

AN ASSESSMENT OF EMERGENCY FIRE DISASTER PREPAREDNESS IN PUBLIC AND PRIVATE SECONDARY SCHOOLS IN KENYA: A COMPARATIVE STUDY

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Abstract

Fire emergency is a common phenomenon in educational institutions, usually with lethal results if not immediately in an event of outbreak. The consequences usually include loss of life, injuries, destruction of property and institutional facilities in this year alone nearly 50 cases of school fire outbreaks have been reported in Kenya with disastrous results. Yet a comparative study of this nature in the named country is hardly there and hence it will bridge the knowledge gap in the concern. The purpose of the study was to assess the emergency of fire disaster preparedness in public and private secondary schools in Kenya. Specifically the study sought to determine the causes of frequent fire outbreaks in educational institutions in Kenya; to determine the consequences of fire outbreaks in Kenyan schools; determine the fire emergency preparedness in schools within the framework established by the Ministry of Education 2008 and to determine the way forward toward fire emergency preparedness in Kenyan Secondary schools. The study adopted meta-analysis of empirical studies in accordance to Ferrer 1998. The study established that: there are diverse causes of fire outbreaks in schools including electric faults, eruption of gas cylinders in the laboratories, use of candles in the dormitories in case of blackouts, students' misunderstandings with school administration leading to strikes and burning schools' property, others could be due to suspicious arsonist work. Consequences of fire outbreaks include destruction of schools' infrastructure and property and students' belongings, injuries and even death. That most of schools do not meet the required MOEST schools' safety standards (2008), with grilled windows, lack of fire extinguishers, no fire assembly site. That way forward includes meeting MOEST safety guidelines, schools' finding means preventing any possible strikes that can lead to burning of schools' property.

Keywords: *Assessment, emergency fire disaster preparedness public, private secondary schools, Kenya.*

1.0 Introduction

Fire outbreak in institutions of learning in Kenya is one of the man disasters that have been frequently reported. However, the focus of fire outbreak is because of its largely lethal consequences that has high probability of injuries and destruction of property and its rapidity in spread and its frequency of being reported, especially in boarding schools. Fire outbreaks in Kenyan schools has been a common phenomenon for example in 2016 about 130 cases of school fires were reported in Kenya all of which were due to students' unrest and in 2018 at least 63 cases were reported according to Parliamentary temporary records

In line with this subject, Mwangi (2014) on factors influencing implementation of fire disasters risk reduction in Public Secondary schools in Nyandarua South, Kenya adopted literature review. The study established that most secondary schools in the study area did not have fire reduction risk preparedness and this put lives of the students at a risk in the event of emergency fire outbreak in school. That schools generally had only one entrance and exit to classroom and grilled windows and that neither were the students nor the teachers nor the subordinate staffs trained on how to deal with any eventuality of fire outbreak in school. That the same replica was in the dormitories and even in the science laboratories and other learning rooms.

Mururi (2023) on an investigation on fire disaster preparedness in Secondary schools in Uasin Gishu County adopted a descriptive survey targeting 166 public secondary schools in Uasin Gishu ,1792 teachers, and 2,752 form III students .The study established that 47.9% had place for fire disaster mitigation programs but which were not fully operational, Schools did not conduct fire safety training and that 75.3% of the schools had participated in the implementation of Ministry of Education guidelines in construction of safe school buildings. That there are psychosocial programs to cushion teachers and students in case of fire outbreaks.

Kute (2018) on Contribution of teacher preparedness in the preparation of students' safety emergency incident in Public Secondary Schools in Kisumu County, Kenya used descriptive survey design and was cognizant of the fact that schools' safety preparedness within the MOEST guideline is fundamental towards guaranteeing students' general safety in the event of emergency like fire outbreak. The participants in the study included 42 principals, 324 teachers, 6 Sub-County Quality Assurance Officers. The study established that teachers' demographic factors has effect on teacher preparedness towards disaster in secondary schools. That teacher preparedness is essential towards giving direction of what to do to prevent occurrence of school disasters like fire outbreaks and that in the event of outbreak what needs to be done to contain the situation.

