

# Haiti's Emergency Management: A Case of Regional Support, Challenges, Opportunities, and Recommendations for the Future

Erin Fordyce<sup>1</sup>, Abdul-Akeem Sadiq<sup>2</sup>, and Grace Chikoto<sup>3</sup>

## Introduction

As one of the poorest nations in the Western Hemisphere (with over 70 percent of the population living on less than \$2 a day) (Grunewald et al. 2010), one wonders about the state of the Haitian Emergency Management System prior to the 2010 earthquake. Clearly, Haiti has been an economically-challenged nation for decades and its protracted poverty level further increases its vulnerability to disasters (PAHO 1994) and impacts its ability to respond and recover effectively when disasters occur. In addition, political instabilities have led to poor economic development opportunities and increased risks. In spite of Haiti's economic and political challenges, it is possible to gain insight into what the country's emergency management system looked like before the 2010 earthquake.

Haiti had a fledgling national emergency management system in place - one that was heavily supported by both regional and international bodies. The earthquake of January 12, 2010, however, underscores the need for a better disaster reduction and response program, one that would address the underlying and protracted vulnerabilities of Haiti, while ushering in new winds of change that would pump fresh blood into the veins of the emergency management system.

This chapter reviews the history of Haiti, including its demography and geography, and examines the hazards and factors contributing to the nation's vulnerability to disasters. Furthermore, this chapter discusses some past disasters, Haiti's emergency management system as well as the opportunities and the challenges confronting the system. We conclude by offering some recommendations for improving Haiti's abilities to deal with disasters.

## Background

The Republic of Haiti is located in the Caribbean where it shares the island of Hispaniola with the Dominican Republic. The terrain in Haiti consists of rugged mountains, flat coastal lands, and river valleys (The World Bank Group 2011). The lowest elevation in Haiti is the Caribbean Sea (0 m) and the highest elevation is the Chaîne de la Selle (2,680 m) (CIA, 2012). Haiti is surrounded by the Dominican Republic to the east, North Atlantic Ocean to the north and the Caribbean Sea to the west

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<sup>1</sup> Graduate Student, School of Public and Environmental Affairs, Indiana University Purdue University Indianapolis, 801 West Michigan Street, Indianapolis, IN 46202-5125.

<sup>2</sup> Assistant Professor, School of Public and Environmental Affairs, Indiana University Purdue University Indianapolis, 801 West Michigan Street, BS 4070, Indianapolis, IN 46202-5125.

<sup>3</sup> Assistant Professor, Public and Nonprofit Administration Department, Mitchell Hall 225 P.O. Box 413, Milwaukee, WI 53201.

and south. Haiti covers an area of 27,750 square miles making it slightly smaller than the state of Maryland (Central Intelligence Agency (CIA) 2012). Haiti is known for its hot tropical climate and high humidity with daily temperatures ranging between 19<sup>0</sup>C – 28<sup>0</sup>C (66.2<sup>0</sup> F – 82.4<sup>0</sup> F) and 23<sup>0</sup>C – 33<sup>0</sup>C (73.4<sup>0</sup> F – 91.4<sup>0</sup> F) in winter and summer respectively (The World Bank Group 2011). More than half of the 9.8 million people live in urban areas with 2.1 million living in the capital city of Port-au-Prince (CIA 2012). Unfortunately, Haiti is located in the middle of a hurricane belt (CIA 2012) as well as on the Enriquillo-Plaintain Garden Fault between the Caribbean and North American tectonic plates (United States Geological Survey (USGS) 2010).

Haiti is one of the poorest and most densely populated countries in the Western hemisphere with an unemployment rate of 40% and a per capita income of US \$1,338 in 2009 (Klose and Webersik 2010). Despite its small size and poor economic system (ranking 146 on UNDP Human Development Index), Haiti carries with it a rich and significant history characterized by struggle and triumph. The country gained its independence from France after a slave rebellion in 1804 making Haiti one of the world’s oldest black republics (Telegraph 2010a). Haitians speak mainly French and/or Creole and about 95% of the population is black, with 5% being mulatto and white. Haitians are heavily dependent on the agricultural sector (2/3 of all Haitians work in this sector) meaning that natural disasters could have devastating consequences for the population when combined with the vast extent of deforestation (CIA 2012). In addition, about 30% of its GDP comes from overseas remittances (Klose and Webersik 2010).



Fig.1. Map of Haiti showing its boundaries (source: US Dept. of State).

