# Adequacy of Safety Procedures and Infrastructure for School Safety in Kenya

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### Abstract

Safety for students and staff from hazards is threatened by inadequate procedures, infrastructure and poor environmental and architectural designs for safety needs. This study investigated the adequacy of procedures and infrastructure to respond to fire outbreaks and destructive violence with a view to making recommendations for improving safety conditions in schools in Kenya. The study adopted a survey research design in which a random sample of 210 respondents was drawn from seven secondary schools in Turkana County, Kenya. They included students, head teachers, teachers, non-teaching staff, community members, and key informants. Observation method was used to complement interviews in data collection. The data collected were analyzed using Statistical Package for Social Sciences (SPSS) program. The findings showed that schools in the County strongly relied on reactive approach to address safety concerns; poor infrastructure contributed to unsafe conditions and that schools' environmental and architectural designs do not adequately enhance school safety. Based on these findings: schools should not over depend on reactive approach but adopt proactive programs to address safety concerns; safety procedures should be re-evaluated and made relevant to the current status of contemporary challenges in schools; Fencing and surveillance of schools' environment should be improved to measure current needs and standards; adequate fire fighting equipment should be provided and strategically placed and school's environmental and architectural designs should be improved to meet required standards.. The findings of the study and their implications will assist the teachers, students, parents and educational managers in policy guidelines on school safety.

**Keywords**: School Safety, Safety Procedures, Infrastructural Designs and Safety, Safety Awareness

### Introduction

Issues of school safety in Kenya are becoming a major concern to various stakeholders. The upsurge of fires and other life threatening incidents in schools in Kenya during the recent past has implications that may seriously endanger supportive environment particularly for students and learning in general. Until recently, the government of Kenya has from time to time appointed various educational task forces to address various challenges facing our education sector. In Kenya, reports on lack of safety both in and out of school have been featuring more prominently, Kemunto et al (2012). When 26 lives of innocent school children

were terminated through a mysterious fire in Bombolulu Girls School (Coast Province, Kenya) in March 1998, there has been some considerable talk and search for solutions as more schools buildings burn down.

National Crime Research Center, (2016), notes that the secondary education sub-sector faced serious challenges of school arson and safety incidences in recent times. The government, however, has spelled out basic safety standards for boarding facilities to comply with as stated by Ministry of Education Science and Technology, (2008), Critical issues that have been discussed include preventive policies and procedures, crisis preparedness, crisis response and community role in school safety. According to Paine & Sprague (2000:1), "Safety plans are an essential part of the school improvement". He states the following as essential components of safety plans: Community collaboration; anti- violence curriculum; preventive student- discipline policies; safe physical environment; staff and student training and support and crisis-response plan.

The School administrators have a responsibility to ensure that the school environment is conducive for learning (Day & Golench, 1995). They can accomplish this by working through an establishment of clear rules and procedures; thus School policy takes an important role in Safety procedures. These procedures would provide for ways of preventing crisis, administrative responsibilities and reactions to violations of existing rules that prohibit bad behaviour which is likely to cause safety risk.

The rationale of safety procedures among administrators, staff members, students and other stakeholders should be clear, if their support and contribution would be realized. However, some of the school policies are too old and their relevance to safety issues is questionable. Furthermore, some of the problem facing institutions as noted by Orora (1997); are "unique, unusual and exceptional" and might not have occurred often to gain attention of policy. Nonetheless school should not wait to respond to violence but should adopt pro-active safety procedures, (Begun, 2001).

Day & Golench, (1995) classified policies that would promote school safety into four types. These types are response or dealing with misbehaviour, expectations in form of a model for appropriate behaviour which students should follow, preventive strategies and programs that inhibit misbehaviour and lastly community focus where community groups are included in initiatives to address the problem of school violence. These apparently reflect the situation in Kenyan schools where set rules are believed to discourage inappropriate behaviour. The question here is whether the existing rules adequately deal with other issues of safety such as preparedness, favourable environment for learning, relationships, drug abuse and violence in general.; According to Peterson et al. (1996), the community should be involved in school safety programs that effectively cut violence by involving families, students and the community.

