INTRODUCTION

Safe and secure schools are fundamental to students' school successes and achievements. Threats to the safety and security of schools can arise from natural hazards – for example earthquake, floods and storms or from human actions such as vandalism, arson and violent crime. While catastrophic events and human tragedies cannot be eliminated entirely, there is a role for facility designers, institutional managers, emergency response teams, and post-crisis intervention in mitigating their negative impact (OECD, 2006). Consequently, providing a safe and orderly school environment should remain an ever-present priority of the school administration.

School safety requires planning and constant vigilance and has to be everyone’s responsibility. Everybody, from the head of school to the maintenance staff should be involved in school safety. School safety should be addressed through a comprehensive approach that focuses on prevention, intervention and response planning. Safe schools are a shared responsibility with administrators, teachers, support staff, students, and parents (Mississippi Department of Education, 2008). Administrators in particular are key actors as they are bestowed with much of the obligations pertaining to comprehensive school safety. The school administrators have a responsibility to ensure that the school environment is conducive for learning (Day and Golench, 1995). As Trump (2008) points out, today school safety is not only a "money"
issue” but also a “leadership” issue. Administrators must prevent potential challenges to their safe school environments and their reputations, recognize safety gaps, plan and budget for security, and exercise caution in selecting consultants to strengthen their safety leadership. Although School board and administrators set the climate of safety within schools, teachers must also be directly involved, trained and supported in all stages of developing and implementing programs that accomplish safer schools.

The Kenyan government’s commitment to the safety and overall welfare of learners and especially children culminated into a Safety Standards Manual for Schools in Kenya (Republic of Kenya, 2008) in addition to circulars as indicated in the Ministry of Education Circular No. G9/1/169 (Republic of Kenya, 2001). This manual among other things emphasizes on safety in physical infrastructure, school environment and the participation of school administrators in implementing these policies. Knowledge of school safety laws and regulations provides administrators with the authority to know what is allowed, what is forbidden, as well as what actions are considered to be an obligation of the school. According to a report by Otieno (2010), it is emerging that most schools on Kenya have no capacity to handle emergencies, and are yet to implement safety standards manual produced two years ago. Schools management and some parents admit that some schools are sitting on a time bomb should there be an emergency.

Day and Golench (1995) classified policies that would promote school safety into four types as: response or dealing with misbehavior; expectations in form of a model for appropriate behavior which students should follow; preventive strategies and programs that inhibit misbehavior and lastly community focus where community groups are included in initiatives to address the problem of school violence. A study done in Turkana District Kenya affirmed that safety preparedness depends on safety training and awareness programs (Rono and Wambua, 2009). School physical infrastructure refers to any built facility for use in the school to facilitate the provision of services. The Safety Standards Manual for Schools in Kenya (2008) describes physical infrastructure as facilities which include structures such as classrooms, offices, toilets, dormitories, libraries, laboratories, kitchen and playground equipment among others. These facilities can be either permanent or temporary structures. Such physical structures should be appropriate, adequate and properly located, devoid of any risks to users or to those around them. They should also comply with the provisions of the Education Act (Cap 211), Public Health Act (Cap 242) and Ministry of Public Works building regulations/standards. It also describes environmental safety as the proper and sustainable management of the physical surroundings of the school. Proper management of the school environment entails appropriate mechanisms of waste management, orderly use and replenishment of plants and animals within the school compound and enhancing a sustainable balance of biodiversity.

According to a study done the World Bank (2004), in sub-Saharan Africa alone it is estimated that up to US$30 billion will be required to address the shortfall in provision of suitable and safe learning environments. Typically, classrooms are overcrowded, many buildings and other facilities are inadequate, sites are poorly planned and there is little maintenance. This situation is not conducive to good teaching and learning. A basic minimum package of school infrastructure which is accessible, durable, functional, safe, hygienic and easily maintained therefore needs to be part of any strategy to meet the Millennium Development Goal for education. In its progress report, Indian and Northern Affairs Canada (INAC, 2010) emphasizes that school projects, whether for new schools construction or renovations, are further prioritized at the regional level based on the following criteria: health and safety, overcrowding and curriculum requirements. In view of the foregoing there was therefore need to conduct a study on the participation of school administrators in and the implementation of safety policies with regard to physical infrastructure and waste disposal in secondary schools.