## **Hazards and Factors Contributing to Vulnerability in Haiti**

Hazards peculiar to Haiti include, but are not limited to, tropical storms, hurricanes, floods, deforestation, soil erosion, landslides, earthquakes, climate change, drought (CDEMA n.d.; Klose and Webersik 2010; The World Bank Group 2011; CIA 2012). Haiti experiences tropical storms and hurricanes because it is located in a hurricane belt (CIA 2012). As a result, tropical storms and hurricanes constantly pummel Haiti with storm surges and high winds (Brash 2012). For example, in 2008, four hurricanes - Ike, Fay, Hanna and Gustav - occurred within a 30 day period and caused serious damage to properties and killed over 1,000 people (Brash 2012). When tropical storms and hurricanes make landfall in Haiti, they dump a lot of water either through precipitation or in form of storm surges, which floods Haitian communities. In addition, Haiti experiences deforestation and consequently, soil erosion (Wdowinsky et al. 2010) and landslides (Pelling and Uitto 2001; Klose and Webersik 2010) because of the high demand for charcoal used for cooking (Barrett 2001, as cited in Ewers 2006). Earthquake is also a big hazard because of Haiti's propinquity to the Enriquillo-Plainain Garden Fault (USGS 2010), which was responsible for the Haiti earthquake of 2010, which killed hundreds of thousands of people. Seismic activity that occurs in Haiti is typically at the intersection of the North American and Caribbean plates (USGS 2010). In addition, Haiti has two soil types - sandy and clay based soils - that are prone to earthquake damage (Kean 2010). Wet sandy soils shift unpredictably while clay soils shake violently during earthquakes (Kean 2010). With regard to climate change, Haiti ranks number one out of 200 nations on the Climate Change Vulnerability Index created by Maplecroft, a risk management firm (Brash 2012). According to Brash (2012), Haiti's ranking results from physical exposure (e.g. deforestation and location in a hurricane belt) and socioeconomic conditions (e.g., poverty level). It is quite ironic that despite the large amount of precipitation that hurricanes bring to Haiti, some parts of Haiti still suffer from drought. Drought, which is very common in the northwest because of the variability in rainfall patterns (e.g., annual precipitation varies from 500 mm in the lowlands to 1,200 mm in the mountains (The World Bank Group 2011)), typically leads to crop failure and loss of pasture (Raymond 2011).

Haiti is at high risk for diseases, including but not limited to, AIDS, cholera, malaria, dengue fever and TB (Fraser et al. 2004; Hood 2010; Knox 2011; CIA 2012). Fraser et al. (2004) have identified a lack of infrastructure such as information and communication systems as a barrier to the treatment of an estimated 120,000 Haitians living with AIDS (CIA 2012). Although, cholera outbreak is not common in Haiti, the recent outbreak following the 2010 earthquake has renewed concerns about the deadly nature of cholera (Knox 2011). Although, this particular cholera outbreak was imported, poor sanitary conditions and a lack of immunity in Haiti have exacerbated the outbreak (Knox 2011). During raining seasons or floods induced by tropical storms or hurricanes, stagnant water and open containers used to store water can serve as breeding grounds for mosquitoes that cause malaria (Hood 2010). Malaria and other mosquito-borne diseases (e.g. dengue fever and TB) are prevalent in Haiti as a result of inadequate number of insecticidal nets, insalubrious conditions and overcrowding (Hood 2010).

Haiti's vulnerable is compounded by its poverty level and political and administrative instability (Klose and Webersik 2010; PAHO 1994). As noted above,

more than two-thirds of its citizens live on less than \$2 a day (Klose and Webersik 2010). Another contributing factor to vulnerability is increased population in urban centers such as Port-au-Prince, Nord-Est, and Nord-Ouest (Klose and Webersik 2010). To make matters worse, some of these urban centers (e.g., Nord-Est, and Nord-Ouest) have the highest poverty rates and the lowest hospital densities (Klose and Webersik 2010). The implication of this is that if disasters occur in these areas, the critical assets needed for an effective response will be insufficient. On the issue of political instability, Diamond (2006) (cited in Klose and Webersik 2010, p. 10) notes that “all but one of 22 Haitian presidents from 1843 to 1915 were either assassinated or driven out of office.” As PAHO (1994, p. 101) noted, the adoption of nation-wide disaster reduction measures “requires political maturity and administrative stability;” as well as, support from “stable governments and continuity at high decision-making levels”. Other researchers (e.g., Pelling and Uitto 2001; Klose and Webersik 2010), have also identified deforestation as a contributing factor to vulnerability to hazards such as landslides. Finally, the absence of an effective national emergency management system in Haiti makes it a lot harder for the country to respond to disasters and be resilient to hazards.

### **Past Disasters**

Haiti’s geographical location makes it most vulnerable to hurricanes, earthquakes, flooding, and occasional droughts (CIA 2012). As demonstrated in the following list, Haiti never seems to get a break from disasters, both man-made and natural. In addition to the natural disasters mentioned above, Haitians have experienced man-made disasters such as civil wars, revolutions, invasions, piracy, poverty, and drug smuggling (Pressman 2011).