The underlying issue on safety would be adequacy of procedures and precautions that have been taken by schools. From research studies by US Department of Education and US Department of Justice, it is clear that a combination of programs and strategies that include security checks, education in violence or arson prevention, counselling and management of students would be ideal. Arson prevention would include installation of fire extinguishers in school laboratories, offices, and other fire prone spots. It would also be expected that fire drills and first aid, form part of the weekly activities and the fire equipment is checked for readiness in case of emergency.

In the recent past, issues on school safety in Kenya are taking a centre a stage among the various stakeholders. The initiative termed 'Schools Safety Zones' by the Ministry of

Education Science and Technology (2003) in Kenya is aimed at enhancing schools to become safe and attractive institutions where basic and critical children's learning needs are met in an enhancing environment. The initiative recommends creation of exit and access routes in dormitories and fire fighting equipment is made mandatory for every school.

There are several gaps that exist in relation to these components as indicated in a circular to schools from the Ministry of Education, dated 10th April 2002 entitled 'Health and Safety Standards in Education Institutions." This was a reaction to the fire incident in Kyanguli Secondary School. The memorandum issued a number of policy guidelines on safety procedures. Some of the policy guidelines from the circular touched on the issues such as: the need for training on how to handle emergencies including fires, lightning, swimming accidents, floods and any other catastrophe which may occur; Fire drills that should be undertaken frequently, at least twice a term, by the school community; Fire equipment and the need to service them regularly; Other measures and policies on doorways, spacing, windows, regular roll calls and patrols. But according to In spite of such effort and activities to address school safety concerns, Kemunto et al (2012) reiterates that national secondary schools have done moderate implementation of safety policies due to a number constraints.

## Problem Statement

Transparency International Kenya, (2014), states that 36% of school management committees have very limited understanding of their roles and responsibilities. This scenario casts doubt as to how these committees can successfully carry out their functions as stipulated in Section 59 of the Basic Education Act, which includes providing for the welfare and ensure safety of the pupils, teachers and non-teaching staff schools.

According to Ministry of Education Science and Technology, (2003), the initiative termed, 'Schools Safety Zones' is aimed at enhancing schools to become safe and attractive institutions where basic and critical children's learning needs are met in an enhancing environment. The initiative recommends creation of exit and access routes in dormitories and firefighting equipment to be made mandatory for every school. Questions have arisen as to what role the Education Ministries Quality Assurance and Standards Department play to ensure safety in schools. However, there have been suggestions to fix fire equipment in all buildings in schools and students to be taught how to use them.

Most government memos do not provide elaborate programs to address the challenge of safety. The statements are majorly directives. Most circulars neither indicate the various risk factors that exist in educational institutions nor the causes of such incidents. In the past, questions have been raised on safety needs in infrastructure and procedures among all stakeholders, Omolo and Simatwa, (2010). With most school buildings having been constructed several years ago, and may not be easily adjusted to conform to new requirements, the directives bear no clear strategy of facilitating necessary demolitions and/or monitoring related policy implementations.

The cost implications of modification and reconstruction were not addressed in government circulars. Consequently, evacuation plans for vulnerable persons has never been exhaustively explained in internal school safety procedures, Services, S., & Branch, S. P. (2017). Furthermore, having students participate in school safety drills is faced with complex scenarios of schools' competing interests and priorities. Following persistent fires in schools, investigations have been commonly undertaken dealing with the role of the administration, the suspects and the victims rather than review of the whole setup underlying safety procedures in schools. In essence, reports of high profile strikes create an impression that

there is a gap in school safety and thus the question of whether schools have put in place adequate safety procedures. According to Peterson et al (2000); school violence prevention demands that we be prepared for the eventuality of violence. Schools that are safe and responsive have plans and procedures in place to deal with violent and disruptive behaviours that may occur.

## Purpose and Objectives of the Study

The main purpose of this study was to investigate the adequacy of the procedures and infrastructure to respond to address safety concerns and how they are well communicated and understood within the school setup.

## Theoretical Framework

This study was guided by Contingency Theory; Cole (1996:55) relates Contingency Theory to stress the need to "take specific circumstances or contingencies into account when devising appropriate organizational and management systems". The theory seeks to predict organizational behaviour by studying people, structures, technology and environment. One of the features of Contingency Theory agrees with the description on organisation structure by Lunenburg, Fred and Oristein (2004). In other words, it is having the right things in place at the right time.

