Exploring Emergency Action Plans Adoption in Curbing Crisis Situations in Secondary Schools in Kagera, Tanzania

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Abstract

This study explored the adoption of Emergency Action Plans (EAPs) to manage crises in secondary schools within the Kagera Region. Employing a multiple case study design, the research involved 48 participants, with data collected through interviews, documentary reviews, and observations. Thematic analysis was used to interpret the data. Findings revealed that secondary schools lacked well-defined and comprehensive EAPs to address emergencies effectively. The adoption of EAPs was limited due to inadequate safety facilities, insufficient infrastructure, financial constraints, the absence of school nurses, and a general lack of knowledge regarding EAP implementation. The study concludes that ensuring a safe teaching and learning environment requires not just planning but the effective adoption and implementation of EAP to adequately prevent, mitigate, and respond to emergencies.

Keywords: *emergency action plans, adoption, safe teaching and learning environment*

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Introduction

In the school environment, various emergencies have increasingly disrupted the safety and continuity of teaching and learning for both teachers and students. Such emergencies—occurring across schools, colleges, and universities—have significant consequences, including damage to infrastructure, loss of property, injuries, and even fatalities (UNESCO, 2020). A review of emergency responses from 2010 to 2014 reported that an average of 250,000 students were affected annually by events such as severe droughts, floods, and fire outbreaks. The number of teachers and students impacted by emergencies rose from 2.1 million in December 2015 to 4 million by June 2016 (WMO, 2023). These incidents often result in student absenteeism, dropouts, disrupted timetables, temporary school closures, injuries, and loss of life.

In this context, both emergency planning and the effective adoption of Emergency Action Plans (EAPs) are critical for strengthening school governance and ensuring a safe learning environment (Alsubaie, 2017; Aslam, 2023). However, there remains

a lack of emphasis on pre-emergency planning and the practical implementation of such plans (Mfinanga, 2016; Nyagawa & Anangisye, 2023). Once considered safe havens, schools now face growing exposure to natural and human-induced hazards such as fires, floods, disease outbreaks, wars, heavy rainfall, armed conflict, and earthquakes (Amuli, 2016; USAID, 2016; the Inter-Agency Network for Education in Emergencies [INEE], 2020). These emergencies both hinder learning and contribute to psychological distress among students and staff, including anxiety, grief, fear, and depression (Philpott & Casavant, 2016; Thompson, 2012; United Nations, 2009).

Study's context

An estimated 246 million students experience emergencies that disrupt their education each year, adversely affecting their learning environments (UNESCO, 2020). The UNESCO School Violence and Global Status Report (2019) indicates that 144 countries face school-based emergencies such as fires, conflicts, violence, and bullying. Similarly, a 2018 UN report highlighted that both developed and developing countries often lack safe and healthy learning environments due to persistent school-related emergencies. Over the past four years, the number of school closures linked to emergencies has nearly doubled, with more than 13,200 schools shut down in just eight countries across West and Central Africa (NRC, 2024). In response, 187 countries adopted the UN Sendai Framework for Disaster Risk Reduction (2015–2030), which outlines global priorities for assessing, mitigating, preparing for, responding to, and recovering from disasters. Despite such initiatives, the frequency and severity of emergencies—including fires, hurricanes, stampedes, and floods—continue to rise. According to the Canadian Disaster Database, over 195 disasters occurred between 2008 and 2018, causing hundreds of thousands of deaths and billions of dollars in damages (Agrawal, 2018; Porter et al., 2017). The Hyogo Framework for Action (HFA), endorsed by 168 nations, also stressed the importance of reducing global disaster risks. It emphasised that disaster risk reduction depends on public awareness and a collective commitment to a culture of prevention. Nevertheless, schools continue to face significant challenges related to disaster preparedness and the implementation of emergency response plans. This situation contradicts the Dakar Framework for Action, which asserts that every child has the right to quality education—an entitlement that many are denied due to ongoing school emergencies.

In India, the Central Board of Secondary Education (CBSE) designed a school curriculum that includes a short course on disaster management (Singh, 2019). CBSE has created textbooks focusing on disaster management to educate students on safeguarding themselves during disasters. Training modules and programs have been established, with around 2000 teachers receiving training on disaster management nationwide. Guidelines for planning disaster management have been

circulated to all schools in India, ensuring the implementation and preparation of school disaster management plans for enhanced safety. Furthermore, schools in India conduct competitions, projects, and exhibitions related to disaster management to raise awareness (Human et al. Centre, 2011; Kanyasan et al., 2018; Singh, 2019).