- A 7.4-7.5 magnitude earthquake struck near the east side of what is now the Dominican Republic on October 18, 1751. About 75% of the masonry houses in Port-au-Prince were demolished (Klose and Webersik 2010). A second earthquake (6.6 magnitude) occurred the following month near Port-au-Prince, destroying the city. Additional earthquakes were felt for up to twenty days after (Bakun et al., 2012).
- A 7.5 magnitude earthquake struck Port-au-Prince in 1770 killing 250 people and again destroying the city (Klose and Webersik 2010). Bakun et al. (2012, p. 27) propose that the series of earthquakes from 1751-1770 may have “ruptured the entire Enriquillo fault system”.
- An earthquake in 1842 destroyed Cap-Haïtien and several cities in Haiti (Telegraph, 2010b) killing 10,000 people (Klose and Webersik 2010). Two years after this disaster, the Dominican Republic declared its independence from Haiti (Klose and Webersik 2010).
- An 8.1 magnitude earthquake struck the Dominican Republic in 1946, but also severely impacted Haiti. The earthquake and resulting tsunami killed 1,790 people (Telegraph 2010c).
- Civil Unrest. Between 1957-1971, it is estimated that between 20,000-50,000 Haitians were murdered by the government under Francois Duvalier, also known as “Papa Doc.” Under his tyranny, thousands more Haitians fled the country. This leader instituted a secret police, known as the Tonton Macoutes, whose purpose was to “silence dissent” (Stevens 2005). After his death in 1971, his son

- Jean-Claude, also known as ‘Baby Doc’ came to power with the same corruption and tyranny demonstrated by his father. Mass protests forced him into exile in 1986 (Nelson 1998). He recently reappeared out of exile in early 2011 (Padgett 2011) where he was immediately charged with human rights violations, including murder, assassination, and torture, but the charges were dismissed in January 2012 (Human Rights Watch 2012). Under the rule of “Baby Doc” Duvalier, hundreds of political prisoners were sent to one of three prisons, known as the “triangle of death,” where they experienced mistreatment including starvation. Independent newspapers and radio stations were closed down and journalists were beaten, tortured, jailed, or forced to leave Haiti (Human Rights Watch 2012).
- Hurricane Flora, the 6<sup>th</sup> most deadly hurricane in history, killed over 8,000 people in Haiti, the Dominican Republic, and Cuba in 1963 (Telegraph 2010c) causing \$150 million in damages to Haiti (Poncelet 1997).
  - Hurricane Cleo killed 192 people in 1964, causing \$17 million in damages to Haiti (InnovateHaiti.org 2006). Cleo was a Category 4 storm with winds up to 150 mph when it hit the southern peninsula of Haiti.
  - Hurricane Gordon killed over 1,000 people in 1994 (Telegraph 2010c); it turned from a tropical storm to a hurricane with 90 mph winds as it crossed into Cuba and Haiti (Smothers 1994). The storm caused severe mudslides from the heavy rainfall (Pasch 1995) in areas with vast deforestation and serious flooding, landslides, and social disruption (Poncelet 1997).
  - The Tonton Macoutes (a volunteer private police force loyal to Francois Duvalier that kidnapped, killed and assaulted Haitians in the name of protecting Duvalier’s reign (The Columbian Encyclopedia 2008)) attacked a church service in Port-au-Prince believed to include dissenters in 1988. Nine people were killed and 77 injured (Stevens 2005).
  - Jean-Bertrand Aristide, a Roman Catholic Priest, was the first democratically elected president of Haiti. Prior to his inauguration, the former head of Tonton Macoutes attempted a coup d’etat which failed but resulted in a riot killing 125 Haitians and causing \$65 million in damages (Nelson 1998, p. 72).
  - Tropical Storm Jeanne, resulting in extensive flooding and landslides, killed over 2,500 Haitians and left 200,000 homeless in 2004 (Telegraph 2010c). The storm system stalled over the island of Hispaniola where many Haitians in Gonaives were killed by the resulting mudslides (Klotzbach and Gray 2005).
  - Four hurricanes—Fay, Gustav, Hanna, and Ike—occurred within 30 days of each other in 2008, killing over 800 Haitians (Pressman 2011) and causing more than \$1 billion in damages (Kovacs, 2010). About 60% of Haiti’s harvest was destroyed from Hurricanes Hanna and Ike (Pressman 2011). The island of Gonave, and other areas, suffered extensive rain-induced flood damage (Brown et al. 2009).
  - A 7.0 magnitude earthquake hit about 15 miles south west of Port-au-Prince, the capital of Haiti (USGS 2010), at approximately 4:53 pm on January 12, 2010. Haiti, already ranked as one of the poorest countries in the world, suffered unimaginable losses (see Figures 2 and 3). Final estimates report up to 316,000 people killed and another 300,000 injured. In addition, 1.3 million people were displaced (USGS 2010). Overall damage estimates were \$11.5 billion making it

the worst earthquake in the country's history (US Dept. of State 2012). The 2010 earthquake directed the world's attention to Haiti resulting in an outpour of support including 20,000 troops (see Figure 4), 20 ships, and 130 aircraft from the US alone (US Dept. of State 2012).



Fig. 2. The Haiti earthquake of January 12, 2010 destroyed many homes (source: Authors).

