SAFETY PREPAREDNESS OF SECONDARY SCHOOLS IN KYUSO DISTRICT, KENYA

BY

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DECLARATION

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

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DEDICATION

To my daughters: Monica and Jully for their endurance when I was to spend many days away from them. Their constant nagging and queries about where I was gave me the strength to go on. In addition, I wish to dedicate this project to my teachers, non-teaching staff and students for the many weekends and vacations when I was not available for them.

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ABSTRACT

The increasing global rates of accidents and ugly incidences in the past twelve years involving students and staff have raised concern for the safety and security of schools than ever before. In 1998, the USA experienced eight school shootings prompting the congress to create the safe school initiative. The National Institute of Justice (NIJ) was directed to develop new, more effective safety technologies such as less obstructive weapons detection and surveillance equipment and information systems that provide communities with quick access to information they need to identify potentially violent youth (http://www.ojp.usdoj.gov/nij/topics/schools/technology.htm). Back here at home, cases abound. This study was conducted in Kyuso District-Kenya. This is among the newly created districts in the year 2007. The district is located in the semi-arid lands of Eastern Province of Kenya. It is inhabited by Kamba and Tharaka ethnic communities. The district has 20 secondary schools: two are provincial and the rest are district schools. Two of them are boys only: three of them are girls only and the rest are mixed schools. All are boarding schools. On average, each school has a population of 250 students. Boys have tended to be more than the girls. Just like in other parts of the country, schools in Kyuso District have been experiencing cases of arson, students riots, and disease outbreaks leading to loss of life and property. The purpose of this study was to establish the safety preparedness of secondary schools in Kyuso District, Kenya. Eight out of twelve schools from the district were chosen for study. Using questionnaires administered to the students, teachers and the headteachers using drop and pick techniques, data collected from the respondents data were analyzed quantitatively whereby descriptive analysis such as frequencies and percentages were used. A checklist was also used to verify the headteacher/deputy information received. Data were analyzed using the statistical package for social sciences (SPSS). Out of the eight schools where the questionnaires were administered, two schools declined to respond giving the researcher a response rate of 75% which was adequate for this study. The findings were presented using frequency distribution tables, pie charts, bar-graphs and percentages among others. The study established that in this district there are no adequate fire fighting equipments in the schools as majority, 43% had between 1 – 5 fire fighting equipments. In addition, the number of fire fighting equipment, fire fighting points and first aid kits were found to be un-proportional to the size of the schools and the number of students hence inadequate to deal with any emergency. The schools rarely trained their students on safety measures as indicated by 44.5%, hence the students were not well-equipped with necessary training needed to handle emergencies in the schools. In addition, the members of staff and school matrons were not well-trained on fire fighting techniques since only 56.0% were fairly trained. This study recommends that the school management embark on intensive training on health and preparedness for all students and members of staff to improve the level of knowledge on health and safety in the schools with more emphasis on the fire fighting techniques. This will make the students and staff well-equipped to handle emergencies incase they arise in the schools. The study found that there is need to increase the number of fire fighting equipments, fire fighting points and first aid kits in schools to increase the efficiency of emergency response.

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ABBREVIATIONS

GoK - Government of Kenya

KESI - Kenya Education Staff Institute

NIJ - National Institute of Justice (USA)

SPSS - Statistical Package for Social Sciences

TPB - Theory of Planned Behaviour

USA - United States of America

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The increasing global rates of accidents and ugly incidences in the past twelve years involving students and staff have raised concern for the safety and security of schools than ever before. In 1998, the USA experienced eight school shootings prompting the congress to create the safe school initiative. The National Institute of Justice (NIJ) was directed to develop new, more effective safety technologies such as less obstrusive weapons detection and surveillance equipment and information systems that provide communities with quick access to information they need to identify potentially violent youth (http://www.ojp.usdoj.gov/nij/topics/schools/technology.htm). Back here at home, cases abound.

In Kenya (July 1991), male students of St. Kizito Secondary School invaded girls dormitory in their school assaulting and raping them. A total of nineteen girls died. Two students at Nyamagwa boys in Kisii District died following an outbreak of Meningitis in the school in 1994. In 1998, twenty-six girls perished in a fire tragedy at Bombolulu Girls in Kwale District. Four boys perished in Nyeri Boys High School when a group of students locked their projects in a room and then set it a blaze in 2000.

Kenya witnessed her worst school tragedy when sixty-seven students at Kyanguli Secondary School in Machakos died of asphixture and burns after some two boys

allegedly set a dormitory on fire. In May, 2002, Kakamega Primary School was closed due to unhygienic conditions in the school (Mabonga, 2002). In 2005, a boy drunk poison and died at Katse Secondary School in Kyuso District after he was assaulted by other students. The year 2008 saw over 300 public secondary schools have been closed down in the course of second term after student unrest ranging from acts of arson to suspected cases of drunkardness. Properties worth millions of shillings were destroyed. One student of Upper Hill Secondary School in Nairobi lost his life. Students of Kabarnet High School burnt down a dormitory worth Ksh 20 million. In St. Angelas Girls High School in Kitui, students set a blaze three dormitories. Property worth over 500m was lost (Koech Report 2008).

More than ever before, today's schools are serving children from dysfunctional homes, children living in poverty, children of teenage parents, and special education students. Unfortunately, resources to adequately serve the total range of needs presented by these students are becoming increasingly limited. Adequate parental supervision and control of these students have weakened and many students have lost respect for all forms of authority including the authority of school personnel. As a result, schools are confronted with problems of students possessing weapons and engaging in drug trafficking, both as sellers and buyers.

(http://www.ncrel.org/sdrs/areas/issues/envrnmnt/drugfree/sa200.htm).

To create a safe environment that is conducive to learning, schools must implement safety plans and comprehensive prevention programmes that address all forms of risks in schools. This changing educational climate has created an imperative need for schools to identify tools, strategies and model programmes that enhance the safety and success of all children and the professionals who serve them because young people are legally required to attend school (Children's Act 2001). School personnel have a corresponding duty to provide children with safe, secure and peaceful environment in which learning can occur.

The most efficient and effective programmes for developing safe schools are those that emphasize prevention, positive alternatives, the development of psychological skills and recognition of socially competent behaviour. A school climate that builds on the strengths and assets of each student, improving resiliency and protective factors while promoting self-esteem counteracts the destructive factors that contribute to violence. A safe school plan shall therefore, be an all encompassing programme that provides for safety and security of students and educators. It is an on-going, systematic, and comprehensive process that addresses both the short-term and long-term safety measures to eliminate all threats to safety and security in schools.

1.2 Statement of the Problem

The researcher noted that despite enormous efforts being made by the government, school management and administration arms, the levels of insecurity in schools is still on the rise. The Government of Kenya's Task Force on student discipline in secondary

schools (Wangai Report, 2002) says that where there is insecurity within the schools, the security of students' property, the lives of the members of the school community and its students are in danger. While the government has made positive attempts to maintain safety in schools, the most unfortunate truth is that government policies on health and safety remain largely public relation documents. Lives and property are continually being lost. The greatest shortfall was on the enforcement of government regulations on health and safety. The fact is that the government lacks the capacity to enforce its own regulations and administrative personnel in school remain ignorant of the safety issues, or lack the will to enforce even the basic safety regulations. This study therefore, attempts to find out the levels of school preparedness on safety and health issues. It sort to establish the students' psychological disposition to an emergency issue, their drill competency, staff preparedness and the availability of physical equipment in Kyuso district.

Safety in schools in Kyuso district

A Kyuso District perspective shows that out of the twenty established secondary schools, only two did not fall into this years' mayhem. Form IV students in the affected schools did not sit for the district mocks as they simply walked out of school; petrol in a container was reported in a girls school; teachers of one of the schools got a rude shock when they found no student in school, as forms I to III decided to go home in solidarity with their form IV colleagues who had refused to take the rest of the mock papers.

In one of the schools, students reportedly informed the administration that though they had been allowed to go home after refusing to take the end-term exams, they insisted that they won't go home without burning one of the their dormitories. In one of the boys secondary schools in the area under study, the police had to keep vigil throughout the night as the departed students had promised to come back later and burn the school.

All in all, the risks in term 2 affected about 2800 secondary school students. In the area under investigation, the researcher has already established that over 500 students in the twenty secondary schools are sharing beds due to bed shortages in various schools. None of the schools in the district has a medical nurse and sick students often have to walk long distances to the nearest health facilities. Cases of tuberculosis outbreak have been reported in some schools while sharing of washing basins is common, leading to sharing of skin diseases.

Kyuso District, being a fairly young district has only 4 education officials in the DEO's office, making supervision of educational institutions inadequate. The researcher has established that over half of the kitchen staff are neither trained nor do they have medical certificates. Only two schools are served with piped water. The rest of the schools use carts to draw water from wells and boreholes. This water is usually salty or contaminated and little effort is done in schools to make it suitable for human consumption.

In 2001, a student of Tseikuru Secondary School died of Cholera while in the same year, a boy student of Kyuso Secondary School drowned in an earth dam while attempting to draw water. At Kalonzo Secondary School where this researcher is based, we have 6 girls and 1 boy who wet their beds at night.

Due to the hot climate of this place, most schools are infested with bedbugs and mosquitoes abound during the wet season. In one of the secondary schools with over 300 students, the school has only two night watchmen and 3 fire extinguishers. The Government of Kenya has attempted to address the issue of safety and security in schools through various policy documents. The public health Act Cap 242 lays regulations for all school buildings. The Education Act Cap 211 also captures the safety requirements in schools. The Ministry of Public Works Building Regulations also tries to address the safety of public buildings.

1.2.1 Purpose of the Study

The purpose of the study was to establish the preparedness of school administrators in dealing with issues of health and security in their respective schools. While schools remain among the safest places for our students, incidences of violence or disruptions of learning are too many. (http://www.emsc.nyed.gov/sss/SDFSCA/uvir/homeuvirvadir.htm). The Center for the Prevention of School Violence (2002) says that "Every student will attend a school that is safe and secure, one that is free of fear and conducive to learning" (http://www.ncjrs.gov/sportlight/school safety/summary.html).

It further identifies the fundamental qualities of a safe and responsible school as:

i. Where prevention and intervention programmes are sustained, co-ordinated and comprehensive.
ii. Interventions are based on careful assessment of student needs.
iii. The physical environment of the school is safe and there are policies to promote responsible behaviour.
iv. Staff are provided with training to help them implement programmes and approaches.
v. The school has strong leadership which allows for student participation in the design of programmes and policies.
vi. Interventions are monitored and evaluations are conducted to ensure that the programmes are meeting measurable goals and objectives (US Department of Education, 2000).

The public Health Act Cap 242 (1972) states that waste and refuse should be disposed of in such a way that they do not pose any risk to the health of the users. It also stresses on proper drainage and food handling especially in boarding schools (Okwatsa, 2002).

1.3 Objectives of the Study

i. To identify the types of health and safety issues that can face the school community.
ii. To determine the level of student and staff preparedness in case of emergencies.

iii. To determine whether health and safety issues plans are integrated into the overall school planning.

iv. To find out whether the school undergoes regular inspection of its safety equipment, ability to combat fires and the state of buildings.

v. To find out whether students and staff personnel are trained to handle emergency issues in their schools.

vi. To find out whether the schools have adequate fire fighting equipment and first-aid kits to deal with emergencies in secondary schools.

1.4 Research Questions

Several researchable questions have been advanced.

i. What are the various types of health and safety risks that schools are faced with?

ii. How are the students and staff prepared in case of emergencies in their schools?

iii. Are health and safety issues plans integrated into the overall school planning?

iv. Do the schools undergo regular inspection on their safety equipment and do they have the ability to combat fires and other emergencies in the schools?

v. Have the students and staff been trained on how to handle cases of emergencies such as insecurity, health issues in schools?

vi. Are the fire-fighting equipment and first-aid kits adequate to deal with emergencies that may arise in secondary schools? Are they strategically located?

1.5 Significance of the Study

A successful completion of this study will enable schools to:

i. Set up a checklist programme that will help teachers do a safety and health hazard analysis for environmental, safety, and health regulations.

ii. Prepare students for and participate in safety and health inspections.

iii. Improve the safety and health environment in school.

iv. Increase occupational health and environmental awareness in school.

v. Prevent injuries and illnesses among students and staff by identifying various ways in which diseases can be transmitted e.g. sharing of washing basins; environmental inspection to remove sharp objects and enforce cleanliness.

vi. Identify regulations that may apply to public secondary school labs, kitchens, dormitories and the school district.

vii. Help the students and safety inspectors.

viii. Regulations pertinent to particular buildings.

ix. The benefits of using checklists to determine compliance.

x. Detect areas that need improvement in the school's occupational safety, health and environmental health programme.

xi. Find sources for more information about regulations and technical assistance.