Kishoyian and Kioko (2021) on Fire disaster preparedness among students in Kenya Medical Training College in Eastern Kenya adopted a survey study design with a focus on Machakos and Embu Medical Training Centers. Using a sample of 336 students, examined the student's awareness of the types of disasters that affect them while at school. 64.9% reported not being aware of disaster safety policies and 72% reported that they didn't know how to deal with a fire outbreak. That there were no significant relations between students' age, gender and year of study and disaster preparedness amongst the MTC students of Machakos and Embu, Kenya. These findings show gap in preparedness amongst the students in case of fire disaster. Implications for institutional management to take measures toward training students on dictate preparedness while at school.

Ndetu and Kaluyu (2016) on factors influencing the disaster and management preparedness in primary schools in Makueni County, Kenya. Disaster in the context of the study referred to fire outbreaks and using multiple regression analysis the study established that safety guidelines and management preparedness in regard to fire is very minimal amongst public and primary schools in Makueni County, Kenya. This scenario jeopardizes safety of pupils in case of fire disaster emergencies. A lot need to be done towards preparing the pupils, teachers and all players in schools on how to prevent and or deal with fire disaster that might erupt and wreak havoc in schools.

2. Materials and Methods

The study adopted literature review design in which meta-analysis of empirical work in the theme of fire preparedness was done following logical traditions. This stance is supported by the work of Ferrer (1998).

3. Discussions, implications of the findings, conclusions, Recommendations

On the question as to the causes of frequent fire outbreaks in educational institutions

Issues have been raised concerning causes of fire outbreaks in educational institutions for example the United States Fire Administration Report on school fires between 2009-2011 identifies four categories as follows: Curiosity that is school children play with fire to find out how it behaves without knowing the danger that surrounds it. Secondly Crisis this comes because the students lack adequacy in problem-solutions and not being able to express their emotions, coupled with lack of supervision resulting into ignition. Thirdly, delinquency of older and antisocial adolescents who may light fire with an intent to punish their perceived aggressors this is usually due to peer influence and or calculated to show off ability to use fire and fourthly pathology a psychological situation that make children resort to lighting fire that could be quite disastrous. Also reported to have been causing fire include the use of cooking equipment, heating equipment. Students' indiscipline that can lead to intended arson on school property this could be because of tension in school due to misunderstanding between students themselves, management style by student's leadership and or school management, missing to get school meal and or chronic delays with no clear communication why. Frequent causes of students' unrest which largely relates to school arson could be due to varied problems in school some of which are factual while others are perceived. For example, traditional methods of teaching may evoke anger amongst students, dictatorial school management style from both teachers' and student leadership quarters, transfer of a students' loved principal/and or bringing in unpopular principal into a school, drug abuse, general school indiscipline, poor public relations, fearing of exams and possible incitement through teacher, community and or politics could evoke anger amongst students leading intentionally burning the school property. Electrical faults, use of candles and or kerosene

small lamps for reading are some of the causes of fire outbreaks in schools. These have also been reported in Kenya by the security agencies (Mutua,2016; Muisyo,2019; Chemeli and Kingoo,2015 and Ongori,2014)

Kisurulia and Katiambo (2015) on an investigation into the state of disaster and safety preparedness in schools in Kenya adopted survey design in which 12 counties on state of preparedness of schools towards disasters. The respondents consisted of students of both primary and secondary, head teachers, Board of Management and school committees, sponsors and education officers. The study established that schools were not adequately prepared to handle disasters on emergency situations. The findings have implications for policy makers and all stakeholders on the need for train towards disaster preparedness and to adhere to the MOEST disaster preparedness infrastructural standards.

Mutua (2016) on school based factors influencing fire safety preparedness in public secondary schools in lower Yatta Sub-County, Kenya adopted a survey design in which among others the study sought to establish how training of teachers, head teachers and students on disaster preparedness in public secondary schools in Kenya. The study targeted 26 secondary schools, 26 head teachers, 115 secondary school teachers, and 6320 students. Questionnaires and observation schedules were used to gather data. The study established that the schools had not trained students, teachers nor head teachers on fire emergency disaster preparedness, the schools did not have the safety measures required by the MOEST. Moreover the schools lacked firefighting equipment, neither did they have open displayed message on fire assembly places.