- As if the 2010 earthquake was not devastating enough, a cholera outbreak in 2010 affected close to 300,000 people resulting in 4,500 deaths (Knox 2011). It is believed the outbreak originated in a UN camp and spread to waters used for washing and drinking (Knox 2011). The poorly managed sanitation systems in Haiti and the unorganized establishment of tent cities in the aftermath of the 2010 earthquake (see Figure 5) exacerbated the spread of the cholera outbreak. Health care workers were unprepared to respond as the last cholera outbreak in Haiti was at least a half century earlier (Fraser 2010).



Fig. 3. The 2010 earthquake also destroyed Haiti's National Cathedral (source: Authors).



Fig. 4. The U.S. Army provided response support to the Haiti government after the 2010 earthquake (source: Authors).



Fig. 5. Tent cities such as this one exacerbated cholera outbreaks after the 2010 Haiti earthquake due to poor sanitation (source: Authors).

### **Haiti’s Regional History and Emergency Management System**

Due to the susceptibility of the Caribbean region to disasters, emergency management systems had to be put in place to reduce the impact of disasters on people, properties, and the environment. However, prior to the 1960s, emergency response in the region was characterized by *ad hoc* response arrangements (Pan America Health Organization (PAHO) 1994; Poncelet 1997). Nonetheless, “concerted regional disaster management initiatives... date back to the 1980s” (Poncelet 1997, p. 271) in response to a series of major disasters in several of the Caribbean countries. Exemplifying the growing consciousness of the significance of disasters on communities and their economies as well as the need for effective local response efforts, the international community<sup>1</sup> assisted in the establishment of the first regional disaster preparedness initiative called the Pan-Caribbean Disaster Preparedness and Prevention Project (PCDPPP) (PAHO 1994; Poncelet 1997). For nine years, this project served all the nations in this region. Later on, Hurricane Gilbert in Jamaica (1988) and Hurricane Hugo in the eastern Caribbean (1989) compelled “the creation of a bona fide sub-regional response agency” (PAHO 1994) – the Caribbean Disaster Emergency Response Agency (CDERA) – now known as Caribbean Disaster Emergency Response Agency (CDEMA).<sup>2</sup> CDERA commanded a much stronger position than PCDPPP – its predecessor – as this regional body entered into a number of “cooperative agreements with international agencies, including joint Caribbean air carriers and defense forces” (Poncelet 1997, p. 272), which could be mobilized in the event of a disaster. As approved by the Caribbean Community Secretariat (CARICOM) in 1991, CDEMA is funded by its member states and donor agencies, and has the responsibility of mobilizing

resources among CARICOM countries.<sup>3,4</sup> CDEMA, therefore, constitutes the Caribbean regional disaster response and management body<sup>5,6</sup> and is a key resource for supplementing Haiti's national emergency management system.

The role played by CDEMA in the 2010 earthquake that devastated Haiti illustrates the important role CDEMA plays in supplementing Haiti's emergency management system. After the earthquake struck, CDEMA, through CARICOM, was able to send in help within 24 hours (PAHO 2010) and deployed the CARICOM Disaster Relief Unit (CDRU)<sup>7,8</sup> into Haiti. And, by January 18, 2010, the Jamaica Defense Force (JDF), leading the CDRU response, had already identified severely affected areas that had not received any humanitarian assistance. Overall, the CARICOM response effort consisted of 213 people from 11 regional countries, 184 military personnel, 25 medical personnel, and 4 technical support personnel.<sup>9</sup> In addition to these teams, CDEMA also coordinated a Regional Response Mechanism (RRM) in support of the urgent needs for basic necessities like shelter and other relief supplies. Furthermore, CDEMA facilitated regional fund-raising efforts by setting up an account for channeling aid support.

### **The Haitian National System for Risk and Disaster Management (SNGRD)**

As PAHO (1994) noted, any efforts in organizing and setting up national disaster mitigation and preparedness measures received very little, if any, support during political instabilities in Haiti in the 1990s. Nonetheless, legal provisions were made in the early 1980s for disaster preparedness, including a focus on pre-disaster efforts (Government of Haiti (GoH) 2004). A key feature of the national disaster response efforts in Haiti and other places was the creation of Permanent Disaster Response Committees – small teams of 6 to 7 people tasked with briefing key players in disaster response. According to Poncelet (1997), such teams are more important in regions with limited national resources (including human personnel) for managing disasters as shown by the effectiveness and efficiency of this small structure in Haiti's response to Hurricane Gordon in 1994.<sup>10</sup>

Haiti's SNGRD, prior to the 2010 earthquake, can be described as a network consisting of the Haitian government's Department of Civic Protections (DPC), regional support (CDEMA) and various civic groups, both international and local. Driving the system was the DPC and the Permanent Secretariat for the Management of Risks and Disaster at the central, departmental, and communal levels. According to the Global Emergency Group,<sup>11</sup> Haiti's Civil Protection Agency or DPC – which is the equivalent of the U.S. FEMA – had the sole responsibility of Haiti's domestic disaster response efforts. The SNGRD was placed under the Ministry of Interior and below this was the Permanent Secretariat of Risk Management and Disaster, who was tasked with the responsibility of coordinating and managing all of the SNGRD's planned operations (GoH 2004). With the dual role of risk and disaster management, the Permanent Secretary also coordinated activities of 26 governmental and non-governmental organizations (NGO) engaged in natural disaster preparedness and response efforts in Haiti (Grunewald et al. 2010). Figure 6 below shows an approximate visual representation of what could be described as the structure of the Haitian SNGRD prior to the 2010 Earthquake.