1.6 Limitations of the study

The researcher was not able to self administer the questionnaires to all the respondents in Kyuso District since the district is expansive. Distances from one school to the other are large and the roads are bad. Transport from one school to the other posed a major challenge. Threat of absenteeism of both the students and headteachers loomed large as students were frequently sent home for fees while telephone interconnectivity was still

low. The study took place in eight out of twelve secondary schools in the district. This was used to give a fair assessment of the health and safety conditions in the whole district.

1.7 Delimitations of the Study

Researcher had been teaching in this district for the last 15 years and was conversant with the schools chosen for this study and their locations.

1.8 Assumptions of the Study

i. The study assumed that both headteachers and students will have some basic forms of health and safety knowledge. This will help them to objectively fill the questionnaire.

ii. The study also assumed that schools have basic fire-fighting equipment and first-aid kits. This will help them in making judgement as to their adequacy and usability.

iii. The study assumed that the schools have at different times within the school cycle experienced some form of security scare. Such knowledge comes in handy in making individual assessments as to how the threat should be dealt with.

1.9 Theoretical/ Conceptual Framework of the Study

1.9.1 Theoretical Framework of the Study

This study was mainly based on behavioural safety theory. This theory asserts that behaviour results from an individual's intention to perform a particular behaviour, and

that intention is affected by both attitude towards the behaviour and perception of the social pressures to perform the behaviour (subjective norms). Finally, the theory relates behaviour to underlying salient (readily available) normative, control and behavioural beliefs to help to identify the fundamental qualities of a safe school. In this study therefore the following aspects were considered;

i. The school has a strong leadership, caring programmes and student involvement in the design of programmes and policies.
ii. The physical environment of the school is safe and school-wide policies are in place to promote and support responsible behaviours.
iii. That prevention and intervention programmes are sustained, co-ordinated and comprehensive.
iv. Interventions are based on careful assessment of student needs.
v. Staff are provided with training and support to help them implement programmes and approaches.
vi. Schools that incorporate these characteristics will achieve improved academics, reduced disciplinary referrals, greater staff morale and reduced loss to life and property (http://www.org/sdrs/areas/envrnmnt/drugfree/sa200.htm).

Behavioural Safety Theory

This study borrows from many theories of behavior. The most relevant theory to student safety and health is the behavioural safety theory. Various programmes have emerged to address the risk behaviour anticipating that effective control will result in reduced injuries. Although few studies have been conducted to determine the association between

behavioural safety and reduced injuries, safety literature contains numerous testimonies asserting the effectiveness of behavioural safety programmes. Two research teams compiled results from several case studies and concluded that strong evidence exists to support the relationship between behavioural safety and reduced injury rates (Sulzer-Azaroff & Austin; Krause, et al). Additionally, some researchers have studied the impact of specific interventions and have concluded that some behavioural programmes positively affect injury experience (Lingar & Yesilyurt; Lingard; Lingard & Rowlinson; Duff, et al).

While evidence supports the behavioural safety, little time has been dedicated to explaining mechanisms, theory and models underlying behavioural safety programmes. In other words, organizations are beginning to understand how to affect behavioural change, but do not fully comprehend why behavioural interventions are effective. According to Argyris, both components (theoretical basis and actionable elements) are critical to the development of effective management theories. That is, Argyris argues, management must be guided by knowledge containing actionable and theoretical elements. When this occurs, theories become consequential and have pragmatic value within management contexts. In other words, management theories become actionable and meaningful (Argyris, 1976).

Several theoretical concepts help explain the causation of behaviour. According to Geller, theory is the foundation of effective safety behaviour intervention strategies (Geller, 2000). Each of the concepts presented in this section are interrelated and

collectively form a reasonable explanation for the emergence for behaviour. While many applicable theoretical elements exist, important concepts include the definition of behaviour, and models explaining the emergence of behaviour, motivation, organizational commitment and organizational culture.

The Definition of Behaviour

The study of behaviour begins and ends with the definition of behaviour. This definition is not only critical to the theoretical model presented in this study, it is also essential to the operation of behavioural safety programmes. Without a clear definition, it would be difficult to discern desired behaviours.

Dictionaries commonly define behaviour as a function of behaviour. In particular, these definitions describe behaviours as the way someone behaves or in terms of a response to specified conditions (Microsoft). Behaviour may also be described as an activity (Hersey, et al). In this sense, it is the particular manner in which someone acts, reacts or functions, and is driven by the strength of an individual's motives, probability of meeting the goal (expectancy) and the accessibility of the goal (availability). Behaviour, therefore, relates to activity, response, underlying motivation/meaning and intent. While these definitions certainly conform to an intuitive understanding of the term, they serve little pragmatic value to the scientific application of behavioural psychology.

To improve utility, preferred definitions must have the capacity to be operationalized as quantitative or qualitative research variables. In other words, the term must be defined in a manner that allows for the collection of data. As a result, behavioural scientists

sometimes describe behaviour as observable actions that can be interpreted in the same manner by different observers. For example, Geller defines behaviour as the "acts or actions by individuals that can be observed by others" [Geller, 2000). Therefore, Geller's definition is preferred in this context, and is particularly useful since his professional activities are directly related to safety.

Emergence of Behaviour

While behaviour is easy to define, its emergency is harder to explain; scientists have different theories concerning the causation of behaviour. Two theories, however, can potentially explain behaviour, particularly because each has been validated in a variety of research studies. These include: Value – attitude – behaviour hierarchy model and theory of planned behaviour (TPB) model.

Value-attitude-behaviour. Honour and Kahle assert that human behaviour is a function of attitude which in turn, is a consequence of an individual's value system. In other words, the value-attitude-behaviour hierarchy model demonstrates that "influence should theoretically flow from the abstract values to midrange attitudes to specific behaviours" (Homer & Kahle, 1988:638). Thus, a connection appears to exist between values and behaviour, through intermediary attitudes. Therefore, Homer and Kahle postulate a mechanistic explanation for human behaviour, independent from the environment. Another study provides evidence that personal values of owners/managers of small furniture factories in Australia had an influence on their strategic decisions or behaviour (Kotey & Meredith).

These examples confirm the underlying thesis of the Homer and Kahle model-that values, attitudes and behaviour are intimately linked. While none of the examples assert a predictive benefit, they validate an association among these variables. As such, the model is mainly an affective theory, and is not designed to demonstrate cause and affect only influence. The model benefits from the simple presentation of variables that affect behaviour, but fails from the perspective that other factors are not explicitly considered. Despite this weakness, the model's major contribution is the connection of values to the emergence of human behaviour.

Theory of planned behaviour. Ajzen acknowledges the influence of values, but indicates environmental and other factors also impact the creation of behaviour. That is social norms, attributes and perceived control (Ajzen179+). These variables are more reliable than values as predictors of behaviour, perhaps because they are closer to the behaviour under examination (Hrubes, et al). Ajzen's contributions demonstrate that there is not necessarily a one-to-one relationship between behaviour, values and attitudes. Instead, behaviour may be a product of several different pathways.

This theory asserts that behaviour results from an individual's intention to perform a particular behaviour, and that intention is affected by both attitude toward the behaviour and perception of the social pressures to perform the behaviour (subjective norms). The theory of planned behaviour also asserts that intention and behaviour are functions of perceived ease or difficulty of performing behaviour (perceived behavioural control). Finally, the theory relates behaviour to underlying salient (readily available) normative,

control and behavioural beliefs.

Each of these beliefs is denied in terms of an expectancy value framework where individuals have certain beliefs concerning the value of outcomes produced by behaviour, and expectancies of whether behaviour will produce the outcome. The theory also emphasizes interdependence among variables associated with the generation of behaviour. The TPB model has been validated in several studies. For example, it is used to help explain physical activity intention of Canadian children (Mummery, et al). The theory is confirmed in a study concerning decisions of undergraduate college students to attend graduate school (Ingram, et al). The model was also tested with respect to the willingness to pay for leisure activities (Ajzen and Driver); student decisions to complete high school (Davis, et al); and video game ability (Doll and Ajzen). The model was also tested to investigate the influence of personal values (Hurbes, et al). This study determines that while values influence behaviour, variables described by the TPB model serve as better predictors of behaviour. Each of these studies validates the effectiveness of the TPB model.

On the surface, these two models seem to offer differing perspectives for the causation of behaviour. The value-attitude-behaviour model argues values as effective predictors, while the TPB model asserts social norms, attitudes and perceived behavioural control as the major influence. Deeper examination reveals the two models to be more complementary, while competing attributes become subdued. In particular, both models identify attitudes as an important precursor to behaviour. The TPB model suggests that

salient beliefs are, in turn, affected by other factors, including values. Homer and Kahle's model, on the other hand, uses values as the predecessor to attitudes without the use of intermediary beliefs. As a result, values, beliefs, attitudes, intention and behaviour can be aligned in a manner to support either model. Other factors (e.g. social norms and perceived behavioural control) can be modeled to give additional dimension to the causation of behaviour without upsetting the associative structure of either theory.

1.9.2 Conceptual Framework

The study helped to identify the fundamental qualities of a safe school. A safe school should have a strong leadership caring programs and student involvement in the design of programs and policies. The physical environment of the school should be safe and school-wide policies are in place to promote and support responsible behaviours among students and staff. The environment should be user friendly. Prevention and intervention programs are sustained, coordinated and comprehensive to cover all the aspects of a student's life in school. Interventions are based on careful assessment of student needs. This calls for students' needs assessment. Staffs are provided with training and support to help them implement programs and approaches. Staff members should be well versed with first aid, emergency drill and be of sound health. Schools that incorporate these characteristics achieve improved academics, reduced disciplinary referrals, greater staff morale and reduced loss to life and property

(http://www.org/sdrs/areas/envrnmnt/drugfree/sa200.htm)

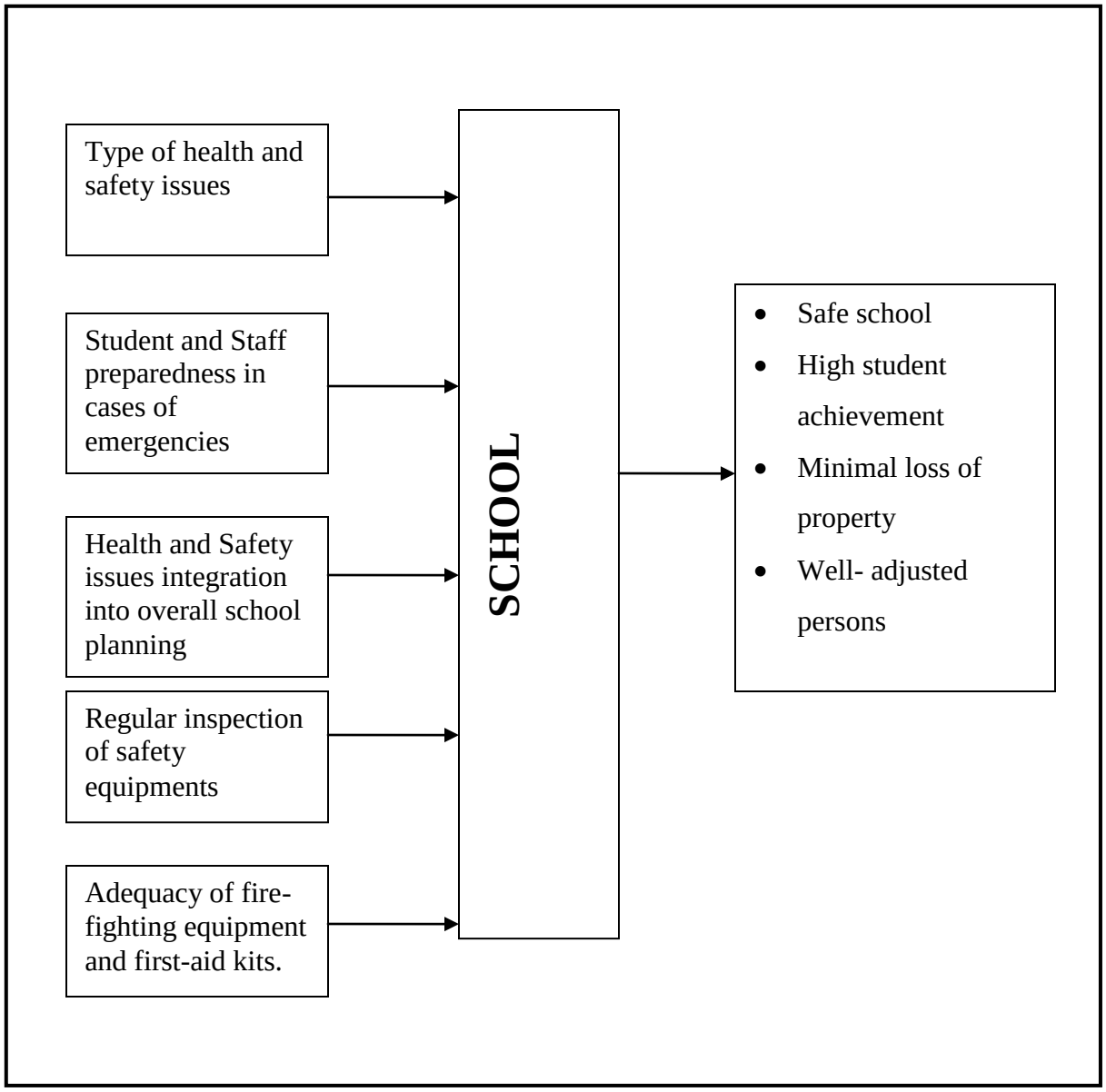

Fig 1.1: Conceptual Framework

Source: own

The conceptual framework invokes the cause – effect relationship. It shows that for schools to achieve the goals for which they were established, students and staff should be trained on interventions in cases of emergency. School administration should device efficient communication channels as well as put in place rules of conduct in schools; establish regular inspection of buildings; follow approved building plans and practise good hygiene.

