A Survey of Disaster Preparedness and Safety Standards in Secondary Schools in Kenya

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Abstract: *When a natural hazard strikes, children are among the most vulnerable group, especially those attending school in times of disaster. In Kenya, to enable schools prepare against fire-related disasters, the minister for education directed that all provincial secondary boarding schools be given money to purchase and install fire-fighting equipment. The study, therefore, aimed at examining safety precautions and security standards put in place by school authorities to ensure safety of school communities, assess the measures put in place to mitigate disaster if and when it happens, and establish the mindset of school communities in terms of the possibility of a disaster happening in their schools. The study used a descriptive survey design with the target population consisting of the secondary school principals and deputy principals. There were 175 secondary schools in the County. The authors sampled 20% of the schools yielding 35 schools. The study found that that school heads were aware that disasters could occur any time in their schools. However, most of the safety situation guidelines were not being adhered to because majority of respondents in the schools were not competently ready to deal with disasters or crises situations. The schools had not constituted strong and effective school safety sub-committees. The findings also indicated that some of the schools did not have scouting movements to help in training students on how to deal with disasters. Subsequently, rarely did students report on any spotted risk situations in the sampled schools. It was recommended that the Ministry of Education should periodically inspect schools to ensure that they fully comply with the requirements of the safety standards manual.*

Keywords: *Disaster Preparedness, Safety Standards, Secondary Schools, Kenya*

I. Introduction

Wherever they are located, schools, among other social institutions, face a number of both manmade and natural hazards. Students and teachers are exposed to all manner of afflictions from within and without school, including accidents, arson, stabbings, theft and vandalism are just but some of problems and threats facing schools. The impact of such disasters is costly. Indeed the proliferation of all forms of violence in the world today has not spared institutions of learning. In response to these social and school challenges, the range of approaches used to address these problems is also growing.

A disaster is defined as a situation or event that overwhelms local capacity and causes great damage, destruction or human suffering (Executive Office, 2003). Disasters can be natural (e.g. hurricanes, earthquakes, floods) or human-induced (e.g. terrorism, mass transportation incidents). Due to increase in human activity, areas that are prone to natural disasters such as earthquakes, landslides, volcanic eruptions and floods have become developed. As a result, whenever disasters strike, their impact has also increased worldwide. This has also increased calls for safety precautions to be put in place in all areas where human beings conduct their daily businesses.

When a natural hazard strikes, children are among the most vulnerable population group, especially those attending school in times of disaster. In Kenya, the minister for education has directed that all provincial secondary boarding schools be given money to acquire and install fire-fighting equipment in their schools. This came after a number of fire incidences had already claimed many lives of learners along with numerous school properties. The Ministry of Education has also given safety specifications on the building of dormitories among other measures to prevent harm caused by disaster strikes. Every school is thus required to set up a safety committee, install speed governors for all school buses at 60 kilometres per hour (kph) and ensure speed-limit of 5 kph for all vehicles within school compound. Classrooms are also required to accommodate between 30 and 40 students to reduce congestion (Ministry of Education, 2012).

According to the Ministry of Education, the protection of children in schools goes beyond fences and related security measures. "There is the need for the community to partner with the teachers to assure children's safety as well as change of mental attitude in children themselves". Every school is unique by virtue of its design, location and students, and each has its own history and culture. Some schools are relatively open and

safe, others are highly protected but still unsafe from potential hazards from within the school. In the past few years, many schools in Kenya have experienced fires in which property worth millions of shillings is destroyed and, regrettably, students' lives lost. This paper seeks to shed light on the extent to which schools have put in place safety mechanisms to thwart the harms of disasters such as fires among others.

Global Perspective on Disasters in School

Disasters such as the October 2005 earthquake in Pakistan, where over 16,000 children died in schools that collapsed, or the recent mudslide on Leyte Island in the Philippines, where more than 200 school children were buried alive, are just a few tragic examples of why more needs to be done to protect school children before disasters strike. On a beach in Thailand, when the December 2004 Tsunami struck, British schoolgirl Tilly Smith saved many lives by urging people to flee the shore: her geography class in Britain had enabled her to recognize the first signs of a tsunami (Goklany, 2012). At the same time, Anto, a young boy on the Indonesian island of Simeulue, had learned from his grandfather what to do when an earthquake strikes (Kates, 2010). He and all the other islanders ran to higher ground before the tsunami struck, sparing all but eight members of the community (ibid.).

