

Physical Infrastructural safeness in Public Boarding Secondary Schools in Kenya

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Abstract

The study assessed the state of physical infrastructural safeness in secondary schools in Kenya. The study was motivated by the persistent media reports on insecurity and school violence, a fact that projects a grim picture that Kenyan schools are not the safe havens that the public might have thought them to be. The study was based on the Chaos Theory which offers lessons for managing periods of extreme instability in a system. Descriptive survey design was employed. Stratified and purposive sampling techniques were used to determine the sample size. Respondents included head teachers, teachers, students and security officers. The research instruments used were questionnaire, interview schedule and observation checklist. A pilot study was administered to verify the validity and reliability of the instruments. Data obtained was analyzed both quantitatively and qualitatively. Presentation of data is in form of tables, charts, graphs, frequencies, and percentages. Microsoft Excel and the Statistical Package for Social Sciences (SPSS) program aided in data analysis. The findings revealed that most schools were not adequately prepared for emergencies both in terms of planning and equipment. For instance only 33.3% of teachers had been trained on firefighting while 33.8% had a safety policy in their schools. In light of these findings, the study recommends that the government should emphasize frequent assessment of schools by QASOs so as to monitor and evaluate the implementation of the safety policy and provide adequate funds for the purchase of safety equipment in schools.

Key words

Physical, Infrastructural, safeness, Public, Boarding, Secondary Schools

1.1 Introduction

School safety means an effective structure and organization free from potential and physical harm, absence of violence and presence of nurturing, caring and protective staff (Chukwu, 2008). Safety is an important aspect of human life that helps to mitigate risks in any given situation. In schools, safety is an integral and indispensable component of the teaching and learning process (R.O.K, 2008). However, safety can only be guaranteed, if some form of preparedness exists in the school system. The main objective of every school should be to offer quality education to its learners,

something that can only be achieved if the school environment is conducive and safe enough for learning. School safety can be threatened by factors that emanate within the school environment or externally from the wider community. It is therefore imperative that all the educational stakeholders take up the responsibility to ensure that school safety threats are minimized or eliminated so as to foster all round safe living in schools. The domain of crisis preparedness and intervention has received increased attention during the past decade as evidenced by a growing school crisis intervention literature (Jimerson et al., 2005). Schools should have a crisis response plan and a crisis response team. A comprehensive school crisis Plan should address a range of events and hazards caused by both nature and by people (Dorn, 2006). Some of the crisis situations that may emerge following natural disasters may include: fires, severe weather, earthquakes, tornadoes, and outbreak of disease. Those from human generated situations include bombing, shootings, bus accidents and school violence (Jimerson et al., 2005).

1.2 Statement of the problem

Safe schools are those with structures put in place to ensure that any forms of emergency that may arise at any time are managed. Safety programs enhance preparedness, help to prevent accidents and thus minimize the resulting loss and damage to persons and property (Armstrong, 2000). The persistence of media reports on insecurity problems of learners in schools projects a grim picture that Kenyan schools are not as safe as the public may have thought them to be. The research problem addressed in the study is the frequency of incidents related to insecurity in secondary schools in Kenya. The following incidents that occurred in different schools over the years clearly bring out the manifestation of the problem in Nandi North District. Deaths were reported at Moi High School Sirgoi in 1994, Lelmokwo Boys' secondary school in 2001 after a dormitory caught fire, and at Kapsabet Girls' High School where a student died after falling into a pit latrine in June 2007. Most recently at Kosirai High School, learning was disrupted on 13/5/2010 when the wind blew off the roof of the classrooms. These incidents are severe enough to make schools take the necessary steps to implement more effective safety measures and strategies to prevent such occurrences or to minimize their impact. Several authors have carried out research and affirmed the need for emergency preparedness in schools. In Kenya, the government has attempted to address the problem by issuing schools with guidelines in the Safety Standards Manual. The big question however remains, "How far have the schools implemented the guidelines in this manual?"