Illori et.al., (2012) on Safety status of secondary school buildings for reducing fire incidences in Ilorin Metropolitan, Nigeria adopted descriptive survey in which 700 people responded, consisting of 143 teachers and 557 students. Data were collected through participatory observation and questionnaire and an analysis was facilitated through evaluation of Kendall's Concordance (w) measuring the level of agreement amongst the respondents. The findings revealed that the Kwara State Fire Service Headquarters Ilorin did not carry out supervision of school buildings to determine their fire safety compliance. That most schools had grilled windows with only one entrance and exit and so these schools were not safe in case of fire emergency outbreak.

Muisyo (2019) on building disaster resilient schools in Machakos County, Kenya adopted descriptive survey design 173 teachers, 11 head teachers and 81 Key Informants participated in the study. Questionnaires and Key informant interviews and observation guide were administered to gather data. The findings indicated absence of MOEST disaster compliance standards and that there was no training for teachers, head teachers and students on matters disaster preparedness. This would give lingering doubts as to the safety of students in the event of an emergency fire outbreak in school. It is no wonder that when a fire outbreak

occurs in a school usually loss of lives, injuries and huge destruction to schools' property is usually the consequence.

Mugamu (2018) on exploring the level of preparedness toward fire emergencies in South Africa: A Case Study of Four Schools in Kayamani Township adopted survey design. The findings indicated that the Four schools studied were not prepared to handle any emerging disasters in school neither were they prepared through any training towards dealing with the same and this leave us with one main question –how safe are students in school in the event of a disaster emergency?

Amasi (2021) on an assessment of awareness, knowledge and attitude on impacts of fire outbreaks to standard seven pupils in Morogoro Municipality and Mvomero district, Tanzania used descriptive survey in which standard seven pupils drawn from the two areas were targeted. Attitude questionnaire and interviews were administered to collect data. The study established very low level of awareness of standard seven pupils of impact of fire disasters in school and in regard to their attitudes they believed that fire outbreaks in schools may be disastrous to both the pupils themselves and the schools and that they could be accidental, and that have very little to do in case of an outbreak.

Ilori and Sawa (2020) on towards effective management of fire emergency and risk reduction in public and private secondary schools in Kwara State, Nigeria adopted survey design in which 143 teachers and 557 students participated in the study drawn from 18 public and private secondary schools. Kendall's analysis of level of agreement demonstrated .131 level of agreement at .05 significant level.

Kihila (2017) on Fire Disaster Preparedness and Situational Analysis in higher learning institutions of Tanzania adopted survey design and is cognizant of the threat towards safety in schools posed by fire emergencies with focus on fire disaster preparedness. Interviews and questionnaires were used to collect data. The findings showed that there was inadequate firefighting equipment a situation that could compromise fire safety concerns in schools. That respondents also reported inability to use firefighting equipment in the event on an outbreak of an emergency fire. That most of the respondents reported having had no experience of fire outbreaks in their schools. It is therefore no wonder that most of them are ignorant on how to use firefighting equipment in accordance to their reporting. That there is a need for fire safety compliance as spelt out in the ministry of education's schools disaster safe manual.

On The question of the consequences of fire outbreaks in Kenyan schools

Udali (2020) on students and staff awareness on schools' safety measures in Public Boarding Secondary Schools in Trans Nzoia County, Kenya adopted descriptive survey design in which 40 principals, 754 teachers, 22,562 students and 84 security officers were targeted. Questionnaires and interview schedules were administered to collect data. The study established lack of training for teachers, head teachers, students towards safety measures in case of emergencies in school. Moreover, the school's infrastructure like classrooms,

laboratories, other learning rooms and even the dormitories have not been built in accordance to the MOEST's safety manual threshold. These findings have implications for all stakeholders on the need to adhere to the safety measures in schools that could alleviate extent of damage in case of emergencies like for outbreaks.