In Sub-Saharan Africa, the education system is frequently disrupted by emergencies, including hurricanes, tsunamis, droughts, fires, and conflicts, which pose significant risks to school infrastructure and learning continuity. For instance, floods caused by a cyclone in 2019 destroyed thousands of classrooms in Zimbabwe, Malawi, Ethiopia, and Mozambique (Rother et al., 2020; Save the Children, 2020). Despite such incidents, schools seldom develop or adopt plans to ensure a safe teaching and learning environment (Ethiopia et al., 2017). Between 2010 and 2014, emergency response analyses indicated that approximately 250,000 children were affected annually, particularly during severe droughts and floods. The number of teachers and students impacted rose from 2.1 million in December 2015 to 4 million by June 2016. Over the past five decades, the frequency of documented emergencies has increased, largely due to human-induced climate change (WMO, 2023), contributing to higher student absenteeism and dropout rates. Nevertheless, limited attention is given to integrating education into annual emergency planning and budgeting processes, ultimately hindering the effective implementation of EAPs in schools.

Like many other countries, Tanzania faces various short-lived emergencies, such as COVID-19, while others persist for extended periods. Despite their differences, their impacts appear similar, especially when they pose risks to the environment, specifically to students, and lead to the destruction of school infrastructure, affecting the educational system and disrupting learning through changes in timetables, temporary closures, and loss of life among students. The Emergency Event Database (EM-DAT) shows that from 1997 to 2017, Tanzania encountered 65 significant events, totalling 357 highly intensive events. The figures from UNDRR (2018) show that floods account for 40% of emergencies, followed by epidemics at 34%, earthquakes at 9%, drought at 6%, and storms at 6%. One of the most harmful impacts of emergencies on children is the hindrance of their ability to access education in secure learning environments, as noted by Creed and Morpeth (2014) and Mfinanga (2016). Schools have faced various incidents, such as fires, floods, and violence, making them less safe than they should be. The teaching and learning environment has been disrupted, preventing vulnerable girls and boys from accessing quality education due to ongoing school emergencies (Mobarak et al., 2015; Mfinanga, 2016; Philpott & Casavant, 2016; Adesegun et al., 2019; Kamanyi, 2020).

Partnering with the international community, the Tanzanian government has implemented various measures to ensure the safety of schools for effective learning.

These measures include establishing regulations, laws, and programs such as the National Disaster Management Policy of 2011, the National Disaster Management Act of 2015, and the emphasis on providing quality education in the Tanzanian 1977 Constitution. Additionally, the Education and Training Policies of 1995 and 2014 underscore the importance of providing education to all Tanzanians, and in 2018, the government collaborated with the United Nations (UN) to equip children with essential skills, knowledge, and readiness for potential risks as part of sectoral policies (Okiror, 2018). NGOs offer aid in disasters but fail to fully meet emergency needs due to their temporary assistance, often limited by insufficient humanitarian funding (Overseas Development Institute 2016). The following table explains the occurrence of emergencies in the Kagera region.

Table 1

Emergencies Experienced by Secondary Schools in Kagera Region, Tanzania

SN	Name of School	District	Type of emergency	Year of occurrence
1	Aborina SS	Bukoba Urban	Earthquake	2016. 2022
			COVID 19	2020, 2021, 2022
			Fire-outbreak	2015, 2021
			Flooding	2019
2	Brene SS	Bukoba Urban	Earthquake	2016, 2022
			Fire-outbreak	2020,2023
			COVID 19	2020, 2021,2022
			Diarrhoea	2014
			Strong Wind	2017
3	Carcus SS	Bukoba Urban	Earthquake	2016, 2022
			Strong Wind	1990,2023
			Fire-outbreak	2019, 2020
			Flooding	2019
4	Dortmund SS	Bukoba Rural	Earthquake	2016, 2022
			COVID 19	2020, 2021,2022
			Diseases (Diarrhoea)	1990, 2017
5	Esheni SS	Bukoba Rural	Strong Wind	2015,2023
			Earthquake	2016, 2022
			COVID 19	2020, 2021, 2022
			Fire-outbreak	2017
6	Finihas	Bukoba Rural	Earthquake	2016, 2022
			COVID 19	2020, 2021, 2022

Source: Field data (2022)

The increasing frequency of emergencies raises concerns about the effectiveness of Emergency Action Plans (EAPs) implemented in government secondary schools in ensuring safe teaching and learning environments. Moreover, existing policies and guidelines on EAPs often lack clarity, further complicating their implementation. This study is, therefore, motivated by the need to investigate the specific actions schools undertake to develop, implement, monitor, and evaluate emergency response plans. Gaining such insights can help inform targeted support for schools during emergencies, ultimately enhancing the safety of the teaching and learning environment.