1.9.3 Definitions of Operational Terms

1. **Risk** – The likelihood that an occurrence will cause harm.
2. **Hazard** – The potential of a substance to cause harm.
3. **Safety** – Implies freedom from fear. (Grouf P. B. et al., 1976:2053)
4. **Security** – Establishment of safeguards to protect one from danger.(Walker, 1988:798)
5. **Noise** - Unwanted sound.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of literature related to the study. It includes studies done mainly in the USA and happenings in the Kenyan context as reported in the Daily Newspapers. Most of the USA studies were done via the internet. Other published works include government acts and policy documents.

2.2 Related studies and cases

Responsibility for the safety of students' faculty and staff in our national schools involves abroad range of personnel. Typically this responsibility lies with teachers and administrators; however, other personnel such as safety supervisors, physicians, athletic trainers, nurses, custodians, and bus drivers play an integral role in a school systems safety plan. (Bever, 1984).

Schools should develop a detailed written safety manual. Written policy statement provide faculty and staff, they also save as checkpoint wherever a conflict arises.

General areas of responsibility that may be covered include safety instruction, first aid and emergency care, record keeping, disaster preparedness, plant inspections, in-servicing and security.

Keys to the success of any school safety programme are the principal-teacher and principal-staff working relationships. If the principal has a strong commitment to safety teachers and staff are more likely to have a strong commitment, especially if he has established a good rapport with his personnel.

Motivation

Two strategies for motivation are particularly useful in understanding the emergence of safety-related behaviour. First, reinforcement strategies explain how consequences affect an individual's intention to perform a particular behaviour (Schermerhorn, et al). These strategies are derived from the work of B.F. Skinner (classical and operant conditioning) and typically involve reinforcement of a desired behaviour through careful design and administration of consequences. Geller emphasizes that this motivational strategy is the most appropriate tactic for controlling safety-related behaviour. In particular, he suggests that consequences are the true motivators of behaviour, and that they must be designed in a manner consistent with behavioural science theory. He emphasizes that the most effective consequences are those which are soon (delivered immediately after the behaviour), certain (reliable to occur) and positive (Geller, 2000). The most effective reinforcement strategies generally occur at the immediate behaviour level, and directly affect intent of perform.

While reinforcement strategies affect the behaviour level, process strategies are effective on salient beliefs (Schermerhorn, et al). Equity and expectancy theories are examples of

this strategy. In the case of Equity theory, "people will act to eliminate any felt in equity in the rewards received for their work in comparison with others". (Schermerhorn, et al., 115). Expectancy theory "argues that work is determined by individual beliefs regarding effort/performance relationships and outcomes" (Schermerhorn, et al., 116). Unlike reinforcement strategies, tactics used to implement process theories are more time consuming, less direct, more costly, and require an emphasis on leadership and organizational culture. When used effectively, however, these strategies can affect lasting behaviour change.

Interestingly, schools are more likely to affect process strategies if the consequences of the behaviour (outcome) are perceived as being rewarding (e.g. reduced absenteeism by students. As a result, schools are also motivated by reinforcing-type strategies and become more likely to implement/sustain process motivational strategies.

Organizational commitment

Organizational commitment is an expression of a person's intent to perform behaviour (TPB model). When people are committed to an organization (school), a higher likelihood exists that they will behave according to institutional norms. As a result, commitment strengthens a person's intent to perform behaviour desired by the organization. Conversely, low commitment diminishes the likelihood (intent) that people will behave in a manner acceptable to an organization.

Organizational commitment is concerned with the alignment of personal and organizational characteristics. This is why involving students in decisions relating to their safety is very important. Kristof (1986) related organizational commitment in terms of personal organizational fit, broadly defined to mean "the compatibility between people and organizations that occurs when:

a. At least one entity provides what the other needs. (b) They share similar fundamental characteristics; or (c) Both Meyer and Alien identified three levels of commitment including affective (desire to follow), continuance (need to follow) and normative (obligation to follow). In safety, affective commitment is of central interest since the objective is to inspire a willingness to reduce at-risk behaviour, improve conditions and control hazards (Meyer and Allen).

Finegan studied commitment with particular emphasis on its association the personal and organizational values. In other words, she studied the relationship between personal/organizational values (characteristic) and the level of employee commitment in a petrochemical organization. A key finding from the study was that the level of affective commitment was primarily associated with employee perception of organizational values (149+). Finegan's (2000) study demonstrated that employees whose personal values were congruent with their perception of organizational values were more committed (affective) than those holding perceptions that diverged from personal values. That is, commitment was primarily concerned with an organization's theories-in-practice, not its espoused values. Argyris (1976). Or, in simpler terms, commitment was a function of

management's ability to "Practise what it preached". Thus, the lesson is that an organization's cultural artifacts must be viewed from the employee's perspective, and great care should be taken to ensure that these artifacts clearly represent organizational values, assumptions and beliefs.

Organizational Culture

Organizational culture introduces the concept that culture has an influence on behaviour. Cultures consist of groups, and groups consist of people. The interaction of people in these groups creates culture. Commitment is the desire to belong to these groups. Thus, the subject of commitment is very much part of organizational culture. The subject of organizational culture has been a hot topic for professionals. Much has been written about the influence of culture on safety-related behaviour including recent articles by Geller and Cooper. Despite the numerous articles on the subject, most theories share a similar basis. In particular, Schein's model is simple; it defines culture in terms of assumptions, values and artifacts. Under this theory, assumptions (unconscious, taken-for granted beliefs and perceptions) drive organizational values (espoused justifications), which in turn influence the creation of artifacts such as heroes, stories, myths, structures and processes.

2.3 An Integrative Model

While it is pragmatically appealing to seek mechanistic if then explanations (like the value-attitude-behaviour model), this approach has proved to be "Insufficient to deal with

theoretical problems" (Von Bertalanffy, 1969:11). Instead, as demonstrated by Ajzen's model of human behaviour, some phenomena are best explained in terms of a set of interrelated elements (open to the environment) organized into a complex whole. In other words, consideration of these phenomena as "systems" provides for a more complete understanding (Von Bertalanffy, 1969). As a result, systems-thinking is crucial to the interpretation of observations.

It is not sufficient to build models that exclude environmental and other factors for the sake of utility and simplicity. Instead, one must accept the complexity of life; this suggests the need for a deeper understanding of systems theory. Thus, all system components are open to each other and the environment. This creates conditions in which there is a continuous exchange of resources and a steady-state flow through the system. Consequently, equilibrium and homeostasis are not possible because of the dynamic nature of open systems. Systems, therefore, tend to operate as a whole, where linear if-then processes are not reliable. As a result, the same outcome (e.g. behaviour) can be produced by different paths (equifinality). Von Bertalanffy, 1969). Within a systems model, behaviour is explained via the TPB model. Desired behaviour produces consequences that are rewarding to people (e.g. few referrals, less safety risks). These serve as motivators (reinforcing strategy) for both the school and the student.

Senge (1990) refers to these "motivational loops" as "circles of causality". In fact, Senge specifically names these archetypes as reinforcing loops. From an organizational

perspective, these motivators drive the creation and /or maintenance of artifacts that support continuation of desired behaviours. These artifacts serve as process strategy motivators that affect worker beliefs and expectancies regarding behaviour and its outcomes. This process is affected by various other factors, which create alternate pathways explaining the emergence of a given behaviour. First, behaviour is affected by personal characteristics such as age, preferences, gender, values and other beliefs. Second, individuals coexist with other people within a culture.

Interaction within these cultures creates socialization pressures that add more explanations for the emergence of behaviour. Within the culture, social norms, values, artifacts and assumptions also act to influence behaviour. Finally, cultures exist within a post-modern environment characterized by change, ambiguity and diversity.

2.4 Application to Safety

As noted, management theories are inconsequential unless they possess properties to enhance pragmatic value. Theories become consequential when actionable elements are provided, enabling managers to place them into practice (Argyris, 1976). When this occurs, management theories become actionable knowledge.

Define the Behaviour

For example, consider the problem of convincing students to observe cleanliness. As noted, the study of behaviour begins with the definition of behaviour. So, the first step is

to define the desired behaviour in a manner that can be clearly identified by different observers. In addition, the definition must be actionable by individuals who will be performing the behaviour. This means the definition must have a specific target, action, context and timing, often referred to as TACT (Ajzen, 1991).

In the case of cleanliness, the definition might be, "wash your clothes in the evenings when you go to the hostels". In this example, the target is uniform, the action is the act of washing, the context is defined by the signs and the timing is characterized by the word "when".

Manage the Consequences

Once the behaviour is defined, the next step is to manage the consequences. Consequences must be designed so that both the school and the student are motivated to continue practising and supporting the behaviour. These consequences must be soon, certain and positive. To meet these parameters, the process must be carefully designed to ensure that consequences emerge as a natural (intrinsic) part of the process. This requires a careful understanding of reasons why students resist washing uniforms as well as an understanding of factors that motivate school administration to provide the processes and resources needed to address these reasons.

In the case of washing uniforms, consequences for the individual may relate to comfort, style, and availability, distortion of vision or prescriptions. These factors must be

addressed because their solutions are the consequences that will be perceived as soon, certain and positive by the individual. Schools on the other hand, may be motivated by consequences demonstrating the level of compliance with washing uniform. They may also be interested in knowing the degree to which bedbugs are being controlled by cleanliness. As a result, measurement and feedback systems that demonstrate the level of compliance may be needed along with data concerning level of cleanliness. The school may also be motivated by efficiencies created by fewer complaints concerning bedbugs.

Lead the Process

Management of the consequences primarily addresses reinforcing motivational strategies. This is largely a management issue. Successful mitigation of behavioural issues also requires leadership. While leadership is critical to the entire safety behaviour programme, it is particularly important as a process motivated strategy addressing salient (readily available) beliefs.

People need to believe that the act of washing clothes needs to believe that schools will provide necessary resources and facilities to support desired behaviours, and that the behaviour is under personal control. Furthermore, organizations and individuals frequently need to know whether the programme is actually producing the desired behaviour.

To address these beliefs, leadership must exercise its responsibility to diffuse dissatisfaction with the current level of compliance and inspire individuals to want

improvement. Leaders must convince everyone of the urgency surrounding the issue, and demonstrate that the problem can be solved

This information is needed to provide students with tangible evidence supporting beliefs required to sustain desired behaviours. If students see that washing uniform correlates with lowered bed bug menace, beliefs supporting the behaviour will be strengthened. In essence, leading the process is about creating cultures that support acceptable behaviour this is the primary function for leadership. It is about building a society in which cultural artifacts are perceived by students as being congruent with school values.

2.5 Conclusion

The theoretical basis for behavioural safety is well-established. While direct research related to safety is limited, plenty of research is available from other fields to support models that explain behaviour, motivation, culture and organizational commitment. Findings from studies in these arenas provide valuable insight into the development of behavioural safety programmes. The model presented compiles various theories that affect human behaviour within a systems perspective of wholeness, openness and equifinality. While its complexity may seem daunting, there are points (motivational loops) where leaders and managers can take action. Although success is not guaranteed, action at these points creates a high degree of leverage to influence behaviour to the greatest degree. Therefore, this model is actionable and creates a useful theory that Argyris terms consequential.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

The study focuses on the various kinds of health and safety hazards in school; why they are there in the first place and what the school administration and the government in general are doing to address them.

3.2 Research Design

Due to the expansive distance between schools, it will not be possible for the researcher to visit all the schools. The researcher will target at least two schools in every division. A historical research methodology will be used as the researcher tries to systematize as accurately as possible any past events that posed health and safety hazards to the school community, the pre-occupation of the researcher will be a consistent explanation of the past by the use of primary and secondary sources. He will observe, read archival records in collecting, organizing analyzing, synthesizing and making inferences.

External validity to determine the authenticity of the sources of historical information will be done. Internal validity tests will be conducted to gauge the meaning of the information. (Akinboye, 1985) Empirical methodology will also be applied to study the present through experimental observation, open-ended questionnaires, rating scales and socio-metric techniques will be applied. Again we shall do external and internal validity tests to check the experimental designs.