Chemeli and Kingoo (2015) on emergency preparedness in public boarding secondary schools in Kenya adopted survey design respondents consisted of teachers, headteachers, students and schools' security officers. questionnaires, interview schedules and observation schedule were administered to gather data. The study established that schools were not adequately prepared for any disasters and that many did not meet the MOEST schools' infrastructural standards compliance. This makes the safety of students in case of any emergency due to disaster. It is no wonder then that in an event of such occurrence like fire outbreaks, the effects are usual too severe. The finding has implications for policy makers to ensure that schools strictly adhere to the MOEST Guidelines on school safety exemplified in their manual for schools.

Jepkemboi and David (2023) on safety standards measures put in place to ensure safety of learners in primary boarding schools in the North Rift Region of Kenya adopted a survey design in which 161 public and private boarding primary schools were targeted. Six hundred and eighty-five people participated in the study and questionnaires, interview schedules, observation schedules and focused group discussions were held to gather data. Findings showed that both public and private boarding primary schools in the North Rift lacked disaster safety measures and did not adhere to MOEST's safety manual and this puts the lives of student's data risk in the event for example of an emergency fire outbreaks.

Ongori (2014) on school-based factors influencing the implementation of fire safety standards in public secondary schools in Kenyena District, Kenya adopted a sure design I which 25 principals, 25 deputy principals, 175 Heads of departments and Quality Assurance and Standards Officers were participants. The stud established a serious discrepancy but what is and what should be in terms of school safety measures towards any possible disaster. The finding has implications for policy makers towards ensuring schools implement safety standards explained in the MOEST Manual without any compromise so that they are proactive rather than being reactive in case of any disaster like fire outbreak.

Kusiima (2014) on an assessment of fire safety preparedness in the boarding secondary schools in Kakiri Sub-County-Wakiso District used cross-sectional survey design 11 boarding secondary schools were surveyed and key informant interviews and observation schedules were administered to collect data. The study established that 90% of the schools lacked fire safety measures and that 72% had proper exit routes in case of emergency fires.

Oburu *et.al.*, (2018) on representing school arson in Kenya: An analysis of newspaper reporting adopted literature review while cognizant of the fact that Arson is indeed a problem in the Kenyan schools with serious wrecking of havoc and also threat to student' lives and

safety in general, while at school. A thematic analysis of 334 newspaper reports of arsons in schools. That school arsons are generally the result of misunderstanding between students and school administration that in the event of tension towards strike at schools, students may decide to burn down schools' property such as infrastructure oblivious of the effects and or consequences which is even a threat to their safety and safety of their property while at school.

In regard to consequences of fire emergencies in schools a number of effects have been reported ranging from destruction of property worth millions of shillings, to injuries and or even death. For example, the Kyanguli Fire of early March, 2001 in which fire was lit by four students in a situation of resisting transfer of their principal and bringing in a new one. The consequence was death of students, destruction of school property and injury of many students in the inferno. Most recently was the Endresha Hill Side Academy of Nyeri County, Kenya where 21 boys perished in the dormitory in an emergent inferno, that left several boys injured that was reported on the Daily Nation of 6th September, 2024. A whole dormitory was razed down and worse still is that the victims were burnt beyond recognition and hence compelling the government's medical team to carry out DNA test to know who is who. Unfortunately, in this case, the cause of the fire is still yet to be determined. There are several unreported fire cases.

On the question of the way forward on fire emergency preparedness in Kenya secondary schools

Okello (2016) on vulnerability of schools in urban informal settlements on hazards and disasters: A Case study of Nairobi's Mukuru Kwa Njenga Informal Settlement adopted survey design in which security, students, teachers, head teachers and schools 'Board of Management personnel were targeted. Questionnaires, interviews schedules, observation schedule were administered to collect data. The study established that the schools in the informal settlements are prone to disasters of varied nature including floods, fire outbreaks amongst others, some of which could be due to natural causation, while others are enhanced by human activities. That there was imminent lack of disaster preparedness in the schools a situation which puts students' safety at school in an event of a disaster at a jeopardy.