The study utilized the theory as illustrated in the figure, Contingency Theory Framework, below.
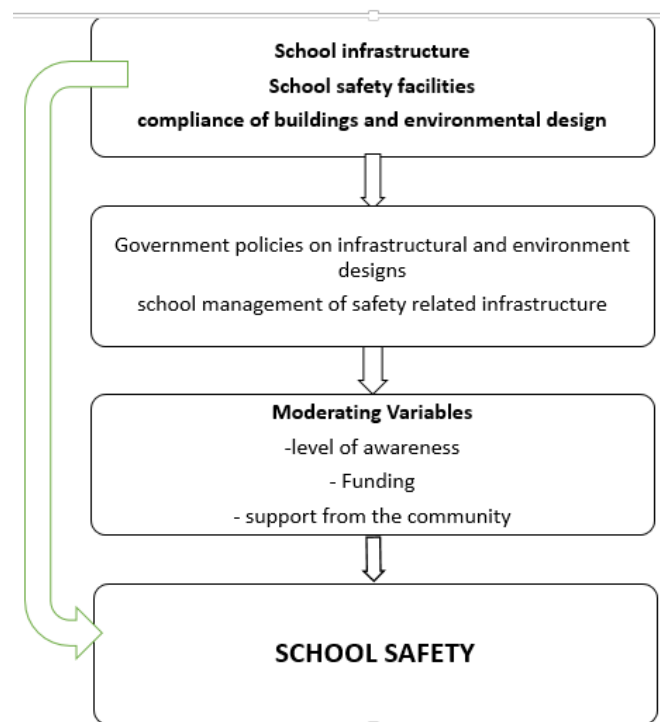


Figure: Contingency Theory Framework

The relevance of this theory to the study is underlined in its definition and purpose. Contingencies must be put in place in an organizational and management systems and that work to be done must be clearly outlined beforehand. It pointed to the need to establish whether infrastructure and environment designs are adequate for school safety. The flow of

variables as illustrated above is in tandem to conceptualization of Otley (1980) on contingency theoretical framework.

## Methodology
### Research Design
The study adopted a survey research design that was used purposely to collect factual information describing safety procedures and preparedness in secondary schools. Data collected was analyzed and used to make comparisons and evaluations relating to safety procedures awareness and preparedness.

### Sampling Procedures
Non-probability (purposive) sampling was used to select head teachers and key informants. Teachers, school workers and members of the community were chosen through simple random sampling. Students were picked through stratified random sampling.

### Sample Size
Respondents selected for this study were head teachers, members of teaching staff in each school, students and non- teaching staff. Members of the community and education officers were also interviewed being key informants. The sample size drawn was 210 which constituted of 140 students; 35 teachers; 14 non- teaching staff; 10 community members; 7 headmasters and 4 key informants.

### Research Instruments and Data Collection Procedures
The research instruments used for data collection in this study were: questionnaire; interview schedule; observation schedule. Questionnaires were administered to students, teachers and headmasters. Key informants, community members and schools' non-teaching staff were interviewed on issues concerning safety procedures and precautions. The researcher made observation of the physical environment that included buildings, fences and the entire school compound with a view to establish the situation on the ground. Observation was done and unstructured notes were made. Document analysis was also done on school policies, vision and mission statements and routines in relation to safety procedures. These included time- tables and program routine, memos, reports and staff minutes.

### Data Analysis
The data collected were analyzed using Statistical Package for Social Sciences (SPSS). Statistics used in analysis includes descriptive and inferential. Inferences on null hypothesis were made through the use of Chi- square test. Statistical significant relationship existing between variables was accepted at 99% level of significance. Measures of central tendency and percentages were also calculated to enable descriptive interpretation of collected data.

## Results and Discussion
### Displayed Plans to Respond to Fires, Riots and Natural Disasters
Respondents were asked to give responses on whether their schools had displayed written plans on fires, riots and natural disasters. Those served with questionnaire were head teachers, teachers and students. Their reply to questions on disasters, fires and riots were combined into one variable named 'plans to respond to fires, disasters and riots' and results of each variable was also analyzed. Table 2 below presents an analysis of these variables.