3.3 Location of the Study

Kenya has approximately 5 000 public secondary schools. Kyuso District has twelve established public secondary schools. Out of these twelve schools, only two schools which were not affected by the student unrest in term two of this year. Over the years schools in Kyuso District have been experiencing insecurity and safety concern as cases of student indiscipline, arson cases, disease outbreaks, collapsing of buildings abound. The researcher is well aware of these concerns in Kyuso District. He is fairly familiar with the area having worked there for the last fourteen years. The area has also been receiving its share of insecurity and health issues as details at the District Educational Offices show.

3.4 Target Population

The study targeted all the 12 secondary schools within Kyuso district. Due to the challenges of distance, time and resources, a 66.6% of the sample was selected to represent the whole school population in the district. In each of the schools targeted, the headteacher, the deputy, two members of staff and four students in every class were involved. These shows that in sampling headteachers and their deputy headteachers, census sampling was used while in student sampling 10% and in teachers 20% (Mugenda, 2008) were used.

3.5 Sampling Techniques and Sample Size

A purposive sampling was done to get a total of 8 schools in the district. A purposive

sample was necessary because of the difference in school size and composition. Some were provincial schools while others were district schools. In these schools some were mixed day/boarding schools. Purposive sampling technique was applied when selecting the teacher respondents in order to achieve a gender balance while systematic sampling technique was also applied to select the student participants.

3.5.1 Sample Size

Most of the schools in Kyuso District are single streamed. A single streamed school on average has 10 teachers, thus a sample size of two teachers is fairly adequate. Therefore, the sample size for teachers was 25 out of whom 6 headteachers filled in the checklist. For students, a single streamed school yielded 16 respondents while a double streamed school yielded 28 respondents. For a class of 40 students a sample of 5 students per class was selected. Therefore, the sample size for students was 128 respondents. The overall sample size for headteachers/deputy, teachers and students were 159 respondents (6+25+128). Both teachers and students were selected using purposive sampling so as to achieve gender balance and class and age representation.

3.6 Construction of Research Instruments

The researcher used closed-ended questionnaires since the study was quantitative in nature. These were administered to the teachers and students. A checklist was also used and was administered to school headteachers.

3.7 Pilot Study

A pilot study entailed the researcher visiting some of the selected schools prior to the actual time for data collection. Piloting helped the researcher to make workable time schedules as well as discovering gaps in the research instruments. Two schools which were not part of the targeted schools were randomly selected to represent the eight schools under study. A class was also chosen for piloting while two teachers were identified for the study. The headteachers and the deputies also answered the pilot questionnaires. Piloting enabled the researcher to determine the suitability of the questionnaire items, the wording of the questions; to assess the consistency in the responses and type of responses expected. (Simiyu, 1990).

3.7.1 Validity

Validity of the instruments was achieved through piloting of the instruments. It was possible to establish whether the instruments measure what they were expected to measure.

3.7.2 Reliability

Instrument reliability tests were conducted to ensure that test items yielded similar answers.

3.8 Data Collection Techniques

Before the researcher embarks on data collection, official government clearance was

sought from the relevant departments. The researcher visited all the six schools to administer questionnaires and to do physical observations. Authority was also sought from the school heads.

3.9 Data analysis

Analysis of data included sorting, cleaning and organization of the data from the filled questionnaires. The information was then coded, entered into a spread sheet and analyzed using Statistical Package for Social Sciences (SPSS). Data were analyzed quantitatively through the use of descriptive statistics such as frequency distributions and percentages. The data were grouped into themes from which conclusions were drawn. The data were presented using pie charts, bar-graphs, frequency distribution tables and percentages.

CHAPTER FOUR

DATA ANALYSIS, DISCUSSIONS AND RESULTS

4.1 Introduction

This chapter presents the findings of the study. This study aimed at establishing the safety preparedness of secondary schools in Kyuso District, Kenya. The study sampled a total of 6 out of 8 schools in the district of which the 6 headteachers/deputies, 25 teachers and 128 students totalling to 159 respondents (159- total sample size) participated in the study. The findings were presented based on the research objectives and study research questions. The data collected were coded and entered into SPSS package where analysis was done. Descriptive statistics were extensively used to present the findings from which interpretations and conclusions were made.

4.2 Demographic Characteristics of the Respondent

This section discusses the background information of the study respondents. Key areas addressed in the section include; distribution of the respondents, size of the schools and number of fire fighting equipment in the schools.

4.2.1 Distribution of the Respondents

Table 4.1 shows that the study gathered responses from 159 respondents. Majority of the respondents (80.5%) were students while teachers and headteachers/deputies accounted for 15.7% and 3.8% respectively. This shows that the study achieved 100% responses rate since all the target respondents in the sample size responded adequately.

Table 4.1 Sample Distribution

Respondents Distribution	Frequency (n)	Percentage (%)
Students	128	80.5
Teachers	25	15.7
Headteachers	6	3.8
Total	**159**	**100.0**

Source: (Field data, 2011)

4.2.2 Size of the Schools

The study sought to establish the size of the schools targeted. The findings show that most of the schools had over 400 students as accounted by 32%. Those schools with 100-200, 201-300 and 301-400 students accounted for 28%, 20% and 20% respectively. This is shown in figure 4.1. This shows that most schools had over 400 students hence the need to ensure proper safety precautions and preparedness are in place to deal with any emergency that may arise in the school.

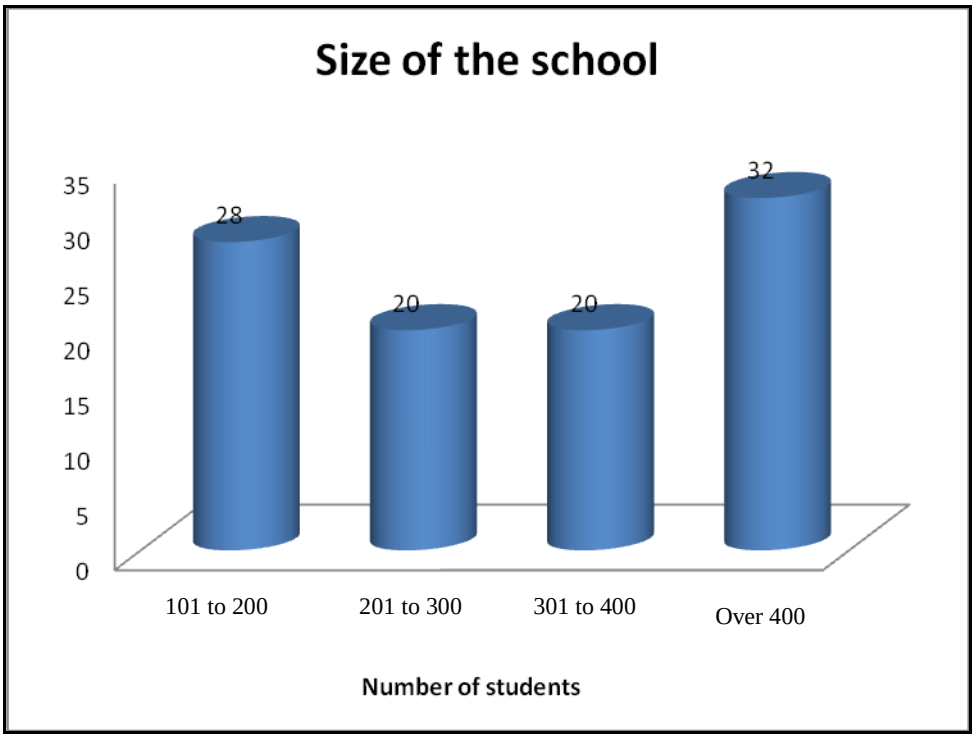

Fig 4.1: Size of the Schools

Source: (Field data, 2011)

4.2.3 Fire Fighting Equipment in the Schools

The study sought to establish the number of fire fighting equipment in secondary schools to deal with fire emergency. The findings in figure 4.2 show that majority of the schools had 1 to 5 fire fighting equipment as accounted by 44%. This shows that most schools had few number of fire fighting equipment considering that most schools had over 400 students.

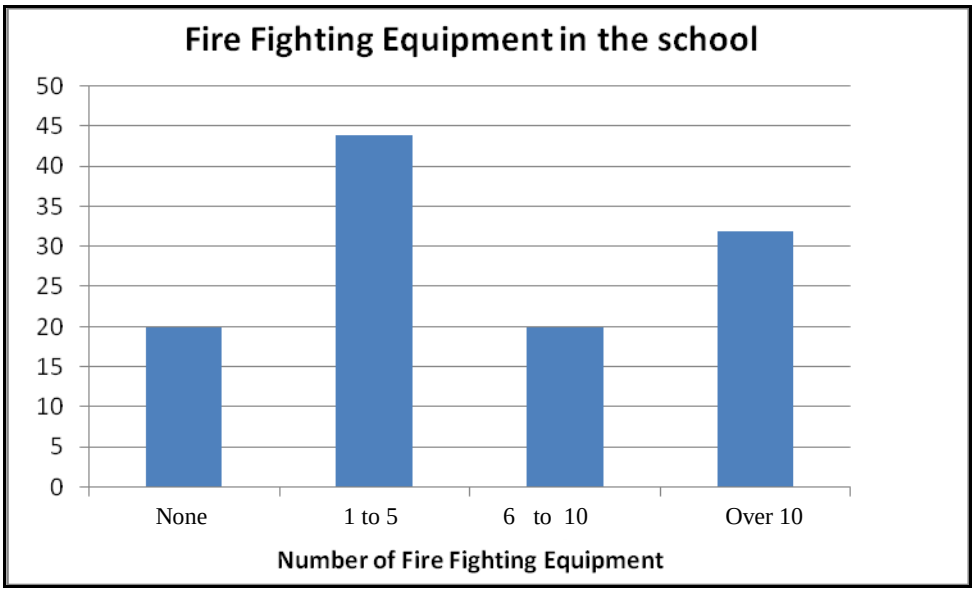

Figure 4.2: Number of Fire Fighting Equipments in Schools

Source: (Field Data, 2011)

4.3 Types of Health and Safety Issues Facing the Schools

The first objective sought to identify the types of health and safety issues that face the school community.

4.3.1 Types of Health and Safety Issues Facing Secondary Schools

The students wee presented with the various possible health and safety issues and we re expected to state the frequency at which each of the stated health and safety issues happens in their respective schools. The findings show that majority of the students (63%) have been sick severally while in school with the major disease experienced in most schools being malaria (81.3%) Most students were canned by their teacher severally while in school as accounted 47.7%). In addition, most students lacked boiled

water in their school as accounted by 77.3%) (no response). The findings further show that half of the schools do not harbour bed bugs in their dormitories (50%) with the condition of the school fence being rated average by most students (38.3%). In addition, majority of the students acknowledge to have never been beaten by other students while in a school as accounted by 67.2% while more than half of the students acknowledge that the kitchen staff were clean as accounted by 50.8% (Yes response). This is shown in table 4.2. from these findings, the major health and safety issues facing schools according to the students can be identified as follows; sickness while in school with major disease experienced being malaria, students caning by the teachers which was abolished by the Ministry of Education and lack of boiled water for student use in the school.

Table 4.2: Types of Health and Safety Issues

Types of Health and Safety Issues	Extent	Frequency	Percent
Dormitories harboring bed bugs	Always	40.0	31.3
	Sometimes	24.0	18.8
	Never	64.0	50.0
Condition of the school fence	Very good	22.0	17.2
	Average	49.0	38.3
	Very bad	14.0	10.9
Diseases experienced in the schools	Malaria	104.0	81.3
	Meningitis	14.0	10.9
	Cholera	6.0	4.7
	Tuberculosis	4.0	3.1
Getting sick while in school	Never	14.0	10.9
	Severally	81.0	63.3
	Many times	33.0	25.8
Beaten by other students while in school	Never	86.0	67.2
	Once	15.0	11.7
	Severally	17.0	13.3
Teacher caning while in school	Never	9.0	7.0
	Severally	61.0	47.7
	Many times	58.0	45.3
Provision of boiled water in school	Yes	29.0	22.7
	No	99.0	77.3
Cleanliness of kitchen staff	Yes	65.0	50.8
	No	63.0	49.2
Total (N)		**128.0**	**100.0**

Source: (Field Data, 2011)

4.3.2 Headteachers' Health and Safety Concerns

The study sought to establish from the headteachers the health and safety concerns that face their respective schools. Using a checklist, the headteachers were presented with various health and safety issues and were asked the ones that affected their schools. The findings show that majority of the headteachers answered on the alternative on the

following issues; ever witnessed student talking drugs (66.7%), students complaints about their health condition in the school (83.3%), habit of students sneaking ot of school (83.3%), school experienced student riot for the last five years (66.7%), lack of treated drinking water by the school (50.0%) and students share basins (66.7%).