Research aim and questions

This study explored emergency action plans employed by individual schools in creating safe teaching and learning environments in secondary schools. It was guided by two research questions which are:

i. What emergency action plans have government secondary schools adopted in responding to crises?
ii. How adequate are the adopted emergency action plans in response to school emergencies?

Methodology

Research approach and design

This study employed a qualitative research approach. The qualitative research approach enabled the researcher to interact socially with participants to generate information about the adopted emergency action plans in responding to emergencies. Multiple case study was used because it is a valuable qualitative research tool in studying links between the personal, social-behavioural, psychological, organisational, cultural, and environmental factors that guide organisational and leadership development (Halkias, Neubert, Thurman & Harkiolakis, 2022). The design helped the researcher get robust information from six schools about emergencies that had previously hit.

Area of study

This study included six secondary schools in the Kagera region. The region and schools were purposively selected because of their repeated intensive experience in multiple emergencies, including earthquakes, heavy rainfall, lightning strikes, fire outbreaks, and floods. History shows that Kagera often experience floods due to the break of the Kanoni Riverbanks and Lake Victoria, which extend into villagers around where schools are also affected. More importantly, Kagera is one of the regions prone to earthquakes due to its location along the East African Rift Valley.

Research participants

A total of 48 participants were involved in data collection across various stages and methods. The sample comprised six heads of school, six school board members, six parents, six security guards, twelve teachers, and twelve students from government secondary schools in the Kagera Region. This diverse group was purposefully selected to provide relevant and comprehensive insights into how schools plan for and respond to emergencies, as well as the extent to which these plans are implemented. Heads of school were included due to their extensive knowledge of their institutions and their roles as managers and accounting officers responsible for the planning, implementation, monitoring, and evaluation of all school activities. School board members were selected for their context-specific understanding of school action plans, including those related to emergency response. Teachers were chosen based on their direct experiences with school emergencies, enabling them to provide detailed information on the existence, implementation, and challenges of Emergency Action Plans (EAPs). Security guards were considered essential participants due to their responsibility for school safety, which directly influences the teaching and learning environment. Lastly, students were included as they are the primary beneficiaries of school safety efforts and have firsthand experiences of the impact of emergencies in their schools.

Sampling procedures

The researcher used purposive sampling to choose schools and participants based on their experience. The selection process considered schools that had been established for at least twenty years to assess the occurrence of emergencies. Schools were purposively selected because the study aimed to examine those who had already experienced disastrous situations. According to Palinkas et al. (2015), purposive sampling enables researchers to engage with individuals with comprehensive knowledge about specific issues. In this way, it was employed to gather extensive input from participants about the strategies that individual schools use to address various urgent situations during emergencies. Research participants consisted of heads of schools, teachers, students, parents, security guards, and school board members.

Data collection methods

Face-to-face interviews

Semi-structured interviews were employed to collect in-depth data, allowing participants to share their experiences and perspectives on emergency-related issues. Interviews were conducted with heads of schools, school board members, parents, students, teachers, and security guards to gather information on the

existence and implementation of Emergency Action Plans (EAPs). The face-to-face format enabled the researcher to gain a deeper understanding of how participants' personal experiences influenced their ability to prevent, mitigate, prepare for, and recover from emergencies. This approach aligns with Taherdoost (2021), who emphasises that semi-structured interviews when guided appropriately, facilitate the collection of rich and relevant data. The interview discussions focused on the development and execution of EAPs within individual schools to address a range of urgent situations.

Documentary review

The study considered school documents as an essential source of data. This method was used to gather information from primary documents found in the offices of heads of secondary schools. The study reviewed several documents to capture their meanings and how best they can help in understanding action plans for emergencies that individual schools use to resolve different urgent matters during emergencies. These documents included staff and/or parents meeting minutes, school board meeting minutes, school inspection and quality assurance reports.

Site observations

An observational method is a highly important method in all quality inquiry since it is used to discover complex interactions in the natural setting (De Trigueros, 2017). This method was used for taking photographs and physical verification to ascertain the availability of safety measures to enhance a safe teaching and learning environment. The researcher observed several things to check their availability. They include safety equipment such as fire extinguishers, emergency doors, school fences, sanitation facilities, and a warning system. The researcher used a digital camera to take photographs of available emergency safety facilities rehabilitated and reconstructed school buildings after emergencies hit schools. What was observed was noted as valuable data for analysis and confirmed information from the other instrument.