In developing countries like Kenya, the impact of natural disasters is especially high. Disasters in developing countries frequently result in higher death rates and destruction than similar disasters in developed nations. Because developing countries often lack adequate resources for disaster preparedness and response, children in those countries are especially vulnerable (EM-DAT Emergency Database, 2007). Research suggests that children (defined as ages 2-19, with a more narrow definition of adolescents as ages 10-19 [World Health Organization, 2007]) are more severely impacted by disaster than adults (Norris et al., 2002). Being young and still rapidly developing in the areas of mental, social and physical health, children are especially at risk (Madrid et al., 2006; Markenson et al., 2006).

It is believed that children as young as five years old are cognitively capable of understanding the effects of disaster (Pynoos, Steinberg & Raith, 1995). However, trauma during the early years can affect individuals, families and communities for years to come (The Red Cross, 2002). Emerging research highlights an urgent need to understand how children are uniquely affected by disasters (The Red Cross, 2002; La Greca et al., 2012), and a need for theories and models to guide intervention and research (Silverman & La Greca, 2012).

Preparation for Disaster

Disaster and crisis preparedness is an important part of every aspect of human engagements. As such, crisis management is a continuous process in which all phases of the plan are constantly reviewed and revised. Good plans are never finished. They are always updated based on new experience, research and changing vulnerabilities (Kennedy, 2004). Like all other institutions, schools cannot afford to ignore the necessity of crisis and disaster preparedness. According to Fullen (2013), there are at least two major purposes to schooling. These are: facilitating the development of both cognitive/academic and personal/social skills. Crisis situations have the ability to interfere with both of these goals (Cowen & Hightower, 2010). Crisis intervention is not only in line with the purposes of schooling, but is also essential to continued learning (Brock, Sandoval & Lewis, 1996). Crises occur at any time and with varying degrees of severity. In the event of a crisis situation, calm, responsibility and proactivity are essential to the effective management of the emergency (Decker, 2007)

Perception on Possibility of a Disaster Occurring

Gone are the days of believing that disasters cannot happen in "good Kenyan schools." Schools have become more prone to major crisis situations on a more frequent basis than most care to consider. Still some teachers and communities may believe that crisis events will never happen in their schools. For those who choose to prepare, the relevant question is not "Will an emergency happen in my school?" but "When the emergency occurs, how prepared will we be to handle the situation?" (Hull, 2000). Failure to consider the possibility of a crisis event occurring does not exempt anyone from the possibility of a crisis occurring in their school.

History of Disasters and/or Crises Occurrences

Several incidents of tragic school violence occurred in the Kenya in the 1990s up until early 2000. These events sent Kenyans in a search for answers on the causes, ways to prevent them and how to prepare to better manage such incidents. Indeed, most of the tragic incidences that occur in schools are preventable (Trump, 2000). Therefore, schools urgently need to prepare, plan and evaluate their state of readiness to effectively manage crisis situations. Since the death of 67 boys in a fire tragedy at Kyanguli Secondary School in March 2001 and the terrorist attacks on the American Embassy in August 1998, the Kenya government has invested a lot of resources to help administrators and security personnel at the nation's schools and universities,

among other institutions, to ensure that they remain vigilant about the safety of Kenyans and are prepared for such disasters (Kennedy, 2004).

Readiness and Ability to Respond to Crises

The Kenya government has placed greater emphasis on the readiness and ability to effectively respond to crisis situations by schools. Major crisis situations such as arson attacks, assault and rape, road accidents, laboratory accidents, terror attacks, among others, have raised concerns on the ability of the government to protect and provide for the citizens in institutions of learning. It is common knowledge, however, that the best form of defence in any bad situation is to make prior plan to return stability to the situation. Such measures of preparedness must be constantly reviewed to insure its efficiency.

