

## Original Research Article

# Strategic approaches for developing a culture of safety management in schools: Indications from literature studies

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### ABSTRACT

Natural disasters can take away children's lives and their right to quality education. This article identifies and discusses strategies that schools can employ to prepare for and minimise the effects of natural disasters. Using theoretical propositions and literature on disaster management, the article discusses strategies for the prevention of and preparedness to respond to and recovery from natural disasters within a school setting. Evidence from research indicates that there are basic principles and practices of disaster management that school management and learners may not be aware of. Based on the identified theoretical principles and practices for disaster management, the article concludes that both state and non-state parties have disaster management responsibilities and therefore should formulate and disseminate the basic principles and practices of disaster prevention, preparedness and post-disaster therapy to schools because of the vulnerability of children to disaster. In addition, it also recommends that disaster management should be included in the school curricula through subjects like geography, science, social studies or civic education and life orientation or skills training. **Keywords:** Natural Disasters; Disaster Preparedness; Disaster Management; Post-Disaster Therapy; Child Security; Disaster Prevention; Civic Education.

## 1. Introduction

Natural disasters are a worldwide phenomenon that adversely affects many different things in a country and ultimately prevents the smooth running of essential services, particularly those that affect children. According to Wilson et al.

(2007:1), '[d]isasters are natural or man-made emergency events which have negative economic and social consequences for the affected population'. Cardona (2003) states that these emergencies are termed disasters when they occur and the losses exceed the capacity of the population to support or resist it. When storms, extreme

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temperatures, fire, earthquakes, cyclones, typhoons, droughts, floods and desertification occur, millions of children are prevented from attending school (Lazarus, Jimerson & Brock 2003). As a result of natural catastrophe, schools should be alert to receive information when a disaster is coming and communicate it to the school-based educational stakeholders and communities so that they can get ready and be safe from any occurrence of natural disasters, should they occur. Apart from the home, schools are another primary habitat where children spend most of their time; therefore, schools should promote a culture of safety. According to NDMC SA. (2015), all disaster management centres in cities and districts are required to play an active role in engaging schools to ensure a practical approach to disaster awareness programmes.

In most cases, learners are susceptible to natural disasters; hence, it is important that teachers and school managers consider planning for the prevention and management of these disasters that might occur in the area where their schools are located. This is in view of the fact that there are some disasters that are caused by human error such as fire, electrical faults and drowning. In this regard, Pasipamire (2011) advises that the level of preparedness and the methods used in the class to teach disaster management principles and practices has a greater positive impact on the lives of the learners and teachers.

Natural disasters not only physically distract but also traumatise the learners. The effects of disasters such as earthquakes, veld fires and violent floods are petrifying, especially for schoolchildren, because of their vulnerability at times of disaster. The schools' learning programmes become undesirably affected by natural disasters and at times result in temporary termination of teaching and learning. In this regard, Lazarus et al. (2003) also advise that schools should play an important role in providing a stable and familiar environment when disasters occur. Interruptions in

the school routines may result in some learners dropping out of school altogether. In such a scenario, those children that could be academically gifted and keen to learn could become disillusioned and lose the impetus to learn.

## **2.A documentary survey of effects of natural disasters on schools**

While a number of countries have taken into consideration the prevention, preparedness and management of natural disasters, there is still a need to provide safety measures upon the occurrence of disasters. In New Zealand, there is a disaster preparedness policy that came into effect after the impacts of the 2011 Christchurch earthquake, which resulted in 185 deaths and significant damage to property and human life (GNS Science 2011). Schoolchildren are amongst those that maybe affected by death through natural disasters.

In the United States of America (USA), the Council on School Health (2008) notes that studies focusing on recent natural disasters have concurred that there are several important deficiencies in school preparedness for emergencies. This prompted the US policymakers to come up with policy guidelines that redressed the identified deficits in the schools' disaster preparedness. Developing a culture of safety management will ensure that schools are prepared for any kind of disasters that are likely to occur in their area.

In the context of Africa, in recent years, recurrent floods have befallen Mozambique since 2000 and these floods have exposed the sub-Saharan region of its disaster unpreparedness. Persistent rainfall accompanied by tropical cyclone Eline caused excessive flows in rivers, such as the Limpopo, which has catchments in other countries like Zambia and Zimbabwe. These floods affected a total of about 4.5 million people and caused over 700 deaths; losses were estimated to be US\$500 million and the Gross Domestic Profit (GDP) growth rate is estimated to have declined from 10% to 2%. Making reference to the effect of these Mozambican disaster

situations on schools, Luis (2014) observes that:

Disasters have caused a disruption of education in Mozambique for quite some time. In 2012, Cyclone Funso and Tropical Storm Dando damaged 1000 classrooms along the eastern coastline and in 2013 heavy flooding affected 250 classrooms in the Limpopo Basin. (p. 3)

In Africa, consistent floods have initiated convocation in education in Mozambique and neighbouring countries. Floods have been continuously damaging the schools and the surrounding environment and communities, leaving schoolchildren without schools and some even without homes (Luis 2014:3).

