of Master of Business Administration (MBA). I am carrying out a research on Fire Safety Preparedness influence on Success of Fire Safety Projects in Public Secondary Schools in Starehe Sub County, Nairobi County. I am kindly requesting you to fill the attached questionnaire that will assist me to collect data as well as carry out data analysis. All information collected will be treated with confidence and will solely be used for the purpose of this study.

Your co-operation and assistance will be highly appreciated.

Yours Faithfully,

Mary Wangechi Karoki

D53/CE/24844/2013
Appendix B: Research Questionnaire

This questionnaire is administered by or on behalf of Mary Wangechi Karoki, Master of Business Administration Student in the School of Business, Kenyatta University. This questionnaire is purely for academic purpose at Kenyatta University. This questionnaire consists of two parts. Section A requires your background information while Section B, C, D, E and F seeks to get your general observation on the fire safety preparedness influence on success of fire safety projects in public secondary schools in Starehe Sub-county, Nairobi County. There is no right or wrong answers but your response is of utmost importance to the researcher. The information you provide will be treated with strict confidentiality and will only be used for the purpose of this study.

Section A: General Information.

Please tick (✓) in the appropriate bracket that best describes your opinion on the following:

1. Gender Male ( ) Female ( )

2. Indicate your age category

   20 yrs and below ( ) 21-30yrs ( ) 31-40yrs ( ) 41-50yrs ( ) 51yrs and above ( )

3. What is your position in the school?

   Principal ( )
   Deputy Principal Academic ( )
   Senior Teacher Academic ( )
   Boarding master/mistress ( )
   BOM Chairperson ( )

4. What is your highest level of education?

   Secondary ( )
   Diploma ( )
Bachelor’s Degree ( )
Master’s Degree ( )
PhD ( )

5. For how long have you served in this school?
   Less than two years ( ) 2-5yrs ( ) Above 5yrs ( )

Section B: Training

6. Have you had any form of fire safety project training?
   Yes ( ) No ( )

7. Indicate the extent to which you agree or disagree about each of the following statements as they apply to your school.

1) Strongly agree 2) Agree 3) Disagree 4) Strongly disagree 5) Not sure

<table>
<thead>
<tr>
<th>Statement</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) Teachers are trained on how to implement fire safety project in our school</td>
<td>1</td>
</tr>
<tr>
<td>ii) I am satisfied with the training I get on fire safety project in this school</td>
<td>1</td>
</tr>
<tr>
<td>iii) Training policy in the school give guidelines on fire safety project training</td>
<td>1</td>
</tr>
<tr>
<td>iv) The trainings given on fire safety were relevant to my role in implementing fire safety related projects</td>
<td>1</td>
</tr>
<tr>
<td>v) Trainings on fire safety projects are conducted frequently in this school</td>
<td>1</td>
</tr>
</tbody>
</table>
Section C: Resource mobilization

8. Does the school get enough financial support from the Ministry of Education for the implementation of fire safety project?
Yes ( ) No ( )

Please explain your answer

9. The funding availed by the Ministry of Education have conditions on their applicability and cannot be spent outside fire safety project purpose.

Yes ( ) No ( )

Please explain your answer

10. Indicate the extent to which you agree or disagree of each of the following statements as they apply to your school.

1) Strongly agree 2) Agree 3) Disagree 4) Strongly disagree 5) Not sure

<table>
<thead>
<tr>
<th>Statement</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) Adequate resources are allocated to fire safety project in our school.</td>
<td>1</td>
</tr>
<tr>
<td>ii) Our school sources for funds to fully implement fire safety projects</td>
<td>2</td>
</tr>
<tr>
<td>iii) Funding greatly influences successful implementation of fire safety projects in our school</td>
<td>3</td>
</tr>
<tr>
<td>iv) Our school always give priority to fire safety projects budget allocation</td>
<td>4</td>
</tr>
<tr>
<td>v) Government provide resources for fire safety project in our school.</td>
<td>5</td>
</tr>
</tbody>
</table>
### Section D: Management Team

13. Indicate the extent to which you agree or disagree on each of the following statements as they apply to your school.

1) Strongly agree 2) Agree 3) Disagree 4) Strongly disagree 5) Not sure

<table>
<thead>
<tr>
<th>Statement</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) All the stakeholders are involved in fire safety project life cycle.</td>
<td></td>
</tr>
<tr>
<td>ii) Administration affects implementation of fire safety project in this school.</td>
<td></td>
</tr>
<tr>
<td>iii) The success of fire safety project in this school is greatly influenced by the management</td>
<td></td>
</tr>
<tr>
<td>iv) The school administration has project management skills</td>
<td></td>
</tr>
<tr>
<td>v) Management team is committed to the fire safety implement projects</td>
<td></td>
</tr>
<tr>
<td>vi) Our school involve stakeholders in implementation of fire safety projects.</td>
<td></td>
</tr>
</tbody>
</table>

### Section E: Monitoring and Evaluation

14. Has the School carried out any fire safety project evaluation survey in the recent past?

Yes ( ) No ( )

If yes please explain........................................................................................................

15. Indicate the extent to which you agree or disagree of each of the following statements as they apply to your school.

1) Strongly agree 2) Agree 3) Disagree 4) Strongly disagree 5) Not sure
### Section F: Success of Fire Safety Projects

16. Indicate the extent to which you agree or disagree of each of the following statements as they apply to your school.

1) Strongly agree 2) Agree 3) Disagree 4) Strongly disagree 5) Not sure

<table>
<thead>
<tr>
<th>Statement</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>i) The completion of fire safety project is always within the specified time frame in our school</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ii) Fire safety project in our school are always within the set budget</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>iii) All the stakeholders are satisfied with Fire safety projects in our school</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>iv) Fire safety project serve the intended purpose in our school (fire incidences reduction)</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

1) Ministry of Education consistently monitors and evaluates fire safety project in our school

2) Management in our school regularly evaluate the fire safety project.

3) The monitoring and evaluation on fire safety project in our school has an influence on fire safety project success

4) Project stakeholders are involved to ensure fire safety project are successful in this school
## Appendix E: Sampling Strategy

<table>
<thead>
<tr>
<th>School Name</th>
<th>principal</th>
<th>D.P.academics</th>
<th>senior tr. Academics</th>
<th>Boarding master</th>
<th>B.O.M.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pangani Girls</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Pumwani Girls</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Ndururuno Mixed</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>County Girls High</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>C.G.H.U Mixed</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>St. Teresas Girls</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Jamhuri High</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Ngara Girls</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Parkland Boys</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Starehe Boys</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Pumwani Boys</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>11</strong></td>
<td><strong>11</strong></td>
<td><strong>11</strong></td>
<td><strong>11</strong></td>
<td><strong>11</strong></td>
</tr>
</tbody>
</table>

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Appendix F: Map of Starehe Sub county