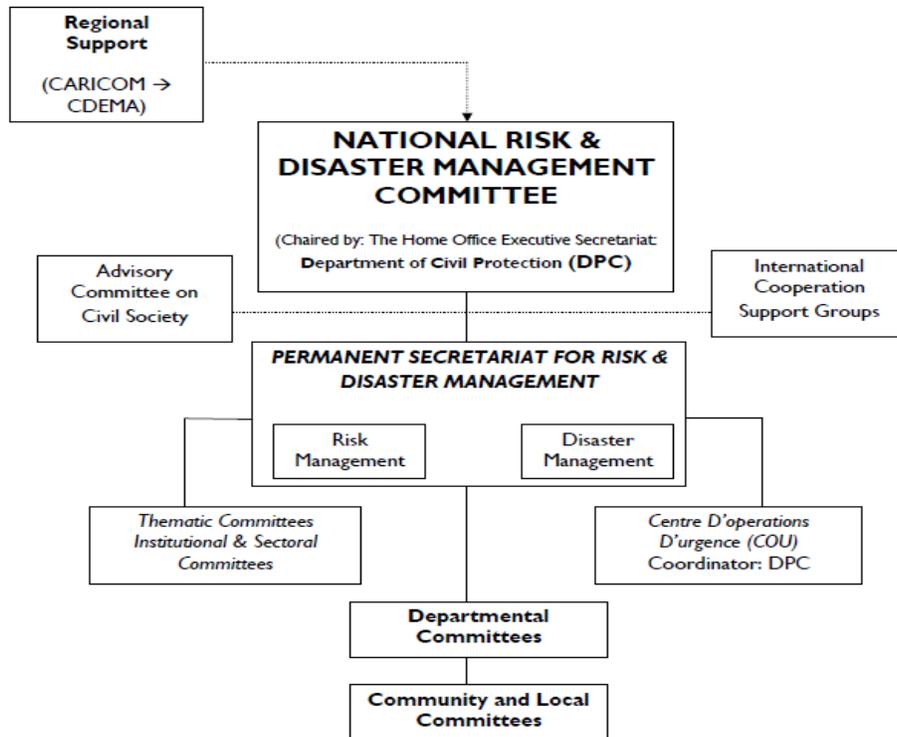


Fig. 6. The Haitian National Risk and Disaster Management System prior to the 2010 earthquake (source: Adapted from a presentation by a Haitian delegate at the *High-Level Association of Caribbean States Conference on Disaster Reduction*, November 14-16, 2007<sup>12</sup>).

While the Ministry of Interior was responsible for policy formulation in theory, DPC's responsibilities entailed coordinating disaster preparedness and response operations at the national, provincial, and communal levels (GoH 2004; Grunewald et al. 2010). Through DPC, SNGRD intended to decentralize the dual tasks of risk management and disaster preparedness and response to encompass efforts from the national government, local authorities, civil society groups, and the general public (GoH 2004). DPC therefore tasked with coordinating the implementation of both risk management and disaster management programs at both the central government and local levels in 1998<sup>13</sup> (GoH 2004). The primary objective for this was to strengthen the nation's capacity to respond to disasters effectively (GoH 2004). Although the dynamism of the DPC was demonstrated in previous disasters (Grunewald et al. 2010), the agency was plagued with limited resources, which often undermined its ability to coordinate disaster-related efforts effectively (GoH 2004; Grunewald et al. 2010). In addition, the DPC tended to give priority to the most frequent emergencies, as opposed to the most serious ones (Grunewald et al. 2010, p. 22).

Based on the development of regional capacity outlined in the preceding sections, we cannot overlook the efficacy and importance of regional support in response efforts. For example, the Haitian SNGRD capabilities were also heavily supported by contributions from the United Nations Development Program (UNDP) (UNDP 2012). However, this support has been overshadowed – and not in a good way – by the

overwhelming amount of international aid that has flowed into Haiti since 1970, either from bilateral agencies such as the United States Agency for International Development (USAID) or through International Nongovernmental Organizations (INGOs). In many respects, because of the nature of the aid such institutions provided to Haiti, INGOs in particular, could be considered as an integral part of the Haitian emergency management system. After all, there are almost 8,000 INGOs working in development and humanitarian assistance in Haiti, thus exuding a “near complete control... over Haiti’s development” and humanitarian assistance sector (Lawry 2010). Pointing to the over-reliance on INGOs, especially one that is divorced from the control or accountability of the Haitian government, Lawry emphasized the fact that “there are more INGOs per capita in Haiti than any other country in the hemisphere.”