Table 2

*Displayed Plans for Students, Teachers and Head- Teachers to Respond to Fires Disasters and Riots*

| Type of plans | | | | Are there written Plans | | Total |
|---|---|---|---|---|---|---|
| | | | | Yes | No | |
| Plans for disasters | Students, teachers and head teachers | Teachers | Count | 2 | 33 | 35 |
| | | | % within: Students; teachers; Head teachers | 5.7% | 94.3% | 100.0% |
| | | Students | Count | 61 | 79 | 140 |
| | | | % within Students; teachers ; Head teachers | 43.6% | 56.4% | 100.0% |
| | | Head teachers | Count | 3 | 4 | 7 |
| | | | % within Students; teachers ; Head teachers | 42.9% | 57.1% | 100.0% |
| | Total | | Count | 66 | 116 | 182 |
| | | | % within Students; teachers ; Head teachers | 36.3% | 63.7% | 100.0% |
| Plans for fires | Students, teachers and head teachers | Teachers | Count | 8 | 27 | 35 |
| | | | % within Students; teachers ; Head teachers | 22.9% | 77.1% | 100.0% |
| | | Students | Count | 69 | 71 | 140 |
| | | | % within Students; teachers ; Head teachers | 49.3% | 50.7% | 100.0% |
| | | Head teachers | Count | 3 | 4 | 7 |
| | | | % within Students; teachers ; Head teachers | 42.9% | 57.1% | 100.0% |
| | Total | | Count | 80 | 102 | 182 |
| | | | % within Students; teachers ; Head teachers | 44.0% | 56.0% | 100.0% |
| Plans for riots | Students, teachers and head teachers | Teachers | Count | 6 | 29 | 35 |
| | | | % within Students; teachers ; Head teachers | 17.1% | 82.9% | 100.0% |
| | | Students | Count | 35 | 105 | 140 |
| | | | % within Students; teachers ;Head teachers | 25.0% | 75.0% | 100.0% |
| | | Head teachers | Count | 2 | 5 | 7 |
| | | | % within Students; teachers ; Head teachers | 28.6% | 71.4% | 100.0% |
| | Total | | Count | 43 | 139 | 182 |
| | | | % within Student; teachers ; Head teachers | 23.6% | 76.4% | 100.0% |

Source: Field survey

It was found out that 36.3%, 44.0% and 23.6% response rates was in affirmative for existing written plans to respond to disasters, fire outbreak and riots respectively. However, 63.7%, 56.0% and 76.4% responses respectively denied existence of such plans. Three out of seven head teachers said that their schools do not have plans for disasters and three out of

the seven interviewed claimed that they had some plans for fires. This corroborates what Ngema, J. (2013) asserts that most schools find that maintenance of fire extinguishers as safety requirements constrained, Additionally, It is evident as noted in Services, S., & Branch, S. P. (2017) that Crisis intervention is mostly a reactive event that takes place during and after something has happened.

**How Schools' Environmental and Architectural Designs Enhance School Safety**

Head teachers and teachers were asked how lack of clarity in government policies, lack of funds and lack of community support as external factors hinder prevention of violence in their schools. Table 3 describes the findings of how external factors affect management of safety needs.

Table 3
*External Factors and how they inhibit adequacy of infrastructure and safety procedures*

| | | | How outside factors inhibit adequacy of infrastructure and safety procedures | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| | | | Always | Mostly | Sometimes | Not at all | Total |
| Outside Factors | Lack of clarity in government policies | Frequency | 8 | 12 | 20 | 2 | 42 |
| | | % within outside factors | 19.0% | 28.6% | 47.6% | 4.8% | 100% |
| | Lack of funds | Frequency | 4 | 15 | 14 | 9 | 42 |
| | | % within outside factors | 9.5% | 35.7% | 33.3% | 21.4% | 100% |
| | Lack of Community Support | Frequency | 9 | 13 | 15 | 5 | 42 |
| | | % within outside factors | 21.4% | 31.0% | 35.7% | 11.9% | 100% |
| Total | | Total | 21 | 40 | 49 | 16 | 126 |
| | | % within outside factors | 16.7% | 31.7% | 38.9% | 12.7% | 100% |

Source: Field survey

Except for 4.8%, respondents noted that lack of clarity in government policy hinder prevention of violence. An average of 12.7% responses said that external factors do not hinder prevention of violence, leaving 87.3% indicating that at least such factors cause hindrance. Comparatively, the study found out that less than a quarter of community leaders interviewed had neither participated in issues concerning school discipline nor conducted programs that promote social integration among members of schools and community. All the four key informants said that lack of clarity in government policy, citing example of the challenges in implementation of corporal punishment.