On the other hand, the findings showed that majority of the headteachers answered otherwise on the following issues; school ground free of gulley and sharp objects (66.7%), issues if the security threats from the local community (100%), diseases out break in the school (83.3%), arson attack in last 5 years (66.7%), cases of food poisoning (83.3%), unclean toilet smells hang in the air within the school compound (83 .3%). These are shown in table 4.3. this shows that most of the headteachers' health and safety concerns include; student taking drugs, students complaint about their health conditions, students sneaking out of school, lack of treated drinking water, students sharing of basins and presence of gulley and sharp objects in the school compound .

Table 4.3: Headteachers' Health and Safety Concerns

	Yes		No	
	Count	**%**	**Count**	**%**
Ever witnessed student taking drugs	4	66.7	2	33.3
Students complain about their health conditions in the school	5	83.3	1	16.7
School ground free of gulley and sharp objects	2	33.3	4	66.7
Issues of the security threats from the local community	0	0	6	100.0
Habit of students sneaking out of school	5	83.3	1	16.7
Disease outbreak in the school	1	16.7	5	83.3
School experienced student riot for the last five years	4	66.7	2	33.3
Arson attack in last 5 years	2	33.3	4	66.7
Lack of treated drinking water by t he school	3	50.0	3	50.0
Cases of food poisoning in the school	1	16.7	5	83.3
Students share basins	4	66.7	2	33.3
Unclean toilet smells hang in the air within the school compound.				

Source: (Field data, 2011).

4.4 Student and Staff Preparedness Incase of Emergencies

The study sought to establish the student and staff preparedness in cases of emergencies

4.4.1 Discussion of Health and Safety During Assemblies

The study sought to establish whether the school principals talk about health and safety during assemblies. The findings in figure 4.3 show that the principals talk about health and safety during assemblies very often as accounted by majority of the respondents (46.1%). This shows that most school headteachers take responsibility of health and safety in schools.

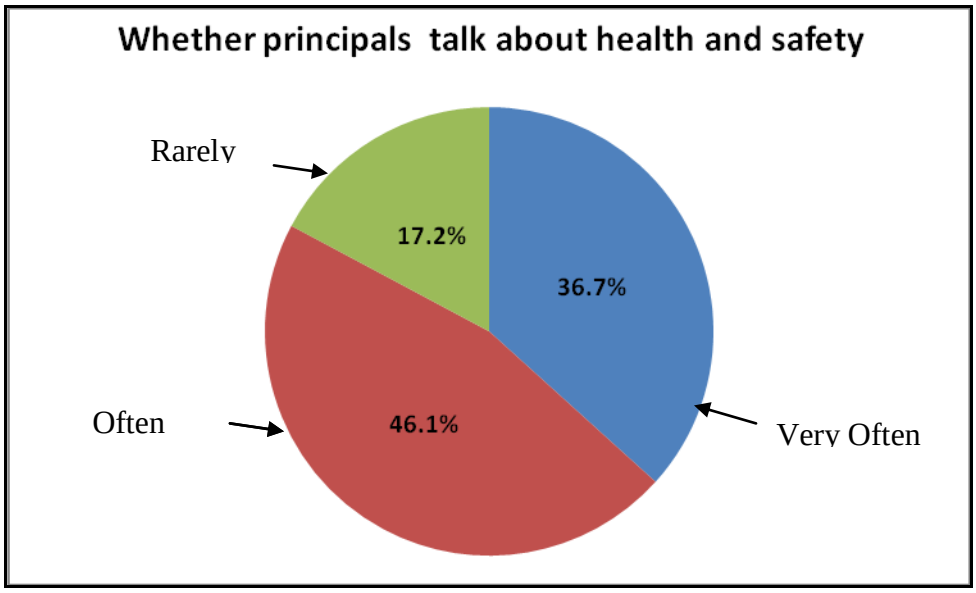

Fig 4.3: Principals' Discussion of Health and Safety During Assemblies

Source: (Field Data, 2011)

4.4.2 Level of Safety in Schools

The study sought to establish the level of safety in secondary schools. The findings in figure 4.4 show that more than half of the students rated the level of safety in their schools as good ass accounted by 57.8%. This shows that most students felt secure while in school.

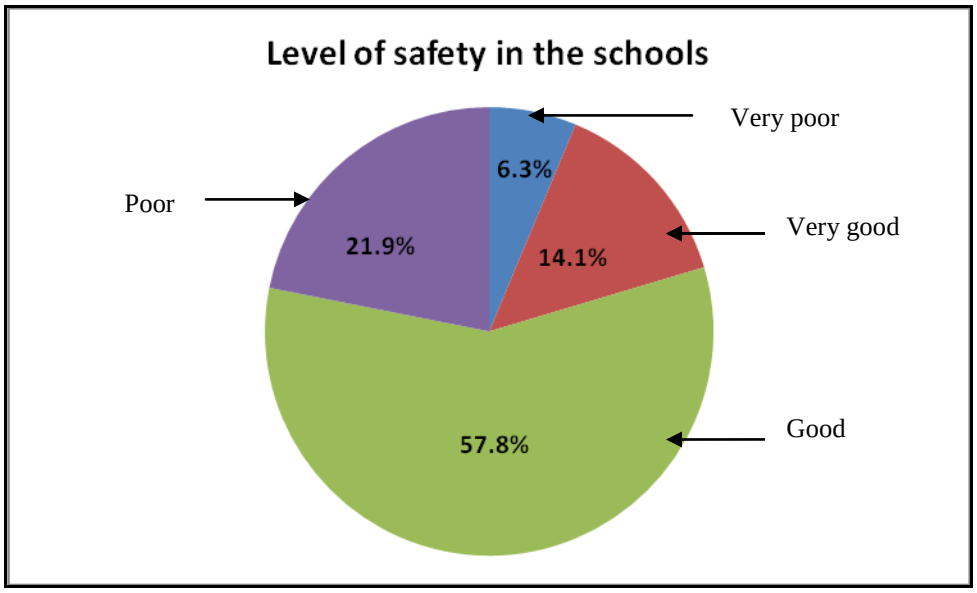

Fig 4.4: Level of Safety in Schools

Source: (Field Data, 2011)

4.4.3 Numbers of Washrooms in the School

The study sought to establish the number of toilet closets and bathrooms in the schools. According to the teachers, most schools had over 10 toilet closets as accounted by 68% as shown in figure 4.5. However, in terms of bathrooms, most schools had between 1 to 5 bathrooms as accounted by 40% this is shown in figure 4.6. This shows that most schools put a lot of effort to ensure sufficient toilet but little effort in ensuring enough bathrooms in the schools.

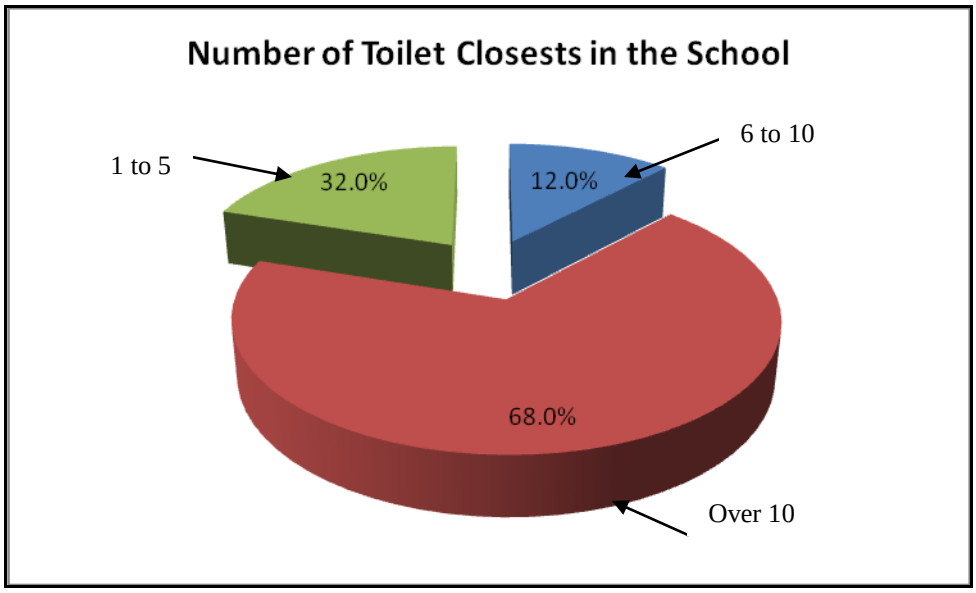

Fig 4.5: Number of Toilet in the Schools

Source: Field Data, 2011)

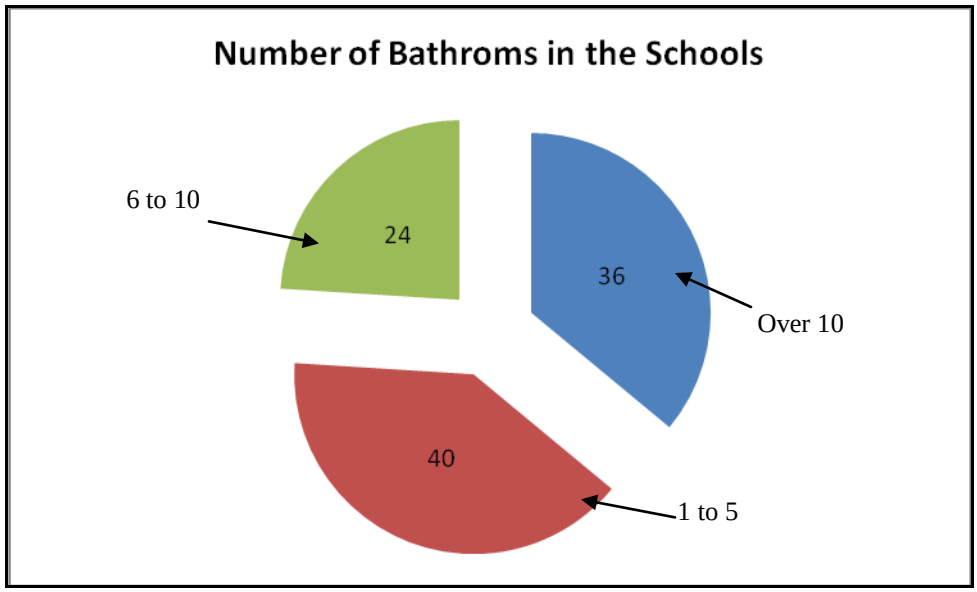

Fig 4.6: Number of Bathrooms in the School

Source: (Field data, 2011).

4.4.4 Preparedness in Cases of Emergency

The study sought to establish the headteacher's preparedness in cases of emergencies. Using a checklist, the headteachers were presented with various health and safety issues and were asked to answer as relates to them and their schools. The findings show that majority of the headteachers answered on the affirmative on the following issues; knowledge on the use of fire extinguisher (83.3%), guidance and counselling department helping to reduce drug abuse (83.3%), school cooks are clean to handle food (83.3%), boarding staff under gone medical test (100.0%), inspection of food before it is served by the teacher on duty (66.7%) and regular cleaning of the bushes around the dormitories and classrooms (100.0%).

The findings showed the majority of the headteachers were either neutral or answered otherwise on the following issues; dormitories and toilets are clean (50.0%), school ground and playing field safe (50.0%) and employment of the medical nurse by the school (100.0%). These findings are shown in table 4.4. This shows that most headteachers had acknowledge on the use of fire extinguisher, the guidance and counseling department was helping to reduce drug abuse in the schools, the cooks were clean to handle food in the schools, the boarding staff had undergone medical test, the teacher on duty usually inspected food before it's served to students and that there was regular cleaning of the bushes around the dormitories and classrooms. However, the schools had not employed a medical nurse for the school.

Table 4.4: Headteachers noting Preparedness in Cases of Emergency

	Yes		No	
	Count	**%**	**Count**	**%**
Knowledge on the use of extinguisher	5	83.3	1	16.7
Guidance and counseling department helping to reduce drug abuse	5	83.3	1	16.7
School cooks are clean to handle food	5	83.3	1	16.7
Dormitories and toilets are clean	3	50.0	3	50.0
Boarding staff undergone medical test	6	100.0		
Inspection of food before it is served by the teacher on duty	4	66.7	2	33.3
Employment of the medical nurse by the school			6	100.0
Regular cleaning of the bushes around the dormitories and classrooms	6	100.0		

Source: (Field Data, 2011)

4.5 Integration of Health and Safety Issues in Schools' Planning

The study sought to determine whether health and safety issues plans were integrated into the overall school planning.

4.5.1 Use of Government Approved Plans and Bills of Quantities in Constructions

The study sought to establish whether the schools used the government the government approved plans and bills of quantities when putting up building. According to most of the teachers, most schools sometimes used government approved plans and bills of quantities as accounted by 64%. This shows that most schools did not follow the government

approved plans and bills of quantities always and this could mean that some constructions were done without the approval which poses huge safety concerns.