Data analysis

The researcher conducted data analysis by performing various tasks such as creating categories, coding the data, and organising it into tables. The interview data underwent thematic analysis, sorted into categories to identify common themes. These data categories were then presented based on the statements from the respondents and the identified themes. The study followed the three-stage analysis model proposed by Miles, Huberman, and Saldana (2014). The first step involved transcribing and reducing the data by eliminating irrelevant information while preserving the original messages. Next, the data were organised, summarised,

and displayed in descriptive data sheets based on different themes, followed by the presentation of the data in tables. Subsequently, conclusions were drawn by the researcher based on the displayed data, with participant quotations used to support the claims. This approach assisted the researcher in effectively organising, condensing, compiling, comparing, and identifying patterns in the data (Creswell, 2013). Moreover, integrating images into qualitative research offered a wealth of detail and conveyed aspects of reality that could not be expressed through words alone. The researcher used content analysis to thoroughly study and interpret images to identify patterns, themes, and meanings. Content analysis proved helpful and adaptable, allowing the researcher to connect different concepts and participants' viewpoints on the typical emergencies in the schools under study.

Ethical considerations

Research clearance was obtained prior to data collection. Participants were assured of confidentiality, and pseudonyms were used to conceal the identities of the schools. Verbal consent was sought from all participants, who were informed of their right to withdraw from the study at any time without consequence. All responses were treated with strict confidentiality. Adhering to ethical considerations is essential in research, as it safeguards participants from potential harm resulting from their involvement in the study (Kjellström et al., 2010)information and informed consent (86%.

Research Findings

Schools' action plans

The study examined emergency action plans adopted by secondary schools to curb the crisis for a safe teaching and learning environment. Information for this inquiry aspect was generated using interviews, observation checklists, and documentary reviews. The research findings showed that six (6) studied schools did not have well-stipulated and comprehensive emergency action plans to respond to emergencies resulting from different situations likely to hit. Evidence showed that since emergencies had once hit such schools, they had developed sketchy and/or tentative action plans for dealing with similar calamities if they were to happen again. However, schools' adoption of such plans to respond to emergencies was limited due to financial constraints, lack of school nurses, poor emergency facilities, and lack of awareness of emergency preparedness. The categories of emergency action plans found in secondary schools studied are presented herein.

Planning for fire outbreaks

The findings revealed that most schools had stipulated plans to respond to fire

outbreak emergencies. The available plans considered providing relevant education to the school community, particularly teachers, students, and other staff members, on managing fire outbreaks. As such, the school community had to be trained on how to use fire extinguishers and avoid dangerous situations that may cause fire and other related circumstances. Schools also had to install fire-fighting equipment and establish fire assembly points. These initiatives had to be taken by individual schools to prevent fire outbreak emergencies.

Provision of training to the school community

Face-to-face interviews with the heads of schools, school board members, teachers, security guards, and students revealed that schools planned to organise training and seminars aimed at creating awareness among the school community in managing emergencies. The plans include teachers preparing emergency management morning speeches during students' school assemblies so that they become aware of fire outbreak prevention and management strategies. Additionally, schools had planned to invite Fire Brigades at least once every new term to conduct fire-fighting drills for teachers and students. However, the interviews with teachers and students revealed a limited scope of training on emergencies despite having plans. Teachers failed to train students on other types of emergencies such as earthquakes, flooding and diseases such as COVID-19 and the Marburg virus likely to hit schools. The interviewed head of Aborina secondary school argued:

> In our school, we have not received training on emergency management for nearly six years due to budget constraints, which poses a significant risk to school safety. While teachers occasionally deliver morning speeches to students on managing emergencies, these talks primarily focus on fire outbreak prevention. Other types of emergencies receive little attention, largely due to the limited knowledge among teachers. It is challenging for educators to teach emergency preparedness when they lack adequate training *(Interview with HoS, Esheni Secondary School, September 2022).*

The excerpt revealed that organising training sessions and delivering morning speeches were among the planned strategies for managing school emergencies in secondary schools. These initiatives aimed to build the capacity of students and staff for effective emergency response. However, the data indicated that inadequate training for both teachers and students hindered the successful implementation of EAPs. Participants expressed concern over the lack of training, particularly following emergency incidents, noting that practical measures for emergency preparedness were rarely implemented. It was suggested that had comprehensive training been provided, many emergencies could have been mitigated or prevented.