**Purpose and objectives of the study**

The main purpose of this study was to determine the participation of secondary school administrators in school safety and establish implementation of safety policies with regard to physical infrastructure and waste disposal in some selected schools in Kenya.

**MATERIALS AND METHODS**

**Research design**

The study adopted a descriptive survey research design with an attempt to collect data from the members of a population in order to determine the current status of that population with respect to one or more variables. A survey can also be used to describe, explain or explore the existing status of variables at a given time (Mugenda and Mugenda, 2003). Survey research design was suitable because it sought to obtain information that describes existing phenomena by asking respondents about their perceptions, attitudes, roles and values on safety policies in schools. Data collected was analyzed to make comparisons of the various school categories administration participation in relation to school safety.

**Sampling procedures**

Purposeful sampling was used to select school administrators and key informants. Respondents selected for this study were post-graduate candidates in Executive Masters in Education in Leadership and Policy, Moi University Kenya comprising of school administrators i.e. Head Teachers (HT), Deputy Head Teachers (DHT) and Head of Departments (HOD) drawn from various public secondary schools distributed in 12 counties in Kenya. The schools were further stratified as boarding, day and day/boarding for ease in comparison. Quality Assurance and Standards officers (QASO) were selected as key informants since it is their responsibility to ensure implementation of safety policies, monitor and assess school safety as part of their advisory visit to schools.

**Sample size**

The sample size drawn was 78 which constituted 35 HTs, 28 DHTs, 12 HODs and 3 key informants thus,75 schools and
administrators were targeted for sampling comprising of 56 boarding, 13 day/boarding and 6 day schools distributed as shown in Table 1. Three key informants were purposively chosen from the counties with the highest tally with respect to number of respondents sampled.

Research instruments and data collection procedures

The research instruments used for data collection in this study were: questionnaire; interview schedule and observation schedule. Questionnaires were administered to the post-graduate candidates, while interviews were used for key informants, on issues concerning safety procedures. Whenever two or more of the respondents came from the same school, only one questionnaire was filled to avoid duplication. The questionnaire contained 2 parts. Part A was used to collect general information about the school like existence of a school safety sub-committee, membership capacity of the respondents and their role in implementing safety policies (where sub-committees existed), awareness of the safety standards manual for schools in Kenya (2008), main challenge in implementing the safety manual, vulnerability of the school location to environmental hazards, waste disposal methods adopted among others. Part B consisted of a ten item Likert type scale in which respondents were required to state their level of agreement or disagreement with the items. The items had options with weights (w) as follows: Strongly Agree (SA) = 5, Agree (A) = 4, Undecided (U) = 3, Disagree (D) =2 and Strongly Disagree (A) =1. The scales were reversed for negatively stated items. Observations of the physical implementation of school safety may affect curriculum implementation among others.

Table 1. School administrators’ distribution

<table>
<thead>
<tr>
<th>Designation of respondent</th>
<th>School category</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Boarding</td>
</tr>
<tr>
<td>HTs</td>
<td>21</td>
</tr>
<tr>
<td>DHTs</td>
<td>24</td>
</tr>
<tr>
<td>HODs</td>
<td>11</td>
</tr>
<tr>
<td>Total (%)</td>
<td>56(74.67%)</td>
</tr>
</tbody>
</table>

Table 2. School administration participation in school safety

<table>
<thead>
<tr>
<th>Factor</th>
<th>Designation</th>
<th>Designation of respondent</th>
<th>School category</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Boarding</td>
</tr>
<tr>
<td>School safety sub-committees instituted</td>
<td>YES</td>
<td>HT</td>
<td>12</td>
</tr>
<tr>
<td></td>
<td>NO</td>
<td>DHT</td>
<td>44</td>
</tr>
<tr>
<td>Member of safety committees</td>
<td>YES</td>
<td>HT</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>NO</td>
<td>DHT</td>
<td>0</td>
</tr>
<tr>
<td>Awareness on existence of safety manual</td>
<td>HT</td>
<td>26</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>DHT</td>
<td>9</td>
<td>3</td>
</tr>
<tr>
<td>Knowledge of content in safety manual</td>
<td>HT</td>
<td>12</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>DHT</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Trained in school safety</td>
<td>HT</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>DHT</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Participated in school safety awareness</td>
<td>HT</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>DHT</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>HOD</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 3. Challenges facing implementation of safety policies (n=75)

