EDUCATION IN TIMES OF CRISIS AND EMERGENCY
A SYSTEMIC APPROACH TO EDUCATION SECTOR RESILIENCE IN SVG'S MULTI-HAZARD ENVIRONMENT

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Introduction

The Caribbean is considered one of the most disaster-prone regions in the world. According to the Long-Term Climate Risk Index, 3 of the ten countries most affected by extreme weather events in the last 20 years are in the Caribbean. These Small Island Developing States, including St. Vincent and the Grenadines (SVG), face many challenges, such as those presented by hazards, which delay and setback the achievement of development goals. The threats from natural hazards include but are not limited to, hurricanes and storms, flooding, drought, landslides, earthquakes, volcanic eruption, health risks, and new and unfolding risk factors such as covid 19.

The response to the myriad events indicates that while learning may be disrupted, all is not lost. With careful planning and coordination, the educational activities can continue. To ensure that educational activities continue, a comprehensive approach that considers all possible hazards must be undertaken to avoid crises and emergencies.

Crises and emergencies are often used interchangeably; however, crisis generally refers to unexpected, high-risk situations that threaten a system or society and force or require a sudden change to adapt and manage (Al-Dahash et al.; U., 2016). Emergencies are severe and unexpected situations requiring rapid response to avert damage or harm (Al-Dahash et al.; U., 2016). In SVG's multi-hazard context, crises, and emergencies will likely occur, but how we prepare and respond to them will determine the outcome and avert disasters.

This research will review various documents, including reports academic papers, hazard situation reports, position papers, news items, plans, and policy documents to highlight gaps, challenges, and lessons learned from several recent events impacting St. Vincent and the Grenadines. In addition, there will be reviews of various education stakeholder engagements on the level of preparedness, strategies implemented, and the future of education, especially as it relates to future crises and emergencies.

SVG Hazard proneness

St. Vincent and the Grenadines (SVG) is a 32-island state in the Eastern Caribbean with a population of about 111 696 (Worldometer, 2022). The nation is located in the Atlantic belt Moreover, there is an active volcano prone to hurricanes, the probability of flooding and landslides, susceptibility to drought, especially in the Grenadines, and an underwater volcano near (Pararas-Carayannis, 2004, World Bank (2010). In addition, other human and natural phenomena pose a threat to SVG.

The negative consequences of hazards are particularly extensive for SVG, which has been responding to COVID-19 since March 2020, a dengue fever outbreak in July of the same year, then the explosive eruption of La Soufriere Volcano in April 2021 and Hurricane Elsa in July 2021, all while still addressing the risk posed by the two health emergencies (UN, 2021). Even though the Education Sector is not the most affected, the impact on education has been both critical and extensive, threatening the right to education and achieving educational goals.

Crisis and Emergencies' Impact on the Education Sector in SVG

The education sector in Saint Vincent and the Grenadines for the 2019 to 2020 school year comprised 224 schools, including 124 early childhood centers, 68 primary schools, three (3) schools for children with special needs, and 29 secondary schools (MOE, 2022) While the institutions are a combination of privately owned, government-assisted or government-owned facilities, they are all guided by the education sector policies and the Ministry of Education. Therefore, the Ministry of Education is responsible for guiding the sector's response to the myriad of hazards that create many educational disruptions. These disruptions are due mainly to the systemic nature of risk and its cascading effects.

The systemic nature of risk facing the world, the Caribbean region, and SVG has resulted in many challenges for which we constantly seek solutions. The systemic nature of risk in SVG, unearthed by the covid 19 pandemic, affected all sectors of society and resulted in a range of cascading effects causing interconnected systems to buckle under the pressure of the pandemic. The effects include increasing financial constraints to cover additional resources that were not initially a part of the annual budget. There were also school closures, food insecurity on the macro and micro levels, job loss, fear, health, and social and economic stresses underpinned by an already overwhelmed health system, among other constraints.