Mutch (2014) on the role of schools in disaster preparedness, response and recovery: What can we learn from literature? Adopted literature review and was cognizant of the necessity of disaster and preparedness for safety of students in school. The study established lack of disaster preparedness in schools.

Horton and Pamela (2023) on Disaster preparedness in K-12 schools: An integrative Review adopted literature review and were cognizant of varied disaster from natural, to Biological and human initiated ones. The study established that disaster preparedness is below expectation. However, schools perceive more preparedness for disasters than their actual level.

Victoria and Kevin (2014) on implementing disaster prevention in Education in New Zealand's Primary Schools adopted literature review Design. The study established that there's gap in resources towards disaster preparedness and perceived need for teacher training on how to deal with any possible emerging disasters.

Ndirangu (2021) on Vulnerability of Kenyan schools to disasters adopted descriptive survey in which participants consisted of schools' security, head teachers, deputy heads, teachers, and students. Questionnaires, interview schedules and observation checklists were administered to gather data. Finding of the study showed that many schools are vulnerable to disasters in Kenya due to lack of disaster safety and precaution measures in schools that compromises students' safety I the event of a disaster striking a school. The way forward is budgetary and material support and training of stakeholders towards fire disaster preparedness and the education supervisors to determine whether schools have adopted strict adherence to the MOEST guidelines on fire phenomenon.

Imisa and Shibutse (201) on causes of disasters in in secondary schools in Kenya adopted review of secondary data. Findings revealed several possible causation of fire outbreaks in schools including; electric faults, students strike, gas leakages amongst others. Implications of these finding for stakeholders on need for training teachers, head teachers, non-teaching staff and students on disaster preparedness.

Ayonga (2016) on an investigation of emergency preparedness in Kenyan Schools: A Case study of Public secondary schools in Nairobi adopted survey stud design in which questionnaires, interview schedules, observation check list were used to collect data among participants which consisted of students, teachers ,head teachers .The study established that schools were inadequately prepared for disasters and that respects, they lacked firefighting equipment, there was no training for teachers, head teachers, on teaching staff and students towards disaster prepadness,prevention and management in schools.

Raphela and Andaba (2024) on an assessment of fire safety management for special needs schools in South Africa especially to the north west. The stud adopted literature review design that there were limited fire safety initiatives in schools in Kenya and that affect measures were inadequate and that even legislation governing that have not been properly instituted and hence leaving void in the required safety standards, spelt out in safety compliance standards by MOEST (2008).

Ngau and Boit (2020) on community's fire response in Nairobi's informal settlements like Mukuru Fuata and Nyayo estates, Nairobi. That frequent fire outbreaks in the informal settlements in Nairobi is a common phenomenon, circumstance of which are sometimes suspected an orchestrated arson by some interested parties to meet a particular course.

Sholanke *et.al.*, (2024) on user's knowledge of fire safety measures in Educational environment: A Case stud of a college building in Nigeria adopted a descriptive survey design in which 153 students were sampled for the study. Questionnaires were administered to

collect the data. The study established that the student lacked knowledge of some basic fire safety measures and protocols of college buildings and that the respondents were completely unaware of the signs of fire safety and safe exits in the building in the event of fire emergencies.

Adeyanju *et.al.*, (2024). Fire Disaster Preparedness and Responses in selected Private Universities in Osun State Nigeria: a Mixed Method Study adopted mixed methodology in which a total of 300 respondents were sampled questionnaire administered to gather data from two universities namely Redeemer and Adeleke. The study established that both staff and students had positive attitudes towards fire disaster management and preparedness and that there were fire safety standards compliance in place in the selected universities. That there was firefighting equipment, however, they were not enough, hence posing danger in case of emergent fire outbreak.