Schools must analyze their own abilities to respond effectively to crisis situations. Nichols (1997) notes that today's schools are vulnerable to many of the same threats that plague societies in general. The reality of the contemporary society, along with its academic institutions, is that there are few places where one can assume to be safe. Crisis situations occur more frequently in school systems, and many systems are not prepared to handle the crisis effectively.

Pre-planning for Disasters

Crisis planning is multi-faceted and takes time. Very few reports have conducted a "Chicken Little" review of crises. Corporations conduct them on a regular basis recognizing that it is possible to be really prepared for "the sky to fall" (Wayne, 1998). According to the Kenya Red Cross (2005), good planning will facilitate a rapid, coordinated, effective response when a crisis occurs. Crisis management planning is a continuous process in which all phases of the plan are constantly reviewed and revised. Good plans are never finished. They must always be updated based on new experiences, research and changing vulnerabilities. The first step in developing a comprehensive plan is to identify key players who are able to provide leadership in creating and implementing.

These core team members use data and assessments of strengths and weakness to organize and build effective planning teams, and sustain the training process (Brock et al., 2011). Brock, Sandoval and Lewis (1996) note that these leaders must learn as much as possible about crisis-preparedness, attend conferences and workshops dealing with crisis intervention, collect crisis intervention policies, plans and procedures used by other districts, and finally form a Crisis Response Planning Committee (CRPC). Crisis management is a continuous process in which all phases of the plan are constantly reviewed and revised. According to the US Department of Education (2004), there are four phases of crisis management. Phase one is mitigation and prevention, which addresses what schools and districts can do to reduce or eliminate risk to life and property. Phase two focuses on preparedness and the process of planning for the worst-case scenario. Phase three is devoted to response steps taken during a crisis. In phase five, recovery, attention is focused on restoring the learning and teaching environment after a crisis (US Department of Education, 2004).

Schools and communities must prepare for an emergency before it happens (Sloan et al., 2014). According to Decker (2007), schools can no longer believe that crisis situations only happen to others or that disasters only happen in other parts of the country. Schools must prepare to manage crisis situations. Because it is difficult to make all the necessary decision to contain the crisis on the day of the event, preplanning is a school's greatest asset at that time. In the 5th century BC, Socrates described children as loving luxury, exhibiting bad manners and contempt for authority, showing disrespect for elders and loving to chatter in place of exercise. He described children as tyrants, not servants of their households; they contradicted their parents, and tyrannized their teachers (Futrell, 1985). Harper (1989) argues that initially schools were considered "islands of safety". The tendency to react rather than be proactive is a common Kenyan trait. The tendency to engage in double standards is even more entrenched in the education system in Kenya.

There is no accurate, strong, coordinated and ongoing national information source on school crimes, violence and related prevention, intervention, enforcement, and crisis preparedness strategies. The question of school fires and arson are a reality in Kenya's education system. The real challenge is whether or not those in charge keep hitting the snooze button and going back to sleep again instead of maintaining balanced, proactive school security and crisis preparedness measure in all of the schools (Trump, 2000). Brock (2011) says that the importance of school crisis preparedness cannot be understated. While it is impossible to prepare for all possibilities, crisis preparedness efforts place schools in a better position to respond to crises.

According to Brock, Sandoval and Lewis (1996), the situational crisis is most commonly associated with the need for school preparedness. Slaikeu (1990) describes situational crises as events that are relatively rare, unexpected, unpredictable, have a sudden onset, seem to strike from nowhere and have an emergency quality. Local authorities are encouraging the development of procedures designed to both prevent crises from happening in the first place and enable schools to deal with them effectively should they occur (Kibble, 1999).

Resources for Dealing with Disasters

Regardless of terminology and professional alignment, responses to outbreak of crises in schools are highly impacted by the nature of available supportive resources. Of particular importance is the uniqueness of the human resources in each school setting. A large number of children and adolescents are entrusted to the leadership of a few adults (Brock et al., 2001; Johnson, 2000; Pedersen & Carey, 2003). Johnson states that crises in school settings threaten the comfort, stability and secure environment familiar to students. Some crises, such as those that result in the death of one student or more, leave them vulnerable to "threat, loss, and traumatic stimulus" (Johnson, 2000).