1.3 Safety in Physical Infrastructure

A school that is well planned and maintained fosters an environment that enables teaching and learning to take place effectively. It also promotes safety and reduces the likelihood of accidental injury (Jenne & Greene, 1976). The location of a school directly affects the safety, well-being and educational experience of the student. If a school site is selected in a haphazard manner, the educational experience for both the teacher and the student is likely to be less optimal. To enhance school safety, new buildings should be designed by, and the remodeling of older ones be supervised by an architect who specializes in or who has experience in the design and remodeling of school buildings. The architect should be assisted by a school building planning committee (Jenne &

Greene, 1976). If schools would adhere to these recommendations, then most disasters would be prevented, but most schools do not hire architects because of the financial implications, thus the reported cases of falling constructions. In South Africa, for instance, an 11 year old learner died when a wall of a prefabricated classroom under construction collapsed, pinning him underneath and also injuring four girls (Xaba, 2006). According to the Safety Standards Manual (R.O.K.,2008), schools' physical infrastructure should comply with the provisions of the Education Act (cap 211), Public Health Act (cap 242) and ministry of public works building regulations/standards. These provisions should be adhered to if schools are to be safe for learners. In order to observe safety in school buildings, the following guidelines are recommended:

1. The doorways should be adequate for emergency purposes, open outwards and windows must be without grills.
2. The buildings should be properly lit, ventilated and each block should be fitted with serviced fire extinguishers.
3. Regular inspection should be done to eliminate hazards and immediate measures taken to correct any problems noticed.

If these measures were effectively implemented, schools would be much safer in case of emergencies, but unfortunately, this is not the case because many schools have disregarded and taken the guidelines for granted.

1.4 Crisis Response Plan

The domain of crisis preparedness and intervention has received increased attention during the past decade as evidenced by a growing school crisis intervention literature (Jimerson et al., 2005). Schools should have a crisis response plan and a crisis response team. A comprehensive school crisis Plan should address a range of events and hazards caused by both nature and by people (Dorn, 2006). Some of the crisis situations that may emerge following natural disasters may include: fires, severe weather, earthquakes, tornadoes, and outbreak of disease. Those from human generated situations include bombing, shootings, bus accidents and school violence (Jimerson et al., 2005). Tragic fires, as well as school violence and unrest, have heightened the need for crisis and emergency preparedness in Kenya. There is no longer a guarantee that schools can remain safe from the tumultuous violence present in today's world. Schools must therefore, be prepared for a wide range of emergency situations (Librera, 2004). Due to the rampant incidents of school disasters, the government has taken measures to ensure that schools remain safe for the learners by issuing circulars to schools to update them on any new requirements relating to safety.

An example is the circular issued after the Kyanguli secondary school tragedy entitled: "Health and Safety Standards in Educational Institutions" (ROK, 2001). The circular contained guidelines on issues relating to school safety and disaster management. It can be argued that the policy guidelines were not implemented by many schools judging from the 2008 incidents, when many strikes hit the country and many schools were burned. It came out clearly that firefighting equipment were not available in many schools.

Crisis plans should be developed in partnership with other community groups, including law enforcers, fire safety officials, emergency medical services as well as health and mental health professionals (U.S.D.E., 2007). It is advisable that all staff be provided with ready access to the plan so that they can understand its contents and act on them when the need arises. Developing a crisis plan and failing to avail it to the staff and students may prove useless because they won't know what to do in case of a crisis, since they are not conversant with the steps articulated in the plan. Developing an effective crisis response and building a strong school-based crisis response team is important (Schorfeld, 2003). A crisis may emerge that needs immediate attention and relying on people from outside would delay the response. It is therefore recommended that teachers be in the school crisis response team because they have an ongoing relationship with and knowledge of the students, their parents and community. In Kenya, the ministry has provided a common safety standards manual for all schools to give guidance in readiness and in the event of a crisis, but to meet their own unique needs, schools need to have their own internal safety policy to supplement the manual's, since the manual may not cover all the areas on safety.

1.5 Methods

The study used both qualitative and quantitative research methods, but was skewed toward quantitative method to determine the level of emergency preparedness in Kenyan schools. The study specifically used descriptive survey design for data collection. The design involved the use of more than one research instruments, which included: the questionnaires, interview schedule and observation checklist. Descriptive survey is concerned with describing the state of affairs as it exists. The study targeted public boarding secondary schools in Kenya. The boarding schools were selected purposely because they are more appropriate since students spend most of their time in school and are therefore more prone to school insecurities than day schools. Secondly, the funds for firefighting equipment from the government of Kenya were given to the boarding schools.