Amuli (2019) on Efficacy of fire disaster management policies on managing fire outbreaks in Tanzanian Secondary schools adopted survey study design with respondents consisting of students, head teachers, education officers and schools' Board of Management personnel. Data were gathered through face-to-face interviews and focused group discussions. The study established lack of clear fire disasters policy frameworks in the schools and that the schools building never met the fire safety standards as outlined in the Tanzanian Ministry of Education Science and Technology's fire safety compliance document.

Oloo (2018) on the Role of Security Personnel in Fire disaster preparedness challenges of protection against Fire disasters in the University of Nairobi, Kenya adopted a mixed study design in which 76 respondents participated and data were gathered through administering questionnaires and interviews with the Key Informants. The study findings showed sufficiently trained human resources in handling fire emergencies in the university and that the university security personnel were faced with inadequate fire fighting equipment especially in the students' halls of residence where such equipment have been somewhat vandalized. That students reported lack of awareness of fire emergency situations. This void in knowledge and equipment need to be addressed through proper fire disaster policy framework and reinforcement of the same and close supervision whether enough has been done towards fire safety including purchase and installment of firefighting equipment in the corporation.

Kitheka.R (2016). Institutional Factors influencing implementation of safety standards in Public Secondary schools in Yatta Sub-Country, Kenya adopted descriptive study design in which 55 principals, 50 secondary school teachers were targeted. Findings revealed lack of adequate funding allocation towards fire disaster preparedness in schools. That the firefighting equipment were inadequate and that the teachers and the students were not trained on dealing with fire emergencies. These requires immediate remedies to avert any extensive damages that otherwise could be caused by fire ravages

Kemunto *et.al.*, (2015) on safety policy implementation framework for secondary schools in Kenya adopted survey design targeting the National Schools in Kenya out of which six

schools focused out of which 6 head teachers,120 teachers,300 Form III students participate. Questionnaires, interviews guides and observation schedule were used to gather the data. Findings showed that the national schools in Kenya demonstrated moderate fire disaster preparedness and that there were varied attitudes between teachers and students in regard to the eyed for fire disaster preparedness in schools. The imminent gap in fire disaster preparedness amongst national school teachers and students required remedy through relevant drills in the disaster possibilities and preparedness to handle them amongst these key stakeholders in school environment.

Gicharu (2015) on factors influencing compliance with disaster risk reduction guidelines of public primary schools in Kimabaa Division, Kenya adopted a survey stud design in which 23 head teachers of public primary schools,189 teachers and underpinned by Maslow's Hierarch of Needs Theory. The study established that all the public primary schools in Kiambaa Divison of Kenya complied with MOEST Disaster Risk Reduction Guidelines. That there were gaps in knowledge from both teachers and students on how to use firefighting equipment in the event of fire disasters.

Lusambili et.al., (2020) on Arsons in High Schools in Kenya adopted survey design in which b July 2016,130 schools were set on fire leading to public outcry and investigations indicated misunderstanding between the students and school management leading to strikes and hence arson of schools' infrastructure with all the associated disastrous consequences sometimes even jeopardizing the safety of fellow students and or their property while at school. The stud also assessed social support to the affected students in the Nairobi County, schools.

Atugi and Njeru (2020) on safety status on Kenyan learning institutions adopted literature review and are cognizant of the fact that fire disaster are common phenomena in both public and private institutions of learning, usually with lethal consequences in terms of property destruction and also safety question on students, in particular. Findings revealed inadequate preparation of students and the teachers alike on how to deal with fire outbreaks that could emerge in school. That most of the schools do not meet the threshold on the provision of safety standards stipulated in the Ministry of Education Manual on school safety (2008).

Magungu (2023) on an evaluation of the risk factors for disaster preparedness and awareness education among secondary school students in Nyamagana District, Mwanza, Tanzania adopted a case study design in which 220 respondents participated through filling in the questionnaire. Findings indicated that factors influencing disaster in secondary schools in Tanzania ranged from lack of disaster management plan and earl warning system, Lack of regular supervision of school facilities in regard to meeting the safety protocols I school stipulated in the safety manual, inadequate funding's towards disaster preparedness and poor stakeholder training towards disaster preparedness and consequences.