Installation of firefighting equipment

This study found that schools planned to buy firefighting equipment such as fire extinguishers, fire alarms, fire smock detectors, and sand buckets to be fixed in different. These facilities could help extinguish the fire to avoid harm and alert the school community to rescue themselves in an emergency. Nevertheless, secondary schools had no fire detection alarms or fire smock detectors, as suggested in EAPs; rather, they used local means such as bells and whistles.

Figure 1*: Emergency bell located behind a school dormitory*

Source: Field data, 2022

During an interview, one head of a school had the following to argue:

> We frequently hear of fire outbreaks in other schools, which serves as a reminder that we are not exempt from such risks and must be prepared. Last year, my school planned to purchase 15 fire extinguishers for installation across various buildings. However, due to budget constraints, we were only able to acquire three. As a result, the majority of school buildings remain without fire extinguishers *(Interview with School Board Member, Brene Secondary School, July 2022).*

The data suggest that schools have developed fire management plans that include the procurement, installation, and demonstration of firefighting equipment. These plans are largely motivated by the frequent occurrence of fire incidents in secondary schools. However, the implementation of these plans remains limited. In many cases, schools rely on inadequate tools such as bells and whistles, which delay the dissemination of information during evacuation procedures, thereby endangering lives and property. This indicates that firefighting equipment is either insufficient or entirely lacking, making it difficult to manage fire outbreaks effectively.

Establishment of fire assembly points

Through interviews, it was revealed that schools have planned to establish assembly areas for evacuation scenarios. Thus, when an emergency arises and the school building needs to be evacuated, students, teachers, visitors, and other occupants must be encountered to ensure everyone has made it safely. However, all six schools under study were found to lack emergency assembly points; instead, they used normal assembly points together during emergencies. Regrettably, the normal assembly points were not large enough to safely accommodate the whole school population in case of emergency. One Teacher of school from Esheni Secondary School confirmed that:

> We have planned to establish a fire assembly point in my school to help the school community gather during an emergency and make it easy to crosscheck present members and the missing ones who need to be rescued. But most schools lack emergency assembly points. It shows that schools are not sensitised enough to the identification, design, and importance of having emergency assembly points *(Interview with teacher 1, Esheni secondary school, September 2022).*

The extract revealed that although schools had developed sound plans to establish emergency assembly points to facilitate the safe evacuation of students and staff during emergencies, these plans were not implemented. None of the sampled schools succeeded in establishing such assembly points, primarily due to a lack of awareness and guidance among school management regarding their identification and design. The absence of designated assembly areas increases the likelihood of confusion during emergencies, heightening the risk of individuals becoming trapped in buildings and sustaining injuries.

Severe weather emergency planning in secondary schools

The findings from interviews revealed that schools had designed a severe weather emergency plan that involved building surface water channels to prevent rainwater from flooding classes, offices, and dormitories, planting trees to prevent wind destruction, and installing radar for lightning strikes. However, not every possible situation was covered in the plan. The plan mainly focused on common weather emergencies that once hit schools, such as strong wind, lightning, heavy rainfall, and floods. One head of school reported this from Finihas secondary school:

> We had planned to purchase at least one radar lighting, plant trees, and build water channels to respond to weather-related emergencies. Also, we plan to buy a television as a source of information on weather news for preparation purposes. However, due to a limited budget, we dropped a plan to build standard water bridges and opted for water

> surface channels. Even when purchasing lighting radar, we need to ask for parents and other stakeholders. *(Interview with HoS, Finihas Secondary School, July 2022*).

It can be noted from the excerpt that schools are found to have weather emergency plans such as the purchase of radar lightning, planting of trees to respond to wind emergencies, and building of water channels to respond to flooding. Purchasing television was found to be one of the plans so that they could get information on local weather conditions and act accordingly. However, the finding revealed that financial constraints.