The recent hazards and corresponding challenges and constraints have exposed the education sector in SVG to crises and emergencies. These experiences pushed the education system to adjust, adapt and manage to avoid complete failure. This research will explore recent experiences and highlight recommendations for building resilience in the education sector for the future.

Covid-19

The World Health Organization (WHO) declared COVID-19 a pandemic on March 11, 2020, the same day St. Vincent and the Grenadines recorded the first case of COVID-19 (WHO, 2020).

COVID-19 is a respiratory illness with multisystem complications caused by infection with the SARS-CoV-19 virus, a novel coronavirus (Roberts, C.M. et al., 2020). SARS-CoV-19 is primarily transmitted through person-to-person contact and through direct contact with respiratory droplets produced when an infected person talks, sings, coughs, or sneezes
(Roberts, C.M. et al., 2020).

Covid 19 resulted in the premature closure of schools one week prior to the 2020 Easter vacation (GOV.VC, 2020). This resulted in the loss of instructional time, disruption to the regular school operation and activities such as sporting competitions and graduation. There was also loss of lives and severe economic setbacks in an already struggling economy.

Covid 19 forced the transition from face-to-face to online learning in a short space of time. The transition presented many challenges even for institutions with some online presence; none were prepared for complete online activities. There were also challenges for students, including a lack of devices and inadequate devices, access to the internet, no electricity in some homes, an unsuitable home environment, and a lack of preparation to deliver online teaching by the many teachers.

The closure of schools affected over 26,000 students, about 1700 educators from pre-primary to post-primary, and college and university students enrolled in face-to-face and or online programs.

Dengue Fever Surge

Dengue fever in SVG surged in July 2020 (Ministry of Health, Wellness and the Environment, 2020), and by January 19, 2021, there were 1 790 cases and eight deaths. Over 50 percent of the cases were between ages 0 to 15 years (NEMO, 2021). This outbreak increased the demand for national resources, including medical practitioners, hospital beds, medication, and other health care and environmental health resources.

The dengue fever outbreak affected schools and students, which resulted in adjustments to school uniforms, increased fogging in schools, continued assessment of schools for mosquito breeding sites, and loss of lives, including that of students. There were great demands on teachers and students to complete the curriculum while considering the loss of instructional time.

La Soufriere Eruption

The La Soufriere volcano began effusive eruptions in December 2020 and erupted explosively on

April 9, 2021, affecting the entire nation and all productive sectors. Children were among the most vulnerable population, and schools were among the most vulnerable structures.

The explosive eruption sent ash columns into the air affecting the entire country and neighboring islands. Schools already operating online due to covid 19 were a week away from opening for face-to-face but had to remain closed and resort back to online lessons.

The La Soufriere Eruption report indicates that 177 schools were impacted, including 106 early childhood centers, 52 primary schools, and 19 secondary schools. One hundred thirty-nine schools were mildly affected, and 19 were moderately and severely affected (Government SVG et al., 2021).

Most primary and secondary schools that were not seriously affected were used as emergency shelters. In total, 56 educational facilities were used as emergency shelters, including 33 primary schools, 16 secondary schools, six learning resource centers, and one technical center. As such, many that received little or no damage from the eruption needed repairs from their use as emergency shelters.

The economic impact of the eruption on the education sector is estimated at approximately XCD 14.6 million damage and losses of about XCD 0.73 million (Government SVG et al., 2021). This cost does not include the damage caused by schools being used as emergency shelters. Already XCD 670,000 has been spent on retrofitting the washrooms of 21 schools, most of which were used as emergency shelters. It is estimated that it will cost over 11.8 m for the short-term recovery of educational facilities and even more for the medium-term and long-term recovery (Government SVG et al., 2021).