In Ethiopia, the most serious floods reoccurred in May 1968, August 1994 and May 2005, causing significant damage estimated to be US\$93 512m, and affecting the lives of about 3.5 million people (OFDA/CRED Centre for Research on the Epidemiology of Disasters Emergency Events Database 2002). From 2004 to 2006, flooding afflicted several areas of eastern and southern Ethiopia, Somalia and Kenya, killing and displacing hundreds of people. The Shabelle and Juba rivers in the region have flooded their banks, affecting towns and villages in an area stretching across hundreds of kilometres during floods. Floods in the Horn of Africa normally follow the June–September rainy season in most years. According to one United Nations (UN) report, the 2006 floods, which followed droughts in 2005, affected 1.8 million people and were the worst in the region in the last 50 years (ICSU 2007). Disasters have affected the lives of people on the African continent, including damage to schooling infrastructure, meaning that some children's education gets delayed while the schools are being fixed and this takes up expense from the country's economy.

### **3. The compulsion for disaster management in schools**

Schools provide a second home to the children and should therefore be hospitable, habitable and provide security to children. A culture based on

safety should be promoted and practiced in schools so as to provide an assurance of disaster security (NDMC S.A. 2015). In this regard, Warfield (2015) observes that disaster management in general reduces or avoids human and material losses from disasters, assures prompt and appropriate assistance to victims of a disaster and leads to rapid and effective recovery from a disaster. It is thus mandatory that schools fully prepare themselves for the possibilities of natural disasters for the safeguard of their staff, learners, teachers and key resources and infrastructure.

Generally, the greatest socialising institution for learners after the family is the school. This calls for schools to demonstrate the need to be prepared for all hazardous possibilities in the event of natural disasters, acts of terrorism and the threat of pandemic diseases ((Murray & Choo 2005). However, experiences in Africa in a café suggest that the greatest challenge in Africa is that most societies react to disasters instead of being proactive on preventive measures. For example, some schools' geographical locations and infrastructure setup do not have disaster prevention mechanisms, which is an indication of inadequate consideration of disasters in the planning process. In this regard, Luis (2014) observes that:

Given the large economic and social costs involved as a consequence of the occurrence of cyclones, floods, windstorms and other adverse climate phenomena, recently aggravated by the effect of global climate change, we have to take more appropriate measures so that our schools are safer. (p. 3)

An important step in planning is to conduct situational needs identification and analysis of every school based on the geographical setup, community trends and previous accident and disaster data. To address environmental disasters such as toxic spills, hurricanes, tornadoes, floods and earthquakes, schools should have infrastructure suitable for natural disasters that are likely to occur (Murray 2005). In this case, the landscape or terrain where schools are built should not be low-lying areas like valleys. Drainage systems should always be well catered for

the architectural plan and also well maintained. Making reference to Africa, the UN-Habitat Global Activities Report (2015) indicates that most schools in Mozambique are sited in areas that can be exposed to one or more natural disasters and 200 – 1000 classrooms have been found to be affected by cyclones and floods everytime floods occurred. The high impact is often because of issues such as poor structural design, use of subpar construction materials and ad hoc building practices (ICSU 2007). The above observations buttress the need to plan school infrastructures with disaster possibilities in mind. Infrastructural planners should avoid schools that are sandwiched by rivers that make schools not easily accessible during rainy season, as this causes danger to learners who cross these rivers going to school every day. Simple issues like earthing rods to curb lightning strikes are often overlooked. For disaster management to develop into a culture in schools, teachers and learners should be initiated on the subject of disaster consciousness and prevention. Teachers and learners should also be equipped with school-based safety precautions, policies and practices as well as intervention plans for when disaster strikes.

## **4. Conclusions**

Evidence from the literature indicates that to some extent there could be prevention of, preparedness for, responses to and recovery from disasters within a school setting. The study also reveals that there are basic principles and practices of disaster management that school management and learners may not be aware of and that there is a need to educate learners, teachers and school administrators as well as communities on possible disasters that may affect their community.

Based on observations from the literature on how some disasters have been responded to by different nations, this article concludes that the socio-economic development of a country or a community determines the level of success in disaster preparedness, interventions and post-disaster therapy. The article concludes from available literature on natural

disasters, especially in Africa, that schoolchildren are more vulnerable to psychological and emotional trauma during a natural disaster. Therefore, the article argues that effective disaster preparedness and management require collaboration between all stakeholders in order to contribute to the welfare and safety of schoolchildren. This calls for the establishment of school-based disaster management structures with adequate knowledge base on principles and practices of disaster management within a school setting.

This article recommends that there is a need to include disaster management as a substantive subject in the school curriculum which should empower learners with knowledge regarding safety in schools. Furthermore, subjects like geography, physical science, life skills and social studies should incorporate key topics on disasters prevention, interventions and post-recovery. Schools, particularly in Africa, should establish disaster management teams, be supplied with effective equipment and knowledge to react to disasters and there should be thorough environmental analysis on where schools should be located. School billboards should be erected in every building. Finally, refresher courses and mock disaster reaction rehearsals should be periodically conducted in schools.

## **Conflict of interest**

The authors declare no conflict of interest.

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