### **Challenges and Opportunities facing Haiti’s Emergency Management System**

The natural and man-made disasters that continue to plague Haiti could be better mitigated against or even prevented by overcoming the following challenges: poverty, low levels of education, political instability, a lack of building codes, deforestation, and a lack of coordination among INGOs. First, despite receiving \$1 billion in debt forgiveness through the Highly-Indebted Poor Country (HIPC) initiative in 2009, Haiti continues to not only languish in poverty, but also accrue further external debt (CIA 2012). And, as a result, implementing an effective emergency management system in Haiti is going to be a challenge. For example, poor Haitians are less able to prepare for disasters by storing away 3 days’ worth of nonperishable food, clean drinking water, and other supplies as recommended by FEMA. As noted by PAHO (1994, p. 102), there is a need to stress the linkage “between socioeconomic development and disaster reduction.”

Second, just over half of Haiti’s population aged 15 and older is considered literate (CIA 2012). Without proper education, Haitians cannot gain employment and begin to contribute to the overall economy. Further, emergency management education is important in establishing a culture of disaster preparedness (PAHO 1994), so that Haitians can develop a better understanding of how they can prepare for disasters and mitigate the impacts of hazards such as flooding and earthquakes. Currently, engineering curriculums in Haiti do not cover seismic design (Fierro and Perry 2010) and residents are oblivious of the risks they face from a wide range of hazards. Community awareness campaigns and school education programs on mitigation and preparedness strategies would be a good start.

Third, political instability is another big challenge for Haiti. The first ruler of Haiti was a rebel leader who appointed himself emperor. After his assassination, another rebel leader came to power (Nelson 1998). This unorthodox and corrupt beginning to Haiti’s political system could ensue for years to come. Most recently, Jean-Bertrand Aristide, the first freely elected leader, was forced out of Haiti in 2004 by a rebellion of gangs and former soldiers (Telegraph 2010a). Political instability has contributed to the weak economic status of Haiti (Lundahl 1989) and Haiti’s ability to reduce disaster risks. Without stable governments, the political commitment to disaster mitigation and preparedness is bound to be weak and shaky.

Fourth, Haiti neither has adequate building codes (Watkins 2010) nor are engineers, contractors, and architects required to have licenses (Fierro and Perry 2010). This problem often goes hand-in-hand with poverty as Haitians will attempt to build

whatever they can afford. From personal observations during two visits to Haiti after the 2010 earthquake, it was evident that some buildings were on slopes without strong foundations and insufficient steel. Further, many homes are multi-story and built with “concrete blocks, woven wood mats, bricks or rocks... walls are typically heavy and are not reinforced” (Kovacs 2010, p. 4) while rural homes are built with bricks made with sand, clay and water mixed with sticks and straw (Kovacs 2010). After the 1946 earthquake, Haitians were encouraged to build homes with wood and stone rubblework; however, as time passed, wood became more expensive (Kovacs 2010). Most deaths from the 2010 earthquake resulted from collapsed buildings (Kovacs 2010).

Fifth, Haiti is apt to experience deforestation to a greater extent because citizens want charcoal for cooking and farmers lack sufficient resources to maintain or improve existing farmland (McPeak and Barrett 2001, as cited in Ewers 2006). Haiti’s annual deforestation rate was 3.4% between 1990-1995 (World Bank 1999, as cited in Pielke et al. 2003). As of 2010, only 2% of forest cover remained (Telegraph 2010a). As a result, some experts (e.g., Wdowinsky et al. 2010) have speculated that deforestation was a contributing factor to the 2010 earthquake as it led to rapid erosion induced by frequent hurricanes.

Finally, the Office for the Coordination of Humanitarian Affairs (OCHA) database listed 505 INGOs and 222 national NGOs currently operating in Haiti (OCHA 2012), not counting the government agencies, military forces, and United Nations agencies also in Haiti. While the recovery and reconstruction phases in Haiti may usher in new winds of change through the myriads of INGOs and NGOs present in Haiti, a key challenge is a lack of coordination. The degree to which these organizations are effectively and efficiently coordinating with one another and especially with the Haitian government remains to be seen. This lack of coordination can also result in waste and at times, abuse of resources due to an unnecessary duplication of efforts. Accountability channels would therefore need to be put in place between donors and recipients to ensure that funding gets to where it is supposed to.

In spite of the aforementioned challenges, there are some opportunities that the Government of Haiti can leverage to improve its emergency management system. First, the Government of Haiti should use foreign aid, local and regional resources to bolster its emergency management system. One important strategy should be to strengthen the SNGRD and DPC’s capacity to coordinate response efforts as well as mobilize national and other local civic bodies to adopt mitigation and preparedness measures. For instance, the Haitian government should leverage the expertise and resources of civil societies such as nonprofits and NGOs in managing disasters. These organizations are viable sources of resources – given their unique position to raise funds through individual and institutional donations, especially when a government is fiscally challenged. Elsewhere, we have seen civil society institutions rise to the occasion as supplements, complements, and even substitutes to government provisions (Young 2000; 2006).