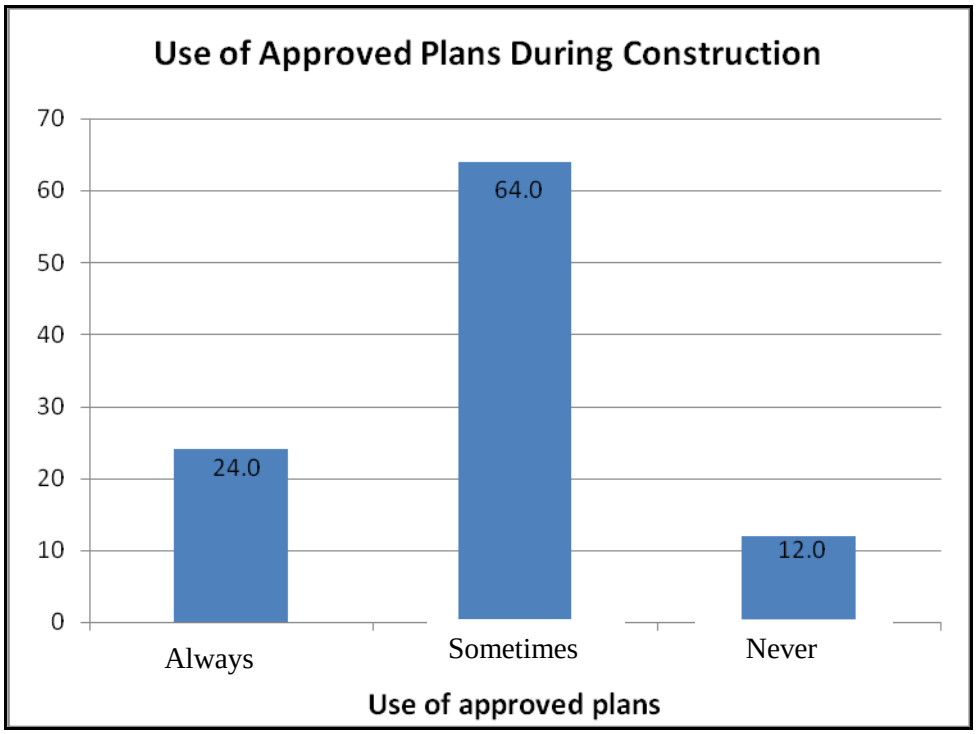

Figure 4.7: Government Approved Plans in Construction

Source: (Field data, 2011)

4.5.2 Health and Safety Incorporation in School Rules and Regulations

The findings show that according to most of the headteachers, the school rules and regulations had incorporated some aspects of healthy and safety measures as accounted by 83.3% as shown in table 4.5. This was an important step in enhancing healthy and safety in schools.

Tables 4.5: Health and Safety Incorporation in School Rules and Regulations

	Frequency	**Percent**
Yes	5	83.3
No	1	16.7
Total	**6**	**100.0**

Source: (Field data, 2011)

4.6 Inspection of the Health and Safety Measures in Secondary Schools

The study sought to find out whether the school undergoes regular inspection of is safety equipment, ability to combat fires and other emergencies.

4.6.1 Inspection of Health and Safety Conditions in Schools by Government Officers

The study sought how regularly the schools received government officers on inspection of health safety conditions in the schools. According to majority of teachers (48%), the schools rarely received government officers to inspect health and safety conditions in the schools as shown in figure 4.8.

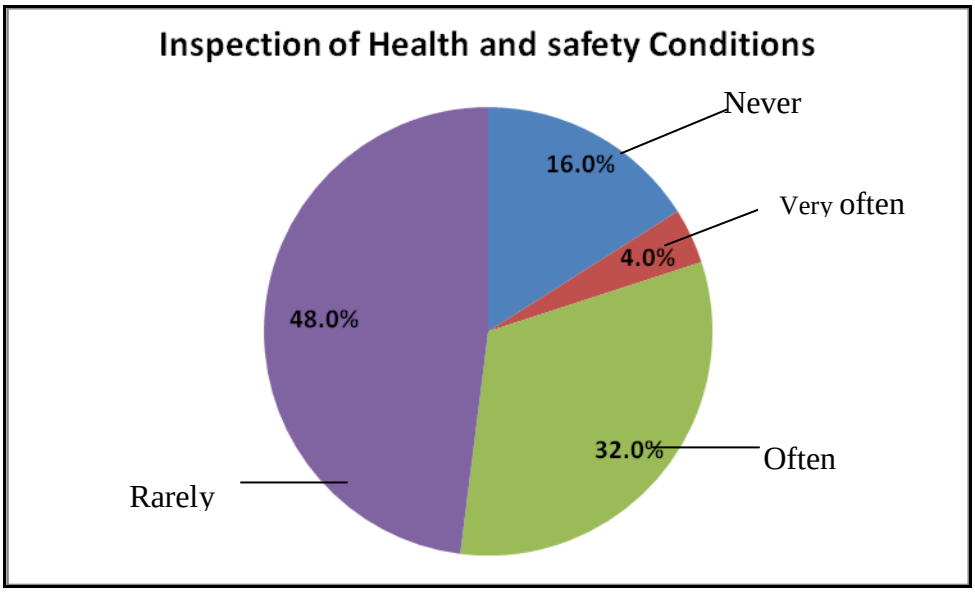

Figure 4.8: Inspection of Health and Safety Conditions in Schools

Source: (Field Data, 2011

4.6.2 Headteachers' Views on Inspection of Health and Safety in Schools

According to the headteachers, most of them had witnessed teachers inspecting food before it was served to student (83.3%), however, government officials do not inspect schools to ascertain the healthy and safety measures are in place according to 83.3, half of the schools (50.0%) organize weekend inspection after the general cleaning while others did not as shown in table 4.6. This shows failure of government officials in ascertaining the healthy and safety measures in schools.

Table 4.6: Headtaeacher's Views on Inspection of Health and Safety in Schools

	Yes		No	
	Count	**%**	**Count**	**%**
Witnessed teachers inspecting food before it was served to student	5	83.3	1	16.7
Government officials inspect schools on healthy and safety	1	16.7	5	83.3
Organize weekend inspection after the general cleaning	3	50.0	3	50.0

4.7 Students and Staff Personnel Training on Emergency Handling

The study sought to find out whether students and staff personnel are trained to handle emergency issues in their schools and whether they have knowledge on administering first-aid and using fire fighting equipment.

4.7.1 Training of New Students on Safety in the Schools

The study sought to establish whether the new students in the schools were taught on safety measures in the school. The findings show that most of the school rarely trained their new students on safety measures according to majority of the respondents (44.5%). This shows that the new students were not equipped with necessary training needed to handle emergencies in the schools.

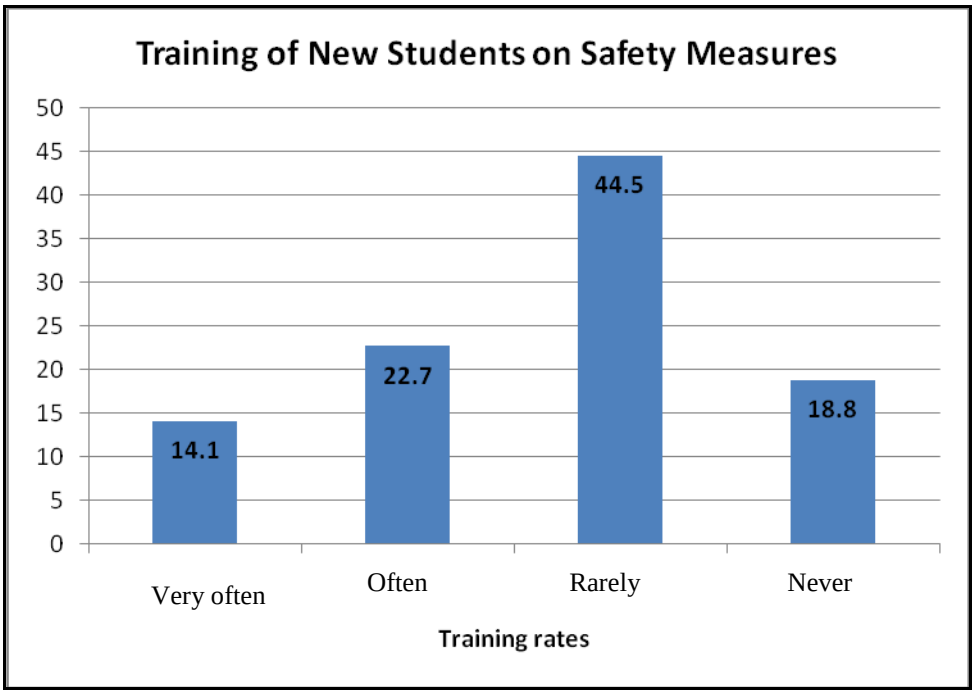

Figure 4.9: Training of New Students on Safety

Source: (Field Data, 2011

4.7.2 Staff Training on Fire Fighting

The study further established that most of the members of staff were moderately/fairly trained on fire fighting techniques as accounted by 56% of the teachers. Those that were well-trained accounted for only 4% as shown in figure 4.10 this shows the need for further training of the members of staff on the fire fighting techniques.

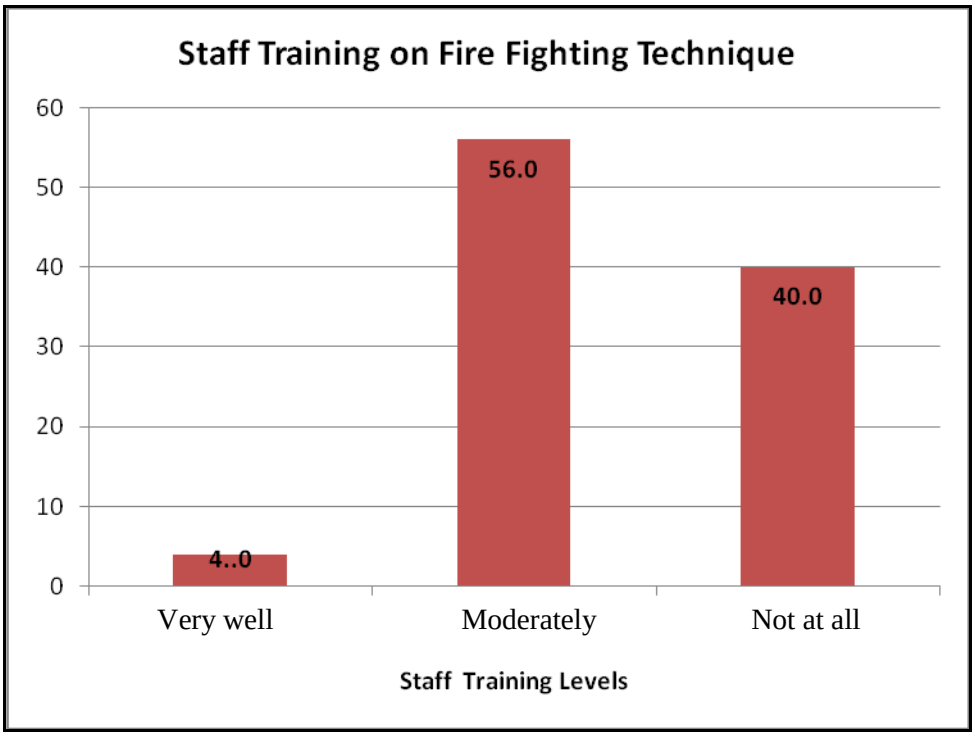

Figure 4.10: Staff Training on Fire Fighting

Source: (Field Data, 2011)

4.7.3 Headteachers' Views on Training on Emergency Handling in Schools

The study sought to establish the headteacher's views on training on emergency handling in schools on health and safety. Through the headteachers' checklist, the study established that most of the headteachers were training on the fire fighting technique as accounted by 66.7%. Further, the study shows that most of the headteachers were trained on healthy and safety regulation in science labs as accounted by 66.7%. The findings further showed that the school matrons were not trained on health and safety regulations in science labs, however, the matrons were not trained on health and safety issues hence not prepared to handle emergencies in schools.

Table 4.7: Haedteachers's View on Training on Emergency Handling

	Yes		No	
	Count	**%**	**Count**	**%**
Training on the fire fighting technique	4	66.7	2	33.3
Trained incase of emergencies	3	50.0	3	50.0
Taught on healthy safety regulations in science labs	4	66.7	2	33.3
Training of matron on health and safety issues	1	16.7	5	83.3

4.8 Adequacy of School Fire Fighting Equipment and First-Aid Kit

The study sought to establish the adequacy of the school fire fighting equipment and first-aid kit and whether they were well-serviced and strategically located within the schools.

4.8.1 Fire Points in the Schools

The study sought to establish the number of fire-fighting points in the schools. According to majority of the respondents (51.6%), most schools lack adequate fire fighting capabilities shown in figure 4.11. this shows that the schools lack adequate fire fighting capabilities hence not well-prepared to handle fire emergencies in the schools.