<table>
<thead>
<tr>
<th>Factor</th>
<th>HT</th>
<th>DHT</th>
<th>HOD</th>
<th>TOTAL (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of finances to implement safety policies</td>
<td>22</td>
<td>8</td>
<td>2</td>
<td>30 (40%)</td>
</tr>
<tr>
<td>Unaware of policy requirements</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>4 (5.33%)</td>
</tr>
<tr>
<td>Safety is beyond my job mandate</td>
<td>0</td>
<td>2</td>
<td>11</td>
<td>13 (17.33%)</td>
</tr>
<tr>
<td>Safety is not a priority</td>
<td>11</td>
<td>17</td>
<td>0</td>
<td>28 (37.33%)</td>
</tr>
<tr>
<td>Totals</td>
<td>35</td>
<td>28</td>
<td>12</td>
<td>75 (99.999%)</td>
</tr>
</tbody>
</table>

Table 4. Head teachers’ attitude towards safety policy implementation (n=35)

<table>
<thead>
<tr>
<th>Item</th>
<th>SA</th>
<th>A</th>
<th>U</th>
<th>D</th>
<th>SD</th>
<th>TL</th>
</tr>
</thead>
<tbody>
<tr>
<td>School safety policies should be prioritized</td>
<td>60</td>
<td>40</td>
<td>12</td>
<td>10</td>
<td>4</td>
<td>126</td>
</tr>
<tr>
<td>Implementation of school safety is a responsibility of the Ministry</td>
<td>8</td>
<td>24</td>
<td>18</td>
<td>28</td>
<td>10</td>
<td>88</td>
</tr>
<tr>
<td>Safety policies should only be implemented in boarding schools</td>
<td>4</td>
<td>16</td>
<td>15</td>
<td>40</td>
<td>40</td>
<td>115</td>
</tr>
<tr>
<td>Implementation of safety should be done by non-teaching staff</td>
<td>5</td>
<td>12</td>
<td>24</td>
<td>48</td>
<td>20</td>
<td>109</td>
</tr>
<tr>
<td>Implementation of school safety may affect curriculum implementation</td>
<td>2</td>
<td>8</td>
<td>16</td>
<td>40</td>
<td>65</td>
<td>131</td>
</tr>
<tr>
<td>Disciplinary action should be undertaken against defaulting HT’s</td>
<td>10</td>
<td>8</td>
<td>24</td>
<td>24</td>
<td>11</td>
<td>77</td>
</tr>
<tr>
<td>Disaster mapping and management training should be done in schools</td>
<td>40</td>
<td>68</td>
<td>6</td>
<td>12</td>
<td>2</td>
<td>128</td>
</tr>
<tr>
<td>All teachers should be trained in first-aid skills</td>
<td>50</td>
<td>24</td>
<td>12</td>
<td>12</td>
<td>4</td>
<td>102</td>
</tr>
<tr>
<td>School safety should be recognized as a department alongside others</td>
<td>1</td>
<td>8</td>
<td>18</td>
<td>24</td>
<td>90</td>
<td>141</td>
</tr>
<tr>
<td>Full implementation of the safety standards manual for schools in Kenya can never be achieved</td>
<td>6</td>
<td>16</td>
<td>15</td>
<td>36</td>
<td>35</td>
<td>108</td>
</tr>
<tr>
<td>Grand total</td>
<td>1125</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The Average Percentage score = 64.29%. KEY: SA=Strongly Agree; A=Agree; U=Undecided; D=Disagree; SD=Strongly Disagree TL=Total
infrastructure and school environment with regard to waste
disposal were done on randomly selected schools to
authenticate the information given by the respective
respondents for data validation.