1.6 Sampling Technique and Procedure

In the study, stratified and purposive sampling was used. The selected public boarding secondary schools were stratified into four types: girls' boarding, boys' boarding, mixed boarding and both boarding/day. In the selected schools, all head teachers were included in the sample and purposive sampling was used to select teachers in charge of discipline, boarding masters, boarding prefects, sanitation/environment prefects and school security officers. The sample was purposively selected because they have vital information concerning measures taken to enhance emergency preparedness in school .

1.7 Research Instruments

The following instruments were used: Questionnaires, interview schedules and observation checklist. The selection of these tools was guided by the nature of data to be collected, as well as the objectives of the study.

Data analysis was based on the objectives and questions of the study. Descriptive statistics employed include frequencies and percentages, while in inferential statistics, correlation and

regression analysis were utilized. Correlation was used to show the relationship between the different variables in the study while Regression analysis was used to determine the influence of each independent variable (IV) on the desired outcome, Dependent variable (DV). Data was presented in form of tables and graphical presentations such as pie charts and bar graphs. Microsoft Excel and the statistical packages for social sciences (SPSS) version of program assisted in data analysis.

1.8 Results/ Findings & Discussion

The findings of the study indicated that schools lack safety preparedness. For instance, despite the provision of the Safety Standard Manual (2008), to schools by the ministry of education detailing fire and other emergency procedures, most schools were still found to be unprepared for the eventuality of a fire. At no school were fire extinguishers found in all recommended places. The few that were available did not have signs of being serviced, an indication that they may not be functional. The other finding that indicates lack of preparedness is the absence of a Crisis Response Plan in 29 (44%) schools. This limits the ability of many schools to deal with emergency situations as lack of a plan indicates lack of practice and knowledge on steps that should be taken in case of an emergency.

On the schools' physical infrastructure, most schools are yet to implement all the safety requirements such as having doors opening outwardly and having grills removed from the windows. From the findings, 47 (71%) students indicated that doors in their dormitories did not open outwardly; while another 23 (34.8%) reported that their dormitory and classroom windows had grills. The findings are contrary to the requirements stipulated in the Safety Manual (ROK, 2008).

1.8.1 Firefighting Equipment

Students were asked to confirm whether the following firefighting equipment were available in their schools. Figure 4.9 shows the responses. Only 22.7% indicated that fire alarms were available, while 77.3% reported absence of the same in their schools, 21.2% confirmed the presence of water horse hydrants, against 78.8% who did not have. Asbestos blankets were said to be available in schools by only 12.1% as compared to 87.9% who reported that their schools did not have them. Fire extinguishers were however reported to be available by 92.4% of the students. The availability of basic safety equipment in a school enhances safety preparedness. It can be deduced from the absence of most of the equipment, therefore, that most schools are not in a position to counter any emergencies that may arise in their compounds. Although most schools recorded that fire extinguishers were available, the numbers were inadequate in all schools. Moreover, other equipment like water horse hydrants and asbestos blankets were available in very few schools. These findings correspond with previous studies by Xaba (2006), and Rono & Kyalo (2007), who found out that most schools had a negligible number of extinguishers.