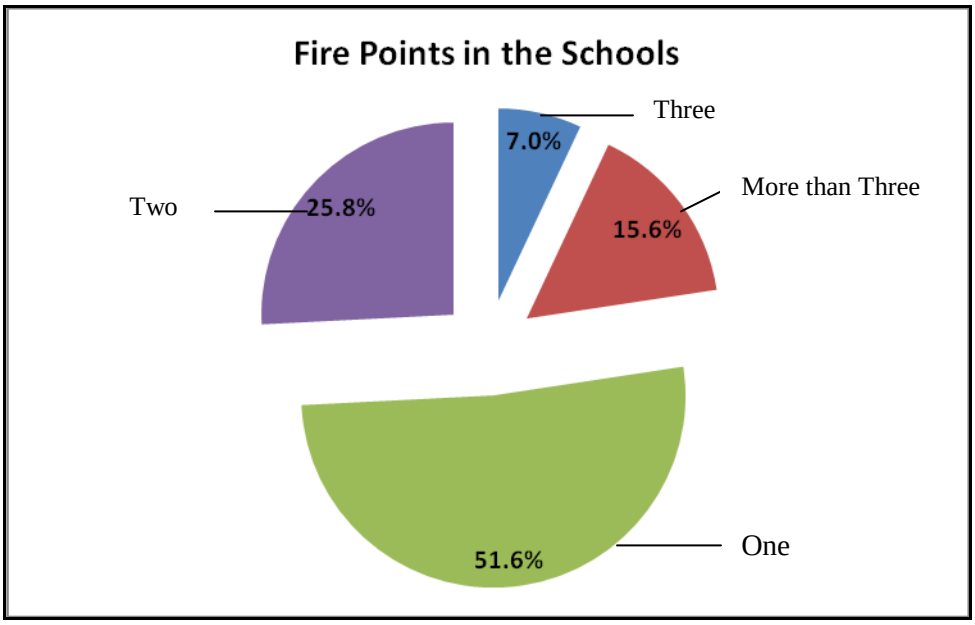

Figure 4.11: Number of Fire Points in the Schools

Source: (Field Data, 2011)

4.8.2 Schools' Stocking Adequate First Aid Drugs

The findings in figure 4.12 show that most schools stock adequate first aid drugs occasionally according to majority of the teachers (52% - sometimes response). This shows lack of full-time preparedness of the schools to deal with emergencies

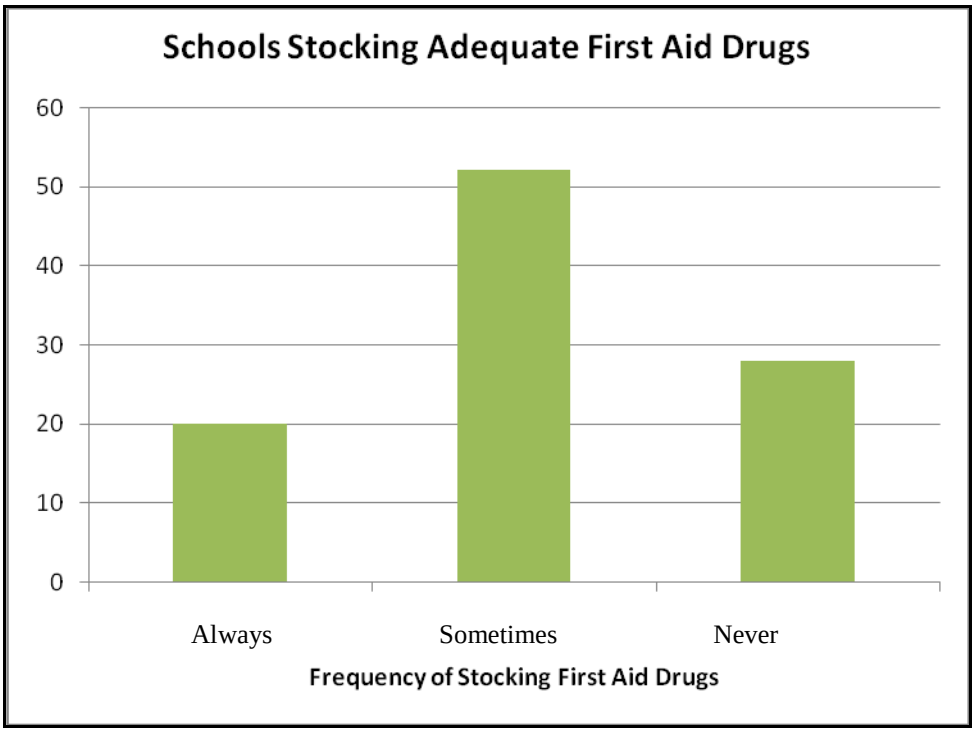

Figure 4.12: Stocking of Adequate First Aid Drugs
Source: Field data, 2011)

4.8.3 School Fire Fighting Equipment and First-Aid Kit

The findings in table 4.8 shows that from the headteachers' perspective; only 50% of the students have idea on how to use fire fighting equipment and that there is presence of an emergency assembly point in schools (66.7%). All the headteachers acknowledged the need for the government to enhance health and safety in the schools (100.0%). According to majority of the headteachers, the schools have a first aid box (66.7%). The findings further showed that the only half of the schools stock adequate first aid drugs and teach on how to give first aid (50.0% as shown in table 4.8. This shows the need for the government to enhance health and safety and the schools to stock adequate first aid drugs and teach on how to give first aid services incases of emergencies.

Table 4.8: Headteachers' Views on School Fire Fighting Equipment and First-Aid

	Yes		No	
	Count	**%**	**Count**	**%**
Students have idea on how to use fire fighting equipment	3	50.0	3	50.0
Presence of an emergency assembly point in schools	4	66.7	2	33.3
Whether government should enhance health and safety in the schools	6	66.6	2	33.3
Offering of the first aid in the schools	6	100.0		
School having a first aid drugs	4	66.7	2	33.3
Stock adequate first aid drugs	3	50.0	3	50.0
Taught on how to give first aid	3	50.0	3	50.0

Source: (Field Data, 2011).

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This study aimed at establishing the safety preparedness of secondary schools in Kyuso District, Kenya. This chapter is organized in the following sub-sections; introduction, summary of the findings, conclusions, recommendations and suggestions for further research.

5.2 Summary of the Findings

The study established that most of the schools had over 400 students (32%). In addition, the findings showed that majority of the schools had 1 to 5 fire fighting equipment (44%). Fire fighting equipment were found to be a few numbers considering the number of students in the schools (over 400 students).

5.2.1 Types of Health and Safety Issues Facing the School

The first objective to identify the types of health and safety issues that face the school community. The findings show that the major health and safety issues facing schools according to the students included; sickness while in school (63.3%) with major disease with the highest prevalent being malaria (81.3), students caning by the teachers which was abolished by the Ministry of Education (47.7%) and lack of boiled water for student use in the schools (77.3%).

From the headteachers' perspective, the major health and safety concerns include; students taking drugs in school (66.7%), students complain about their health conditions (83.3%), students sneaking out of school (83.3%), lack of treated drinking water (50.0%), students sharing of basins (66.7%) and presence of gulley and sharp objects in the school ground (66.7%). All these aspects pose health and safety concerns in the schools.

5.2.2 Student and Staff Preparedness Incases of Emergencies

The second objective of the study sought to establish the student and staff preparedness in cases of emergencies. The findings showed that most school principals very often talk about health and safety issues during assemblies (46.1%). This shows that most school headteachers take responsibility of health and safety in schools. In addition, most schools had over 10 toilet closets (68%) however, in terms of bathrooms, most schools had between 1 to 5 bathrooms (40%). This shows that most schools put a lot of effort to ensure sufficient toilet but little effort in ensuring enough bathrooms are available for student use in schools.

The findings further showed that most of the headteachers had knowledge on the use of fire extinguisher (83.3%), the guidance and counseling department was helping to reduce drug abuse (83.3%), the school cooks were clean to handle food (83.3%), the boarding staff had undergone medical test (100.0%), the teacher on duty inspected food before it served (66.7%) and that there was regular cleaning of the bushes around the dormitories and classrooms (100.0%). However, most schools had not employed a medical nurse to deal with emergencies in the schools.

5.2.3 Integration of Health and Safety Issues in Schools' Planning

The third objective of the study sought to determine whether health and safety issues plans were being integrated into the overall school planning. To achieve this, the study sought to establish whether the schools used the government approved plans and bills of qualities when putting up buildings. According to teaches, most schools sometimes used government approved plans and bills of qualities (64%). This shows that most schools did not follow the government approved plans and bills of qualities always and this could mean that some constructions were done without the proper approval which poses huge health and safety risks to the schools. However, the findings showed that most school rules and regulations had incorporated some aspect of health and safety measures (83.3%). This was an important step in enhancing health and safety in schools.

5.2.4 Inspection of the Health and Safety Measures in Secondary School

The fourth objective of the study sought to find out whether the school undergoes regular inspection of its safety equipment, ability to combat fires and other emergencies. To achieve this, the study sought to establish how regularly the schools received government officers on inspection of health and safety conditions in the schools. The finding showed that the schools rarely received government officers to inspect health and safety standards in the schools (48%). However, most headteachers had witnessed teachers inspecting food before it was served to students 83.3%) but only half of the schools sampled (50.0%) organized weekend inspection after the general cleaning. These findings showed failure of government officials in ascertaining the health and safety measures in schools.

5.2.5 Students and Staff Personnel Training on Emergency Handling

The fifth objective of the study sought to find out whether students and staff personnel are trained to handle emergency issues in their schools and whether they have knowledge on administering first aid and using fire fighting equipment. To achieve this, the study sought to establish whether the new students in the school were taught on safety measures in the school. The findings showed that most of the schools rarely trained their new students on safety measures (44.5%). This shows that the new students were not equipped with necessary training need to handle emergencies in the schools.

The study further established that most of the members of staff were fairly trained on fire fighting techniques (56%). This shows the need for further training of the members of staff on the fire fighting techniques. However, most of the headteachers were training on the fire fighting technique and health and safety regulations in science labs. The findings further showed that most school matrons were not trained on health and safety issues hence not prepared to handle emergencies in schools.

5.2.6 Adequacy of School Fire Fighting Equipment and First Aid Kit

The sixth objective of the study sought to establish the adequacy of the school fire fighting equipment and first aid kit and whether they were well-serviced and strategically located within the schools. The findings showed that most schools had only one fire fighting point (51.6%). This shows that the schools lacked adequate fire fighting capabilities hence not well-prepared to handle fire emergencies in the schools. The

findings further showed that most schools stocked adequate first aid drugs occasionally (52%). This shows lack of full-time preparedness to deal with emergencies in the schools. In addition, all the headteachers acknowledged the need for the government to enhance health and safety in the schools (100.0%). The findings further showed that only half of the schools stock adequate first aid drugs and teach the staff and students on how to give first aid (50.0%). This shows the need for the government to enhance health and safety and the schools to stock adequate first aid drugs and enhance training on how to give first aid services incases of emergencies.

5.3 Conclusions

The purpose of the study was to establish the safety preparedness of secondary schools in Kyuso District, Kenya. The types of health and safety issues facing the school community were identified as follows; student sickness while in school with major disease being malaria, students caning by teachers which was abolished by the Ministry of Education, lack of boiled water for student use in the schools, student indulgence in drugs abuse in schools, students sneaking out of school, lack of treated drinking water, students sharing of basins and presence of gulley and sharp objects in the school ground. All these posed health and safety risks in the schools.

On student and staff preparedness in cases of emergencies, the study showed that school principals very often talk about health and safety issues during assemblies which was a sign of responsibility among the headteachers on health and safety in schools. In addition,

most schools had adequate toilet closets but inadequate bathrooms. This shows that most schools put a lot of effort to ensure sufficient toilet but little effort in ensuring enough bathrooms are available for student use in the schools.

The study showed that the headteachers were acknowledgeable on the use of fire extinguisher, the guidance and counseling department was helping to reduce drug abuse in the school, the school cooks were clean to handle food, the boarding staff had undergone medical test, the teacher on duty usually inspected food before it was served and that there was regular cleaning of the bushes around the dormitories and classrooms. There were good measures put in place to deal with health and safety emergencies in the school. However, most schools had not employed a medical nurse to deal with emergencies in the school.

The study showed that most schools did not follow the government approved plans and bills of quantities always and this could mean that some constructions wee done without the proper approval which poses huge health and safety risks to the schools. However, the school rules and regulations had incorporated some aspects of health and safety measures. This was an important step in enhancing health and safety in schools. In addition, the schools rarely received government officers to inspect health and safety conditions in the schools. This was failure of government officials in ascertaining the health and safety measures in schools.

The study established that the schools rarely trained their new students on safety measures. This shows that the new students were not equipped with necessary training needed to handle emergencies in the schools. In addition, the members of staff and school matrons were not well-trained on fire fighting techniques. This shows the need for further training of the staff on the fire fighting techniques to prepare them to handle emergencies in schools.