Data analysis

Quantitative data was analyzed using descriptive statistics in
the form of frequency counts, percentages and were then
presented in tables for easy interpretation. The frequencies
and percentages extracted from the analysis were used to evaluate
the participation of school administration in school safety and
the extent of implementation with regard to physical
infrastructure and waste disposal safety.

SUMMARY OF FINDINGS, CONCLUSIONS AND
RECOMMENDATIONS SCHOOL ADMINISTRATORS’
PARTICIPATION IN SCHOOL SAFETY

Questions were asked to determine the existence of school
safety sub-committees and the participation of the school
administrators in implementing the safety policies. Of the 75
schools sampled, only 15 (20%) had constituted safety sub-
committees distributed as shown in Table 2. Six of the HTs
served as ordinary members in the committee, 3 in-attendance
while none (0%) served as secretary as required by policy.
None (0%) of the DHTs sampled was a member of the sub-
committee though they are obliged to serve as members while
only 1(%) HOD served as an ordinary member. None of the
respondents was in-charge of school safety in their respective
schools. This points out to the low participation of school
administrators in school safety issues. Only 2 of the HTs
convene meetings of the school safety sub-committee and the
same HTs ensure accurate and up-to-date records of incidents
relating to school safety are kept. Surprisingly 3 (%) of the
schools without safety committees also kept safety incident
related records. When the respondents were asked on the
awareness of the existence of the safety manual, 30(86%) of
the HTs were aware of its existence, among which 15(43%) of
them were fairly versed with its requirements while the rest
57% reported to have received it from the Ministry but were
not aware of its content. Of the 30 HTs, 26 were from
boarding schools while the remaining 4 (%) were from
day/boarding schools. 12 of the DHTs were aware of its
existence among which 4 had fair knowledge of its contents
while only 2 HODs had knowledge of the existence of the
manual with one of them having fair knowledge of its content.
It was noted that the HOD who had fair knowledge of content
is the same one who served as a member of safety sub-
committee. None of the schools had all their teachers trained
in first-aid skills and none had an adequately trained teacher
in health education as required by safety policies. Only 1(1.33%)
HT had attended a refresher course in school safety while
4(5.33%) of the schools had formed a students social
organization named Red Cross club to sensitize on safety
issues. Participation of the school administrators with school
category is illustrated in Table 2.

Vulnerability of the school to climatic hazards and
mitigation measures taken by the school administrators to
lessen risks that could result from the hazards was also
assessed. 23 (30.67%) schools were reported to be vulnerable
to hazards in some part of the year. Of these, 11 were
vulnerable to wind effects, 6 to floods, 4 to lightning and 2 to
landslides. 6 of the schools had taken mitigation measures
with 4 having planted wind breakers and 1 school having fitted
a lightning arrester. None of the schools had undertaken
hazard/disaster mapping, monitoring and evaluation. When
asked to prioritize school programmes implementation, school
safety ranked fourth with curriculum, extra-curriculum and
guidance and counseling respectively being given more
priority. The main challenge to implementing the safety policy
requirements, responds varied depending on the respondents'position held in the school as illustrated in Table 3. An interview with QASO found out that their participation
was mainly in the dissemination of government policy manuals.
Organization of seminars and workshops on school safety was
hardly done and none had taken action on defaulting head
teachers. When asked to rate their priorities in implementation
of government policies, all ranked curriculum implementation
as a priority followed by extra-curriculum, guidance and
counseling while school safety was ranked least in priority.

Head teachers’ attitude towards safety policy
implementation

Attitude of the HTs on school safety was evaluated by use of
Likert scale. Their responses were as shown in Table 4. The
statement with the highest score against it was the one that
stated that: School safety should be recognized as a
department alongside others with a score of 141 out of a
possible 175 points. The one with the lowest score was:
Disciplinary action should be undertaken against defaulting
HTs. The average percentage score on safety for head teachers
was found to be 64.29%. This score was slightly above
average and implied a positive attitude.