Over 1,700 volunteers managed emergency shelters, with many principals, teachers, and other education staff involved. The integral involvement of educators in the shelter process was critical to the management of shelters. However, on the other hand, the same persons were also involved in the continuity of education. Many of the educators were unable to enjoy a vacation or break before returning to the classroom, whether online or face-to-face. Devices were either missing, damaged, or could not be accounted for by the student or parents. Access to wifi was only available at some shelters and was not always the best in connectivity, even when available. In other cases, some students were not attending classes, whether at shelters, home, or other housing types.

The impacts of the recent events were extensive for the education sector, including learning loss and psychosocial impacts (figure 1). Many students who were already studying from home due to COVID-19 were displaced by the eruption and were now in shelters where the conditions were, at times, not ideal for attending classes regardless of format. Devices were either missing, damaged, or could not be accounted for by the student or parents. Wifi access was not available at all shelters, and connectivity was an issue when available. In other cases, absenteeism became an issue, with some students not attending classes regardless of housing situation.

Figure 1

	School closure	Loss of lives	Loss of instructional time	Economic setbacks	Psychosocial Issues
Covid 19	*	*	*	*	*
Dengue		*		*	*
Volcanic Eruption	*		*	*	*

In other instances, many parents had to work and could not supervise their children's online engagements. It was even more of a challenge for teachers who were also parents because, in many cases, they had to do online teaching and could not supervise their children's online classes.

The vaccination policy also affected teaching since some teachers opted not to take the vaccine for various reasons and lost their jobs. This resulted in the fast-track recruitment of new teachers who may not necessarily fulfill all the requirements needed by the specific school.

Education sector response, challenges, and lessons from the recent emergencies

The experiences presented by the crisis and emergency situations experienced in SVG changed the way education was delivered and will change the delivery of education for the future.

Firstly, the COVID-19 pandemic forced the Ministry of Education to navigate various platforms for the online delivery of education and adopt a unified platform for all schools. A series of training on various modalities for online teaching, including the efficient use of the selected platform, was provided to school staff, and an eLearning help desk was established to address queries. In addition, live classes were broadcasted on television and radio stations, as well as through social media sites such as Facebook.

This effort was complemented by training for support teams, administrators, and teachers who were expected to assist with orienting students and parents to the learning platform. Professional Development was also organized to support the new strategies and different forms of education delivery and assessment.

In parallel, psychosocial support was organized for individual students, parents, and staff using various means, including WhatsApp groups, online parenting sessions, and helpline appointments.

To address the gaps relating to the lack of devices, access to the internet, and no electricity, provisions were made to have educational materials printed and passed on to students, "School in

a Bag." Outreach to students who were still not engaged was carried out by principals, teachers, and other education officers.

On May 25, 2020, schools were able to reopen with the application of protocols established by the National COVID-19 task force in addition to a vaccine mandate by the State. A detailed assessment of school facilities was also conducted, with specific interventions made prior to the reopening of schools, such as the cleaning and sanitization of all learning facilities, guidance to cleaners, and hiring of additional cleaners. In addition, there was the installation of additional hand wash stations and drinking fountains at some schools; and the identification of space to use for isolation.

Physical distancing protocols were recommended, including the use of face masks; the altering of school times, including break and lunch periods; Allowing secondary students only to attend for timetabled subjects; the utilization of school buses and dedicated transportation exclusively for staff and students; the establishment of food arrangements for feeding programs; and a continued sensitization campaign of health and safety practices aiming to prevent COVID-19 contagion.

Hazards often uncover challenges and gaps in a system that existed prior to the occurrence of an emergency. The root causes of many of these issues are grounded in poverty and inequality. Hence providing laptops to students to use at home when they have no electricity or access to the internet does not guarantee their participation in online classes. This limitation has the potential to increase the gaps and inequalities in educational achievement.

Many students receive their meals from the feeding program, which is dependent on their attendance at school. The recent emergencies forced children to stay at home for long periods of time. This can be time spent with little or nothing to eat. This is linked to other issues, such as single parenting and single breadwinner families with limited support structures in place. Support networks need to be put in place in such situations to help parents cope and track student progress.