Suleiman (2018) on Implementation of disaster management strategies in schools in Nairobi County, Kenya adopted mixed methods in which a cross-sectional study used to get 59 respondents on disaster issue. Findings demonstrated through respondents' reporting on inadequate legislative and financial support toward effective management of fire disasters and lack of training for the stakeholders in preparation for disasters

Rotich et.al., (2022) on Factors influencing the implementation of safety standards Guidelines in Public Secondary Schools in Garissa Township Sub-County, Kenya adopted descriptive survey design in which 10 principals, 320 teachers were targeted questionnaires and face-to-face interview were administered to collect data. Findings showed a gap in safety standards and hence require quick redress to remedy.

Kalalu (2021) Assessment of Fire Emergenc Preparedness in Public and Private Hospitals: A Case study of 4 hospitals in Dar-as Salaam, Tanzania adopted survey design in which 107 respondents from public and private hospitals. The findings showed that disaster preparedness were well established in private hospitals as a compared to the public ones in Dar-As-Salaam when viewed within the lens of level of disaster preparedness.

[Cvetkovic et.al., \(2024\) on exploring students' and teachers' insights on school-based disaster risk reduction and safety: A Case study of Western Morava Basin, Serbia adopted survey design 850 face-to-face interview \(650 with students and 200 with teachers throughout 2023 in 10 out of the total of 18 municipalities in Western Morava Basin, Serbia. Two structure survey instruments were developed ,incorporating a mixture of qualitative closed-ended ,multiple choice questions and 5 point Likert Scales. Findings from multi-variate regression analysis showed that age, gender and marital status emerged as the primary predictors across various facets of students' and teachers' school-based disaster risk reduction education activities and enhancement of disaster information accessibility. The findings provide insight into the key factors influencing student's perceptions towards disaster risk reduction in schools. The stud contributes toward academic discourse on disaster educational frameworks, guiding teacher training and suggesting further stud on matters education's education and also serve as factional basis for educational programs.](#)

Mutiso (2020) on School based factors influencing implementation of safety standards in Public Secondary Schools in Matungulu Sub-County, Kenya adopted descriptive survey design in which 35 head teachers, 389 teachers and 2608 form 3 students were targeted. The researcher was cognizance of the troubling high student mortalities due to physical accidents. The study established significant statistical relationship between school-based factors and safety in schools at $\leq .05$. Existence of safety manual and school policies. But inadequate funds, swollen students' enrolment, amongst others bedevil disaster preparedness.

Omari (2018) on principal's administrative safety strategies influencing public secondary schools in Nyeri County, Kenya adopted descriptive design in which students, teachers, principals were targeted. The study established a positive relationship principals'

administrative safety strategies on disaster management in secondary schools in Nyeri County, Kenya.

Ndungu et.al., (2023) on stakeholder involvement and monitoring and evaluation determinants of schools' compliance with safety standards adopted survey design in which Board of Management members were targeted. The findings showed that safety standards in schools are wanting given that infrastructural safety standards and also lack of drills for the students, teacher. The study was underpinned by Maslow's Needs Theory and Pragmatic Philosophy and mixed methods. Participants consisted of 5 heads of Departments, 5 Sub-County Quality Assurance and Standards Officers. That need for stakeholder training towards fire disaster preparedness is imperative.

Sigei and Tikoko (2020) on relationship between implementation of safety standards and guidelines for physical infrastructure and students' safety in mixed boarding public secondary schools in Nakuru County, Kenya adopted mixed methods design in which 16 principals, 18 deputy principals, 130 form 3s were targeted, out of whom a total of 327 participants were sampled for the study. Questionnaires and observation checklists were used to gather data towards finding out safety concerns in schools.

Amegbor (2023) on fire safety preparedness on public universities in Central Region of Ghana University of Cape Coast used mixed methods targeting 149 Heads of Department. Questionnaires and interview schedules were used to gather data. Findings showed that most of the HoDs were unprepared to deal with fire emergencies, including the buildings that do not meet the required fire safety standards.