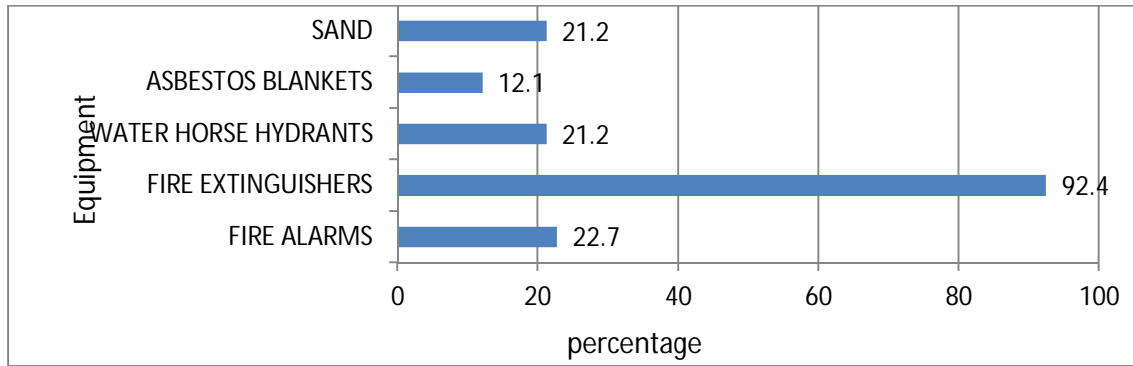


Figure 1.1 Availability of Firefighting Equipment

1.8.2 Servicing of Fire Extinguishers

From the findings, a fairly average number of head teachers 43.8% reported that the extinguishers were serviced very often, 25% stated that the service was often, 12.5% were not sure, while 18.8% indicated less often. The availability and servicing of fire extinguishers is critical in the enhancement of school safety. It is not just enough to have the extinguishers installed, but it is equally important to have them functional in readiness for any eventuality. If they are not serviced, it beats the purpose of installing them in the first place. Even though some head teachers reported that the fire extinguishers were serviced, observation reveals no signs of servicing of the same.

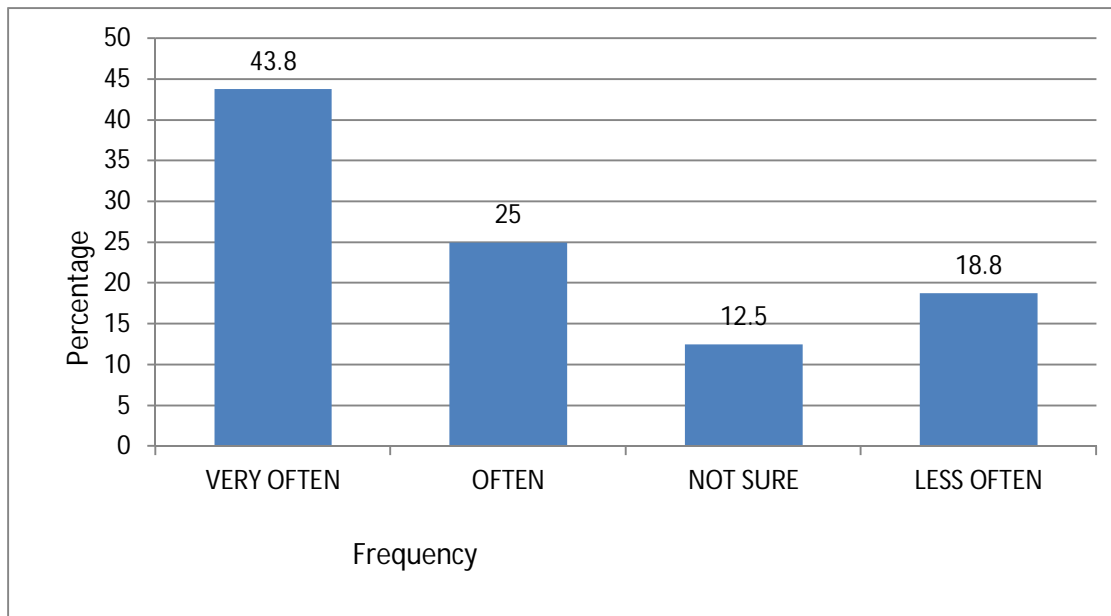


Figure 1.2. Servicing of Fire Extinguishers

1.8.3 Location of Fire Extinguishers

As a way of ascertaining the schools' levels of preparedness to counter fire out breaks, the students were asked to identify areas where fire extinguishers were located in their school and 40 (60.6%) students reported that they had fire extinguishers in the dormitories, 63 (95.5%) identified the laboratory, 39 (59.1%) cited the library, 38 (57.6%) mentioned the kitchen while 62 (93.9%)

indicated that extinguishers were found in the administration block. The responses indicate that most schools concentrate on availing fire extinguishers in the laboratories and the administration blocks, possibly because of the high risk posed by chemicals in the laboratory and the important documents kept in the administration block. A smaller percentage of extinguishers are placed in other areas. However, this should not be the case since the dormitories are equally important given that they house students at night, so priority should be placed here to ensure safety of learners in case of a fire outbreak at night. This findings contrast the Safety Standards Manual (2008), which specifies that “fire extinguishing equipment should be available in the dormitories, be functioning and placed at each exit with fire alarms fitted at easily accessible points”.