Training for Disaster Preparedness

Preparation for and response to crises relies on people understanding the policies and procedures and knowing what they are expected to do. All these are achieved through training. Maintaining preparedness is an ongoing process that involves debriefing after crises, periodic review and updating and ongoing training. To fortify against potential threats, schools have taken steps to prepare and respond in an organized fashion, preparing crisis plans and organizing and training school crisis teams (Allen et al., 2012; Allen et al., 2012; Brock et al., 2001; Pagliocca & Nickerson, 2001).

A shift in professional thinking should move from crisis response which involves provision of physical needs to where there is a provision oF mental health needs (Lindemann, 1944, 1979; Weaver, Dingman, Morgan, Hong & North, 2000) and, more specifically, providing for children's mental health needs (Terr, 1979, 1981, 1983). Putting these factors into consideration, the study sought to provide a historical background of school-based crisis intervention and the growth of safe school planning. The study was conducted under the conceptual framework shown in the figure below.
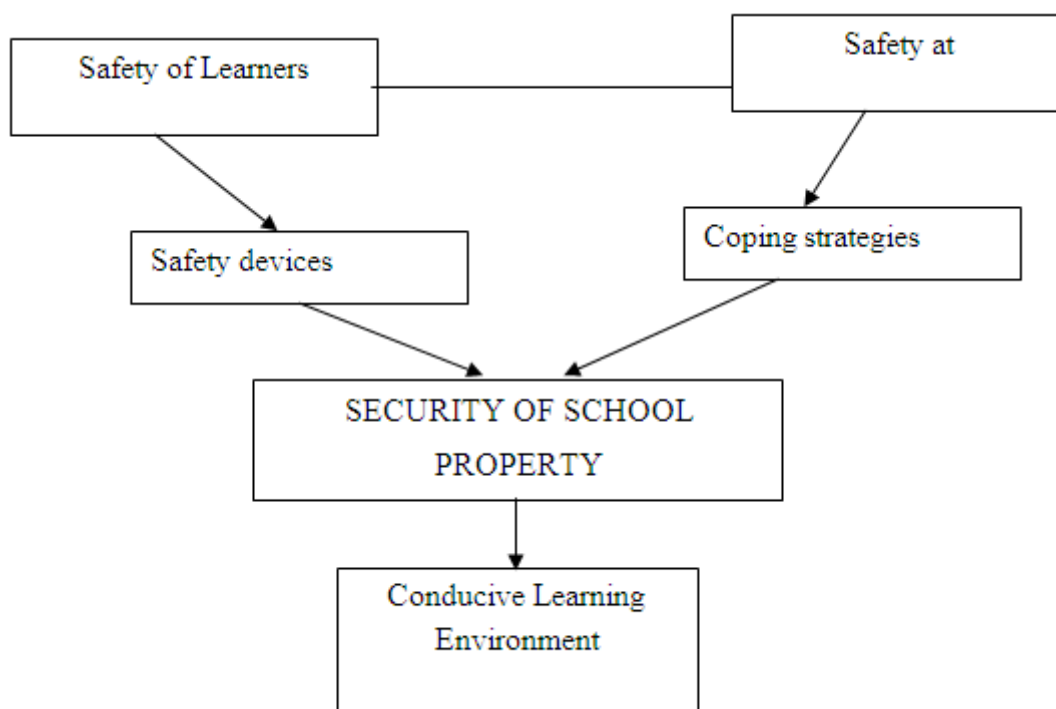

Figure 1: Conceptual model for the study

The conceptual model indicates that first and foremost the safety of school children and property must be guaranteed while in school. The general safety while at school would help to boost the confidence of the learners during the learning process. This can only be possible if there are well maintained and proper safety devices to ensure that in case of a disaster, the children would be safe while inside the school compound.

II.   Statement of the Problem

Teaching and learning about disaster risk and management in primary and secondary schools can help children play an important role in saving lives and protecting themselves and members of the community in times of disaster. Since disaster risk reduction is the responsibility of every member of society, children can be helped to contribute to a safer world. Schools make the difference between despair and hope in all aspects of humanity. Unfortunately, children represent the most vulnerable population group in times of disasters,

especially those attending school at the time of a catastrophe. They can also contribute, albeit in the least way they can, to safety and disaster management if they are exposed to training.

