Strengthening fire safety preparedness in secondary schools in Kenya

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Introduction

The recent spike in secondary school fire incidences in Kenya points to dwindling levels of fire safety in schools. This is a result of inadequate preparedness of the schools to prevent and respond to the occurrences. The lackluster approach impedes the attainment of Goal 4 of the 2030 agenda for sustainable development which aims to promote inclusive and equitable quality education. Significant drawbacks that exacerbate the situation include inadequate sensitization on comprehensive fire safety measures; weak integration of technology into traditional fire safety measures and structural gaps in enforcing the 2008 Schools Safety Standards Manual. Therefore, revitalizing the preparedness of secondary schools to ensure students' safety is vital to promoting quality education. Key recomme-ndations include intensifying awareness creation of the 2008 Schools Safety Standards Manual; constituting a multi-agency oversight mechanism to strengthen school safety preparedness; and
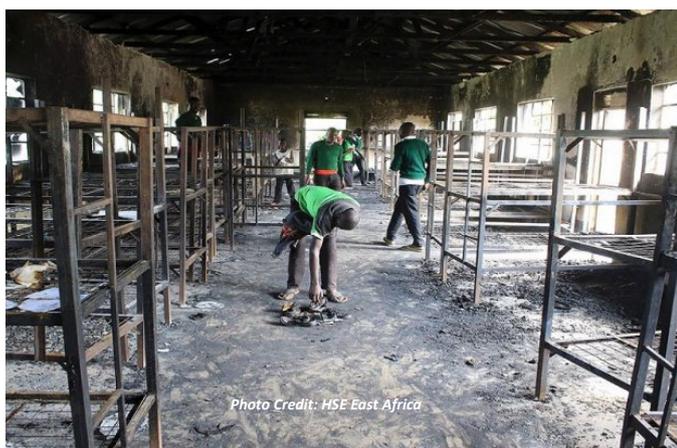

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integrating modern technology including artificial intelligence systems into the traditional fire safety measures.

Context

There has been an increasing trend in fire incidences in secondary schools impeding the attainment of Goal 4 of the Agenda 2030 on quality education. The provision of an effective learning environment that is safe, non-violent, and inclusive is touted as vital in realizing the outcomes of Goal 4. However, in Kenya's context, there is a cyclic struggle by many secondary schools to attain the goal for over years. One of Kenya's fatal school fires was in 2001 at Kyanguli High School where at least 67 students died in a dormitory inferno. Subsequently, there have been other non-complex fire incidences across the country. The most recent tragic one was very unique as it occurred in a primary school, unlike the previous occurrences. During the September 2024 tragedy, at least 21 students perished with 17 children unaccounted for at Hillside Endarasha Academy, a boarding primary school.

Photo Credit: Ministry of Interior and National Administration
Interior CS Interior Kithure Kindiki and Education PS Belio Kipsang' at Hillside Endarasha Academy, Nyeri County following at tragic fire incident on September 6, 2024

Photo Credit: HSE East Africa

The spike in the number of fire outbreaks in secondary schools in Kenya points to dwindling levels of fire safety and the need for comprehensive strategies to sustainably de-escalate the crisis. The rapid increase in the crisis can be attributed to laxity in adhering to and enforcing the school fire safety standards in line with the 2008 Schools Safety Standards Manual (SSSM). Weak implementation of fire safety measures was a major causal effect of fire incidences in schools as depicted in a 2020 report by the Office of the Auditor General Kenya, on the level of secondary schools' preparedness to handle fire incidences between 2014/15 to 2018/19. This is against the backdrop of the safety preparedness of schools being vital in reducing the probability of fire incidences and ensuring minimal loss of lives and property in case of a fire. In addition, between 2010 and 2020, there has been a significant increase in incidents of school fires and accidents in schools according to a report by Kenya National Bureau of Statistics. The following are significant policy options that can ease the crisis;

First, the ability to offer a timely response to emergencies is premised on awareness creation through routine capacity building. The Kenya Red Cross Society notes that schools with trained first responders have a 50 percent higher rate of successful interventions in emergency cases. As such routine awareness of fire safety is vital in preventing the occurrence and impact of fire incidences. Tailored training on support staff, students, and teachers in emergency response particularly on the appropriate use of safety

equipment could boost emergency response. However, in ideal situation, most schools have not been able to build capacity on fire safety as enshrined in the Schools Safety Standards Manual.

Secondly, technology integration into the traditional fire safety measures could boost response to fire incidences in schools. This enhances efficiency in ensuring round the clock safety preparedness. The use of Artificial intelligence (AI) enabled systems has the capacity to offer real-time detecting, preventing, and managing fire incidents. AI-enabled tools perform regular inspections of high-risk and faulty areas that may cause fire hazards. They further ensure effective surveillance against information overload and the proliferation of ungoverned social media spaces which provide students with online and offline grounds to plan and execute arson. They can offer early fire detection systems that analyze data from various sensors and devices, enabling faster responses. They include Natural Language Processing (NLP), Internet of Things (IoT) fire safety devices, drones, Predictive Analytics, computer vision algorithms, I-based thermal imaging systems.

Reports indicate that 80 percent of school fire incidents could be prevented through regular inspections and timely repairs of faulty equipment. Equally, AI technology can be vital in analyzing data from past fire incidents to improve future response strategies through processing large amounts of data from the fire incidents to identify the root causes and assess the extent of damages for quick claims processing. Further evidence demonstrates that schools equipped with automated fire detection

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systems have a 70 percent survival rate in the event of a fire breakout.

Addressing structural gaps in enforcing fire safety regulations remains crucial. Fire safety unpreparedness is exacerbated by lack of inclusive safety oversight mechanisms and workable plans in schools to promote collaborative approach and allocation of responsibilities to strengthen enforcing compliance to safety standards in prevention and response to fire incidences. While compliance with the school safety standards is a major responsibility of all school stakeholders, it's often left to the school heads. To ensure schools are safe spaces for learning, all strategic stakeholders should understand their responsibilities in promoting school safety. These include the principals, teachers, students, support staff, parents, board of management, the community surrounding the school, private sector actors and law enforcement officers. While the SSSM offers regulations regarding fire safety in schools, the structural enforcement gaps remain a challenge across various schools. This impedes compliance with fire safety standards in most of the schools. The enforcement deficits can be reinforced through a multi-agency oversight mechanism including the private sector, the Kenya Bureau of Standards, the Ministry of Education, and community involvement to strengthen monitoring and reporting of non-compliance.

Conclusion

Despite the regulations and measures put in place to enhance fire safety preparedness, secondary schools remain inadequately prepared to prevent and respond to fire incidences. This impedes the attainment of the 2030 agenda for sustainable development Goal 4 on quality education. Therefore, revitalizing the preparedness of the schools to ensure fire safety is vital to promoting quality education.

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Recommendations

1. The Ministry of Education, Kenya should;

    a) intensify awareness creation of the safety measures enshrined in the 2008 Schools Safety Standards Manual (SSSM) through routine capacity building

    b) constitute a multi-agency oversight mechanism to champion and promote a collective level of compliance with the school safety standards;

    c) integrate modern technology including artificial intelligence systems into the traditional fire safety measures to boost prevention and response to fire incidences in schools; and

    d) ensure allocation of adequate budget for technology-informed security-based infrastructural upgrading for all schools.