Mulama (2023) on influence of BoMs' practice on safety standard in public secondary schools in Raba Sub-County, Kenya adopted survey study design in which BoM members were targeted. The study established glaring gaps in safety standards in regard to infrastructure, students' and teachers' training towards preparedness of an possible fire emergencies and weak policy frameworks on the same that leaves void in the practice, despite the provisions of MOEST manual on safety standards in schools in Kenya of 2008.

Sugut (2020) on influence of principals' management practices on adherence to safety standards in public secondary schools in Nandi County, Kenya adopted survey design and established positive relationships between principals' management practices on adherence to safety standards at schools. That there is positive relationship between teacher training and adherence to safety standards at schools. The study points out as to the necessity of good principals' management practices that leads to stakeholder adherence to safety standards guidelines at school.

Muthiani (2019) on factors influencing schools' compliance to safety standards guidelines in Public secondary schools in Kitui Central Sub-County, Kenya adopted survey design in which 210 teachers, 400 student secretaries were targeted out of which a total of 325 participants were sampled for study. Questionnaires, interviews schedules. And observation guides were

administered to collect data. Findings revealed that principals' management practices like training teachers and students on fire disaster preparedness and safety manual provisions is necessary.

Waryoba and Mug'ong'o (2023) on fire emergency response readiness in Butiama District Schools in Tanzania: An in-depth study adopted mixed methods design on a study that was underpinned by the following theoretical frameworks: Abraham Maslow's Needs Theory, Modern Disaster Management and Protection and Motivation theory. Findings revealed lack of awareness on disaster preparedness amongst students and teachers a situation that is aggravated by the fact that there is no provision of training opportunities for them organized by school management toward the same.

Mutinda et.al., (2017) on assessment of fire safety management and adequacy of the existing control measures in Kenya power, Nairobi Region, Kenya adopted descriptive survey design in which questionnaires were administered to 306 respondents sampled for the study. Interviews and observation schedules were also used for data gathering. The study established a strong positive relationship between fire safety management and the control measures in place so that where there is no adequate control there is high likelihood of dangers associated with fire emergencies

Main Findings

That fire emergencies are real and have been reported annually in Kenyan institutions of Learning.

That fire outbreaks in schools could be due to arsons possibly due to student' unrest that could be because of diverse reasons including; dictatorial school leadership, students' perceived or real mistreatment in the school, bad food, failure to give students food, fear of exams, drug abuse, misunderstanding amongst students themselves. Other fires can be due to accident like electrical fault, others can be due heating, gas cylinders, amongst others.

That fire emergencies if not controlled usually result into injuries, even death and destruction of institutional property worth millions of Kenya Shillings.

Students, teachers and even heads of schools have largely not been trained on fire disaster preparedness.

That there is MOEST Fire Safety Guidelines of 2008 in Kenya, that many schools seem not have abided by and hence the havoc that fire outbreaks inflict onto the schools.

Implications of the study

The study has implications for the stakeholders like MOEST in collaboration with school management and community on close supervision and adherence to the MOEST Fire Safety Guidelines 2008 and ensuring that schools meet the required threshold to check on unwanted destruction and or death and injuries that have always occurred in case of fire emergencies,

which are basically due to negligence toward adherence to these safety precautions spelt out in the guidelines.

Conclusions

The study concludes that fire emergencies are real in the Kenyan schools and hence threatening destruction of property, causing injuries and or deaths amongst students in schools.

There is a serious gap in fire disaster preparedness amongst the students, teachers, head teachers and schools' auxiliary staff.

There is very limited adherence to the fire safety guidelines by the MOEST 2008, this could be blamed on the same ministry that has not followed up through supervision to determine the level of schools' adherence to the fire safety guidelines and compelling them to put it into practice to avoid the damages that otherwise results in case of fire emergency.

Recommendations

That A study of level of schools' adherence to the MOEST Fire Safety standards be carried out.

That a study on effects of participative leadership style on school discipline be carried out.

That a study on Kenyan schools' staff fire disaster training needs be carried out.

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