Schriro (1985) argues that the existence of the problem of school violence is often a problem of perception. Trump (as cited in Maier, 2002) posits that effective crisis planning is rendered vulnerable by denial, image concerns and political influence. According to Trump (ibid.), before 9/11, airline security was of relatively low priority in America because no one wanted to create fear or panic, and a similar dilemma. It is not clear what lessons the Kenya government learned and has implemented since the US Embassy and the Kikambala Paradise Hotel bombings as far as school security is concerned. The study sought to identify measures taken by secondary schools in matters of safety and disaster preparedness in Kenya. Specifically, the study examined the safety precautions and security standards put in place by school authorities to ensure the safety of school communities.

III. Materials And Methods

This study examined and delineated the safety and security standards in schools with specific focus on disaster preparedness in Kenya. The study adopted a descriptive design, as no attempts were made to manipulate the variables of the study. This kind of design is concerned with gathering facts and obtaining pertinent precise information concerning the current status of a phenomenon and whenever possible, making conclusion from the facts discovered. Since the events had already occurred the authors merely selected the relevant variable for analysis of their relationships (Best & Kahn, 2013). School surveys can provide necessary and valuable information to both the schools studied and to other agencies and groups whose operations are school-related (Gay, 2013).

The target population in the study consisted of the secondary school principals and deputy principals. The secondary schools were 175 in total. Random sampling technique was utilized in selecting the sample because it gives all the members of the population equal chances of being included in the sample and, therefore, resulting in an unbiased sample (Orodho, 2005). Of the 175 schools, the author sampled 20% of the schools which was 35 schools. In the sampled schools, the principals and their deputy were purposively selected.

The research instruments that were used for data collection were questionnaires for the principals and the deputies and an observation schedule for the school environment. Together the two instruments offered a reasonable source of information. Data from the questionnaires was coded for analysis (Orodho, 2005, p. 247). This analysis was done using the tally method. Preliminary data analysis and statistical procedures were used to summarize the collected data. These included means, percentages and frequencies. Data was presented in form of tables and pie-charts.

IV. Results And Discussion

The study intended to establish the state of disaster preparedness and safety standards in secondary schools.

Perception of Disaster Occurrence

The respondents were asked to give their views on whether or not they thought disaster of any kind could happen anytime in their schools. Their responses were as shown in Table 1 below.

Table 1: Disaster Occurrence Perception

RESPONSE	FREQUENCY	PERCENTAGE
Strongly Agree	27	77.14
Agree	4	11.43
Disagree	3	8.57
Strongly Disagree	1	2.86
Total	**35**	**100**

From the results in Table 1, 88.57% agreed and strongly agreed that disasters could happen any time in their schools. Only 11.43% of the respondents disagreed or strongly disagreed that disasters could happen in their schools. It was concluded that school heads were of the view that disasters could occur anytime in their schools. This means that they felt their schools were prone or exposed to disasters.

State of School Preparedness

On the life threatening issues the respondents were requested to rate the extent to which they thought their schools were not competently ready to deal with disasters or crisis situations. Their responses were as shown in the figure below.
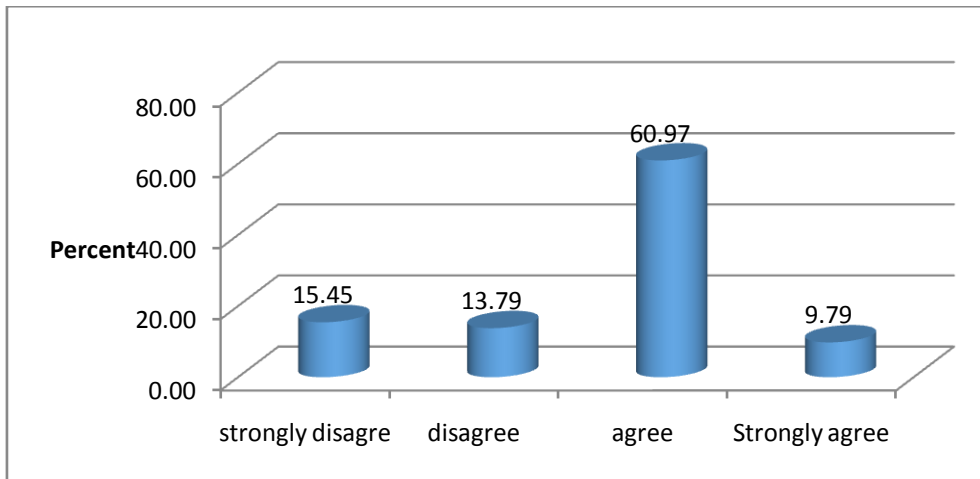
Figure 2: The school is prepared in case of a disaster