Safety in school physical infrastructure

Respondents were asked questions on the schools physical
infrastructure with regard to construction and fire safety
among others. 15(20%) of the respondents were in agreement
that physical infrastructures mainly classrooms, dormitories
and administration blocks were constructed or occupied with
consultations with and approval of the Ministry of Public
Works, Ministry of Education, and Ministry of Health (Public
Health Department). None of the schools had a school site
plan in place. 69(92%) of the respondents affirmed that the
schools classrooms and/or dormitories windows were without
grills and easy to open outwards. 62(82.67%) of the schools
had fitted fire extinguishers, 12 (16%) had fire alarms while
none of these was a day school. Further, 36(52.22%) of the
schools with boarding facilities affirmed that their schools had
fitted a door at each end of the dormitory among which
22(31.88%) of those kept one (emergency) of the doors locked
to limit access by students in order to avert theft cases. None
(0%) of the schools posts evacuation maps in its buildings and
none (0%) has established a monitoring and evaluation system
of the school safety programme. 9(13.04%) of the boarding
schools admitted to students sharing beds though it is a
requirement that admission be pegged on bed capacity at all
times. Of the 72 schools with libraries, 18(25%) of them
ensured that books were regularly dusted, majority dusting
them once monthly while the rest dusted whenever the
administration deemed it necessary. When asked to rate their
libraries with regard to sufficient space, ventilation, health and
safety, as required by the Safety Standards Manual for Schools in Kenya (2008), 15 (20.83%) of the respondents rated them as excellent, 35 (50.72%) as good and the rest 22 (30.56%) as poor.

**Safety in school waste disposal**

Questions were asked on the methods adopted in waste disposal and their appropriateness in terms of environmental sustainability and safety. 56 (74.67%) of the schools utilized pit latrines, 15 (20%) combined both pit latrines and flushable toilets drained to open pond systems while 4 (5.33%) of the schools were served with municipal sewerage systems. The student toilet ratio of 30:1 was exceeded in 63 schools indicating a high failure rate of 84% a scenario also noted by Omolo and Simatwa (2010). Of the schools utilizing pit latrines, 49 (65.33%) of them would abandon the latrines once they were filled up and excavate others. This was environmentally unsustainable as it led to land resource wastage as the abandoned sites were not rehabilitated. 16 (21.33%) would manually empty them using buckets exposing the workers to risk of contracting communicable diseases, while the remaining 6 (8%) would hire services from the local authorities. Where learners cleaned their sanitation facilities, 22 (29.33%) of the schools provided them with gloves and all these were noted to be boarding schools. Other than the 4 schools served with municipal services, all the rest (94.67%) utilized open pit systems for solid waste disposal. None of the schools undertook waste segregation depending on waste types (biodegradable and non-biodegradable) while only 10 (13.33%) of the schools had their solid waste disposal sites fenced. On the safe and effective disposal of sanitary wear, 12 (16%) of them all boarding schools had hired private sanitary waste disposal services that were safe and effective. When asked to rate their site of waste disposal as required by the Safety Standards Manual for Schools in Kenya (2008), 8 (%) inclusive of the 4 schools served by municipal services were rated as excellent, 15 (%) as good, 21 (%) and the rest 31 (%) as poor.

**Conclusions and Recommendations**

Based on the findings of the study and conclusions made, the following recommendations are proposed:

1. School safety should be prioritized by school administrators just like curriculum implementation
2. All school administrators should be inducted on safety policies. Head teachers should take initiative to be well versed with all safety policies and disseminate the same to other teaching staff and stakeholders
3. All schools should form school safety sub-committees as required by safety policies
4. School administration should set aside finances for implementation, monitoring and evaluation of school safety programmes
5. School administration should post safety instructions and evacuation maps at strategic areas
6. QASO should ensure school safety policies are disseminated to all schools and implemented
7. QASO should ensure school administrators are trained on disaster mapping, monitoring and evaluation
8. Ministry should ensure that admissions are pegged on bed space to avert overcrowding and stern measures taken on school heads flouting this requirement.
9. Schools should adopt sustainable methods of waste disposal such as use of ecosan toilets in place of the conventional pit latrines

**REFERENCES**

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