Among the lessons learned from the recent events include the need to incorporate electronic and online media and face-to-face teaching/learning more effectively in education sector strategies; developing and revising online teaching/learning protocols; ensuring that all educational institutions have access to reliable internet and devices to support blended learning. These programs must be supported by a sustained training program for teachers to integrate IT into teaching. Embedding such training in teacher training at the college is critical to sustainability.

The investment in school safety has to be given greater priority to ensure that all educational institutions develop, update, disseminate, and test disaster management, school safety, and contingency plans. Financial and human resources injection will be critical to the process.

The importance of managing information flows and conducting regular meetings with key

stakeholders have also proven to be key elements in emergency situations. Similarly, detailed assessments and the storage and management of survey data are essential, not only for normal times but also to inform quick and efficient decision-making processes in times of emergencies.

Reimagining Education to Build a Resilient Education Sector in the Future

In a hazard-prone country such as SVG, it is likely that there will be crises of a similar nature in the future. However, the ability to cope and respond will depend on the level of preparedness and planning beforehand. Planning for education in emergencies and reimagining education in the future requires a more systematic approach to building the resilience of the education sector.

Crisis and emergencies present opportunities to build new and stronger partnerships with internal and external agencies. Such partnerships can help to address deficiencies in the human, physical and financial resources to strengthen the education sector.

Systemic risk requires systemic solutions to be embedded in the education sector to build resilience not only to withstand change but to recover quickly and improve. Such changes must be guided by **education development strategies** that integrate educational leadership and new and advanced teaching practices. There is a need to develop and strengthen guidelines to create alternative learning spaces and alternate forms of education that recognize that children learn in different ways.

Communication and connectivity is one of the critical lessons for the Education Sector. Key to this process is an Education Management Information System (EMIS) with the necessary training and support to reimagine education for the future. Such a system would make it easier to store and retrieve large-scale data to inform decision-making in a more effective way.

The way forward must be guided by **educational policies** that take into consideration all the key stakeholders, including protection for children as well as school-level planning.

Greater efforts are needed to strengthen child protection policies to ensure that children's rights are protected, especially in emergencies. Special consideration should be given to cross-border arrangements where children may be sent to other countries, especially in times of emergencies. Tracking and tracing would be necessary to ensure the children remain protected and their education is continued.

Educators need to be encouraged to adopt new and emerging technologies and other modalities that boost creativity and facilitate learning, especially in times of crisis. This must also include

ensuring that virtual platforms are continually enhanced and maintained as part of the regular education program.

The **Comprehensive School Safety** Agenda adopted by the Ministry of Education is an approach to building resilience in the Education Sector. This approach ensures that students and education workers are protected from harm while at school.

The covid 19 pandemic, the volcanic eruption, the dengue fever pandemic, and Hurricane Elsa over the last two years reemphasized the need for more attention and buy-in at all levels. This means human and financial investment, especially in ensuring that all educational institutions develop, update, and test their school disaster management plans.

Contingency as well as continuity planning is critical in the education sector to consider all hazards and all phases of an emergency. There is a need to ensure that the resilient approach of bouncing forward rather than going back to normal is reinforced.

Integrating an all-hazard curriculum in education is critical to ensure that the awareness and practice of how to respond and cope with emergencies is given priority.

Conclusion

The nature of risk has changed significantly over the years, and this has increased the challenges in the education system. The systemic nature of risk has been compounded by the covid 19 pandemic affecting the functioning of all areas of society with a range of cascading effects. This was made worse by the volcanic eruption and other emergencies, and there is the future unknown for which consideration must be given.

Crises, emergencies, and disasters affect the functioning of society and setback goals, but they also create opportunities for new and innovative approaches to be integrated into teaching and learning. There must be a concerted effort to allow things to return to "normal." Normal represents a place of vulnerability with limited resilience and allows serious disruptions to occur. This has implications for the achievement of sustainable development goals, in particular, the goal of education for all.

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