From the findings of the study in Figure 2 above, 9.79% of the respondents strongly agreed, 60.97% agreed, 13.79% disagreed while 15.45% strongly disagreed that their schools were prepared in case of a disaster. From these findings, it is clear that the schools are not competently ready to deal with disaster or crises situations.

Training of Scouting Movement
The respondents were requested to state the extent to which they agreed or disagreed with statement that the scouting movements in their schools were not well trained to deal with disasters.
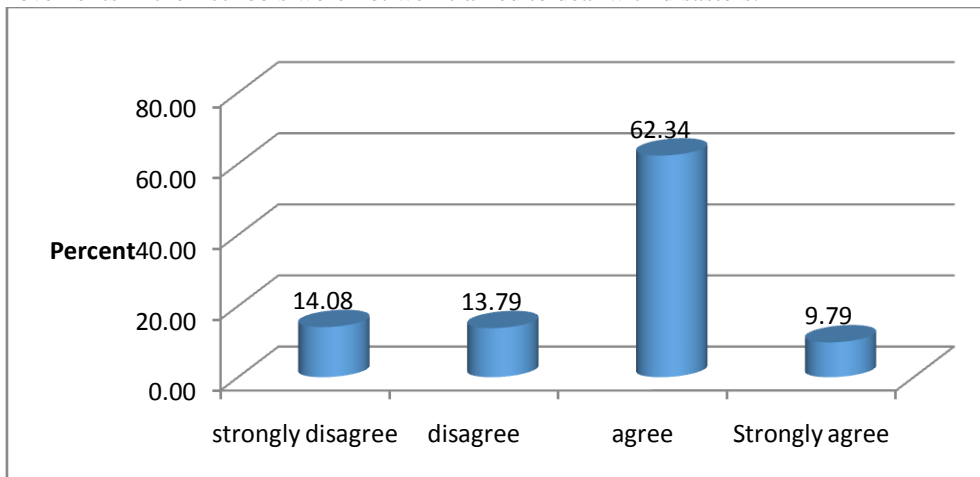

Figure 3: No training of the scouting movement in disaster preparedness

According to the results, 9.79% of the respondents strongly agreed, 62.34% agreed, 13.79% disagreed while 13.79% strongly disagreed that the scouting movements in their schools were not adequately trained to deal with disaster emergencies. From these findings, it was concluded that the scouting movements were not well trained to deal with disasters. The responses in the questionnaires also revealed that some of the schools did not have scouting movements in the first place.