Medical emergency plans in schools

Interviews with heads of schools and teachers revealed that the school's plans to respond to medical emergencies include purchasing first aid kits, having school nurses, and ensuring the availability of water in the school compound. Additionally, they planned to have a special room (sick bay) to be used by sick students who cannot manage attending classes during medication and easy follow-up of patients. However, the implementation strategies were not sufficiently adopted. The purchased first aid kits lacked crucial medicines and equipment such as painkillers, spirit, and bondages. Other first aid kits were found with expired drugs that were not safe for use. Only one out of the six studied schools had a school nurse. The school without school nurses opted to use patrons, matrons, and teachers to deal with medical incidents in school; however, they were not knowledgeable and had limited training to deal with medical issues. One Teacher from Aborina secondary school underscored the above point by saying:

> Yes, we have health emergency plans. The problem is limited funds for the implementation of the plans. Buying first aid medicines requires money, and sending very sick students to the hospital also requires transport money. We sometimes incur costs by using our own little money to solve students' medical emergency issues. They are like our children. We have no option *(Interview with HoS, Aborina Secondary School, July 2022).*

The findings from the quotation reveal that schools had planned to purchase first aid kits, establish a sick bay, have school nurses, and ensure the availability of water in the school compound. Yet, the school failed to implement the plans adequately due to a limited budget. The ability of a school to respond to medical emergencies depends on the availability of well-equipped first aid kits and trained personnel to handle medical issues. The findings indicated that the school used

patrons, matrons, and teachers who were not knowledgeable enough to deal with medical problems due to a shortage of trained medical attendants in secondary schools. Moreover, one head of school from Brene secondary school had a similar view as he was quoted arguing:

> Among the agenda in EAP is proposing that parents contribute caution money for each student. So, the money contributed will be used to rescue the situation whenever an emergency occurs, especially in covering transport costs. Additionally, it is part of the plan that each of our students poses health insurance to make things easier in case students get sick or are injured and need to be treated *(Interview with HoS, Carcus Secondary School, July 2022).*

The findings from an extract reveal that parents' contribution of caution money is part of school health emergency plans. The caution money was shown to be a big help when students get sick and need to be rushed to the hospital as the money covers transport costs. However, ensuring the possession of health insurance cards for every student was made for more accessible student treatment in case of health problems that require them to go to the hospital.

Developing school rules and regulations for managing emergencies

Interviews with heads of schools, students, and security guards indicated that schools had planned rules and regulations for managing emergencies. School rules and regulations aim to restrict students from any actions that might lead to the risk of being injured or causing emergencies such as fire outbreaks or the destruction of buildings. The rules and regulations were signposted in the school joining instruction, showing the dos and don'ts to be adhered to by students before joining the school. The data from the documentary review of Brene Secondary School identifies rules and regulations to be followed by students (see box 1.1)

Table 2

School Rules and Regulations

i.	Assault and fighting are not allowed
ii.	Vandalism (Destroying and damaging things, especially public properties, E.g., electrical wires) is not allowed.
iii.	Burners, lamps, candles, petrol, paraffin, and matchboxes are not allowed
iv.	Mobilising students for the purpose of defying school authority will lead to indefinite suspension of the student concerned who shall be arrested and handed over to the Police for prosecution
v.	Caring for dangerous weapons like pistols, bullets, fuel or any other lethal instruments like blades, knives, etc., is not allowed.
vi.	Please keep your hands-off vehicles and any other machines in the school unless it is for learning purposes where a teacher will be supervising.
vii.	Private cooking and boiling in the dormitory are strictly prohibited.
viii.	With the exception of flat irons, other gadgets like water heaters, electric kettles, hot plates, videotapes, mobile phones, kerosene lamps, and candles are not allowed.
ix.	Proper hygiene MUST be strictly observed in classrooms, dormitories, dining areas, toilets, and school compounds.

Source: Field data (2022)

The data in Table 2 shows rules and regulations planned by schools to ensure school safety. The school management planned the above rules and regulations with the hope that its administration would prevent students from using facilities that may lead to emergencies. Additionally, they will restrain students from actions that would destroy school harmony and peace. Moreover, one Student from Brene secondary school added that:

> Yes, we do have school rules and regulations. However, the teacher did not inspect us enough. Some of us have mobile phones, and others have heaters. Bad enough those who have these things temper with electric cables to charge their phone and risk us from a fire outbreak. *(Interview with Student from Finihas Secondary School, September 2022).*

The data indicate that, although schools have established rules and regulations, some students violate them due to limited follow-up by teachers on rule enforcement. A few students were found in possession of prohibited items such as mobile phones and heaters, which, if used improperly, pose a risk of fire outbreaks. Adherence to school rules fosters discipline and a sense of responsibility—both essential for effective emergency management. However, the lack of consistent enforcement

leads to reactive, ad hoc approaches to emergencies, thereby undermining students' compliance with established emergency procedures.