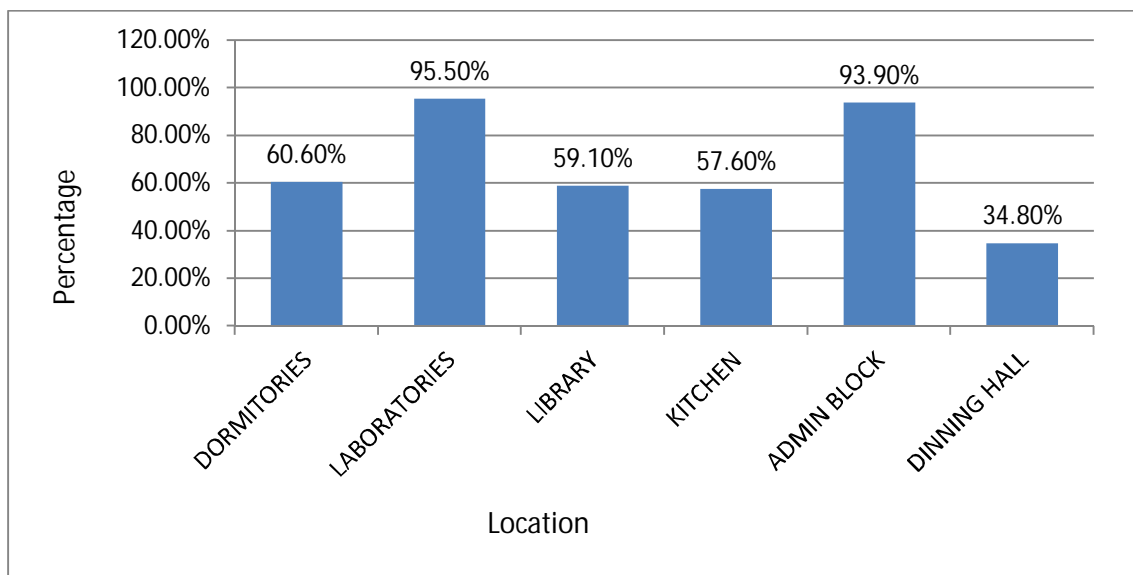


Figure 1.3. Location of Fire Extinguishers in Schools

1.8.4 Physical Infrastructure

It was necessary to establish whether schools had implemented the safety guidelines on schools physical infrastructure as stipulated in the Safety Standards Manual. To know this, students were asked to identify measures that had been put in place in their schools. In responding to this, 71.2% of the students indicated that doors in their dormitories did not open outwardly, while 18.2% reported having two doors in their dormitories against a majority 81.8% who did not. From the findings, 34.8% of the students reported that their dormitory windows had grills while 57.6% had grills in the classrooms. See Figure 4.12. Presence of these grills poses a danger to the learners' lives as it will not allow for easy escape in case of an emergency. Furthermore, the guidelines in the manual clearly state that all dormitory and classroom windows should have no grills, a rule that many schools have contravened. Since students spend most of their time in school, the physical structures should be up to standard and should comply with the provisions of the Education Act (cap 211), Public Health Act (Cap 242) and Ministry of public works building regulations/standards (R.O.K, 2008). This will help reduce deaths or accidents in case of an emergency.