Safety of School Community
The respondents were requested to state whether or not they thought the safety of their school community was more important than the security of resources in the school. According to the findings, 20.32% of the respondents strongly agreed, 55.45% agreed, 9.18% disagreed while 15.05% strongly disagreed. It was thus concluded that the respondents considered that the safety of their school community is more important than security resources in their schools.
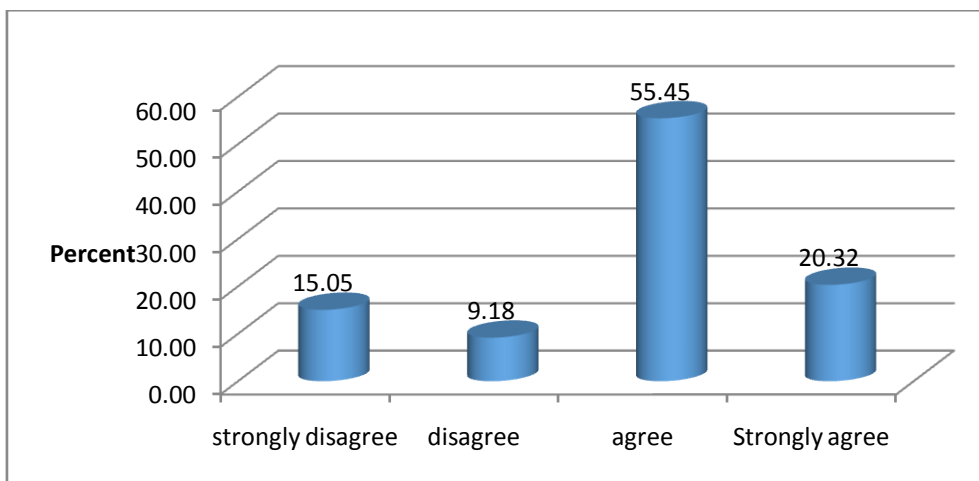
Training on Life Saving Skills

The respondents were requested to indicate whether or not their schools had trained personnel in the school who could deal with crises as and when they occurred. According to the findings, 65% of the respondents indicated that their schools did not have trained personnel who could deal with disasters. Only 35% of the respondents said their schools had trained personnel who could deal with disasters. From these findings, it was deduced that the schools did not have trained personnel who could deal with crises as and when they occur.

Safety Committee

The respondents were asked to indicate whether or not their schools had safety committees in place. According to the findings, 25% of the respondents indicated their schools had safety committee while 75% of the respondents indicated that their schools were not having safety committee in their schools.

Plan for Dealing with Crises

The respondents were further asked to indicate whether the schools had plan for dealing with crises. According to the findings, 45% of the respondents indicated the schools had plans for dealing with crises while 55% of the respondents indicated that their schools did not have any plans in place for dealing with crises.

V. Conclusion And Recommendations

From the study findings and discussion above, it is clear that school heads are aware that disasters can occur anytime in their schools. According to findings, safety situation guidelines have been partially implemented in most of the schools. Moreover, majority of the respondents agree that the safety of school community is more important than the security of resources in the schools. Unfortunately, most of the safety situation guidelines have not been adhered to and most of the schools are not competently ready to deal with disaster or crises situations. In addition, the schools have not constituted strong and effective school safety committees to oversee disaster preparedness and emergency planning and implementation.

The study has also indicated that some of the schools do not have scouting movements and therefore students' training on dealing with disasters is non-existent. Further, the schools' infrastructure are reportedly rarely maintained and serviced. In addition, students rarely report on any spotted risk situations in the school. Moreover, the schools do not have trained personnel who can oversee their safety situations and who can deal with crises as and when they occur. In fact, some schools do not have copies of the Ministry of Education circulars on safety and therefore are not conversant with the specified safety standards and guidelines required to guarantee the safety and security of school community.

Security Precautions Put in Place to Ensure Safety in Schools

According to the study results, schools have not constituted safety committees. Neither do they have plans for dealing with crises. This ideally means that most schools are dangerously exposed to adverse impacts of disasters. Most of them have not fully implemented safety standards and guidelines strategies due to inadequate funds. Notably, in most schools fire extinguishers are located inside the buildings, administration blocks, dormitories and kitchen contrary to the safety standards and guidelines due to fear of theft of the gadgets. Fire extinguishers must be located in strategic places, especially at the exit of every block if they have to serve the purpose they are meant for.

It was also established that the school facilities and equipment are rarely inspected. In addition, schools rarely conduct disaster and crisis management training for staff. They also rarely conduct fire drills and hardly invite fire brigade department to give talks and demonstrations to learners about fire prevention and fighting in a school context. It is the responsibility of the Ministry of Education to draft policies and follow up to ensure total compliance in the implementation of safety standards and guidelines, to induct all stakeholders on disaster management, enhance school inspection and sensitize school administrators, especially head teachers, on the need to organize and hold regular fire drills (at least twice a month) to create awareness among learners and staff.

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