Planning school infrastructure improvements to enhance emergency preparedness

The findings revealed that schools had developed diverse plans to renovate dilapidated infrastructure to mitigate potential damage. These plans included repairing buildings by replacing broken windows, doors, and other structural components, as well as upgrading outdated electrical wiring systems. With the construction of new school buildings, it was essential for schools to prioritise safety and security. However, many older buildings lacked key architectural safety features. Observations showed that while some schools adhered to building standards to reduce emergency risks, others did not. For example, one of the six visited schools had buildings with no basements, despite the Kagera Region's vulnerability to earthquakes due to its location along the East African Rift Valley. At Dortmund Secondary School, three classrooms had damaged iron sheets, and others had ceiling boards at risk of collapse. Such conditions compromised the teaching and learning environment, leaving students and teachers feeling unsafe. In emergencies such as earthquakes or fires, these structural weaknesses pose a serious threat to life. Emphasising the importance of safety planning, one school head remarked:

> Most of our old school buildings did not adhere to safety standards at their construction. However, there have been plans to renovate them to have such qualities. We thank the government for renovating some of them after the 2016 earthquake, as most classes were destroyed. However, several buildings need renovations as they pose a risk to students' and staff' safety *(Security Guard Aborina Secondary School, July 2022)*.

The findings indicated that renovations were part of the schools' plans to improve infrastructure quality by addressing various factors that compromise safety. However, most buildings did not account for student diversity, particularly the needs of students with disabilities. As a result, the safety of these students remains at risk during emergencies.

Developing safety and security plans for schools

Schools identified several key aspects related to safety and security. These included hiring security guards, assigning students as watch guards, identifying potential sources of emergencies, and constructing perimeter fences, as discussed below:

Hiring security guards and the use of students as watch guards

Schools planned to hire security guards to monitor individuals' movement from within and outside the school compound to ensure the safety of the school community and the security of school properties. However, based on the available budget, at most, two security guards were hired per school. The number of hired security guards was limited compared to the need. In this regard, one teacher from Dortmund secondary school explained:

> …our school planned to hire two security guards who would act as watchmen. They were given a visitor's book to register visitors after a thorough interrogation and checking of the identity cards at the main gate. However, our school compound is huge; thus, two security guards were not enough as they needed to patrol day and night. Therefore, the school management used students as guards during weekends and evening classes *(Interview with Teacher 1, Dortmund Secondary School, September 2022*).

Identification of sources of emergencies and building of school fences

The findings revealed that schools identified sources of emergencies, such as fire outbreaks and hygiene issues, as part of the EAP. Identification of the emergency sources enabled schools to prevent similar emergencies in the future. However, through observation, it was noted that some of the buildings were not renovated despite the report that the buildings needed renovation.

During the interview, the head of Finihas Secondary School explained:

> As a school, we have experienced several emergencies that damaged our school buildings and even killed a few students. To combat the problem, an investigation of the sources of emergencies was conducted, and the report was given to the authorities. However, only a few buildings were renovated, and a lot of buildings still are in bad condition to cause harm due to limited budget. For example. one teacher's apartment, damaged by an earthquake in 2016, has not been renovated till today (Interview with HoS, Finihas Secondary School).

The excerpt revealed that identification is a crucial strategy for ensuring a safe teaching and learning environment. It enables schools to manage regular occurrences of emergencies such as fire outbreaks. Schools prioritise plans to improve safety and security depending on prevailing circumstances. However, implementation was rare due to the limited budget.

Discussion of findings

The results indicated that although schools had EAPs, such plans were not comprehensive enough to respond to all possible incidents that hit schools. It was noted that schools had reactive plans for similar emergencies that had happened before in respective schools. The existing plans included establishing safety rules and regulations, conducting seminars, hiring security guards, and renovating the school's demolished infrastructure to enhance a safe teaching and learning environment. The results also revealed inadequate adoption of EAPs to ensure a safe teaching and learning environment in secondary school. Perceived barriers to EAP adoption include financial constraints, lack of school nurses, limited training on emergencies, and limited safety equipment. The findings are in agreement with Rahman et al. (2020), who reported that plans are barely available in schools and impede the implementation of emergency reduction practices. Similarly, Chemeli and Mwongeli (2015) and Mfinanga (2016) observed that secondary schools tend to plan reactively—responding to past emergencies rather than proactively preparing for potential future incidents. Moreover, such plans often lack proper implementation and follow-up mechanisms.