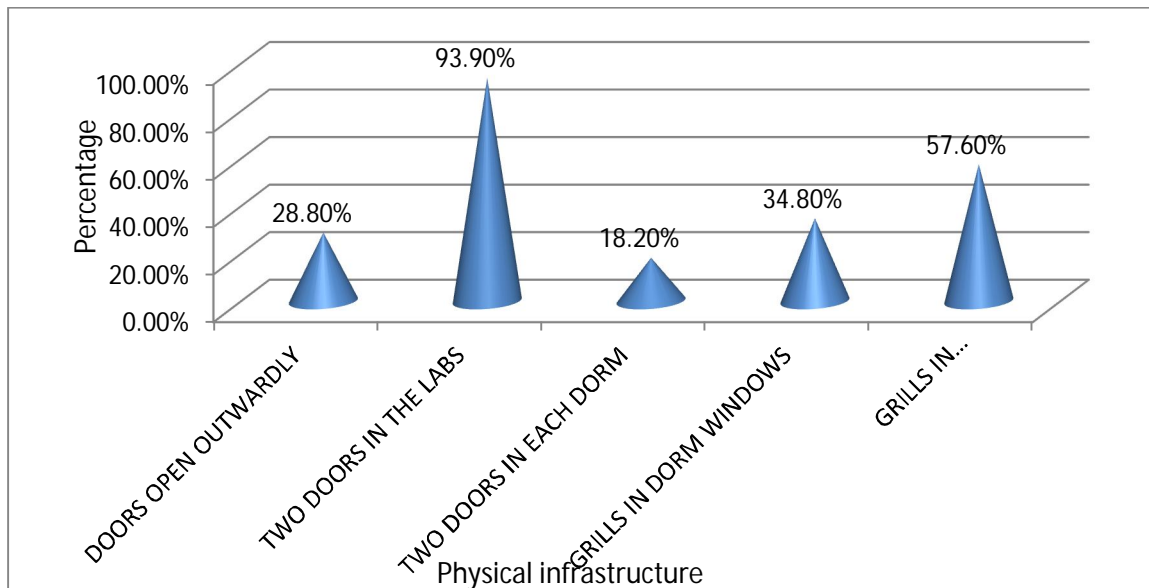


Figure 1.4. Safety in Physical Infrastructure

1.9 Recommendations

1. All head teachers should ensure that they purchase the required safety equipment for their schools such as the first aid kits and firefighting equipment to enhance their preparedness in their schools.
2. The government should design and implement a compulsory school safety training course for principals, teachers, students and all staff on first aid, firefighting and other emergency trainings and drills.
3. The Ministry of Education through the QASOs should actively monitor the effective implementation of safety policies at the schools within their jurisdiction. More support is also needed from the ministry in form of funds and organizing regular seminars and workshops on school safety.

References

- Armstrong, M. (2000). Handbook of human Resource Management in practice. 7th Edition. Essex: Kogan page Ltd.
- Calefati, J. (2009). School Safety 10 years after Columbine high school shooting. *U.S. News and World Report*.
- Chukwu, E.C.(2008). School safety and security: A Management challenge to principals in the Vryheid District. Published Master of philosophy thesis, University of Johannesburg.

- Day, N. (1996). *Violence in School: Learning in fear*. Enslow Publishers, Inc: Springfield, NJ.
- Dorn, C. (2006). *The Four Phases of Emergency Management*. Best Practices model. Safe Havens International Inc.
- Jenne, F.H. & Greene W.H. (1976). *Turner's School Health and Health Education*. St. Louis: CV Mosby.
- Jimerson, R. S, Brock, E. S, & Pletcher, S. W. (2005). An Integrated Model of School Crisis Preparedness and Intervention. *School Psychology International*, 26 (3), 275-296. SAGE publications.
- Kuria, N. (2007). *Security and Disaster Management in Educational Institutions*. Paper presented during a KESI induction course for Heads of Departments, Muran'ga, August, 2007.
- Netshitahame, N.E. & Van Vollenhoven, W.J. (2002). School safety in rural schools: Are schools as safe as we think they are? *South African Journal of Education*, 22 (4), 313-318.
- Prinsloo, I. J. (2005). How safe are schools? *South Africa Journal of Education*, 25, 5-9.
- Republic of Kenya. (2008). *The Safety Standards Manual for schools in Kenya*. 1st Edition. Nairobi: Church World Service.
- Schonfeld, M.D. & Scott, N. (2003). School crisis and response initiative. *OVC bulletin*. The Yale study centre.
- Squelch, J. (2001). Do school governing bodies have a duty to create safe schools? An Education law perspective. *Perspectives in Education*, 19 (4), 137-150.
- Stephens, R. D. (1995). *Safe Schools: a handbook for violence prevention*. Bloomington, ind.: National Educational Service.
- Szuba, T. & Young, R. (2003). *A Planning guide for maintaining school facilities*. Washington: NCES.

Teachernet, Fire Safety Area. (2007). *Building Bulletin 100, Design for fire safety in schools*. (<http://www.teachernet.gov.uk/mngt/re>).

U.S. Department of Education, Office of safe and drug –free schools (2007). *Practical Information on crisis planning: A Guide for schools and communities*. Washington DC. (<http://www.ed.gov/admins/lead/safety/emergencyplan/crisisplanning>)

Vienings, T., Commys, C. & Geyer, Y. (2001). *Safety now: Step by step guidelines on how to develop a safe school policy*. Johannesburg: Centre for Study of Violence and Reconciliation.

Xaba, M. (2006). An Investigation into the basic safety and security status of schools' physical environments. *South African Journal of Education*, 26 (4), 565-580