Second, at the regional level, harnessing CDEMA as a regional resource could mean a timely and much faster disaster response system for Haiti. The advantage with CDEMA is that, it is already equipped with local and regional knowledge, and hence an unparalleled legitimacy that new INGOs do not possess. As noted by the Executive Director of CDEMA and perhaps demonstrated to some degree in CDEMA’s response to the 2010 Haiti earthquake, “the international community should only seek to engage

where there is demonstrated evidence that the country, its neighbors, and sub-region cannot support due to any type of resource deficit.” Their “enthusiasm... must be tempered by the recognition that countries do have capacities and... should support the implementation of nationally defined priorities and programming” (PAHO, 2010, p. 3). Since CDEMA’s members are located within the same region, response time is expected to be much shorter than waiting for say Canada to send in assistance. However, the timeliness and effectiveness of such regional response will largely depend on the extent to which CDEMA is resourced and has legitimacy within the region.

Third, the Haitian government should also harness foreign assistance – that has flowed into Haiti via a variety of vehicles, including the U.S. government (USG), INGOs, IGOs and other countries – to build national, local and regional capacities to manage disasters. For instance, by 2012, the USG had already committed over \$1 billion towards relief aid, and pledged another \$1.5 billion, of which the USAID’s contributions total over \$500 million.<sup>14</sup> Various organizations have responded to Haiti’s plight through funding and capacity building programs and projects. For instance, the USAID’s Emergency Capacity Assistance Program (ECAP) is designed to bolster Haiti’s emergency response systems. And, on January 5, 2012, the U.S. Department of Defense donated disaster-response equipment (e.g., SUVs, trucks, solar radios, and other equipment) to the Government of Haiti (Jura 2012) – equipment that is meant to help reinforce Haiti’s DCP capacity for disaster response. However, as the CDEMA’s Executive Director pointed out, “one must be mindful... that the global definition of a problem is not the same as the local articulation of the solution” (PAHO 2010, p. 3). Therefore, there is a need for the Haitian people to take over ownership of their own destiny – as they envision it – not as their benefactors deem necessary.

Finally and sadly, the Haiti earthquake of 2010 presents the Haiti government with an opportunity to start afresh, especially in areas that were completely devastated, such as Port-au-Prince, Léogâne, and Gressier (Benjamin et al. 2011). The reconstruction of Haiti should be done with the goal of making communities less vulnerable and more resilient to future disasters. This will not be an easy task to say the least, because there may be obstacles such as a lack of political will, a lack of support from citizens, a lack of resources, and a lack of expertise needed to accomplish this lofty goal. Nevertheless, this earthquake is a focusing event (Birkland 1997) that has opened a window of opportunity to institute some disaster resilient initiatives, for Haiti and for the region. The focus should be on the importation of technology, capacity-building and emergency management skills and expertise (Benjamin et al. 2011).

## **Conclusion**

With these points in mind, the authors offer some recommendation to help improve Haiti’s emergency management system. First, the increasing population densities in urban centers, especially in urban centers that are prone to hazards (Klose and Webersik 2010) should be met with a commensurate increase in mitigation strategies implemented, such as land use and zoning ordinances that can help to reduce the vulnerability of these urban centers. In addition, hazardous areas should be identified and relocation of residents out of these areas to safe parts of the country should be given serious consideration. Certainly, depopulating Port-au-Prince might be a good start. Furthermore, the establishment and enforcement of building codes for new and old

construction should be a priority (Poncelet 1997) in order to avert potential loss of lives and property destruction if another large earthquake occurs in the future.

Second, forest regeneration programs are urgently needed in Haiti in order to reverse the pernicious trend of deforestation and environmental degradation. President Martelly's vision of sustainable economic development (British Broadcasting Corporation 2012) is a step in the right direction. However, efforts should be made to ensure a comprehensive approach to sustainability by including both environmental and social spheres of sustainability. For example, tree planting programs would help to reduce landslides, serve as wind breaks for hurricane winds, and reduce flooding – this is a task that local and international NGOs could focus on.

Third, implementation of poverty alleviation programs and educational programs in Haiti can help to reduce vulnerability to hazards. Steps must be taken not only to integrate risk reducing measures into national plans, but also to educate the public about the importance of risk reduction. Without adequate disaster education, Haitians would be oblivious of what constitute hazards and what type of avoidance strategies to adopt in order to reduce vulnerabilities.

Fourth, the Haitian government will also need to strengthen the financial resource position and the level of emergency management expertise in DPC. As Greenhalgh (2012) noted, “a strong Haitian Civil Protection Agency is needed, along with other civil society institutions,” in order to bolster the nation's emergency response effort. Such an effort will include “reconstructing a well-functioning Civil Protection Agency headquarters” equipped with “a national emergency operations center” (Greenhalgh 2012) where response activities to future emergencies can be coordinated.