The study showed that most schools lacked adequate fire fighting capabilities since most of them had only one fire fighting point. This shows that the schools were not well-prepared to handle fire emergencies in the schools. In addition, the schools stocked adequate first aid drugs occasionally. This shows lack of full-time preparedness to deal with emergencies in the school. The study however acknowledged the need for the government to enhance health and safety in the school.

5.4 Recommendations

This study recommends as follows:

i. The schools need to embark on intensive training on health and safety preparedness for all students and members of both teaching and non-teaching staff to improve on level of knowledge on health and safety on the schools with more emphasis on fire fighting techniques since this study established that the students and staff were not knowledgeable on health and safety preparedness measures in the schools. This will equip them with the necessary training needed to handle emergencies incase they arise in the schools.

ii. The school management need to make a concerted effort to ensure that the schools follow the government approved plans and bills of quantities during construction. Proper construction approvals need to be followed when constructing structures in the school to avoid huge health and safety risks to the schools.

iii. The government through the Ministry of education needs to organize active progamme for school inspection on regular basis. There is need for the Ministry of education to forge a corroborative approach with the schools management with an intention of enhancing safety preparedness in the school. This will ensure that the schools uphold the required health and safety standards in the schools.

iv. The schools management needs to improve on the school fire fighting capabilities. There is need to increase the number of fire fighting equipment and fire fighting points in school to make them easily accessible incase of fire emergency.

v. There is also need for schools to increase adequate first aid kits and drugs at all times in school so as to ensure the school is well-prepared to deal with any emergency that may arise in schools. This will make the school a safe place for students to learn.

5.5 Suggestions for Further Research

The researcher recommends that further research be undertaken in other districts and counties to access the school health and safety preparedness in cases of emergency. This will go a long way in improving the health and safety standards of students in these schools. More research however, needs to focus on the school-communities corroborative based strategies and mitigation measures that can be adopted to improve the safety standards of secondary schools throughout the country.

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APPENDIX I

Questionnaire for Students

1. Does your principal talk about your health and safety during assemblies?

   Very often ☐
   Often ☐
   Never ☐
   Rarely ☐

2. Does you dormitory harbour bed bugs?

   Sometimes ☐
   Always ☐
   Never ☐

3. How many fire points do you have in the school?

   a. One ☐
   b. Two ☐
   c. Three ☐
   d. More than three ☐

4. Do the dormitories harbour bed bugs

   a. Always ☐
   b. Sometime ☐
   c. Never ☐

5. Does the school stock adequate first aid drugs?

   a. Always ☐

b. Sometime ☐

c. Never ☐

6. Is the school fence in good condition?

a. Very good ☐

b. Average ☐

c. Bad ☐

d. Very Bad ☐

7. What can you say about your safety in school?

a) Very good ☐

b) Good ☐

c) Poor ☐

d) Very poor ☐

8. Which type of diseases, has been experienced in your school?

a) Malaria ☐

b) Menegitis ☐

c) Cholera ☐

d) Tuberculosis ☐

9. Are new students in you school taught on safety in school?

a) Very often ☐

b) Often ☐

c) Rarely ☐

d) Never ☐

APPENDIX II

A Questionnaire for Headteachers, Deputies and Teaching Staff

10. In terms of number of students what is the size of your school?

a. 15 - 100 ☐
b. 101 - 200 ☐
c. 201 - 300 ☐
d. 301 - 400 ☐
e. Over 400 ☐

11. How many fires fighting equipment do you have in your school?

a. None ☐
b. 1-5 ☐
c. 6-10 ☐
d. Over 10 ☐

12. How regularly does the school receive government officers on inspection of health safety conditions?

Very often ☐
Often ☐
Rarely ☐
Never ☐

13. How many toilet closets do you have in school?

a. 1-5 ☐
b. 6-10 ☐

c. Over 10 ☐

14. How many bathrooms do you have in the school?

a. 1-5 ☐

b. 6-10 ☐

c. Over 10 ☐

15. How well are your members of staff trained on fire fighting?

Very Well ☐

Moderately ☐

Not at all ☐

16. When putting up building, do you use government approved plans and bills of qualities?

a. Always ☐

b. Sometime ☐

c. Never ☐

17. How many fire points do you have in the school?

a. One ☐

b. Two ☐

c. Three ☐

d. More than three ☐

18. Do the dormitories harbour bed bugs?

a. Always ☐

b. Sometime ☐

c. Never ☐

19. Does the school stock adequate first aid drugs?

a. Always ☐

b. Sometime ☐

c. Never ☐

20. Is the school fence in good condition?

a. Very good ☐

b. Average ☐

c. Bad ☐

d. Very Bad ☐

APPENDIX III

Checklist for Headteachers.

1. Have you eve been decided on fire fighting techniques?

   YES ☐ NO ☐

2. Do you know how to use a fire extinguisher to put off a fire?

   YES ☐ NO ☐

3. Have you ever suffered any ailment while in school?

   YES ☐ NO ☐

4. If yes in 3 above, were you treated within the school?

   YES ☐ NO ☐

5. While you were in school, have you ever witnessed students taking drugs (smoking, beer, bhang etc)

   YES ☐ NO ☐

6. Have you been on what to do in case of emergencies (e.g. bulling, fire outbreak etc)?

   YES ☐ NO ☐

7. Have you been taught on health safety regulations in the science laboratories?

   YES ☐ NO ☐

8. Do you think the guidance and counseling department is helping to reduce case of drug abuse in the school?

   YES ☐ NO ☐

9 In your own opinion do you think the school cooks are clean to handle the food?

YES ☐ NO ☐

10 In your own opinion do you think the dormitories and toilets are clean?

YES ☐ NO ☐

Have you witnessed teachers inspecting food before it is served to you?

YES ☐ NO ☐

12 In your opinion, are the school grounds and playing field safe?

YES ☐ NO ☐

13 Do the students complain about health conditions in the school?

YES ☐ NO ☐

14 Have your boarding staff under gone medical tests?

YES ☐ NO ☐

15 In your own opinion, do you think your students are able to use fire fighting equipment?

YES ☐ NO ☐

16 Have you ever requested the relevant government officials to inspect your school on health and safety in the school?

YES ☐ NO ☐

17 Do your school rules and regulations have aspects of health and safety in the school?

YES ☐ NO ☐

18 Does the teacher on duty inspect food before it is served to students?

YES ☐ NO ☐

19 Do the students complain about poor health conditions in the school?

YES ☐ NO ☐

20 Does the school have an emergency assembly points?

YES ☐ NO ☐

21 In your own opinion, do you think the government should do more to enhance health and safety in the school?

YES ☐ NO ☐

22 Are the school grounds free of gulley and sharp objects?

YES ☐ NO ☐

23 Is the school matron trained on health and safety issues?

YES ☐ NO ☐

24 Has the school employed a medical nurse?

YES ☐ NO ☐

25 Has the school community been receiving security threats from the local community?

YES ☐ NO ☐

26 Do your school students have a habit of sneaking?

YES ☐ NO ☐

27 Has this school ever experienced a disease outbreak? (Tick)

YES ☐ NO ☐

28 Were the students offered first aid in the school?

YES ☐ NO ☐

29 Does the school have a first aid box?

YES ☐ NO ☐

30 Has the school experienced a student riot in the last five years?

YES ☐ NO ☐

31 Has there been an arson attack (burning of class food store, etc) in the last five years?

YES ☐ NO ☐

32 Does you school stock adequate first aid drugs?

YES ☐ NO ☐

33 Does your school organize for weekend inspection after the general cleaning?

YES ☐ NO ☐

34 Does your school provide you with treated drinking water?

YES ☐ NO ☐

35 In the course of your stay in school, have there been cases of element related to food poisoning?

YES ☐ NO ☐

36 Are the bushes near the dormitories and classrooms regularly cleared?

YES ☐ NO ☐

37 Do the students share basins?

YES ☐ NO ☐

38 Does the smell of unclean toilet hang in the air within the school compound?

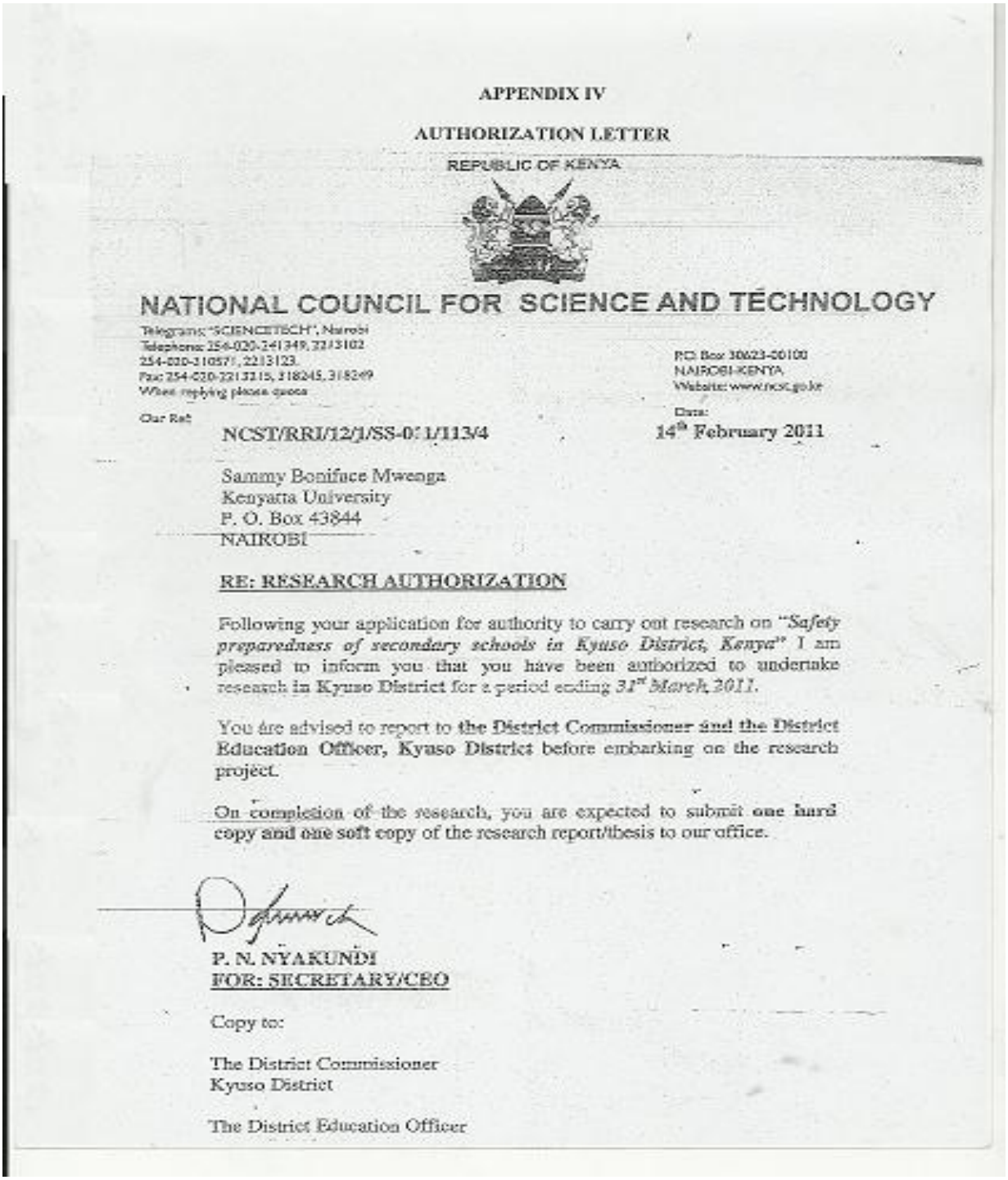
YES ☐ NO ☐

39 Have you been taught on how to give first aid?

YES ☐ NO ☐

APPENDIX IV

AUTHORIZATION LETTER



APPENDIX IV

AUTHORIZATION LETTER

REPUBLIC OF KENYA

NATIONAL COUNCIL FOR SCIENCE AND TECHNOLOGY

Telegrams: "SCIENCETECH", Nairobi
Telephone: 254-020-241349, 2213102
254-020-310571, 2213123,
Fax: 254-020-2213215, 318245, 318249
When replying please quote

P.O. Box 30623-00100
NAIROBI-KENYA
Website: www.ncst.go.ke

Our Ref: NCST/RRI/12/1/SS-0[illegible]1/113/4

Date: 14th February 2011

Sammy Boniface Mwenga
Kenyatta University
P. O. Box 43844
NAIROBI

RE: RESEARCH AUTHORIZATION

Following your application for authority to carry out research on *"Safety preparedness of secondary schools in Kyuso District, Kenya"* I am pleased to inform you that you have been authorized to undertake research in Kyuso District for a period ending *31st March, 2011.*

You are advised to report to the District Commissioner and the District Education Officer, Kyuso District before embarking on the research project.

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

P. N. NYAKUNDI
FOR: SECRETARY/CEO

Copy to:

The District Commissioner
Kyuso District

The District Education Officer