Emergency planning and effective adoption of what has been planned play crucial roles in creating a safe learning environment and saving the lives of students and staff in general. (Shah et al. 2020; Muzani et al. 2022). Implementation of well-developed emergency plans comprehensive enough to respond to all emergencies likely to hit schools enhances the safety and security of the school community and, thus, safe teaching and learning. Chondekar (2019) emphasised that schools' adoption of EAPs is critical in ensuring the safety of students, staff, visitors, and the entire school community. Thus, failure to plan and adopt comprehensive plans could lead to loss of lives and assets damage. Similarly, Hill (2015) noted that having a comprehensive emergency management plan allows for prioritising safety and security at all times on safety and security in schools. The findings reflect Kelly's (1998) and Manitoba's (2022) models from different perspectives. Both models emphasise emergency responses by preparing action plans that deal with emergency data or information. Similarly, Manitoba's model supports the findings in distinct stages, particularly preparedness, which highlights several aspects, including planning for emergency response. However, the failure of schools to have comprehensive EAPs is an alarm that there is a possibility of encountering disasters in the future, implying that schools have no emergency mitigation strategies. Similarly, failure to have comprehensive plans implies inconsistency in considering Manitoba's stage-named risk management, as the available plans will not offer sufficient inputs for risk control. Even the government of Tanzania is concerned with the importance of emergency planning. Tanzania National Operation Guidelines for Disaster Management of 2003 and Tanzania Emergency Preparedness and Response Plan

of 2012 require schools to adopt all necessary measures to prevent and respond to emergencies likely to hit schools (PMO-DMD, 2003; 2012).

The adoption of emergency plans underscores the importance of preparedness in enabling effective and timely responses to crises (Tipler et al., 2017). Strategic planning equips schools with comprehensive frameworks to respond to incidents that vary in scope, scale, and complexity. In an era where emergencies are increasingly frequent, schools must prioritise readiness and the capacity to respond effectively to both natural disasters—such as earthquakes, floods, and lightning—and human-induced emergencies, including fire outbreaks and terrorist attacks (Adams & Kritsonis, 2006). Effective planning enables rapid, coordinated, and efficient responses during such events (Kwayu, 2014). Consequently, secondary schools must not only understand the appropriate actions during emergencies but also demonstrate preparedness and implement planned responses accordingly (Amuli, 2019; Chondekar, 2019). Emergency planning also provides structured mechanisms for setting priorities, coordinating multiple actors and functions, and ensuring the integration and availability of essential communication and operational systems across the full spectrum of emergency management (Mururi, 2014). Despite the emphasis placed by both the Tanzanian government and the Manitoba model on the significance of emergency planning in creating safe learning environments and mitigating the impact of crises, many secondary schools have yet to comply. As a result, teachers, students, school property, and infrastructure remain vulnerable, with frequent disruptions to learning through altered timetables, relocation of classes to neighbouring schools, or complete school closures. To address these challenges, schools must adhere to existing frameworks such as the *Education and Training Policy of 2014*, which advocates for safe learning environments, and the *Tanzania Emergency Preparedness and Response Plan of 2012*, which mandates the implementation of essential measures to prevent and minimise the impact of emergencies.

Conclusions

The study concludes that secondary schools in the Kagera region had uncertain EAPs that were made based on previous emergencies. Even after having such scratchy EAPs, it was difficult to adopt and implement them due to myriad reasons, including financial constraints, lack of staff (e.g. school nurses), limited skills in emergencies, and limited safety equipment, among many others. This means that having emergency action plans or planning for emergencies alone cannot effectively prevent, mitigate, and respond to emergencies in secondary schools. Schools also needed to adopt the planned emergency plans so that they could help respond and learn how to respond to emergencies, including all possible emergencies likely to hit their schools.

Recommendations

The study recommends that EAPs in schools be comprehensive and well-structured, addressing all potential emergencies likely to affect the school environment. These plans should be clearly communicated to the entire school community to ensure effective implementation. Schools must also prioritise their proper adoption and execution to minimise the impact of emergencies and promote a safe teaching and learning environment. Notably, secondary schools should conduct regular training sessions for staff and students and frequently carry out emergency drills to strengthen preparedness. Moreover, the Tanzanian government—through the Ministry of Education, Science and Technology and the Ministry of Health—should allocate resources to employ qualified school nurses and financially support schools in acquiring essential safety equipment. This includes fire extinguishers, lightning rods, smoke detectors, first aid kits, and necessary medical supplies, as well as renovating dilapidated infrastructure. Lastly, school management should actively monitor the implementation of emergency plans and foster collaboration with parents and other stakeholders to ensure inclusive and sustained participation.

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