Fifth, the Haiti government should continue to collaborate with other Caribbean countries and strengthen the capacity of regional emergency management systems, such as CARICOM Disaster Relief Unit (CDRU) and CDEMA. These types of Inter-Island mutual assistance (Poncelet 1997) would allow Haiti to share response resources with its neighbors. The benefits of such regional partnerships cannot be overemphasized and should be taken more seriously by member nations, as well as respected by the international community.

Finally, whether Haiti will be able to wean itself off of the aid dependency also remains to be seen. As we have seen in many African nations, INGOs can fail to produce sustainable results that culminate in the empowering of populations and governments to respond to and solve their own problems, especially when the aid providers are long gone (Easterly 2006). This is an area that both the Haitian government and INGOs would need to be mindful of especially during this time of rebuilding. In the future, the DPC will also need to regain operational capacity in anticipation of future natural disasters, a capacity that will rely less on what Lawry (2010) referred to as the “Republic of NGOs.”

If these recommendations are implemented, the authors are confident that Haiti would reduce its vulnerabilities to hazards and become more resilient. The politicians and citizens of Haiti have a responsibility to care for their own development and emergency management needs.

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<sup>1</sup> Agencies involved in this initiative included, UNDR0, the Office of the UN Disaster Relief Coordinator (now the UN Department of Humanitarian Affairs), the Secretariat of the Caribbean Community (CARICOM), the International Federation of Red Cross, Red Crescent Societies, and Pan American Health Organization – the regional office of the World Health Organization.

<sup>2</sup> As of September 1, 2009, CDERA changed its name to CDEMA, in response to organizational transition and its adoption of a comprehensive disaster management approach (PAHO, 2009)

<sup>3</sup> CARICOM has 15 member states (Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Lucia, St Kitts and Nevis, St Vincent and the Grenadines, Suriname, and Trinidad and Tobago) and 5 Associate member states (Anguilla, Bermuda, British Virgin Islands, and Cayman Islands, Turks & Caicos Islands). See [http://www.caricom.org/jsp/community/member\\_states.jsp?menu=community&prnf=1](http://www.caricom.org/jsp/community/member_states.jsp?menu=community&prnf=1). Retrieved on March 1, 2012.

<sup>4</sup> CDEMA’s current operations include, training disaster management personnel, developing model Disaster Legislation for participating member states, improving emergency communication and warning

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systems and education and public awareness within participating states. Its functions include, providing immediate and coordinated responses to participating member state, as well as, mobilizing and coordinating disaster relief.

<sup>5</sup> [http://www.cdema.org/index.php?option=com\\_content&view=article&id=89&Itemid=79](http://www.cdema.org/index.php?option=com_content&view=article&id=89&Itemid=79). Retrieved on February 27, 2012.

<sup>6</sup> [http://www.cdema.org/index.php?option=com\\_content&view=article&id=358&Itemid=120](http://www.cdema.org/index.php?option=com_content&view=article&id=358&Itemid=120). Retrieved on February.

<sup>7</sup> CDRU comprised of approximately 31 members from the CDEMA 11 of the 18 Participating States.

<sup>8</sup> [http://www.cdema.org/index.php?option=com\\_content&view=article&id=429&Itemid=237](http://www.cdema.org/index.php?option=com_content&view=article&id=429&Itemid=237). Retrieved on February 27, 2012.

<sup>9</sup> Ibid.

<sup>10</sup> <http://www.telegraph.co.uk/news/worldnews/centralamericaandthecaribbean/haiti/6978919/Haiti-earthquake-history-of-natural-disasters-to-hit-the-country.html>. Retrieved on March 2, 2012.

<sup>11</sup> [http://globalemergencygroup.com/index.php?option=com\\_content&view=article&id=118%3ARebuild-haiti-cpa&catid=45%3Afeaturedstories&Itemid=87&lang=en](http://globalemergencygroup.com/index.php?option=com_content&view=article&id=118%3ARebuild-haiti-cpa&catid=45%3Afeaturedstories&Itemid=87&lang=en). Retrieved on February 27, 2012.

<sup>12</sup> [http://www.acs-aec.org/Disasters/CANREDES/Documents\\_EN.html](http://www.acs-aec.org/Disasters/CANREDES/Documents_EN.html). Retrieved on February 29, 2012.

<sup>13</sup> According to GoH (2004), the law creating the nonfunctional body for preparing and responding to disasters was passed on August 22, 1983. This resulted in the creation of the Organization for Pre-disaster and Emergency (OPDES).

<sup>14</sup> [http://caribpr.com/news\\_story/susan-reichle-democracy-conflict-and-humanitarian-assistance-chief-visits-haiti-meets-with-haitian-government-and-disaster-relief-leaders/release\\_009381.html](http://caribpr.com/news_story/susan-reichle-democracy-conflict-and-humanitarian-assistance-chief-visits-haiti-meets-with-haitian-government-and-disaster-relief-leaders/release_009381.html). Retrieved on February 27, 2011