### School's Environment and Architectural Designs

The study solicited information that aided in finding out the extent to which schools' physical environment and architectural designs enhance schools safety.  This was achieved through: asking the respondents to rate the physical plant of the school; actual observation of the buildings and environment and assessment of physical items carried by students, which can be used as weapons. At the same time, the study sought to elucidate information on the type of buildings and their architectural design, position of fire extinguishers, doorways, windows and spacing in school buildings.  Rating of Environmental and Architectural Designs is described and tabulated in Table 4.

Table 4
*Rating of Schools' Environmental and Architectural Designs*

| | | | Rating of schools' environmental and architectural designs | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
| | | | Very good | Good | Poor | Very poor | Total |
| Environmental and architectural designs | Environmental designs | Count | 22 | 107 | 33 | 13 | 175 |
| | | % within environmental and architectural designs | 12.6% | 61.1% | 18.9% | 7.4% | 100% |
| | Architectural designs | Count | 35 | 96 | 34 | 10 | 175 |
| | | % within environmental and architectural designs | 20.0% | 54.9% | 19.4% | 5.7% | 100% |
| | | Count | 57 | 203 | 67 | 23 | 350 |
| TOTAL | | % within environmental and architectural designs | 16.3% | 58.0% | 19.1% | 6.6% | 100% |

Source: Field Survey

A total of 25.7% responses rated both designs on the average as either poor or very poor. 16.3% considered both designs on the average as very good. Conversely, the findings established through observation revealed that more than half of windows and doors do not meet safety standards. Half of the buildings in schools in Turkana do not have the conventional type of windows but highly ventilated walls made of thick bricks and which have to be broken if one had to go through. Consequently the ventilation could not be easily broken and only a quarter of halls, laboratories and dormitories had exit doors to allow for easy escape in case of danger.

### Conclusion

The study drew various conclusion from its findings based on adequacy of safety procedures and infrastructure in responding to safety concerns. The study also sought to

establish whether institutions have programs that attempt to break away from the old methods of handling conflicts for new ways. The study concluded that schools strongly relied on reactive prohibitive policies and legislation to address adequacy of infrastructure and safety procedures. There is a gap between safety policies on school environmental and infrastructural designs as stipulated by MOEST, (2008) and reality in most schools especially those whose buildings were constructed many years in the past. Half of the old buildings in schools bear conventional type of windows that do not pass the current required standards. It was also concluded that Schools' environmental and architectural designs do not adequately enhance school safety and most are characterized by lack of elaborate fencing and surveillance. These findings are in tandem with Statistics & Mines (2017) which explains the negative results of lack of proactive measures in strengthening procedures and infrastructure for safety. The findings further agrees with Iicba (2018), that even though most schools' management widely understand the discussion relating to Construction, installation and maintenance procedures for safety related resources, the study failed to confirm similar understanding among students, teachers and neighboring communities.

**Recommendations**

The study makes the following recommendations:

1. Schools should not over depend on reactive policies and legislation to strengthen safety precautions and improve on safety related infrastructure.
2. Clear and appropriate precautions for school safety should be adopted and guarantee adequacy of the same.
3. Community support especially from school committees should be encouraged to support development of adequate infrastructural and environmental facilities for school safety.
4. Fencing and surveillance of schools' environment should be updated to measure current needs and standards.
5. It should be mandatory for schools to take into account issues of safety when designing environmental and architectural designs.
6. Proactive and detailed safety precautions and training should be prominent in schools for effective response to safety concerns.

*Suggestion for further study*

A further study on safety among nomadic pastoralist children under mobile schooling programs

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